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# 1. INTRODUCCIÓN

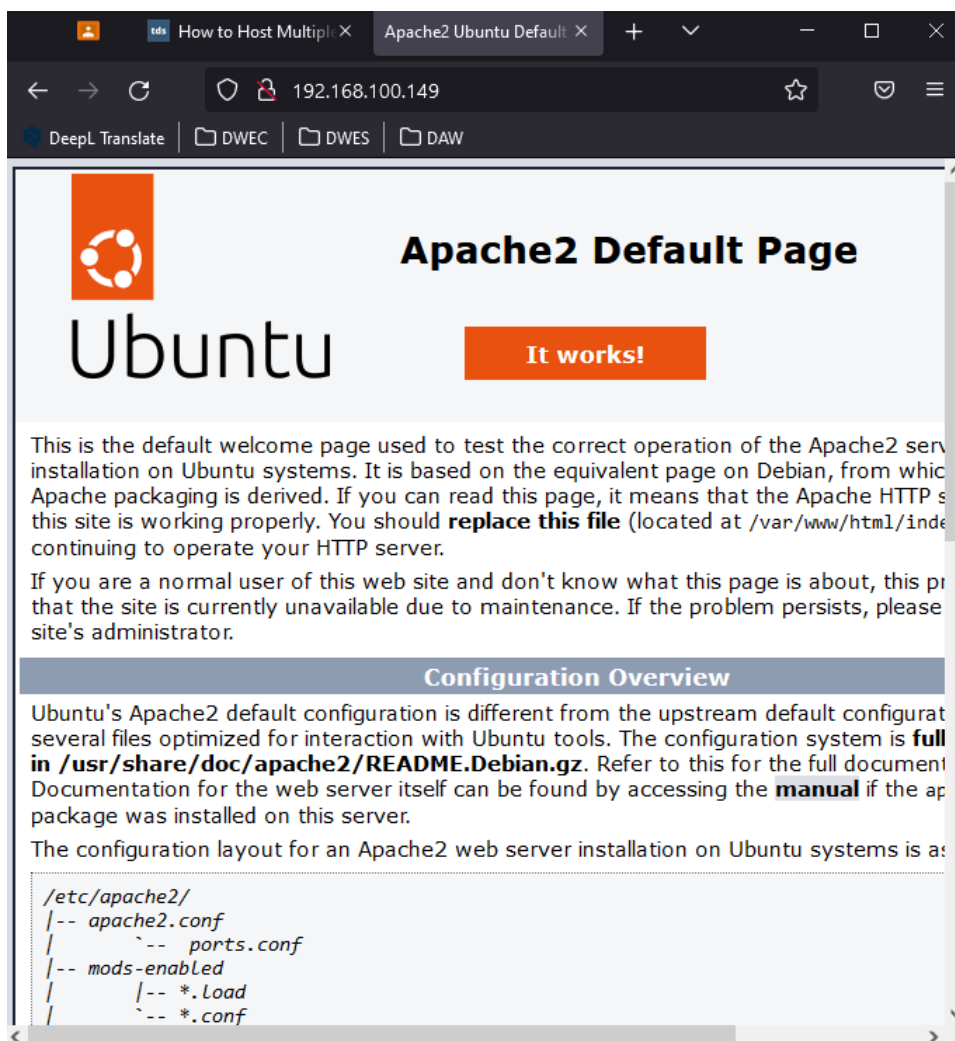
---

En esta práctica vamos a instalar un servidor Apache sobre el que crearemos tres hosts virtuales distintos a los que responderá la misma máquina.

## 2. INSTALACIÓN APACHE

Mediante el comando “*sudo apt-get install apache2*” instalamos el servicio apache, que se inicia según termina, de forma que si en un navegador buscamos la dirección IP debería de mostrarnos la página de inicio de Apache.

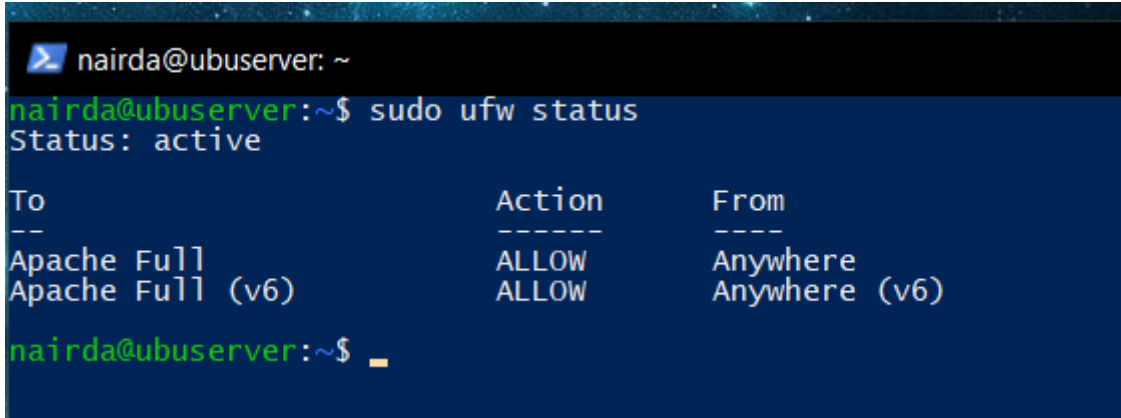
```
nairda@ubuserver:~$ sudo apt-get install apache2
[sudo] password for nairda:
Leyendo lista de paquetes... Hecho
Creando árbol de dependencias... Hecho
Leyendo la información de estado... Hecho
Se instalarán los siguientes paquetes adicionales:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap lib
  mailcap mime-support ssl-cert
Paquetes sugeridos:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
Se instalarán los siguientes paquetes NUEVOS:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-
  liblua5.3-0 mailcap mime-support ssl-cert
0 actualizados, 12 nuevos se instalarán, 0 para eliminar y 6 no actualizados.
Se necesita descargar 2.101 kB de archivos.
Se utilizarán 8.389 kB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] s
Des-1 http://es.archive.ubuntu.com/ubuntu-i386/main amd64 libapr1 amd64 1.7.0-8build1 [107 kB]
```



De esta forma, comprobamos que el servidor se ha instalado de manera correcta, y sin errores.

## 2.1. Configuración del firewall

De cara a permitir las conexiones entrantes hacia el servidor, habilitamos el firewall y le configuramos las reglas oportunas para permitir la comunicación por el puerto 80 y el 443.

A terminal window with a dark blue background and light blue text. The prompt is 'nairda@ubuserver: ~'. The command 'sudo ufw status' has been entered. The output shows 'Status: active' followed by a table of firewall rules. The table has three columns: 'To', 'Action', and 'From'. The first rule is 'Apache Full' with action 'ALLOW' and 'From' 'Anywhere'. The second rule is 'Apache Full (v6)' with action 'ALLOW' and 'From' 'Anywhere (v6)'.

```
nairda@ubuserver: ~  
nairda@ubuserver:~$ sudo ufw status  
Status: active  
  
To          Action      From  
--          -  
Apache Full ALLOW       Anywhere  
Apache Full (v6) ALLOW      Anywhere (v6)  
  
nairda@ubuserver:~$
```

Para ello, habilitamos el perfil “*Apache Full*” que permite la comunicación por estos puertos.

## 3. CONFIGURACIÓN HOST VIRTUALES

Para la creación de los hosts, se han de definir en la carpeta **/etc/apache2/sites-available**. Dentro de esta carpeta es donde vamos a definir los distintos dominios o host virtuales que vamos a crear.

### 3.1. Host adrian.com

Copiando el fichero de configuración de sites-available que viene por defecto, se crea el fichero con el nombre del sitio que va a representar y le asignamos la carpeta donde se van a encontrar las páginas de este dominio.

```
nairda@ubuserver:~$ cat /etc/apache2/sites-available/adrian.com.conf
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin admin@adrian.com
    ServerName adrian.com
    ServerAlias www.adrian.com
    DocumentRoot /var/www/adrian.com/html
    <Directory /var/www/adrian.com/html>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
</VirtualHost>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
nairda@ubuserver:~$
```

Además, hay que activar el dominio para que sea accesible.

```
nairda@ubuserver:~$ sudo a2ensite adrian.com.conf
Enabling site adrian.com.
To activate the new configuration, you need to run:
    systemctl reload apache2
nairda@ubuserver:~$
```

Esto crea un enlace simbólico hacia la carpeta **/etc/apache2/sites-enabled** que es la encargada de decirle al servicio qué dominios puede resolver.

## 3.2. Host alba.com

De igual forma que en el anterior, se genera el fichero *alba.com.conf*

```
nairda@ubuserver: ~  
nairda@ubuserver:~$ cat /etc/apache2/sites-available/alba.com.conf  
<VirtualHost *:80>  
    # The ServerName directive sets the request scheme, hostname and port that  
    # the server uses to identify itself. This is used when creating  
    # redirection URLs. In the context of virtual hosts, the ServerName  
    # specifies what hostname must appear in the request's Host: header to  
    # match this virtual host. For the default virtual host (this file) this  
    # value is not decisive as it is used as a last resort host regardless.  
    # However, you must set it for any further virtual host explicitly.  
    #ServerName www.example.com  
  
    ServerAdmin admin@alba.com  
    ServerName alba.com  
    ServerAlias www.alba.com  
    DocumentRoot /var/www/alba.com/html  
    <Directory /var/www/alba.com/html>  
        Options Indexes FollowSymLinks  
        AllowOverride All  
        Require all granted  
    </Directory>  
  
    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,  
    # error, crit, alert, emerg.  
    # It is also possible to configure the loglevel for particular  
    # modules, e.g.  
    #LogLevel info ssl:warn  
  
    ErrorLog ${APACHE_LOG_DIR}/error.log  
    CustomLog ${APACHE_LOG_DIR}/access.log combined  
  
    # For most configuration files from conf-available/, which are  
    # enabled or disabled at a global level, it is possible to  
    # include a line for only one particular virtual host. For example the  
    # following line enables the CGI configuration for this host only  
    # after it has been globally disabled with "a2disconf".  
    #Include conf-available/serve-cgi-bin.conf  
</VirtualHost>  
  
# vim: syntax=apache ts=4 sw=4 sts=4 sr noet  
nairda@ubuserver:~$
```

### 3.3. Host aguil.ar.com

Y, por último, se crea el fichero de configuración para el dominio **Aguilar.com**

```
ra@ubuntu-server:~$ cat /etc/apache2/sites-available/aguil.ar.com.conf
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin admin@aguilar.com
    ServerName aguil.ar.com
    ServerAlias www.aguil.ar.com
    DocumentRoot /var/www/aguil.ar.com/html
    <Directory /var/www/aguil.ar.com/html>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
</VirtualHost>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```



## 4. BIBLIOGRAFÍA

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- <https://towardsdatascience.com/how-to-host-multiple-website-with-apache-virtual-hosts-4423bd0aefbf>