



Activitat 2 – Configuració de mòduls

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1. Quins mòduls té compilats de manera estàtica el teu servidor?

```
ubuntu@ip-172-31-18-114:~$ apache2ctl -M
Loaded Modules:
  core_module (static)
  so_module (static)
  watchdog_module (static)
  http_module (static)
  log_config_module (static)
  logio_module (static)
  version_module (static)
  unixd_module (static)
  access_compat_module (shared)
  alias_module (shared)
  auth_basic_module (shared)
  authn_core_module (shared)
  authn_file_module (shared)
  authz_core_module (shared)
  authz_host_module (shared)
  authz_user_module (shared)
  autoindex_module (shared)
  deflate_module (shared)
  dir_module (shared)
  env_module (shared)
  filter_module (shared)
  mime_module (shared)
  mpm_prefork_module (shared)
  negotiation_module (shared)
  php_module (shared)
  reqtimeout_module (shared)
  setenvif_module (shared)
  status module (shared)
```

I de manera dinàmica?

```
ubuntu@ip-172-31-18-114:~$ apache2 -l
Compiled in modules:
  core.c
  mod_so.c
  mod_watchdog.c
  http_core.c
  mod_log_config.c
  mod_logio.c
  mod_version.c
  mod_unixd.c
ubuntu@ip-172-31-18-114:~$
```



2.2 Mòdul mod-status

2.1. Accedeix al fitxer de configuració del mòdul i configura-ho perquè pugui ser accedit a través de l'adreça IP del **host amfitrió** des del qual es durà a terme la petició. (Afegeix les captures de pantalla tant del fitxer de configuració com aquelles que demostrin que la url **/server-status** és accessible desde el host anfitrió).

```
root@ip-172-31-18-114:/home/ubuntu
GNU nano 7.2 /etc/apache2/mods-enabled/status.conf

# Allow server status reports generated by mod_status,
# with the URL of http://servername/server-status
# Uncomment and change the "192.0.2.0/24" to allow access from other hosts.

<Location /server-status>
    SetHandler server-status
    Require local
    Require ip 213.0.87.53/24
</Location>

# Keep track of extended status information for each request
ExtendedStatus On

# Determine if mod_status displays the first 63 characters of a request or
# the last 63, assuming the request itself is greater than 63 chars.
# Default: Off
#SeeRequestTail On

<IfModule mod_proxy.c>
    # Show Proxy LoadBalancer status in mod_status
    ProxyStatus On
</IfModule>

[ Wrote 24 lines ]

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit      ^R Read File  ^_ Replace    ^U Paste      ^J Justify    ^_ Go To Line M-E Redo
```

← → ↻ 🏠

No es seguro 54.165.227.63/server-status

Apache Server Status for 54.165.227.63 (via 172.31.18.114)

Server Version: Apache/2.4.58 (Ubuntu)
Server MPM: prefork
Server Built: 2025-08-11T11:10:09

Current Time: Monday, 06-Oct-2025 14:05:57 UTC
Restart Time: Monday, 06-Oct-2025 14:05:30 UTC
Parent Server Config. Generation: 1
Parent Server MPM Generation: 0
Server uptime: 26 seconds
Server load: 0.00 0.00 0.00
Total accesses: 0 - Total Traffic: 0 kB - Total Duration: 0
CPU Usage: u:0.1 s:0 cu:0 cs:0 - .0385% CPU load
0 requests/sec - 0 B/second
1 requests currently being processed, 0 workers gracefully restarting, 4 idle workers

W
.....
.....

Scoreboard Key:
" " Waiting for Connection, "s" Starting up, "r" Reading Request,
"W" Sending Reply, "k" Keepalive (read), "D" DNS Lookup,
"C" Closing connection, "L" Logging, "G" Gracefully finishing,
"T" Idle cleanup of worker, "." Open slot with no current process

Srv	PID	Acc	M	CPU	SS	Req	Dur	Conn	Child	Slot	Client	Protocol	VHost	Request
0-0	1566	0/0/0	W	0.00	0	0	0	0.0	0.00	0.00	213.0.87.27	http/1.1	www.example.com:80	GET /server-status HTTP/1.1

Srv Child Server number - generation
PID OS process ID
Acc Number of accesses this connection / this child / this slot
M Mode of operation
CPU CPU usage, number of seconds
SS Seconds since beginning of most recent request
Req Milliseconds required to process most recent request
Dur Sum of milliseconds required to process all requests
Conn Kilobytes transferred this connection
Child Megabytes transferred this child
Slot Total megabytes transferred this slot

Apache/2.4.58 (Ubuntu) Server at 54.165.227.63 Port 80

2.2. Quina diferència existeix entre les directives Location i Directory?

Location: Esta se aplica a una parte de la URL que el cliente solicita, independientemente de si existe o no el archivo fisico.

Directory: Este se aplica a direcciones fisicas del servidor

2.3 Mòdul de compressió brotli

3.1. Porta a terme la instal·lació i configuració del mòdul mod_brotli al teu servidor apache, i llança una petició des d'una màquina client utilitzant l'ordre wget i les capçaleres necessàries perquè el servidor torni el recurs utilitzant l'algorisme de compressió brotli.

Repetiu la petició perquè utilitzeu l'algoritme gzip i després perquè no utilitzeu cap algoritme de compressió. Quin algoritme té una ràtio de compressió més gran?

```
root@ip-172-31-18-114:/home/ubuntu# wget -S --header= "Accept-Encoding: br" http://172.31.18.114/index.html
--2025-10-06 15:20:12-- ftp://accept-encoding/%20br
=> ' br'
Resolving accept-encoding (accept-encoding)... failed: Temporary failure in name resolution.
wget: unable to resolve host address 'accept-encoding'
--2025-10-06 15:20:12-- http://172.31.18.114/index.html
Connecting to 172.31.18.114:80... connected.
HTTP request sent, awaiting response...
HTTP/1.1 200 OK
Date: Mon, 06 Oct 2025 15:20:12 GMT
Server: Apache/2.4.58 (Ubuntu)
Last-Modified: Mon, 29 Sep 2025 16:34:35 GMT
ETag: "29af-63ff336001d94"
Accept-Ranges: bytes
Content-Length: 10671
Vary: Accept-Encoding
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
Content-Type: text/html
Length: 10671 (10K) [text/html]
Saving to: 'index.html'

index.html          100%[=====] 10.42K  --.-KB/s   in 0s

2025-10-06 15:20:12 (919 MB/s) - 'index.html' saved [10671/10671]

FINISHED --2025-10-06 15:20:12--
Total wall clock time: 0.007s
Downloaded: 1 files, 10K in 0s (919 MB/s)
root@ip-172-31-18-114:/home/ubuntu#
```

Con GZIP

```
Connecting to 172.31.18.114:80... connected.
HTTP request sent, awaiting response...
HTTP/1.1 200 OK
Date: Mon, 06 Oct 2025 15:22:05 GMT
Server: Apache/2.4.58 (Ubuntu)
Last-Modified: Mon, 29 Sep 2025 16:34:35 GMT
ETag: "29af-63ff336001d94"
Accept-Ranges: bytes
Content-Length: 10671
Vary: Accept-Encoding
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
Content-Type: text/html
Length: 10671 (10K) [text/html]
Saving to: 'index.html.1'

index.html.1        100%[=====] 10.42K  --.-KB/s   in 0s

2025-10-06 15:22:05 (1.17 GB/s) - 'index.html.1' saved [10671/10671]

FINISHED --2025-10-06 15:22:05--
Total wall clock time: 0.003s
Downloaded: 1 files, 10K in 0s (1.17 GB/s)
root@ip-172-31-18-114:/home/ubuntu#
```

2.4 Mòdul mod-php

Llança una màquina virtual nova en el servici EC2 de AWS, anoménala app-servidor-

grupX on X significa el nombre del grup de classe al que pertany. Seguidament, instala el servidor apache i activa el mòdul php

Crea **2 virtual host**, un per cadascun dels jocs que estas desenvolupant en el mòdul de PWES i desplega la teua aplicació.

	vhost 1	vhost 2
Document Root	/var/www/ofegat	/var/www/tres-en-ratlla
Nom de Domini	www.ofegat.es	www.tres-en-ratlla.es
Arxius de acces	es-ofegat-xxxx-access.LOG	es-tres-en-ratlla-xxxx-access.LOG
Arxius de error	es-ofegat-error.LOG	es-tres-en-ratlla-error.LOG

Enganxa les captures necessàries per verificar el funcionament correcte del servei; (Com a mínim hauràs d'enganxar una captura de l'access log, de l'adreça ip del navegador que realitzarà la petició i del navegador accedint a cada una de les pàgines. activat.

Lo primero que he hecho ha sido instalar apache y php

He empezado a arrancar los servicios

He creado las carpetas de Document Root, a estas carpetas les he asignado los permisos

```

root@ip-172-31-25-242:/home/ubuntu
root@ip-172-31-25-242:/home/ubuntu# mkdir /var/www/ofegat
root@ip-172-31-25-242:/home/ubuntu# mkdir /var/www/tres-en-ratlla
root@ip-172-31-25-242:/home/ubuntu# chown -R $USER:$USER /var/www/ofegat/
root@ip-172-31-25-242:/home/ubuntu# chown -R $USER:$USER /var/www/tres-en-ratlla/
root@ip-172-31-25-242:/home/ubuntu# chmod -R 755 /var/www
root@ip-172-31-25-242:/home/ubuntu#

```

Creación de los ficheros Host

Ofegat.conf

```

root@ip-172-31-25-242: /home/ubuntu
GNU nano 7.2 /etc/apache2/sites-available/ofegat.conf *
<VirtualHost *:80>
  ServerName www.ofegat.es
  DocumentRoot /var/www/ofegat

  ErrorLog ${APACHE_LOG_DIR}/es-ofegat-error.LOG
  CustomLog ${APACHE_LOG_DIR}/es-ofegat-alex-access.LOG combined

  <Directory /var/www/ofegat>
    AllowOverride All
    Require all granted
  </Directory>
</VirtualHost>

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo

```

Tres En ratlla

```

root@ip-172-31-25-242: /home/ubuntu
GNU nano 7.2 /etc/apache2/sites-available/tres-en-ratlla.conf *
<VirtualHost *:80>
  ServerName www.tres-en-ratlla.es
  DocumentRoot /var/www/tres-en-ratlla

  ErrorLog ${APACHE_LOG_DIR}/es-tres-en-ratlla-error.LOG
  CustomLog ${APACHE_LOG_DIR}/es-tres-en-ratlla-alex-access.LOG combined

  <Directory /var/www/tres-en-ratlla>
    AllowOverride All
    Require all granted
  </Directory>
</VirtualHost>

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo

```

Una vez hecho esto lo que he realizado es la activación de lo que hemos hecho para que poder verlo.

```

root@ip-172-31-25-242:/home/ubuntu# nano /etc/apache2/sites-available/ofegat.conf
root@ip-172-31-25-242:/home/ubuntu# nano /etc/apache2/sites-available/tres-en-ratlla.conf
root@ip-172-31-25-242:/home/ubuntu# cd /etc/apache2/sites-available/
root@ip-172-31-25-242:/etc/apache2/sites-available# a2ensite ofegat.conf
Enabling site ofegat.
To activate the new configuration, you need to run:
  systemctl reload apache2
root@ip-172-31-25-242:/etc/apache2/sites-available# systemctl reload apache2
Unknown command verb 'reload', did you mean 'reload'?
root@ip-172-31-25-242:/etc/apache2/sites-available# systemctl reload apache2
root@ip-172-31-25-242:/etc/apache2/sites-available# a2ensite ofegat.conf
Site ofegat already enabled
root@ip-172-31-25-242:/etc/apache2/sites-available# a2ensite tres-en-ratlla.conf
Enabling site tres-en-ratlla.
To activate the new configuration, you need to run:
  systemctl reload apache2
root@ip-172-31-25-242:/etc/apache2/sites-available# systemctl reload apache2
root@ip-172-31-25-242:/etc/apache2/sites-available# a2ensite tres-en-ratlla.conf
Site tres-en-ratlla already enabled
root@ip-172-31-25-242:/etc/apache2/sites-available#

```

Una vez he creado esto lo que voy a hacer es crear el php info para ver la información de cada pagina, como para el tres en raya he creado el index.php



```

root@ip-172-31-25-242: /var/www/tres-en-ratlla
root@ip-172-31-25-242:/var/www/ofegat# nano index.php
root@ip-172-31-25-242:/var/www/ofegat# cd ..
root@ip-172-31-25-242:/var/www# cd /var/www/
root@ip-172-31-25-242:/var/www# ls
html ofegat tres-en-ratlla
root@ip-172-31-25-242:/var/www# cd tres-en-ratlla/
root@ip-172-31-25-242:/var/www/tres-en-ratlla# nano index.php
root@ip-172-31-25-242:/var/www/tres-en-ratlla#

```

para ofegat he creado también el index.php

Una vez he hecho todo esto lo que hago es configurar el fichero local ya que no tenemos un dominio tenemos que editar el **etc/hosts**

```

GNU nano 7.2 /etc/hosts
127.0.0.1 localhost
34.235.117.201 www.ofegat.es
34.235.117.201 www.tres-en-ratlla.es

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts

[ Wrote 12 lines ]
^G Help      ^O Write Out  ^W Where Is   ^R Cut        ^T Execute    ^C Location   M-U Undo
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E Redo

```

La comprobación por tema de consergeria no funciona en mi ordenador y he hecho un curl de las direcciones y estos son los datos tanto del acces.log como del error

Ofegat

```

root@ip-172-31-25-242:/var/www/ofegat# tail /var/log/apache2/es-ofegat-alex-access.LOG
34.235.117.201 - - [06/Oct/2025:17:06:37 +0000] "GET / HTTP/1.1" 200 73442 "-" "curl/8.5.0"
root@ip-172-31-25-242:/var/www/ofegat#

```

```

root@ip-172-31-25-242:/var/www/ofegat# tail /var/log/apache2/es-ofegat-error.LOG
root@ip-172-31-25-242:/var/www/ofegat#

```

Tres en ratlla



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```
root@ip-172-31-25-242:/var/www/ofegat# tail /var/log/apache2/es-tres-en-ratlla-alex-access.LOG
34.235.117.201 - - [06/Oct/2025:17:06:50 +0000] "GET / HTTP/1.1" 200 73568 "-" "curl/8.5.0"
root@ip-172-31-25-242:/var/www/ofegat# tail /var/log/apache2/es-tres-en-ratlla-error.LOG
root@ip-172-31-25-242:/var/www/ofegat#
```