

## How to make APACHE HTTPD Idempotent ?

Code:

```
- hosts: all
vars_files:
  - var.yml

tasks:
- name: "install httpd rpm"
  package:
    name: "httpd"
    state: present

- file:
  state: directory
  path: "{{ doc_root }}"

- name: "changing the config file as /etc/httpd/conf.d"
  template:
    dest: "/etc/httpd/conf.d/codeDR.conf"
    src: "codeDR.conf"

  notify:
  - restart httpd

- name: "copying the html file in new document root"
  copy:
    dest: "{{ doc_root }}/brow.html"
```

```
content : "testing ansible handler"

- name: " starting the sevice"
  service:
    name: "httpd"
    state: started
    enabled: yes

- firewallld:
  port: "{{ http_port }}/tcp"
  state: enabled
  permanent: yes
  immediate: yes

handlers:
- name: restart httpd
  service:
    name: "httpd"
    state: restarted
```

Var.yml

```
File Edit View Search Terminal Help
doc_root: "/var/www/akshay"
http_port: 8082
~
~
~
```

## How to make APACHE HTTPD Idempotent ?

Conf file

```
Listen {{ http_port }}

<VirtualHost {{ ansible_facts['default_ipv4']['address'] }}:{{ http_port }}>
DocumentRoot {{ doc_root }}
</VirtualHost>
~
~
~
```

## How to make APACHE HTTPD Idempotent ?

Running playbook

```
[root@localhost 11.3]# ansible-playbook preq.yml
[DEPRECATION WARNING]: The firewalld module has been moved to the ansible.posix
collection. This feature will be removed from community.general in version 2.0.0.
Deprecation warnings can be disabled by setting deprecation_warnings=False in
ansible.cfg.

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [192.168.0.106]

TASK [install httpd rpm] *****
ok: [192.168.0.106]

TASK [install httpd rpm] *****
ok: [192.168.0.106]

TASK [file] *****
ok: [192.168.0.106]

TASK [changing the config file as /etc/httpd/conf.d] *****
changed: [192.168.0.106]

TASK [copying the html file in new document root] *****
ok: [192.168.0.106]

TASK [starting the service] *****
ok: [192.168.0.106]

TASK [firewalld] *****
ok: [192.168.0.106]

RUNNING HANDLER [restart httpd] *****
changed: [192.168.0.106]

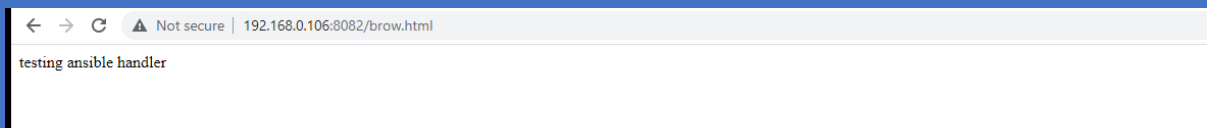
PLAY RECAP *****
192.168.0.106 : ok=8    changed=2    unreachable=0    failed=0    skipped=0
               rescued=0    ignored=0
```

Checking port number on TN:

## How to make APACHE HTTPD Idempotent ?

```
[root@localhost conf.d]# netstat -tnlp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
PID/Program name
tcp        0      0 192.168.122.1:53        0.0.0.0:*               LISTEN
2463/dnsmasq
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN
922/sshd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN
927/cupsd
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN
1/systemd
tcp6       0      0 :::22                   :::*                     LISTEN
922/sshd
tcp6       0      0 :::1:631                :::*                     LISTEN
927/cupsd
tcp6       0      0 :::111                  :::*                     LISTEN
1/systemd
tcp6       0      0 :::80                   :::*                     LISTEN
9939/httpd
tcp6       0      0 :::8082                  :::*                     LISTEN
9939/httpd
```

Server checking:



Now, running the playbook again with no changes in conf file.  
so, here handler must not run.

```
PLAY [all] *****

TASK [Gathering Facts] *****
ok: [192.168.0.106]

TASK [install httpd rpm] *****
ok: [192.168.0.106]

TASK [file] *****
ok: [192.168.0.106]

TASK [changing the config file as /etc/httpd/conf.d] *****
ok: [192.168.0.106]

TASK [copying the html file in new document root] *****
ok: [192.168.0.106]

TASK [starting the service] *****
ok: [192.168.0.106]

TASK [firewalld] *****
ok: [192.168.0.106]

PLAY RECAP *****
192.168.0.106 : ok=7  changed=0    unreachable=0    failed=0    skipped=0
0  rescued=0    ignored=0

K[root@localhost ~]#
```

## How to make APACHE HTTPD Idempotent ?

Now, changing the port number in conf file ,

```
File Edit View Search Terminal Help
doc_root: "/var/www/akshay"
http_port: 8083
```

now the handler will restart the httpd to update the changes made in conf file.

Running the playbook:

```
[root@localhost 11.3]# ansible-playbook preq.yml
[DEPRECATION WARNING]: The firewalld module has been moved to the ansible.posix
collection. This feature will be removed from community.general in version 2.0.0.
Deprecation warnings can be disabled by setting deprecation_warnings=False in
ansible.cfg.

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [192.168.0.106]

TASK [install httpd rpm] *****
ok: [192.168.0.106]

TASK [file] *****
ok: [192.168.0.106]

TASK [changing the config file as /etc/httpd/conf.d] *****
changed: [192.168.0.106]

TASK [copying the html file in new document root] *****
ok: [192.168.0.106]

TASK [starting the sevice] *****
ok: [192.168.0.106]

TASK [firewalld] *****
changed: [192.168.0.106]

RUNNING HANDLER [restart httpd] *****
changed: [192.168.0.106]

PLAY RECAP *****
192.168.0.106 : ok=8 changed=3 unreachable=0 failed=0 skipped=
0 rescued=0 ignored=0

[root@localhost 11.3]#
```

Handler runs now.

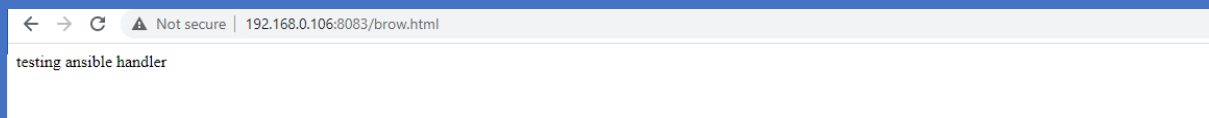
## How to make APACHE HTTPD Idempotent ?

Checking the TN if port is working or not

```
[root@localhost conf.d]# netstat -tnlp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
PID/Program name
tcp        0      0 192.168.122.1:53        0.0.0.0:*               LISTEN
2463/dnsmasq
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN
922/sshd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN
927/cupsd
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN
1/systemd
tcp6       0      0 :::22                   :::*                    LISTEN
922/sshd
tcp6       0      0 :::1:631                :::*                    LISTEN
927/cupsd
tcp6       0      0 :::111                  :::*                    LISTEN
1/systemd
tcp6       0      0 :::80                   :::*                    LISTEN
13018/httpd
tcp6       0      0 :::8083                  :::*                    LISTEN
13018/httpd
[root@localhost conf.d]#
```

Working...

Checking the server.



Yes running.

So, earlier the httpd service was not idempotent in nature, ie it always restarts the service if some changes been made in conf file or not.

With the use of notify and handler module, we made the httpd service restarts only when there is some change in conf file only.

Therefore, the httpd service has finally been made idempotent.