

## Arquitectura en la nube

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### WSL Y NGINX

WSL

```
C:\Users\Alumno.DESKTOP-DI5KTUG>wsl --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: lumno19|
```

instalamos WSL con el comando `wsl --install`

```
Create a default Unix user account: manolo
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.

manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$
```

Creamos el usuario y contraseña que nos pide en mi caso manolo

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo apt update && sudo apt upgrade -y
[sudo] password for manolo:
```

actualizamos el sistema

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo apt install apache2 -y
```

instalamos apache2

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo apt install php libapache2-mod-php -y
```

instalamos php

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ 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 Wed 2025-10-01 10:54:16 CEST; 32s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 9696 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
  Main PID: 9699 (apache2)
    Tasks: 6 (limit: 9352)
   Memory: 10.5M (peak: 12.0M)
      CPU: 30ms
   CGroup: /system.slice/apache2.service
           └─9699 /usr/sbin/apache2 -k start
             └─9702 /usr/sbin/apache2 -k start
               └─9703 /usr/sbin/apache2 -k start
                 └─9704 /usr/sbin/apache2 -k start
                   └─9705 /usr/sbin/apache2 -k start
                     └─9706 /usr/sbin/apache2 -k start


Oct 01 10:54:16 A6Alumno19 systemd[1]: Starting apache2.service - The Apache HTTP Server..
Oct 01 10:54:16 A6Alumno19 systemd[1]: Started apache2.service - The Apache HTTP Server.
```

comprobamos que el servicio esté activo

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ echo "<?php phpinfo(); ?>" | sudo tee /var/www/html/info.php
<?php phpinfo(); ?>
```

Creamos el archivo info.php en la carpeta web


PHP Version 8.3.6



System	Linux A6Alumno19 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
PHP API	20230831
PHP Extension	20230831
Zend Extension	420230831
Zend Extension Build	API420230831,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



Aquí podemos ver el servicio php funcionando

## PARTE 2

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo service apache2 stop
```

detenemos el servicio apache

```
manolo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo apt update
sudo apt install nginx -y
```

instalamos nginx

```

mano1o@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo service nginx start
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 Wed 2025-10-01 11:03:04 CEST; 26s ago
     Docs: man:nginx(8)
  Process: 10199 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
  Process: 10200 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Main PID: 10238 (nginx)
    Tasks: 13 (limit: 9352)
   Memory: 9.2M (peak: 21.0M)
      CPU: 85ms
   CGroup: /system.slice/nginx.service
           └─10238 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─10241 "nginx: worker process"
               └─10242 "nginx: worker process"
                 └─10243 "nginx: worker process"
                   └─10244 "nginx: worker process"
                     └─10245 "nginx: worker process"
                       └─10246 "nginx: worker process"
                         └─10247 "nginx: worker process"
                           └─10248 "nginx: worker process"
                             └─10249 "nginx: worker process"
                               └─10250 "nginx: worker process"
                                 └─10251 "nginx: worker process"
                                   └─10252 "nginx: worker process"

Oct 01 11:03:04 A6Alumno19 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server.
Oct 01 11:03:04 A6Alumno19 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
lines 1-27/27 (END)

```

Iniciamos Nginx y verificamos el estado

```

<!DOCTYPE html>
<html>
<head>
    <title>Mi pagina web con Nginx</title>
</head>
<body>
    <h1>Servidor nginx funcionando correctamente</h1>
    <p>Esta es mi pagina web personalizada en ubuntu con Nginx.</p>
</body>
</html>

```

personalizamos nuestro html, guardamos con ctrl+o y salimos con ctrl + x



como podemos ver todo funciona correctamente

podemos intercalar entre servicios con service apache stop y start y con el mismo comando pero agregando nginx

```

mano1o@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo service nginx stop
sudo service apache2 start
[sudo] password for mano1o:
mano1o@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ sudo service apache2 stop
sudo service nginx start

```

Con curl guardamos la pagina que sirve cada servidor

```

manoLo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ curl http://localhost > apache.html
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload  Total   Spent    Left   Speed
100  218  100  218    0     0  167k    0  --:--:-- --:--:-- --:--:--  212k
manoLo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ curl http://localhost > nginx.html
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload  Total   Spent    Left   Speed
100  218  100  218    0     0  278k    0  --:--:-- --:--:-- --:--:--  212k
manoLo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ diff apache.html nginx.html

```

Y después las comparamos con diff apache.html nginx.html

Ahora por ejemplo con el comando curl http://localhost podemos descargar la pagina en consola

```

manoLo@A6Alumno19:/mnt/c/Users/Alumno.DESKTOP-DI5KTUG$ curl http://localhost
<!DOCTYPE html>
<html>
<head>
  <tittle>Mi pagina web con Nginx</tittle>
</head>
<body>
  <h1>Servidor nginx funcionando correctamente</h1>
<p>Esta es mi pagina web personalizada en ubuntu con Nginx.</p>
</body>
</html>

```