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GitHub repo: <https://github.com/ParvathiRPai/Ansible>

1) Connecting to the Cisco dcloud instance –

The screenshot shows the 'Edit' configuration window for a Cisco AnyConnect profile. The fields are as follows:

- Name:** user1
- Gateway:** dcloud-sjc-anyconnect.cisco.com
- Username:** v226user1
- Groupname:** (empty)
- CA Certificate:** (empty)
- Server Certificate:** (empty)
- OTP Token:** HOTP (RFC4226)
- VPN protocol:** Cisco AnyConnect
- Local Certificate / System Store:** (selected)
- User Certificate:** (empty)
- User Key:** (empty)
- Reconnect timeout:** 300s
- DTLS attempt period:** 25s
- Options:**
 - ☐ Minimize on Connect
 - ☐ Batch mode
 - ☐ Disable UDP
 - ☐ Use Proxy
- Buttons:** Cancel, Save

2) dclould instance connection tested –

```
➔ ~ ping 198.18.134.30
PING 198.18.134.30 (198.18.134.30): 56 data bytes
64 bytes from 198.18.134.30: icmp_seq=0 ttl=61 time=45.087 ms
64 bytes from 198.18.134.30: icmp_seq=1 ttl=61 time=43.181 ms
64 bytes from 198.18.134.30: icmp_seq=2 ttl=61 time=45.241 ms
64 bytes from 198.18.134.30: icmp_seq=3 ttl=61 time=34.819 ms
64 bytes from 198.18.134.30: icmp_seq=4 ttl=61 time=51.052 ms
64 bytes from 198.18.134.30: icmp_seq=5 ttl=61 time=47.125 ms
64 bytes from 198.18.134.30: icmp_seq=6 ttl=61 time=49.495 ms
64 bytes from 198.18.134.30: icmp_seq=7 ttl=61 time=45.030 ms
```

3) Connecting to ubuntu server

```
➔ ~ ssh root@198.18.134.28
root@198.18.134.28's password:
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 4.4.0-42-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

367 packages can be updated.
298 updates are security updates.

Your Hardware Enablement Stack (HWE) is supported until April 2019.
Last login: Tue Jun 26 10:52:47 2018 from 10.16.27.145
root@ubuntu:~#
```

4) Install ansible in the Ubuntu server

```
root@ubuntu:~# sudo apt install ansible
```

5) Configure the inventory in etc/ansible/hosts in the ubuntu server

```
root@ubuntu:/etc/ansible# vim hosts
```

6) Add the IP address of the hosts that is centos1 and centos2 in /etc/ansible/hosts ansible inventory

```
## 10.25.1.56
## 10.25.1.57

# Here's another example of host ranges, this time there are no
# leading 0s:

## db-[99:101]-node.example.com
198.18.134.49 hosts_indexSuffix=1
198.18.134.50 hosts_indexSuffix=2
~
~
~
~
~
```

7) Installing SSH in the ubuntu server

```
root@ubuntu:/etc# cd ..
root@ubuntu:/# apt-get install openssh-server
```

8) Proof that ssh is installed

```
root@ubuntu:/etc# ls -al | grep ssh
drwxr-xr-x  2 root root  4096 Sep  7 19:29 ssh
```

9) connecting to CentOS1 and CentOS2 :

```
➔ ~ ssh root@198.18.134.50
The authenticity of host '198.18.134.50 (198.18.134.50)' can't be established.
ECDSA key fingerprint is SHA256:HwfAoAKNMcll2MvKxfvYmM/CDi6ztTzCPc2PfTYHV8o.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '198.18.134.50' (ECDSA) to the list of known hosts.
root@198.18.134.50's password:
Last login: Tue Jun 26 15:49:39 2018 from 10.16.27.145
[root@centos2 ~]#
```

```
Last login: Mon Aug 31 13:05:42 on ttys000
➔ ~ ssh root@198.18.134.49
root@198.18.134.49's password:
Last login: Tue Jun 26 15:49:19 2018 from 10.16.27.145
[root@centos1 ~]#
```

10) Public key generation in Ubuntu:

```
root@ubuntu:/# ssh-keygen -t rsa
```

11) Connecting to CentOS1 and CentOS2 –

```
root@ubuntu:/# ssh-copy-id root@198.18.134.49
The authenticity of host '198.18.134.49 (198.18.134.49)' can't be established.
```

```
root@ubuntu:/# ssh-copy-id root@198.18.134.50
The authenticity of host '198.18.134.50 (198.18.134.50)' can't be established.
ECDSA key fingerprint is 85:f3:cc:8f:38:c7:e5:2d:e7:e8:ad:a7:3a:76:27:82.
```

12) Check ansible connection with CentOS1 and CentOS2

```
root@ubuntu:/homework# ansible all -m ping -u root
198.18.134.49 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}
198.18.134.50 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}
```

13) Configuring the messages that should be deployed in ansible and displayed in CentOS1 and CentOS2 – (Jinja template is helpful for deployment the html file)

```
root@ubuntu:/homework# vim index.jinja
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Hello from Centos {{ hosts_indexSuffix }}</title>
</head>
<body>
  <h1>Hello from Centos {{ hosts_indexSuffix }}</h1>
</body>
</html>
~
~
~
```

14) Configuring playbook –

full code in GitHub <https://github.com/ParvathiRPai/Ansible/blob/master/start.yml>
also, at the end of the document

```

- hosts: all
  user: root
  tasks:
    - name: Add epel-repo
      yum:
        name: epel-release
        state: present

    - name: Install Nginx
      yum:
        name: nginx
        state: present

    - name: add index.html file
      template:
        src: /homework/index.jinja
        dest: /usr/share/nginx/html/index.html

    - name: Open port 80 for http
      firewallld:
        service: http
        permanent: true
        state: enabled

    - name: Restart the firewall service to load in the firewall changes
      service:
        name: firewallld
        state: restarted

    - name: Start Nginx
      service:
        name: nginx
        state: started

```

```

~
~
~
~
~

```

```

root@ubuntu:/homework# ls
index.jinja  start.yml  stop.yml

```

15) Run the playbook

```

root@ubuntu:/homework# ansible-playbook start.yml

```

Playbook is deployed successfully

```

root@ubuntu:/homework# ansible-playbook start.yml

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

TASK [Add epel-repo] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

TASK [Install Nginx] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

TASK [add index.html file] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [Open port 80 for http] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

TASK [Restart the firewall service to load in the firewall changes] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [Start Nginx] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

PLAY RECAP *****
198.18.134.49      : ok=7  changed=2  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0
198.18.134.50      : ok=7  changed=2  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0

```

16) Message from CentOS1

```

root@ubuntu:/homework# curl 198.18.134.49
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Hello from Centos 1</title>
</head>
<body>
  <h1>Hello from Centos 1</h1>
</body>
</html>

```

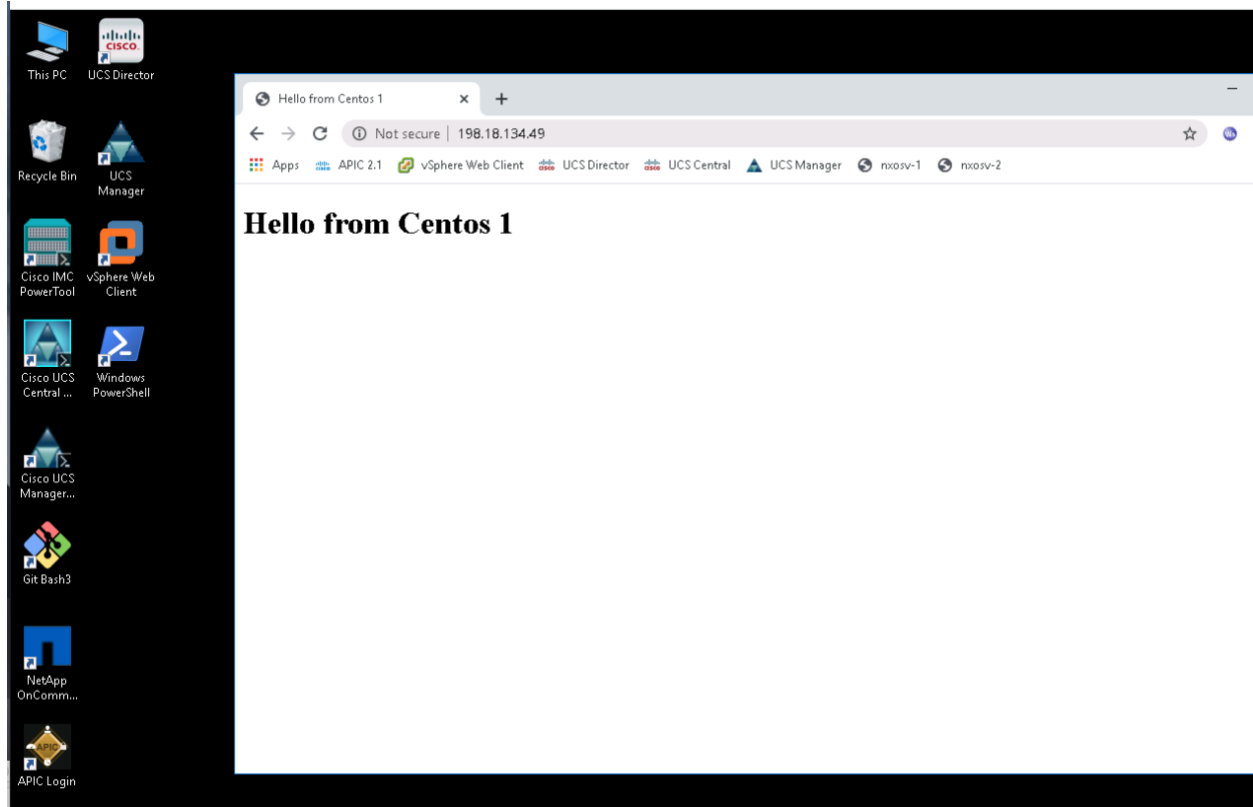
17) Message from CentOS2

```

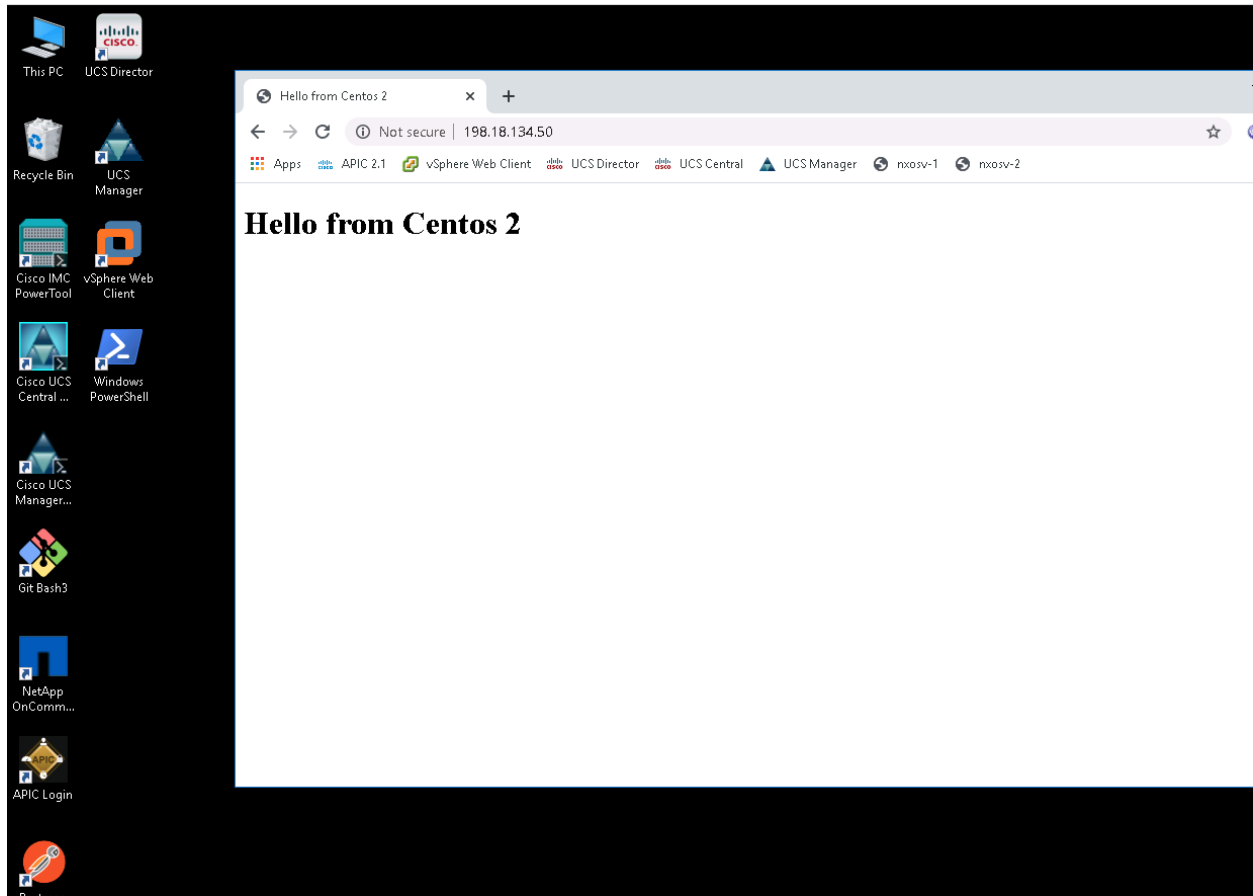
root@ubuntu:/homework# curl 198.18.134.50
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Hello from Centos 2</title>
</head>
<body>
  <h1>Hello from Centos 2</h1>
</body>
</html>

```

20) Message in the browser from CentOS1 in windows 10 workstation



21) Message in the browser from CentOS2



22) Un-deploy ansible

a) Create a playbook to un-deploy – For undeployed the steps followed in deployed should be reversed

```
root@ubuntu:/homework# vim stop.yml
```

b) Configure the playbook code in GitHub

<https://github.com/ParvathiRPai/Ansible/blob/master/stop.yml>

and also, at the end

```
hosts: all
user: root
tasks:
- name: Stop Nginx
  service:
    name: nginx
    state: stopped
- name: Restart the firewalld service to load in the firewall changes
  service:
    name: firewalld
    state: stopped
- name: Open port 80 for http access
  firewalld:
    service: http
    permanent: true
    state: disabled
- name: Check if file already exists
  stat:
    path: /usr/share/nginx/html/index.html
    register: file_exists
- name: Delete the file if it exists
  file:
    path: /usr/share/nginx/html/index.html
    state: absent
  when: file_exists.stat.exists
- name: un-install Nginx
  yum:
    name: nginx
    state: absent
- name: remove epel-repo
  yum:
    name: epel-release
    state: absent
~
~
~
~
```

c) Run the playbook

```
root@ubuntu:/homework# vim stop.yml
root@ubuntu:/homework# ansible-playbook stop.yml
```

d) run succeeds

```

root@ubuntu:/homework# ansible-playbook stop.yml

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

TASK [Stop Nginx] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [Restart the firewalld service to load in the firewall changes] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [Open port 80 for http access] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [Check if file already exists] *****
ok: [198.18.134.49]
ok: [198.18.134.50]

TASK [Delete the file if it exists] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [un-install Nginx] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

TASK [remove epel-repo] *****
changed: [198.18.134.49]
changed: [198.18.134.50]

PLAY RECAP *****
198.18.134.49 : ok=8 changed=6 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
198.18.134.50 : ok=8 changed=6 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

```

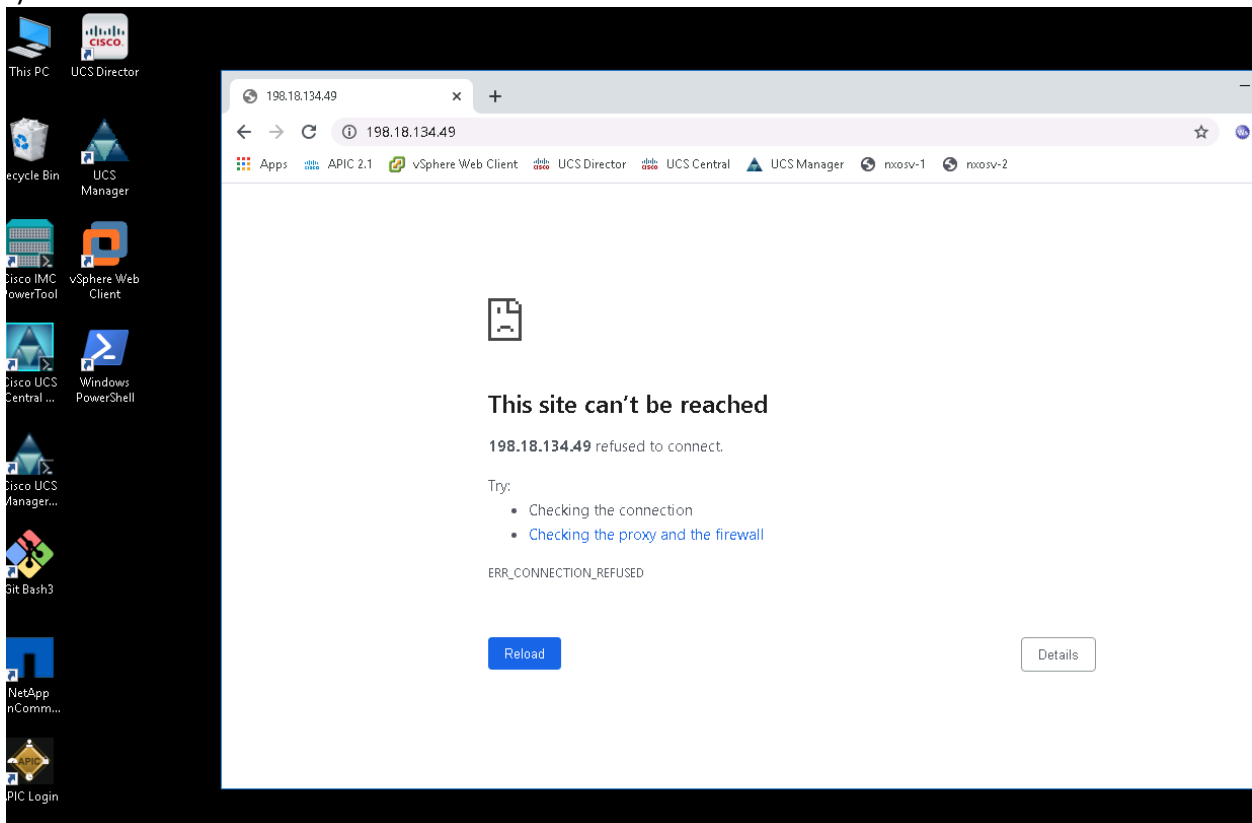
e) Test un-deployment

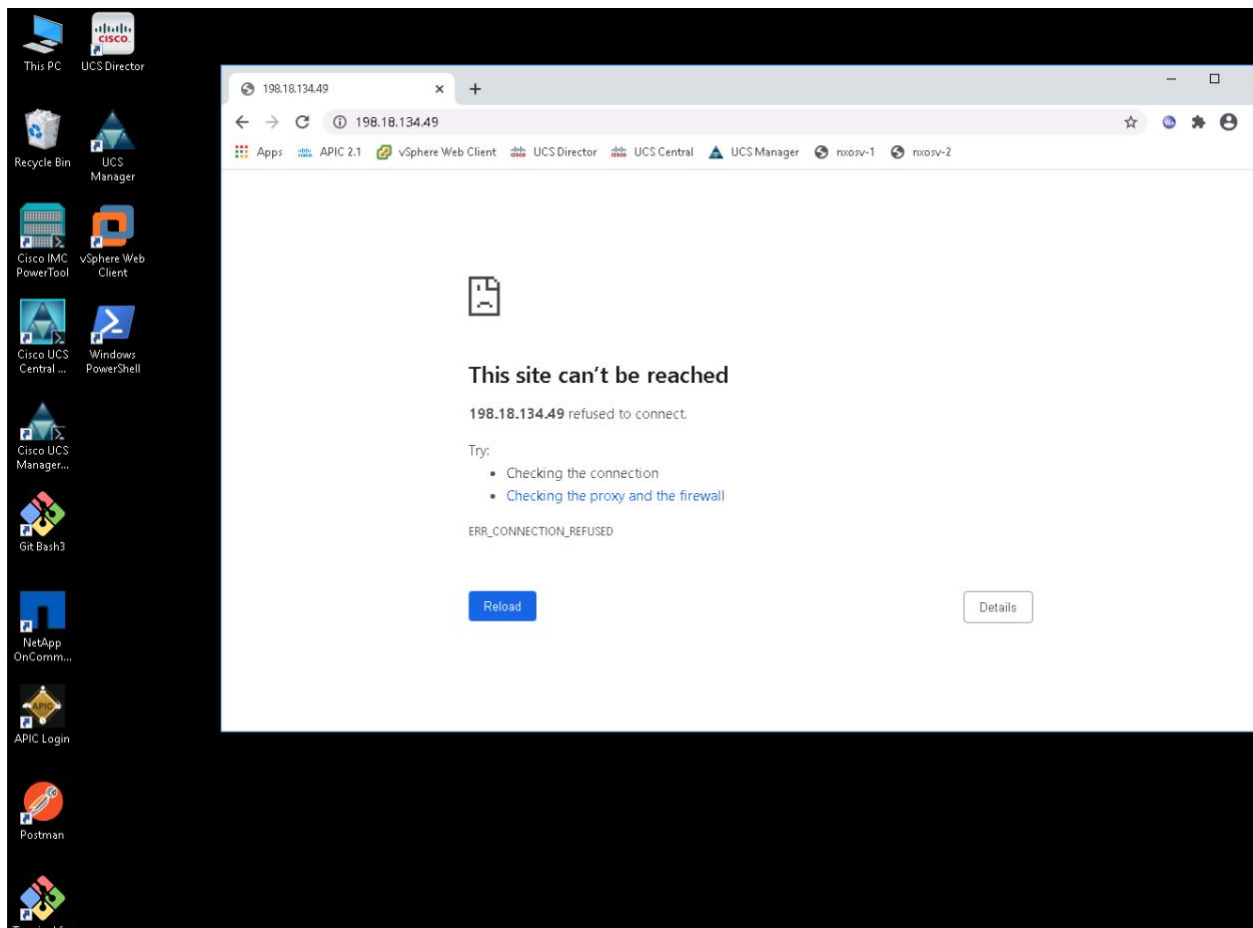
```

root@ubuntu:/homework# curl 198.18.134.49
curl: (7) Failed to connect to 198.18.134.49 port 80: Connection refused
root@ubuntu:/homework# curl 198.18.134.50
curl: (7) Failed to connect to 198.18.134.50 port 80: Connection refused

```

f) Test in the web browser





Code:

Index.jinja - <https://github.com/ParvathiRPai/Ansible/blob/master/index.jinja>

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Hello from Centos {{ hosts_indexSuffix }}</title>
</head>
<body>
  <h1>Hello from Centos {{ hosts_indexSuffix }}</h1>
</body>
</html>
```

Start.yml - <https://github.com/ParvathiRPai/Ansible/blob/master/start.yml>

- hosts: all
- user: root
- tasks:
 - name: Add epel-repo
 - yum:
 - name: epel-release
 - state: present
 - name: Install Nginx
 - yum:
 - name: nginx
 - state: present
 - name: add index.html file
 - template:
 - src: /homework/index.jinja
 - dest: /usr/share/nginx/html/index.html
 - name: Open port 80 for http
 - firewalld:
 - service: http
 - permanent: true
 - state: enabled
 - name: Restart the firewalld service to load in the firewall changes
 - service:
 - name: firewalld
 - state: restarted
 - name: Start Nginx
 - service:
 - name: nginx
 - state: started

Stop.yml - <https://github.com/ParvathiRPai/Ansible/blob/master/stop.yml>

```
- hosts: all
  user: root
  tasks:
    - name: Stop Nginx
      service:
        name: nginx
        state: stopped
    - name: Restart the firewalld service to load in the firewall changes
      service:
        name: firewalld
        state: stopped
    - name: Open port 80 for http access
      firewalld:
        service: http
        permanent: true
        state: disabled
    - name: Check if file already exists
      stat:
        path: /usr/share/nginx/html/index.html
      register: file_exists
    - name: Delete the file if it exists
      file:
        path: /usr/share/nginx/html/index.html
        state: absent
      when: file_exists.stat.exists
    - name: un-install Nginx
      yum:
        name: nginx
        state: absent
    - name: remove epel-repo
      yum:
        name: epel-release
        state: absent
```