

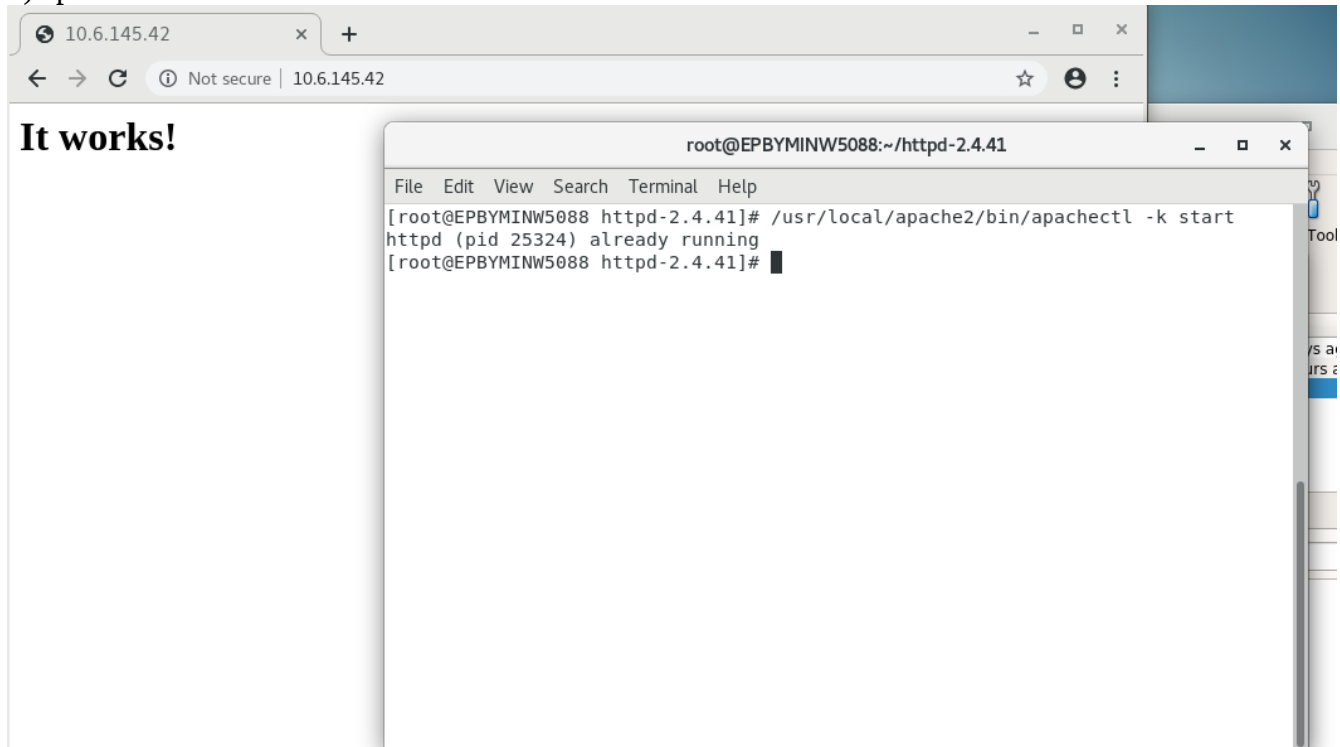
## Task 1

### 1) httpd

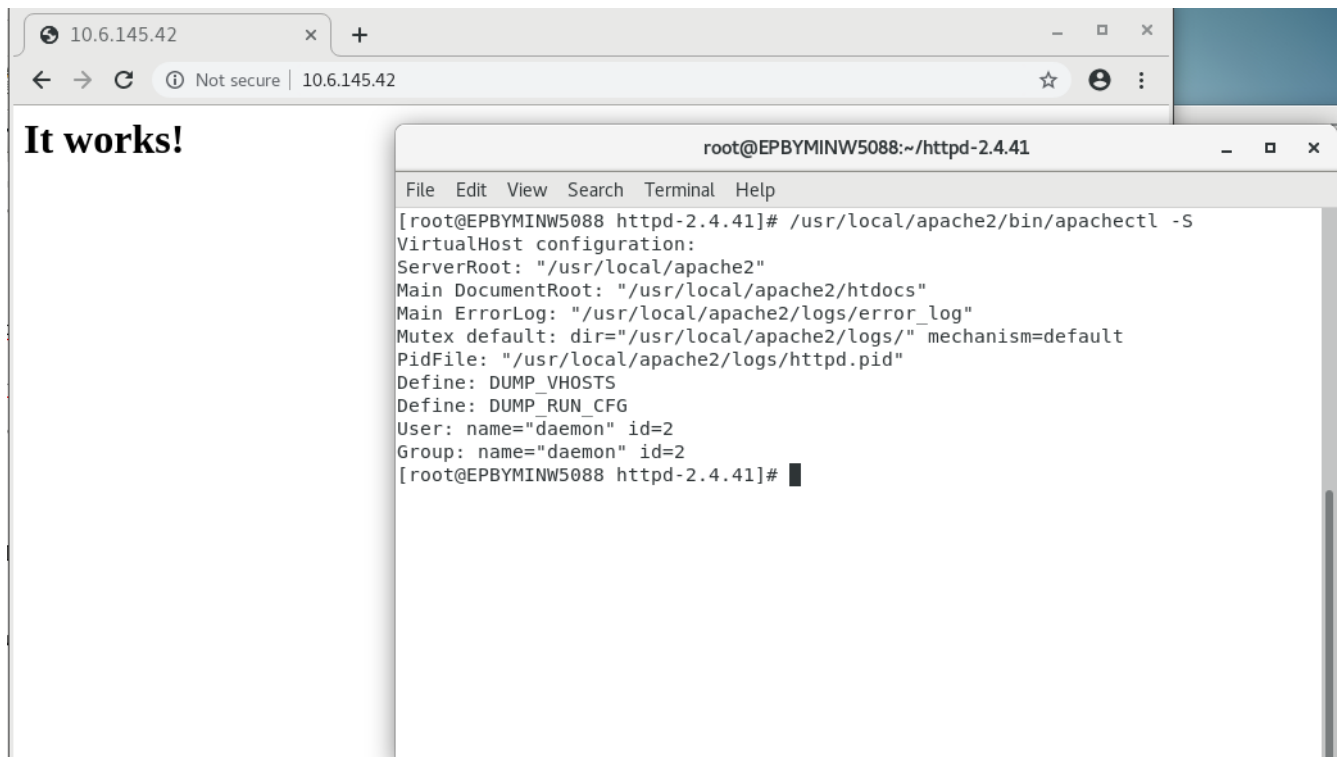
```
root@EPBYMINW5088:~  
File Edit View Search Terminal Help  
tcp6      0      0 :::80      :::*      LISTEN  
9499/httpd  
[root@EPBYMINW5088 ~]# nano /var/www/html/index.html  
[root@EPBYMINW5088 ~]# systemctl stop httpd  
[root@EPBYMINW5088 ~]# httpd -S  
VirtualHost configuration:  
ServerRoot: "/etc/httpd"  
Main DocumentRoot: "/var/www/html"  
Main ErrorLog: "/etc/httpd/logs/error_log"  
Mutex rewrite-map: using_defaults  
Mutex authdigest-client: using_defaults  
Mutex proxy: using_defaults  
Mutex authn-socache: using_defaults  
Mutex default: dir="/run/httpd/" mechanism=default  
Mutex mpm-accept: using_defaults  
Mutex authdigest-opaque: using_defaults  
Mutex proxy-balancer-shm: using_defaults  
PidFile: "/run/httpd/httpd.pid"  
Define: _RH_HAS_HTTPPROTOCOLOPTIONS  
Define: DUMP_VHOSTS  
Define: DUMP_RUN_CFG  
User: name="apache" id=48  
Group: name="apache" id=48  
[root@EPBYMINW5088 ~]#
```

10.6.145.42 x + - □ x  
← → ↻ ⓘ Not secure | 10.6.145.42 ☆ ⓘ ⋮  
**Hello from httpd**  
Created by Stsiapan Hanchar

## 2) apache2



## apache2 configuration

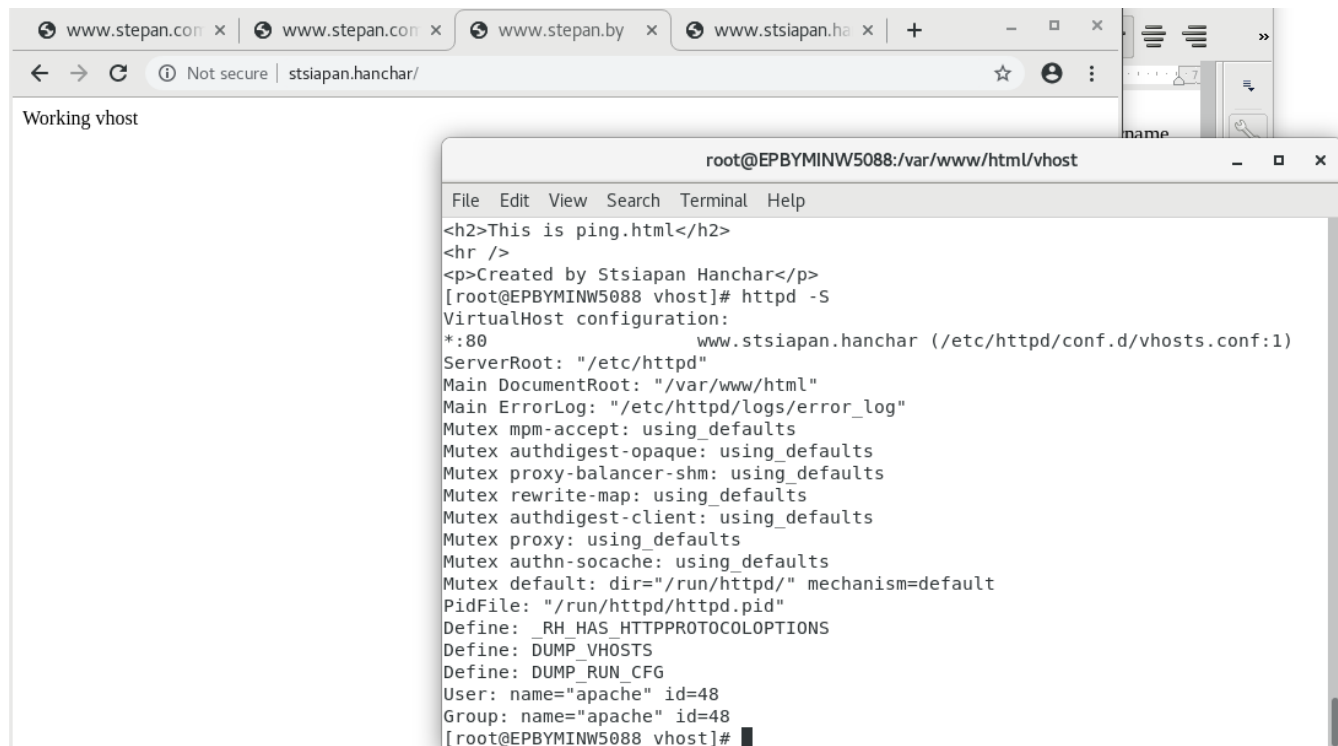


```
apachectl -k graceful
```

- `graceful` signal causes the parent process to *advise* the children to exit after their current request (or to exit immediately if they're not serving anything). The parent re-reads its configuration files and re-opens its log files. As each child dies off the parent replaces it with a child from the new *generation* of the configuration, which begins serving new requests immediately.

A graceful restart tells the web sever to finish any active connections before restarting. This means that active visitors to your site will be able to finish downloading anything already in progress before the server restarts.

## Task 2



browse console:

www.stsiapan.hanchar/ping

+

← → ↻ ⓘ Not secure | stsiapan.hanchar/ping.html ☆ Incognito

# This is ping.html

Created by Stsiapan Hanchar

Elements Console Sources Network Performance >> ⋮ ×

⛔ 🔍 ⚙️ Preserve log ⛔ Disable cache Online ⬆️ ⬇️ ⚙️

Filter Hide data URLs

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20 ms 40 ms 60 ms 80 ms 100 ms

Name	Status	Type	Initiator	Size	T...	Waterfall	▲
www.stsiapan.hanchar	302	text/html	Other	262 B	2...		
index.html	302	text/html	(index)	260 B	1...		
ping.html	304	document	index.html	178 B	1...		

3 requests | 700 B transferred | 69 B resources | Finish: 1 ms | DOMContentLoaded: 7 ms | Lc

The screenshot shows a web browser window with the address bar displaying 'www.stsiapan.hanchar/ping.html'. The page content is 'This is ping.html' and 'Created by Stsiapan Hanchar'. The browser's developer tools are open, showing the 'Network' tab. A list of network requests is visible, including 'index.html' (302 status, text/html type) and 'ping.html' (200 status, document type). The 'ping.html' request is highlighted, showing its details in the right pane. The status bar at the bottom indicates '2 requests', '261 B transferred', '69 B resources', 'Finish: 1 ms', and 'DOMContentLoaded: 6 ms'.

www.stsiapan.hanchar/ping.html

# This is ping.html

Created by Stsiapan Hanchar

Network

Filter

Hide data URLs

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Name	Status	Type	Initiator	Size	T...	Waterfall
index.html	302	text/html	Other	261 B	3...	
ping.html	200	document	index.html	(disk...	1...	

2 requests | 261 B transferred | 69 B resources | Finish: 1 ms | DOMContentLoaded: 6 ms | Lc

www.stsiapan.hanchar/ping x +

← → ↻ ⓘ Not secure | stsiapan.hanchar/ping.html ☆ Incognito

# This is ping.html

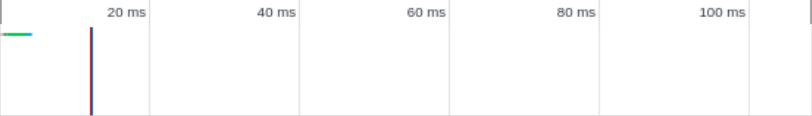
Created by Stsiapan Hanchar

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⛔ 🔍 ⚙️ Preserve log ⚙️ Disable cache Online ⬆️ ⬇️ ⚙️

Filter Hide data URLs

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Name	Status	Type	Initiator	Size	T...	Waterfall	▲
ping.html	304	document	Other	179 B	4...		

1 requests | 179 B transferred | 69 B resources | Finish: 4 ms | DOMContentLoaded: 12 ms | L

403 Forbidden x +

← → ↻ ⓘ Not secure | stsiapan.hanchar/123.html ☆ Incognito

# Forbidden

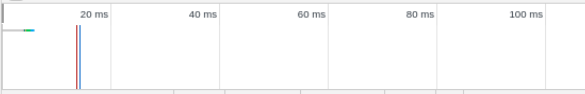
You don't have permission to access /123.html on this server.

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⛔ 🔍 ⚙️ Preserve log ⚙️ Disable cache Online ⬆️ ⬇️ ⚙️

Filter Hide data URLs

All XHR JS CSS Img Media Font Doc WS Manifest Other



Name	Status	Type	Initiator	Size	T...	Waterfall	▲
123.html	403	document	Other	426 B	2...		

1 requests | 426 B transferred | 210 B resources | Finish: 2 ms | DOMContentLoaded: 10 ms

### Task 3

```
root@EPBYMINW5088:/usr
File Edit View Search Terminal Help
Installed:
  tree.x86_64 0:1.6.0-10.el7

Complete!
[root@EPBYMINW5088 usr]# cat /etc/httpd/conf
conf/          conf.d/          conf.modules.d/
[root@EPBYMINW5088 usr]# cat /etc/httpd/conf.d/vhosts.conf
<VirtualHost *:80>

    ServerName www.stsiapan.hanchar
    ServerAlias stsiapan.hanchar
    DocumentRoot /var/www/html/vhost
    ErrorLog "| /usr/sbin/cronolog /var/www/html/vhost/error-%Y-%m-%d.log"
    CustomLog "| /usr/sbin/cronolog /var/www/html/vhost/access-%Y-%m-%d.log" combi
ned

    RewriteEngine On
    RewriteRule ^/$ /index.html [R,L]
    RewriteRule ^/index.html /ping.html [R,L]
    RewriteRule ^/ping.html /ping.html [L]
    RewriteRule ^.* - [F]

</VirtualHost>
[root@EPBYMINW5088 usr]#
```

Tree:

```
root@EPBYMINW5088:/var/www/html/vhost
File Edit View Search Terminal Help
access-2019-09-26.log error-2019-09-26.log index.html
[root@EPBYMINW5088 vhost]# ls -la
total 156
drwxr-xr-x. 2 apache apache 151 Sep 26 12:44 .
drwxr-xr-x. 3 apache apache 35 Sep 26 10:52 ..
-rw-r--r--. 1 apache apache 103 Sep 26 09:35 about.html
-rw-r--r--. 1 root root 4062 Sep 26 12:44 access-2019-09-26.log
-rw-r--r--. 1 apache apache 71702 Sep 26 12:46 access.log
-rw-r--r--. 1 root root 2449 Sep 26 12:44 error-2019-09-26.log
-rw-r--r--. 1 apache apache 5142 Sep 26 12:46 error.log
-rw-r--r--. 1 apache apache 97 Sep 26 08:49 index.html
-rw-r--r--. 1 apache apache 69 Sep 26 08:35 ping.html
[root@EPBYMINW5088 vhost]# tree
.
├── about.html
├── access-2019-09-26.log
├── access.log
├── error-2019-09-26.log
├── error.log
├── index.html
└── ping.html

0 directories, 7 files
[root@EPBYMINW5088 vhost]#
```

```
[root@EPBYMINW5088 vhost]# tree
.
├── about.html
├── access-2019-09-26.log
├── access.log
├── access-SHanhar-2019-09-26.log
├── error-2019-09-26.log
├── error.log
├── index.html
└── ping.html

0 directories, 8 files
[root@EPBYMINW5088 vhost]#
```



Task 4)

```
root@EPBYMINW5088:/var/www/html/vhost
File Edit View Search Terminal Help
[root@EPBYMINW5088 vhost]# clear

[root@EPBYMINW5088 vhost]# cat /etc/httpd/conf.d/vhosts.conf
<VirtualHost *:80>

    ServerName www.stsiapan.hanchar
    ServerAlias stsiapan.hanchar
    DocumentRoot /vawr/www/html/vhost
    ErrorLog "|/usr/bin/logger -thttpd -plocal6.err"
    CustomLog "|/usr/bin/logger -thttpd -plocal6.notice" combined

    RewriteEngine On
    RewriteRule ^/$ /index.html [R,L]
    RewriteRule ^/index.html /ping.html [R,L]
    RewriteRule ^/ping.html /ping.html [L]
    RewriteRule ^.* - [F]

</VirtualHost>
[root@EPBYMINW5088 vhost]# systemctl restart httpd
[root@EPBYMINW5088 vhost]# tail -n 5 /var/log/messages
Sep 26 13:17:48 EPBYMINW5088 systemd: Stopping The Apache HTTP Server...
Sep 26 13:17:49 EPBYMINW5088 systemd: Stopped The Apache HTTP Server.
Sep 26 13:17:49 EPBYMINW5088 systemd: Starting The Apache HTTP Server...
Sep 26 13:17:49 EPBYMINW5088 httpd: AH00112: Warning: DocumentRoot [/vawr/www/html/vhost] does not exist
Sep 26 13:17:49 EPBYMINW5088 systemd: Started The Apache HTTP Server.
[root@EPBYMINW5088 vhost]#
```

curl :

```
[root@EPBYMINW5088 vhost]# curl -I www.stsiapan.hanchar
HTTP/1.1 302 Found
Date: Thu, 26 Sep 2019 17:19:44 GMT
Server: Apache/2.4.6 (CentOS)
Location: http://www.stsiapan.hanchar/index.html
Content-Type: text/html; charset=iso-8859-1

[root@EPBYMINW5088 vhost]#
[root@EPBYMINW5088 vhost]#
[root@EPBYMINW5088 vhost]#
[root@EPBYMINW5088 vhost]#
[root@EPBYMINW5088 vhost]#
[root@EPBYMINW5088 vhost]# tail -n 5 /var/log/messages
Sep 26 13:17:49 EPBYMINW5088 systemd: Stopped The Apache HTTP Server.
Sep 26 13:17:49 EPBYMINW5088 systemd: Starting The Apache HTTP Server...
Sep 26 13:17:49 EPBYMINW5088 httpd: AH00112: Warning: DocumentRoot [/vawr/www/html/vhost] does not exist
Sep 26 13:17:49 EPBYMINW5088 systemd: Started The Apache HTTP Server.
Sep 26 13:19:44 EPBYMINW5088 httpd: 127.0.0.1 - - [26/Sep/2019:13:19:44 -0400] "HEAD / HTTP/1.1" 302 - "-" "curl/7.29.0"
[root@EPBYMINW5088 vhost]#
```

