

INSTALACIÓN Y CONFIGURACIÓN DE SERVIDORES APACHE Y NGINX

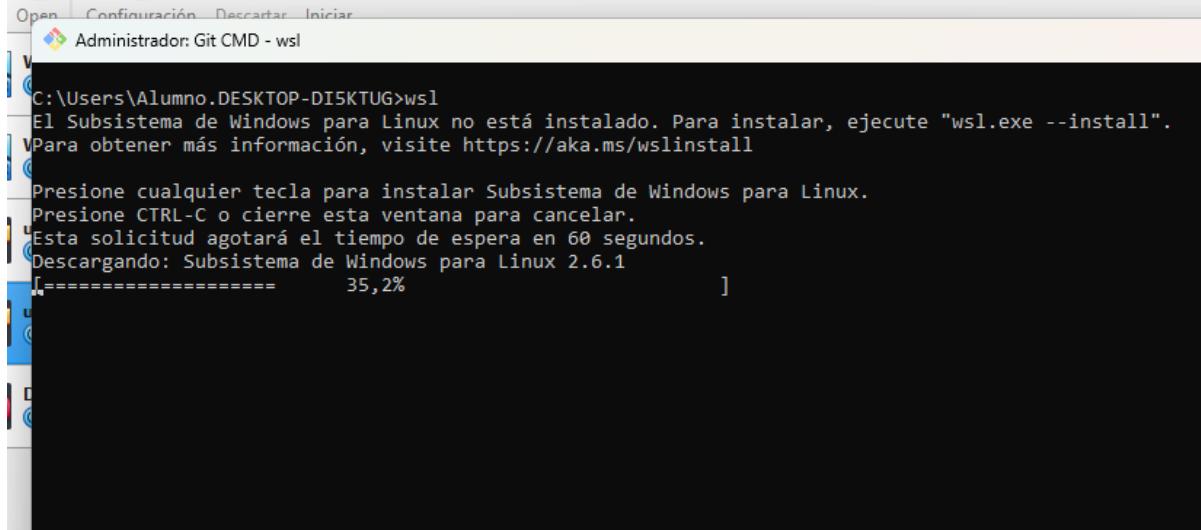
Adrián Aceitón Palomo

30/09/2025

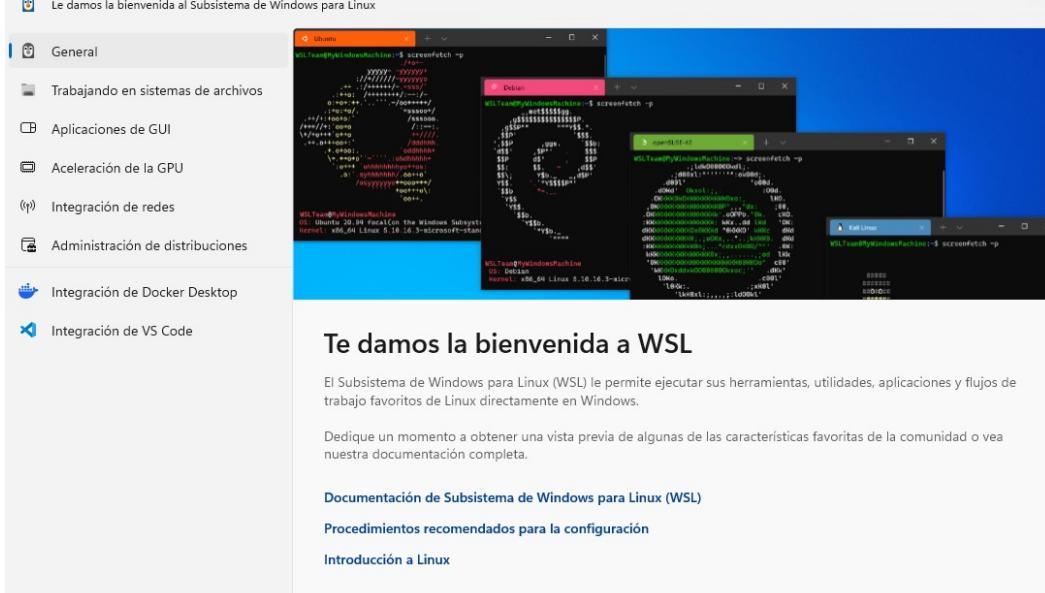
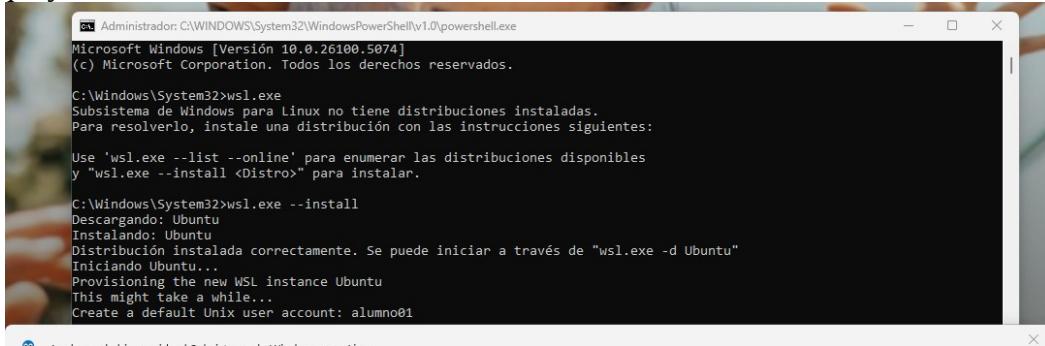


Instalación de Ubuntu Desktop y algunos servicios: Arquitectura en la nube

Aquí estoy instalando el wsl que simplemente es poner en el Git CMD wsl y darle a cualquier tecla y estaría listo



Aquí ya está instalado el servicio



Aquí vemos como ya he creado el usuario y contraseña, también se puede observar que ya estoy con la consola del ubuntu.

```
alumno01@A6Alumno01:/mnt/c/Windows/System32
Microsoft Windows [Versión 10.0.26100.5074]
(c) Microsoft Corporation. Todos los derechos reservados.

C:\Windows\System32>wsl.exe
Subsistema de Windows para Linux no tiene distribuciones instaladas.
Para resolverlo, instale una distribución con las instrucciones siguientes:

Use 'wsl.exe --list --online' para enumerar las distribuciones disponibles
y "wsl.exe --install <Distro>" para instalar.

C:\Windows\System32>wsl.exe --install
Descargando: Ubuntu
Instalando: Ubuntu
Distribución instalada correctamente. Se puede iniciar a través de "wsl.exe -d Ubuntu"
Iniciando Ubuntu...
Provisioning the new WSL instance Ubuntu
This might take a while...
Create a default Unix user account: alumno01
New password:
Retype new password:
passwd: password updated successfully
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

SERVIDOR APACHE CON PHP Y ACTUALIZACIÓN DEL SISTEMA Y FICHEROS

Aquí ya he actualizado todo lo que es el ubuntu y sus paquetes con los comandos “sudo apt update && sudo apt upgrade -y”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt update && sudo apt upgrade -y
[sudo] password for alumno01:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1171 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [198 kB]
```

Aquí está descargando el servicio apache y el servidor web con el comando “sudo apt install apache2 -y”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libl1vm19
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
  liblbu5.4-0 ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser ufw
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
  liblbu5.4-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 0 not upgraded.
Need to get 2086 kB of archives.
After this operation, 8090 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libapr1t64 amd64 1.7.2-3.1ubuntu0.1 [108 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2 kB]
```

Esto Instala PHP y su módulo para Apache con el comando “sudo apt install php libapache2-mod-php -y”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt install php libapache2-mod-php -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libl1vm19
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  libapache2-mod-php8.3 php-common php8.3 php8.3-cli php8.3-common php8.3-opcache php8.3-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.3 php php-common php8.3 php8.3-cli php8.3-common php8.3-opcache
  php8.3-readline
0 upgraded, 9 newly installed, 0 to remove and 0 not upgraded.
```

Aquí inicio el servicio Apache y tambien compruebo si esta ejecutandose correctamente tras la instalación con los comandos: “sudo service apache2 start” y “sudo systemctl status apache2”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo service apache2 start
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
    Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
    Active: active (running) since Tue 2025-09-30 09:51:36 CEST; 2min 52s ago
      Docs: https://httpd.apache.org/docs/2.4/
   Process: 9650 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 9653 (apache2)
     Tasks: 6 (limit: 9350)
    Memory: 10.6M (peak: 12.2M)
       CPU: 49ms
      CGroup: /system.slice/apache2.service
              ├─9653 /usr/sbin/apache2 -k start
              ├─9656 /usr/sbin/apache2 -k start
              ├─9657 /usr/sbin/apache2 -k start
              ├─9658 /usr/sbin/apache2 -k start
              ├─9659 /usr/sbin/apache2 -k start
              └─9660 /usr/sbin/apache2 -k start

Sep 30 09:51:36 A6Alumno01 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Sep 30 09:51:36 A6Alumno01 systemd[1]: Started apache2.service - The Apache HTTP Server.
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Creamos un archivo que muestra información de PHP con el comando: “echo ‘’ | sudo tee /var/www/html/info.php”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ echo "<?php phpinfo(); ?>" | sudo tee /var/www/html/info.php
<?php phpinfo(); ?>
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Aquí verificamos en el navegador una comprobación del archivo PHP desde la terminal con el comando “curl <http://localhost/info.php>”. Además podemos ver como al darle a “enter” se muestra correctamente toda la página que hemos creado con el anterior comando. Tambien buscando la url en el navegador de nuestro equipo aparecería.

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ curl http://localhost/info.php
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"><head>
<style type="text/css">
body {background-color: #fff; color: #222; font-family: sans-serif;}
pre {margin: 0; font-family: monospace;}
a:link {color: #009; text-decoration: none; background-color: #fff;}
a:hover {text-decoration: underline;}
table {border-collapse: collapse; border: 0; width: 934px; box-shadow: 1px 2px 3px rgba(0, 0, 0, 0.2);}
.center {text-align: center;}
.center table {margin: 1em auto; text-align: left;}
.center th {text-align: center !important;}
td, th {border: 1px solid #666; font-size: 75%; vertical-align: baseline; padding: 4px 5px;}
th {position: sticky; top: 0; background: inherit;}
h1 {font-size: 150%;}
h2 {font-size: 125%;}
h2 a:link, h2 a:visited{color: inherit; background: inherit;}
```

System	
Build Date	Jul 14 2025 18:30:55
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.3/apache2
Loaded Configuration File	/etc/php/8.3/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.3/apache2/conf.d
Additional .ini files parsed	/etc/php/8.3/apache2/conf.d/10-opcache.ini, /etc/php/8.3/apache2/conf.d/10-pdo.ini, /etc/php/8.3/apache2/conf.d20-calendar.ini, /etc/php/8.3/apache2/conf.d20-ctype.ini, /etc/php/8.3/apache2/conf.d20-exif.ini, /etc/php/8.3/apache2/conf.d20-fil.ini, /etc/php/8.3/apache2/conf.d20-fileinfo.ini, /etc/php/8.3/apache2/conf.d20-ftp.ini, /etc/php/8.3/apache2/conf.d20-gettext.ini, /etc/php/8.3/apache2/conf.d20-iconv.ini, /etc/php/8.3/apache2/conf.d20-phar.ini, /etc/php/8.3/apache2/conf.d20-phar.phar.ini, /etc/php/8.3/apache2/conf.d20-posix.ini, /etc/php/8.3/apache2/conf.d20-readline.ini, /etc/php/8.3/apache2/conf.d20-shmop.ini, /etc/php/8.3/apache2/conf.d20-sysvmsg.ini, /etc/php/8.3/apache2/conf.d20-sysvsem.ini, /etc/php/8.3/apache2/conf.d20-sysvshm.ini, /etc/php/8.3/apache2/conf.d20-tokenizer.ini
PHP API	20230831
PHP Extension	20230831
Zend Extension	420230831
Zend Extension Build	API20230831,NTS
PHP Extension Build	API20230831,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	disabled
Zend Max Execution Timers	disabled
IPv6 Support	enabled
DTrace Support	disabled
Registered PHP Streams	https, ftps, compress.zlib, php, file, glob, data, http, ftp, phar
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, tls, tlsv1.0, tlsv1.1, tlsv1.2, tlsv1.3
Registered Stream Filters	zlib.*, string.rot13, string.toupper, string.tolower, convert.*, consumed, dechunk, convert.iconv.*

This program makes use of the Zend Scripting Language Engine:
Zend Engine v4.3.6, Copyright (c) Zend Technologies with Zend OPcache v8.3.6, Copyright (c), by Zend Technologies

zend engine

PARTE 2 : COMANDOS NGINX + HTML

Aquí instalaremos Nginx de primeras con el comando: “sudo apt install nginx -y” (abajo detengo Apache).

```
</div></body></html>alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt install nginx -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libl1vm19
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
```

Luego iniciamos el Nginx previamente instalado con el comando “sudo service nginx start” y tambien verificaremos su estado de funcionamiento con el comando “sudo systemctl status nginx”. Pero antes de nada debemos apagar el anterior servicio de apache dado que sino va a ocupar el puerto por el que Nginx va a salir (80). comando para apagarlo “sudo service apache2 stop”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo service apache2 stop
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo service nginx start
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
  Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
  Active: active (running) since Tue 2025-09-30 10:13:07 CEST; 5s ago
    Docs: man:nginx(8)
 Process: 10030 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Process: 10031 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Main PID: 10033 (nginx)
   Tasks: 17 (limit: 9350)
     Memory: 12.7M (peak: 14.3M)
       CPU: 24ms
      Group: /system.slice/nginx.service
           ├─10033 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
           ├─10034 nginx: worker process
           ├─10035 nginx: worker process
           ├─10036 nginx: worker process
           ├─10037 nginx: worker process
           ├─10038 nginx: worker process
           ├─10039 nginx: worker process
           ├─10040 nginx: worker process
           ├─10042 nginx: worker process
           ├─10043 nginx: worker process
           ├─10044 nginx: worker process
           ├─10045 nginx: worker process
           ├─10046 nginx: worker process
           ├─10047 nginx: worker process
           └─10048 nginx: worker process
```

Creamos una pagina HTML simple con el comando: echo "<h1>Hola Mundo desde Nginx</h1><p>Servidor funcionando correctamente</p>" | sudo tee /var/www/html/index.html. Una vez creada lo verificamos desde el navegador a ver si se creó correctamente

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ echo "<h1>Hola Mundo desde Nginx</h1><p>Servidor funcionando correctamente</p>" | sudo tee /var/www/html/index.html
<h1>Hola Mundo desde Nginx</h1><p>Servidor funcionando correctamente</p>
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```



Ahora vamos a ver la IP de WSL , basicamente vamos a mostrar la IP para acceso desde Windows con el comando: “ip addr show eth0 | grep inet”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ ip addr show eth0 | grep inet
    inet 172.29.45.224/20 brd 172.29.47.255 scope global eth0
        inet6 fe80::215:5dff:feec:56be/64 scope link
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

PARTE 3: VERIFICACIÓN Y COMPARACIÓN

-Cambiar entre servicios (Apache/Nginx), diferencias entre las páginas servidas por cada servidor, comandos de verificación desde terminal con curl:

Primeramente paro el servicio Nginx con los comandos de la captura y arranco Apache, posteriormente verifico el estado de funcionamiento de Apache.

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo service nginx stop
sudo service apache2 start
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Aquí podemos ver que esta encendido/corriendo Apache.

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
  Active: active (running) since Tue 2025-09-30 10:30:28 CEST; 1min 18s ago
    Docs: https://httpd.apache.org/docs/2.4/
   Process: 10097 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 10100 (apache2)
   Tasks: 6 (limit: 9350)
  Memory: 10.7M (peak: 12.1M)
     CPU: 43ms
    CGroup: /system.slice/apache2.service
            ├─10100 /usr/sbin/apache2 -k start
            ├─10102 /usr/sbin/apache2 -k start
            ├─10103 /usr/sbin/apache2 -k start
            ├─10104 /usr/sbin/apache2 -k start
            ├─10105 /usr/sbin/apache2 -k start
            └─10106 /usr/sbin/apache2 -k start

Sep 30 10:30:28 A6Alumno01 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Sep 30 10:30:28 A6Alumno01 systemd[1]: Started apache2.service - The Apache HTTP Server.
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Aquí verificamos el funcionamiento del PHP de apache con el comando curl

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ curl http://localhost/info.php
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"><head>
<style type="text/css">
body {background-color: #fff; color: #222; font-family: sans-serif;}
pre {margin: 0; font-family: monospace;}
a:link {color: #009; text-decoration: none; background-color: #fff;}
a:hover {text-decoration: underline;}
table {border-collapse: collapse; border: 0; width: 934px; box-shadow: 1px 2px 3px rgba(0, 0, 0, 0.2);}
.center {text-align: center;}
.center table {margin: 1em auto; text-align: left;}
.center th {text-align: center !important;}
td, th {border: 1px solid #666; font-size: 75%; vertical-align: baseline; padding: 4px 5px;}
th {position: sticky; top: 0; background: inherit;}
h1 {font-size: 150%;}
h2 {font-size: 125%;}
h3, h4, h5, h6 {color: #009; background-color: inherit; background-position: 0 0;}
```

Aquí vemos como funciona el PHP y solo se pone la pagina de PHP

System	Linux A6Alumno01 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMIC Thu Jun 5 18:30:46 UTC 2025 x86_64
Build Date	Jul 14 2025 18:30:55
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.3/apache2
Loaded Configuration File	/etc/php/8.3/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.3/apache2/conf.d
Additional .ini files parsed	/etc/php/8.3/apache2/conf.d/10-opcache.ini, /etc/php/8.3/apache2/conf.d/10-pdo.ini, /etc/php/8.3/apache2/conf.d/20-calendar.ini, /etc/php/8.3/apache2/conf.d/20-ctype.ini, /etc/php/8.3/apache2/conf.d/20-exif.ini, /etc/php/8.3/apache2/conf.d/20-fi.ini, /etc/php/8.3/apache2/conf.d/20-fileinfo.ini, /etc/php/8.3/apache2/conf.d/20-ftp.ini, /etc/php/8.3/apache2/conf.d/20-gettext.ini, /etc/php/8.3/apache2/conf.d/20-iconv.ini, /etc/php/8.3/apache2/conf.d/20-phar.ini, /etc/php/8.3/apache2/conf.d/20-posix.ini, /etc/php/8.3/apache2/conf.d/20-readline.ini, /etc/php/8.3/apache2/conf.d/20-shmop.ini, /etc/php/8.3/apache2/conf.d/20-sockets.ini, /etc/php/8.3/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.3/apache2/conf.d/20-sysvsem.ini, /etc/php/8.3/apache2/conf.d/20-sysvshm.ini, /etc/php/8.3/apache2/conf.d/20-tokenizer.ini

Aquí he parado el servicio de Apache, he arrancado el Nginx y también muestro como esta starteado/corriendo el servicio Nginx

```
</div></body></html>alumno01@A6Alumno01:/mnt/ sudo service apache2 stopservice apache2 stop
sudo service nginx start
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo systemctl status nginx
```

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Tue 2025-09-30 10:36:30 CEST; 32s ago
     Docs: man:nginx(8)
 Process: 10155 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Process: 10157 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Main PID: 10158 (nginx)
    Tasks: 17 (limit: 9350)
   Memory: 12.2M (peak: 14.4M)
      CPU: 27ms
     CGroup: /system.slice/nginx.service
             └─10158 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
               ├─10159 "nginx: worker process"
               ├─10160 "nginx: worker process"
               ├─10161 "nginx: worker process"
               ├─10162 "nginx: worker process"
               ├─10163 "nginx: worker process"
               ├─10164 "nginx: worker process"
               ├─10165 "nginx: worker process"
               ├─10167 "nginx: worker process"
               ├─10168 "nginx: worker process"
               ├─10169 "nginx: worker process"
               ├─10170 "nginx: worker process"
               ├─10171 "nginx: worker process"
               ├─10172 "nginx: worker process"
               ├─10173 "nginx: worker process"
               └─10174 "nginx: worker process"

Sep 30 10:36:30 A6Alumno01 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Sep 30 10:36:30 A6Alumno01 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
lines 1-31/31 (END)
```

Aquí vemos igual que con el PHP que estamos verificando con el comando curl que nos devuelve correctamente la pagina, y también vemos la página web como quedaría en el navegador.

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ curl http://localhost
<h1>Hola Mundo desde Nginx</h1><p>Servidor funcionando correctamente</p>
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```



-Diferencias entre páginas:

Servidor Apache con archivo PHP:

A screenshot of a web browser window showing the output of an 'phpinfo()' function. The title bar says 'PHP Version 8.3.6'. The page contains a table with various PHP configuration details. Key entries include:

System	Linux A6Alumno01 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMIC Thu Jun 5 18:30:46 UTC 2025 x86_64
Build Date	Jul 14 2025 18:30:55
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.3/apache2
Loaded Configuration File	/etc/php/8.3/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.3/apache2/conf.d
Additional .ini files parsed	/etc/php/8.3/apache2/conf.d/10-opcache.ini, /etc/php/8.3/apache2/conf.d/10-pdo.ini, /etc/php/8.3/apache2/conf.d/20-calendar.ini, /etc/php/8.3/apache2/conf.d/20-ctype.ini, /etc/php/8.3/apache2/conf.d/20-exif.ini, /etc/php/8.3/apache2/conf.d/20-fil.ini, /etc/php/8.3/apache2/conf.d/20-filinfo.ini, /etc/php/8.3/apache2/conf.d/20-ftp.ini, /etc/php/8.3/apache2/conf.d/20-gettext.ini, /etc/php/8.3/apache2/conf.d/20-iconv.ini, /etc/php/8.3/apache2/conf.d/20-phar.ini, /etc/php/8.3/apache2/conf.d/20-posix.ini, /etc/php/8.3/apache2/conf.d/20-readline.ini, /etc/php/8.3/apache2/conf.d/20-shmop.ini, /etc/php/8.3/apache2/conf.d/20-sockets.ini, /etc/php/8.3/apache2/conf.d/20-sysmsg.ini, /etc/php/8.3/apache2/conf.d/20-sysvsem.ini, /etc/php/8.3/apache2/conf.d/20-sysvshm.ini, /etc/php/8.3/apache2/conf.d/20-tokenizer.ini

Servidor Nginx con archivo HTML básico:

A screenshot of a web browser window showing a simple 'Hello World' page. The address bar shows 'localhost'. The main content area displays the text: '

Hola Mundo desde Nginx

Servidor funcionando correctamente

'.

Instalación similar pero con docker

-Primeramente debemos de instalar docker dentro de WSL:

Lo primero que se debe de hacer es actualizar todos los paquetes y archivos.

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt update && sudo apt upgrade -y
```

Paquetes necesarios:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt install -y ca-certificates curl gnupg  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done
```

Crear directorio para claves:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo install -m 0755 -d /etc/apt/keyrings  
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Descargar la clave oficial de Docker:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc
```

Ajustar permisos de la clave:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo chmod a+r /etc/apt/keyrings/docker.asc
```

Añadir el repositorio de Docker:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ echo \  
"deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu  
$(. /etc/os-release && echo ${VERSION_CODENAME}) stable" | \  
sudo tee /etc/apt/sources.list.d/docker.list > /dev/null  
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Actualizar e instalar Docker Engine, CLI y plugins:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo apt update  
sudo apt install -y docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin  
Get:1 https://download.docker.com/linux/ubuntu noble InRelease [48.8 kB]  
Get:2 https://download.docker.com/linux/ubuntu noble/stable amd64 Packages [31.1 kB]
```

Comprobar que docker este instalado y su versión:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ docker --version  
Docker version 28.4.0, build d8eb465  
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

Probar el contenedor de “hello world”

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo docker pull ubuntu  
Using default tag: latest  
latest: Pulling from library/ubuntu  
953cd413371: Pull complete  
Digest: sha256:353675e2a41babd526e2b837d7ec780c2a05bca0164f7ea5dbbd433d21d166fc  
Status: Downloaded newer image for ubuntu:latest  
docker.io/library/ubuntu:latest  
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo systemctl status docker  
● docker.service - Docker Application Container Engine  
  Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)  
  Active: active (running) since Tue 2025-09-30 14:46:19 CEST; 12min ago  
TriggeredBy: ● docker.socket  
    Docs: https://docs.docker.com  
    Main PID: 2543 (dockerd)  
      Tasks: 19  
        Memory: 133.4M (peak: 163.2M)  
          CPU: 2.636s  
          CGroup: /system.slice/docker.service  
                  └─2543 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock  
  
Sep 30 14:46:19 A6Alumno01 dockerd[2543]: time="2025-09-30T14:46:19.578403000+02:00" level=info msg="Creating a containerd client" address="fd://"  
Sep 30 14:46:19 A6Alumno01 dockerd[2543]: time="2025-09-30T14:46:19.661834300+02:00" level=info msg="Loading containers: start."
```

docker info:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ docker info
Client: Docker Engine - Community
  Version: 28.4.0
  Context: default
  Debug Mode: false
  Plugins:
    ai: Docker AI Agent - Ask Gordon (Docker Inc.)
      Version: v1.9.11
      Path: /usr/local/lib/docker/cli-plugins/docker-ai
    buildx: Docker Buildx (Docker Inc.)
      Version: v0.28.0-desktop.1
      Path: /usr/local/lib/docker/cli-plugins/docker-buildx
    cloud: Docker Cloud (Docker Inc.)
      Version: v0.4.29
      Path: /usr/local/lib/docker/cli-plugins/docker-cloud
    compose: Docker Compose (Docker Inc.)
```

docker psa:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ docker ps -a
CONTAINER ID        IMAGE       COMMAND       CREATED          STATUS          PORTS          NAMES
alumno01@A6Alumno01:/mnt/c/Windows/System32$
```

docker corriendo ya:

```
alumno01@A6Alumno01:/mnt/c/Windows/System32$ sudo docker run -it ubuntu /bin/bash
root@86e99cf73cea:/# docker exec -it CONTAINER_ID /bin/bash
bash: docker: command not found
root@86e99cf73cea:/#
```

Ahora vamos con el servicio NGINX y APACHE dentro del docker que esta dentro de WSL:

Primeramente hemos instalado apache y nginx con el “sudo apt install nginx” -y y “sudo apt install apache2”

```
root@ab196fc50848:/# apt install nginx -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

luego hacemos lo mismo con apache y con php, los instalamos. Con el comando echo igual que en nginx creamos el archivo y luego con curl lo comprobamos

```
root@ab196fc50848:/# apt install php libapache2-mod-php -y
Reading package lists... Done
```

Hacemos correr el servicio apache2 y tambien verificamos que el servicio funcione (este comando en docker es diferente al de wsl):

```
root@ee7307a500ce:/# service apache2 start
 * Starting Apache httpd web server apache2
 *
```

Ahora instalamos curl y comprobamos que apache funcione.

```
root@ee7307a500ce:/# apt install curl -y
Reading package lists... Done
Building dependency tree...
Calculating upgrade... done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ab196fc50848:/# service apache2 start
 * Starting Apache httpd web server apache2
 *
root@ab196fc50848:/# service apache2 status
 * apache2 is running
root@ab196fc50848:/#
```

Aquí basicamente hay varias cosas, he instalado nginx, he parado el servicio de apache, he iniciado el servicio de nginx, despues he metido el “echo” para nginx y he probado con el comando “curl http://localhost”.

Ahora con el comando curl lo comprobamos.

```
Setting up libpam-cap:amd64 (1:2.66-5ubuntu2.2) ...
debconf: unable to initialize frontend: Dialog
debconf: (No usable dialog-like program is installed, so the dialog based frontend cannot
d. at /usr/share/perl5/Debconf/FrontEnd/Dialog.pm line 79.)
debconf: falling back to frontend: Readline
Setting up libbbpf1:amd64 (1:1.3.0-2build2) ...
Setting up iproute2 (6.1.0-1ubuntu6.2) ...
debconf: unable to initialize frontend: Dialog
debconf: (No usable dialog-like program is installed, so the dialog based frontend cannot
d. at /usr/share/perl5/Debconf/FrontEnd/Dialog.pm line 79.)
debconf: falling back to frontend: Readline
Setting up nginx (1.24.0-2ubuntu7.5) ...
Not attempting to start NGINX, port 80 is already in use.
Processing triggers for libc-bin (2.39-0ubuntu8.6) ...
root@ab196fc50848:/# service nginx status
 * nginx is not running
root@ab196fc50848:/# echo "<h1>Hola Mundo desde NGINX</h1><p>Servidor funcionando correctamente</p>" | tee /var/www/html/index.html
<h1>Hola Mundo desde NGINX</h1><p>Servidor funcionando correctamente</p>
root@ab196fc50848:/# service apache2 status
 * apache2 is running
root@ab196fc50848:/# service apache2 stop
 * Stopping Apache httpd web server apache2
 *
root@ab196fc50848:/# service nginx start
 * Starting nginx nginx
root@ab196fc50848:/# service nginx service
Usage: nginx {start|stop|restart|reload|force-reload|status|configtest|rotate|upgrade}
root@ab196fc50848:/# service nginx status
 * nginx is running
root@ab196fc50848:/# curl http://localhost
<h1>Hola Mundo desde NGINX</h1><p>Servidor funcionando correctamente</p>
root@ab196fc50848:/# |
```

Aquí he hecho lo mismo que en del nginx, basicamente bajo el servicio de nginx, inicio el apache y compruebo con curl que funcione

```
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root@ab196fc50848:#
```

Ahora comprobamos desde el navegador del PC si funcionan los dos servicios.

