Apache HTTP Server Web server

CONCEPTS

> Always run configtest before graceful: a syntax error then leaves the running server untouched.

Request host and port
↓ match
VirtualHost ServerName / Alias
↓ map
Directory / Location Require, Options
↓ merge
.htaccess per-directory overrides

> Debian and Ubuntu call the binary and service apache2 (apache2ctl); RHEL, Fedora and source builds use httpd.

CONTROL

apachectl start
Start the server

apachectl stop
Stop, aborting open connections

apachectl restart
Stop and start again

apachectl graceful
Reload config without dropping requests

apachectl graceful-stop
Finish requests, then stop

apachectl configtest
Check config syntax

systemctl reload apache2
Reload via systemd (Debian)

systemctl reload httpd
Reload via systemd (RHEL)

apache2ctl -t
Config test on Debian

INSPECT

httpd -S
Show parsed vhosts and ports

httpd -M
List loaded modules

httpd -V
Version, MPM, config path

INSPECT (cont.)

httpd -v
Print version only

httpd -f *<file>* **-t**
Test a specific config file

DEBIAN HELPERS

a2enmod *<module>*
Enable a module

a2dismod *<module>*
Disable a module

a2ensite *<site>*
Enable a vhost file

a2dissite *<site>*
Disable a vhost file

> Run a2* then reload: the tools only manage symlinks in sites-enabled, mods-enabled and conf-enabled.

FILES AND PATHS

/etc/apache2/apache2.conf
Main config (Debian)

/etc/httpd/conf/httpd.conf
Main config (RHEL)

/etc/apache2/sites-available/
Vhost files (Debian)

/etc/httpd/conf.d/*.conf
Drop-in vhosts (RHEL)

/var/log/apache2/error.log
Error log (Debian)

/var/log/httpd/error_log
Error log (RHEL)

/var/www/html
Default document root

VIRTUAL HOSTS

*<VirtualHost *:80>*
Open a vhost for a port

ServerName *<host>*
Main hostname of the vhost

ServerAlias *<host>* **...**
Additional hostnames

DocumentRoot *<dir>*
Directory served for the vhost

VIRTUAL HOSTS (cont.)

ErrorLog *<file>*
Per-vhost error log

Listen *<port>*
Bind a port

ACCESS AND .HTACCESS

<Directory <dir>>
Settings for a filesystem path

Require all granted
Allow everyone

Require all denied
Deny everyone

Require ip *<cidr>*
Allow an address range

Options -Indexes
No directory listings

AllowOverride All
Honor .htaccess in this directory

RewriteRule *<regex> <target>* **[L,R=301]**
Rewrite or redirect URLs

> In 2.4 use Require, not Order/Allow/Deny; mixing them fails or behaves oddly.

PROXY AND TLS

a2enmod proxy proxy_http
Enable reverse proxy modules

ProxyPass / http://*<host>*:*<port>*/
Forward requests to a backend

a2enmod ssl
Enable TLS support

SSLEngine on
Turn TLS on in a vhost

SSLCertificateFile *<path>*
Certificate (full chain)

SSLCertificateKeyFile *<path>*
Private key

LOGS AND TUNING

tail -f /var/log/apache2/error.log
Watch errors live