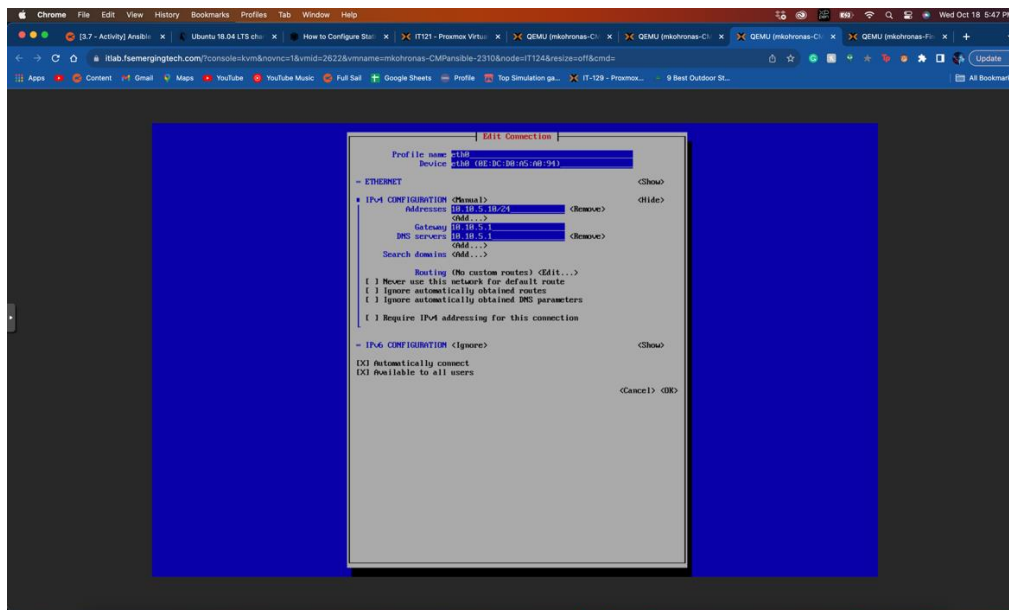
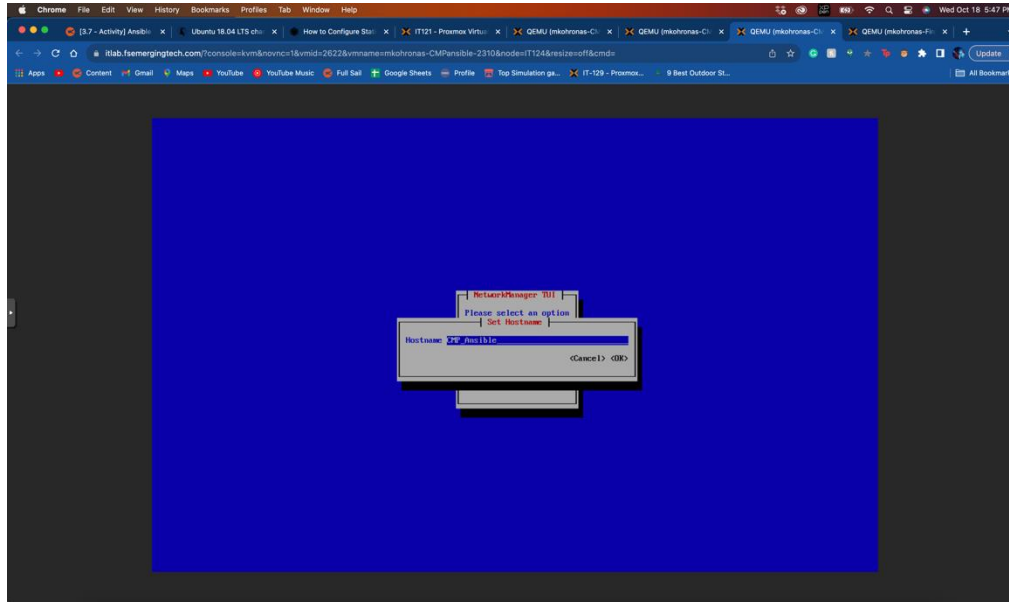
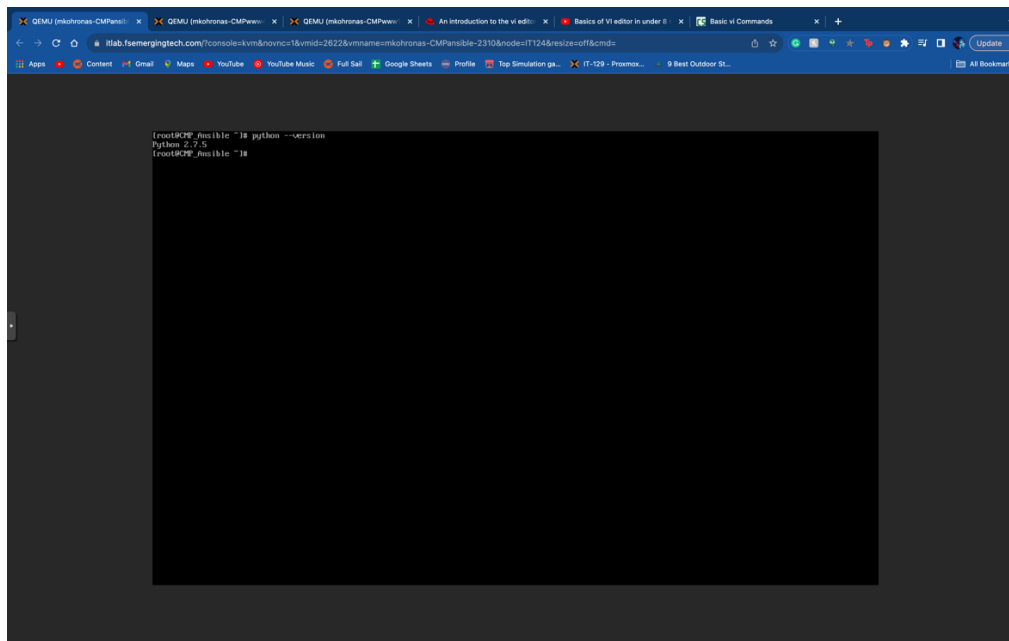


Michael Kohronas
10/17/2023

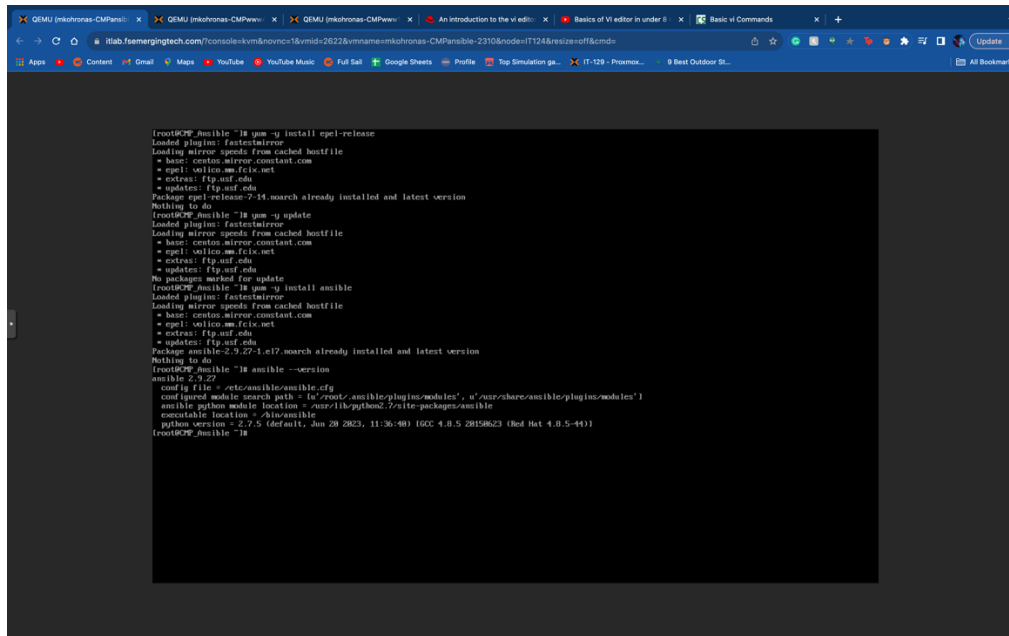
Step 1 – CMP Ansible Hostname + connection/IP settings





```
root@CFE_Ansible ~# python --version
Python 2.7.5
root@CFE_Ansible ~#
```

Step 2 – Install Ansible



```
root@CFE_Ansible ~# yum -y install epel-release
Loaded plugin: fastestmirror
Loading mirror speeds from cached hostfile
 * base: centos.mirror.constant.com
 * epel: volico.wm.fcix.net
 * extras: ftp.usf.edu
 * updates: ftp.usf.edu
Package epel-release-7-14.noarch already installed and latest version
Nothing to do
root@CFE_Ansible ~# yum -y update
Loaded plugin: fastestmirror
Loading mirror speeds from cached hostfile
 * base: centos.mirror.constant.com
 * epel: volico.wm.fcix.net
 * extras: ftp.usf.edu
 * updates: ftp.usf.edu
No packages marked for update
root@CFE_Ansible ~# yum -y install ansible
Loaded plugin: fastestmirror
Loading mirror speeds from cached hostfile
 * base: centos.mirror.constant.com
 * epel: volico.wm.fcix.net
 * extras: ftp.usf.edu
 * updates: ftp.usf.edu
Package ansible-2.9.27-1.el7.noarch already installed and latest version
Nothing to do
root@CFE_Ansible ~# python --version
python 2.7.5
root@CFE_Ansible ~#
```

Step 3 – Copy SSH Keys to other VMS

```
QEMU (mkohronas-CMPansi: x QEMU (mkohronas-CMPansi: x QEMU (mkohronas-CMPansi: x +
ltlab.fsmergingtech.com/7/console=kvm&novnc=1&vmid=2622&vmname=mkohronas-CMPansi:2310&node=IT124&resize=off&cmd= Press (fn) F to exit full screen
Apps Content Gmail Maps YouTube YouTube Music Full Sail Google Sheets Profile Top Simulation ga... IT-129 - Proxmox... 9 Best Outdoor St... All Bookmarks

[root@QCF_Ansible ~]# ssh-copy-id root@10.10.5.11
/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/bin/ssh-copy-id: WARNING: All keys were skipped because they already exist on the remote system.
(if you think this is a mistake, you may want to use -f option)

[root@QCF_Ansible ~]# ssh-copy-id user@10.10.5.14
/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/bin/ssh-copy-id: WARNING: All keys were skipped because they already exist on the remote system.
(if you think this is a mistake, you may want to use -f option)

[root@QCF_Ansible ~]# _
```

```
QEMU (mkohronas-CMPansi: x QEMU (mkohronas-CMPansi: x QEMU (mkohronas-CMPansi: x +
ltlab.fsmergingtech.com/7/console=kvm&novnc=1&vmid=2622&vmname=mkohronas-CMPansi:2310&node=IT124&resize=off&cmd= Press (fn) F to exit full screen
Apps Content Gmail Maps YouTube YouTube Music Full Sail Google Sheets Profile Top Simulation ga... IT-129 - Proxmox... 9 Best Outdoor St... All Bookmarks

[root@QCF_Ansible ~]# ssh-copy-id root@10.10.5.11
/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/bin/ssh-copy-id: WARNING: All keys were skipped because they already exist on the remote system.
(if you think this is a mistake, you may want to use -f option)

[root@QCF_Ansible ~]# ssh-copy-id user@10.10.5.14
/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/bin/ssh-copy-id: WARNING: All keys were skipped because they already exist on the remote system.
(if you think this is a mistake, you may want to use -f option)

[root@QCF_Ansible ~]# ssh root@10.10.5.11
Last login: Wed Oct 18 17:46:51 2023
root@QCF_Ubuntu_CentOS7 ~#
-bash: root: is a directory
root@QCF_Ubuntu_CentOS7 ~# exit
logout
Connection to 10.10.5.11 closed.
root@QCF_Ansible ~]# ssh user@10.10.5.14
Welcome to Ubuntu 18.04.6 LTS (GNU/Linux 4.15.0-213-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Wed Oct 18 22:18:35 UTC 2023

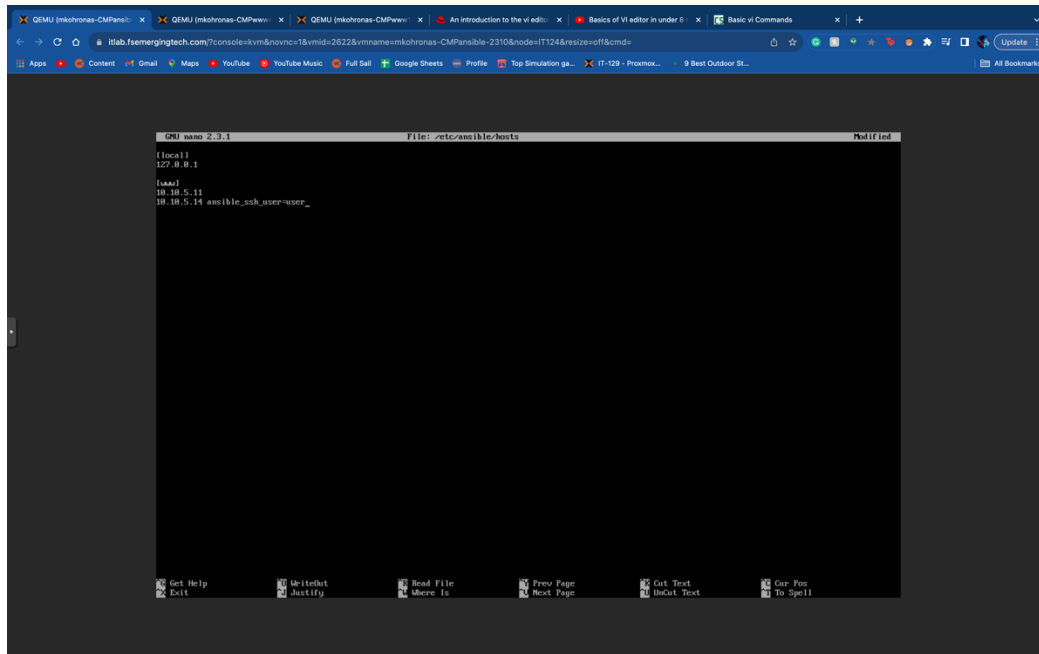
System load:  0.0          Processes:      99
Usage of /:   26.3% of 22.96GB Users logged in:    1
Memory usage: 7%          IP address for ens18: 10.10.5.14
Swap usage:   0%

Expanded Security Maintenance for Infrastructure is not enabled.
0 updates can be applied immediately.
67 additional security updates can be applied with ESM Infra.
Learn more about enabling ESM Infra service for Ubuntu 18.04 at
https://ubuntu.com/18-04

New release '20.04.6 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

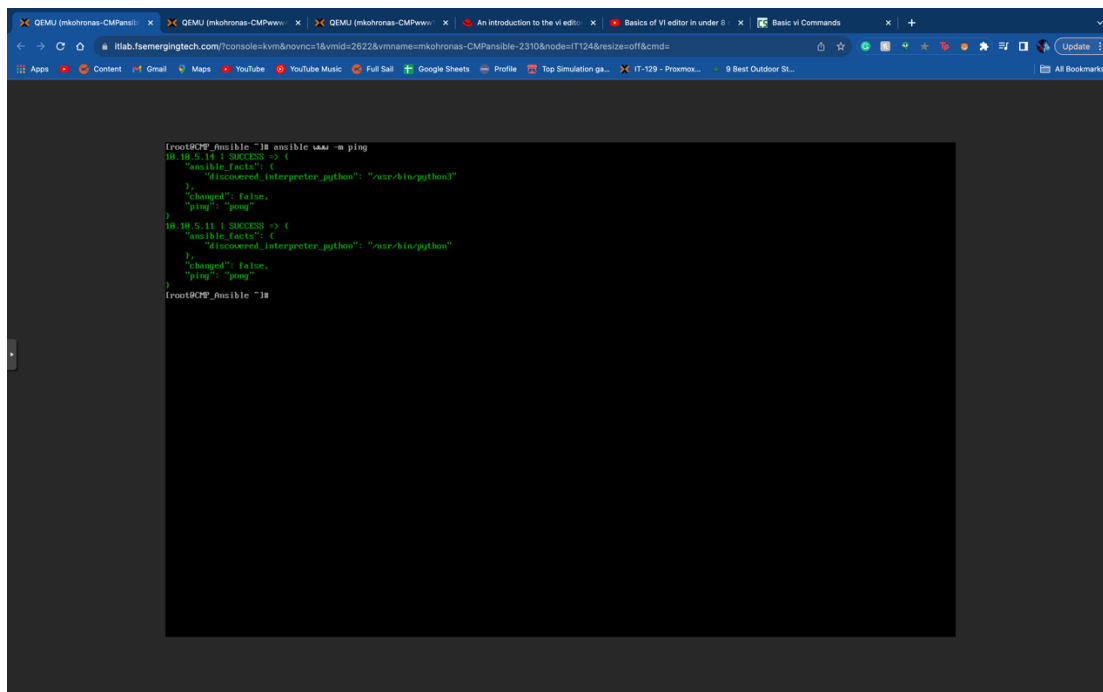
Last login: Wed Oct 18 21:48:05 2023
user@QCF_Ubuntu:~$ _
```

Step 4 – Add all the remote VMs to the ansible inventory file.



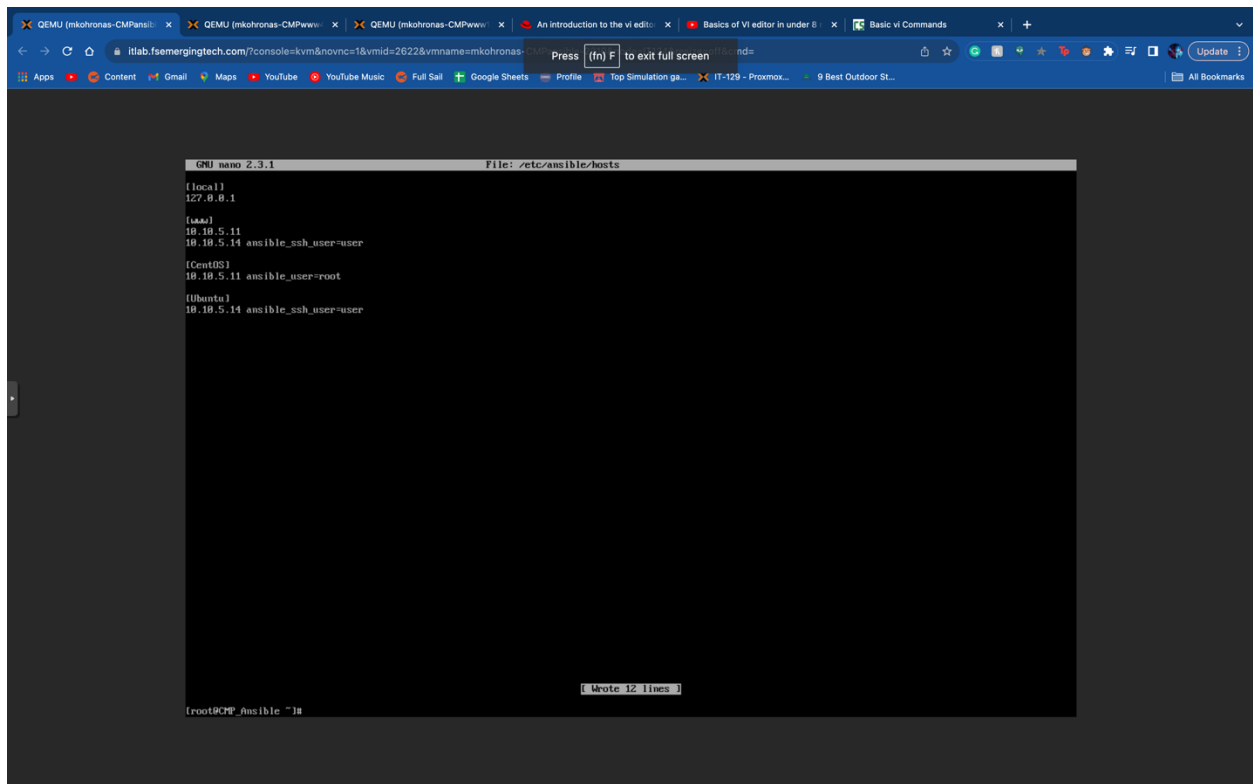
```
GNU nano 2.3.1 File: /etc/ansible/hosts
[local]
172.17.0.1
[www]
10.10.5.11
10.10.5.14 ansible_ssh_user=root
```

Step 5 – Ping all VMS in the www group



```
root@CFP_Ansible ~# ansible www -m ping
10.10.5.14 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
10.10.5.11 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
root@CFP_Ansible ~#
```

Step 6 – Create two new groups



The screenshot shows a terminal window with the nano 2.3.1 editor open to the file /etc/ansible/hosts. The file contains the following content:

```
GNU nano 2.3.1 File: /etc/ansible/hosts

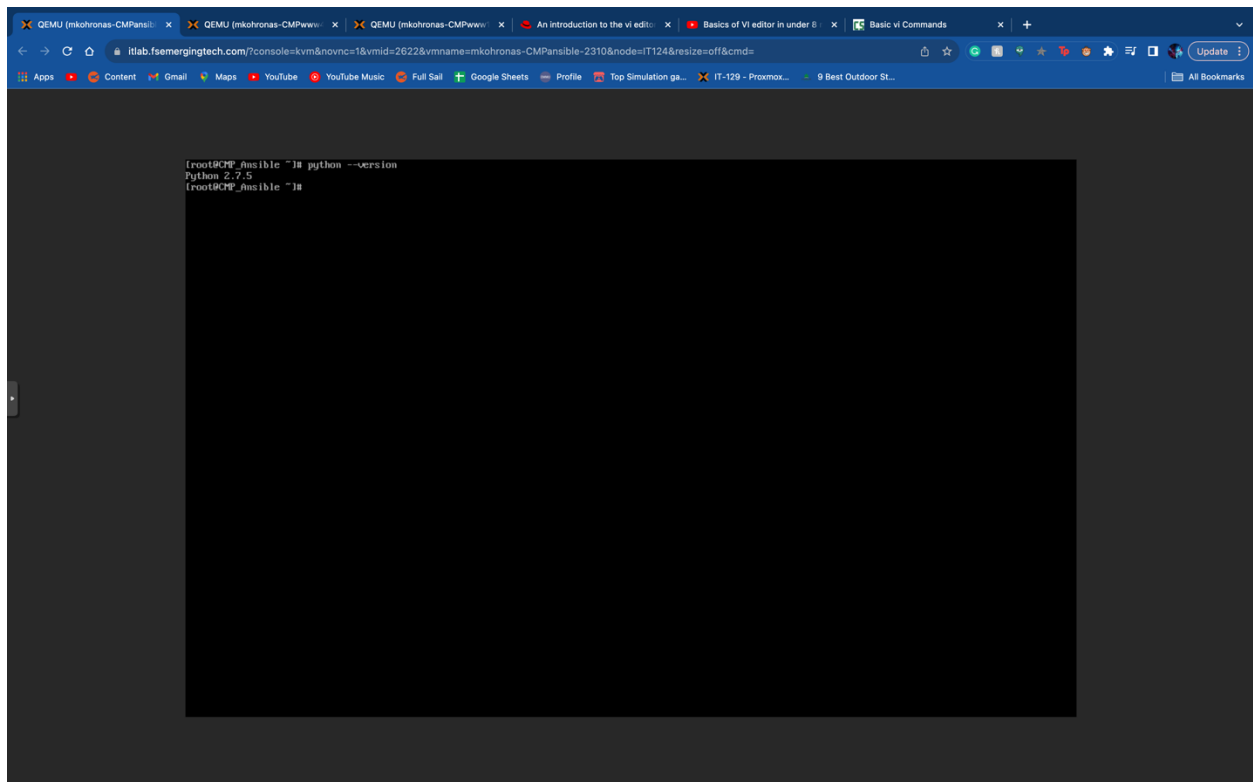
[local]
127.0.0.1

[wee]
10.10.5.11
10.10.5.14 ansible_ssh_user=user

[CentOS]
10.10.5.11 ansible_user=root

[Ubuntu]
10.10.5.14 ansible_ssh_user=user
```

A status bar at the bottom of the editor indicates "[Wrote 12 lines]". The terminal prompt is [root@CWP_ansible ~]#.

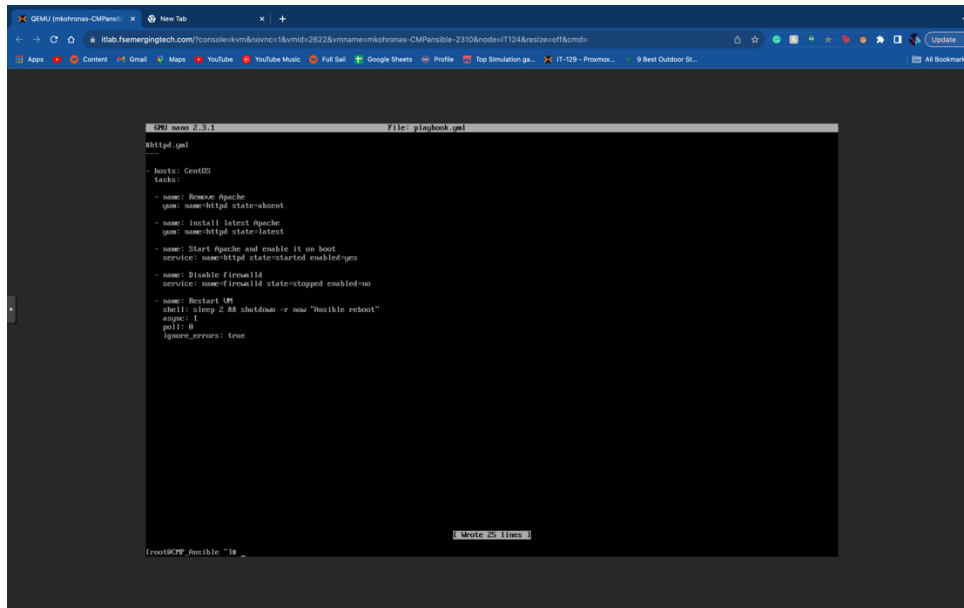


The screenshot shows a terminal window with the command python --version executed. The output is Python 2.7.5. The terminal prompt is [root@CWP_ansible ~]#.

```
[root@CWP_ansible ~]# python --version
Python 2.7.5
[root@CWP_ansible ~]#
```

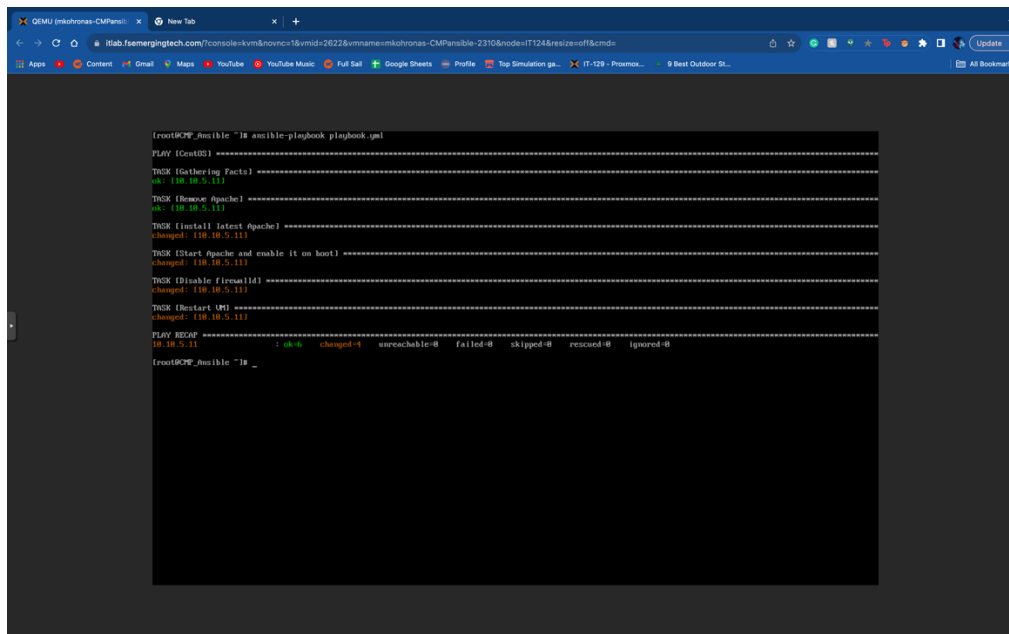
Ansible Continued -

Step 1: Create nano playbook.yml and copy code over.



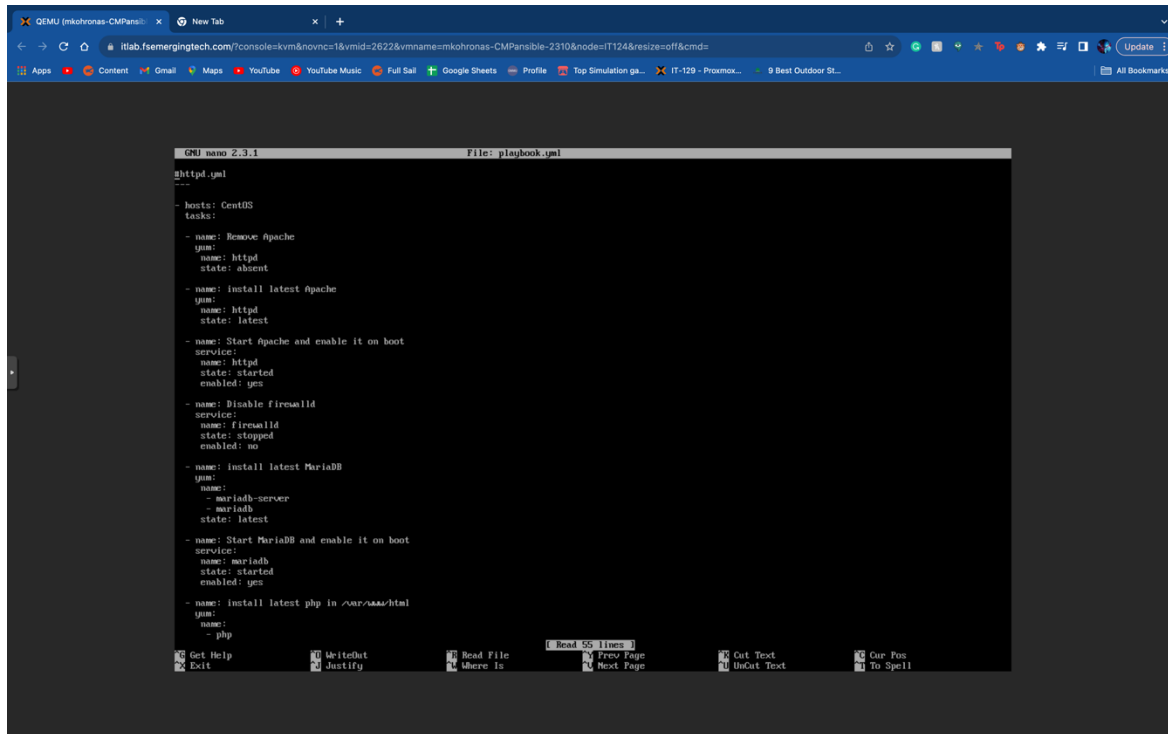
```
GNU nano 2.3.1          File: playbook.yml\nhttpd.yml\n- hosts: CentOS\n  tasks:\n    - name: Remove Apache\n      yum: name=httpd state=absent\n    - name: install latest Apache\n      yum: name=httpd state=latest\n    - name: Start Apache and enable it on boot\n      service: name=httpd state=started enabled=yes\n    - name: Disable firewall\n      service: name=firewall state=stopped enabled=no\n    - name: Restart VM\n      shell: sleep 2 && shutdown -r now "ansible reboot"\n      aspec: 1\n      poll: 0\n      ignore_errors: true
```

Step 2: Execute Ansible playbook



```
[root@CF_Ansible ~]# ansible-playbook playbook.yml\nPLAY [CentOS] =====\nTASK [Gathering Facts] =====\nok: [10.10.5.11]\nTASK [Remove Apache] =====\nok: [10.10.5.11]\nTASK [install latest Apache] =====\nchanged: [10.10.5.11]\nTASK [Start Apache and enable it on boot] =====\nchanged: [10.10.5.11]\nTASK [Disable Firewall] =====\nchanged: [10.10.5.11]\nTASK [Restart VM] =====\nchanged: [10.10.5.11]\nPLAY RECAP =====\n10.10.5.11 : ok=6 changed=4 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0\n[root@CF_Ansible ~]#_
```

Step 3: Add extra code to the playbook to install a lamp stack server



```
GNU nano 2.3.1 File: playbook.yml
#httpd.yml
---
- hosts: CentOS
  tasks:
    - name: Remove Apache
      yum:
        name: httpd
        state: absent

    - name: Install latest Apache
      yum:
        name: httpd
        state: latest

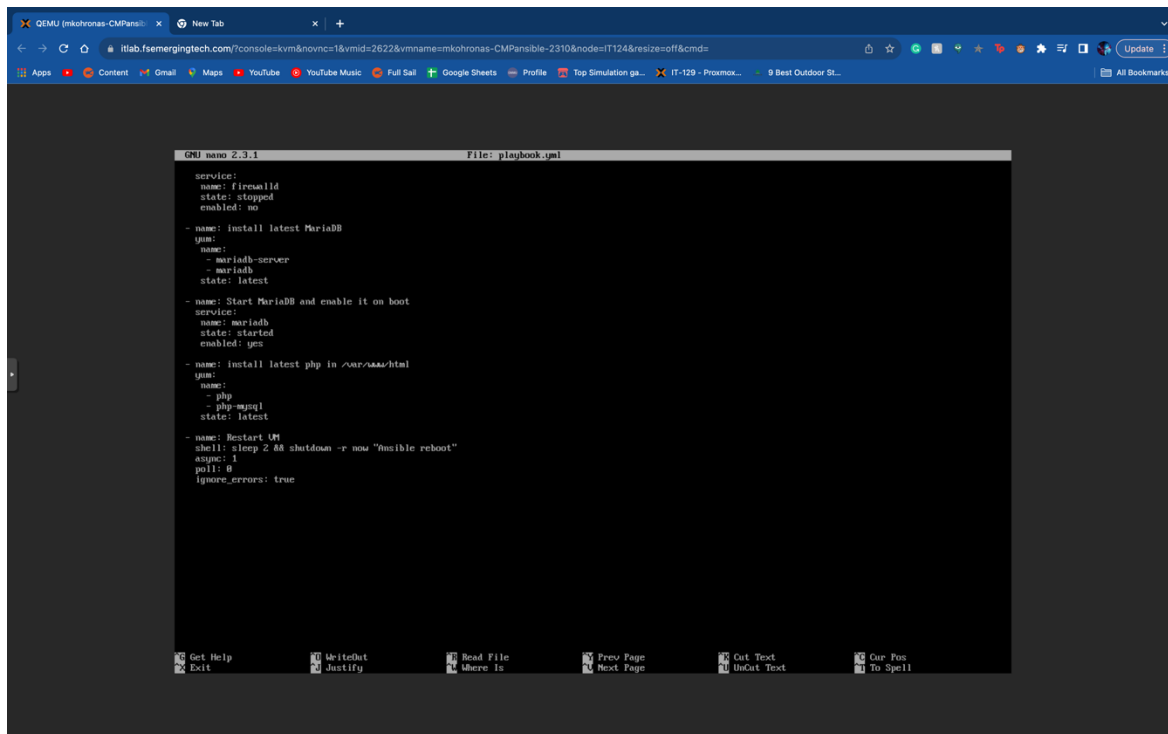
    - name: Start Apache and enable it on boot
      service:
        name: httpd
        state: started
        enabled: yes

    - name: Disable firewall
      service:
        name: firewalld
        state: stopped
        enabled: no

    - name: Install latest MariaDB
      yum:
        name:
          - mariadb-server
          - mariadb
        state: latest

    - name: Start MariaDB and enable it on boot
      service:
        name: mariadb
        state: started
        enabled: yes

    - name: Install latest php in /var/www/html
      yum:
        name:
          - php
```



```
GNU nano 2.3.1 File: playbook.yml

    service:
      name: firewalld
      state: stopped
      enabled: no

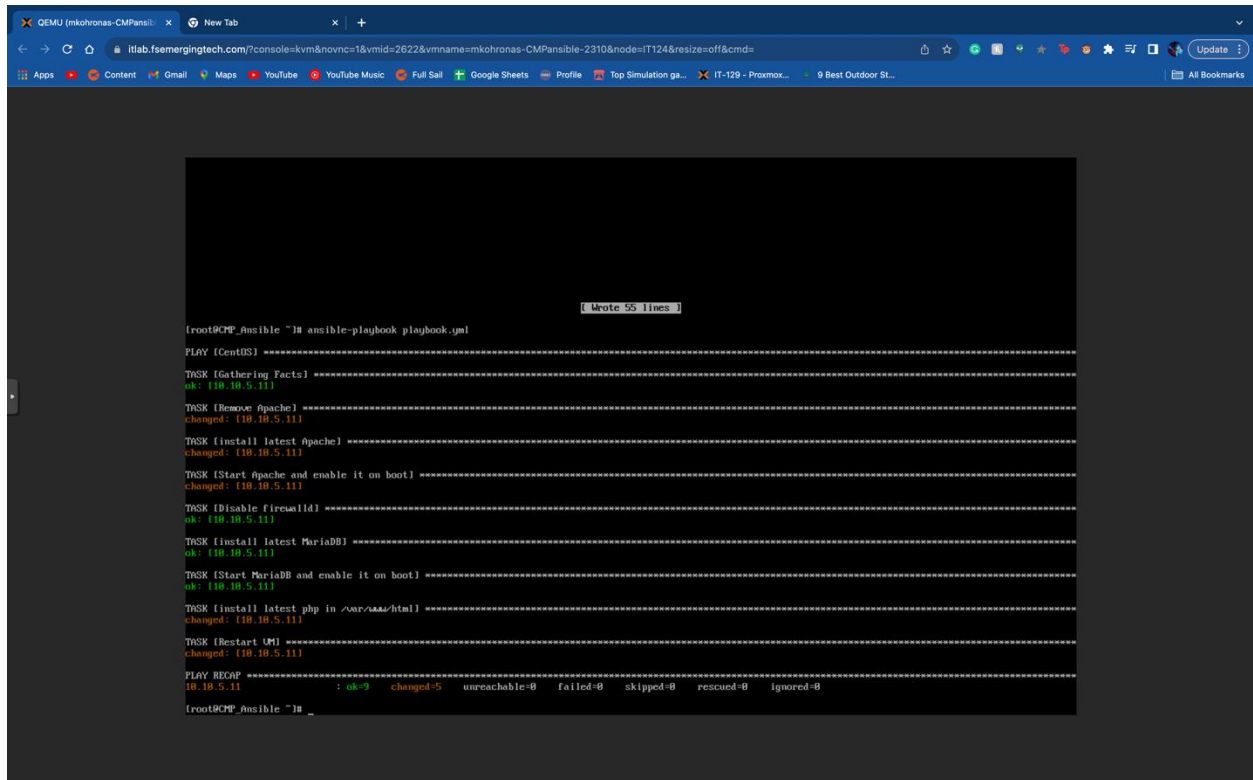
    - name: Install latest MariaDB
      yum:
        name:
          - mariadb-server
          - mariadb
        state: latest

    - name: Start MariaDB and enable it on boot
      service:
        name: mariadb
        state: started
        enabled: yes

    - name: Install latest php in /var/www/html
      yum:
        name:
          - php
          - php-mysql
        state: latest

    - name: Restart VM
      shell: sleep 2 && shutdown -r now "ansible reboot"
      async: 1
      poll: 0
      ignore_errors: true
```

Step 4: Test to make sure the website is up and running



A terminal window showing the execution of an Ansible playbook. The output displays various tasks being completed successfully, including gathering facts, removing Apache, installing the latest Apache, starting Apache and enabling it on boot, disabling firewalld, installing the latest MariaDB, starting MariaDB and enabling it on boot, and installing the latest PHP in /var/www/html. The final summary shows 9 tasks: 9 OK, 5 changed, 0 unreachable, 0 failed, 0 skipped, 0 rescued, and 0 ignored.

```
[root@CHP_ansible ~]# ansible-playbook playbook.yml

PLAY [CentOS] *********************************************************************
TASK [Gathering Facts] *************************************************************
ok: [10.10.5.11]

TASK [Remove Apache] *************************************************************
changed: [10.10.5.11]

TASK [install latest Apache] ********************************************************
changed: [10.10.5.11]

TASK [Start Apache and enable it on boot] ****************************************
changed: [10.10.5.11]

TASK [Disable firewalld] ***********************************************************
ok: [10.10.5.11]

TASK [install latest MariaDB] *****************************************************
ok: [10.10.5.11]

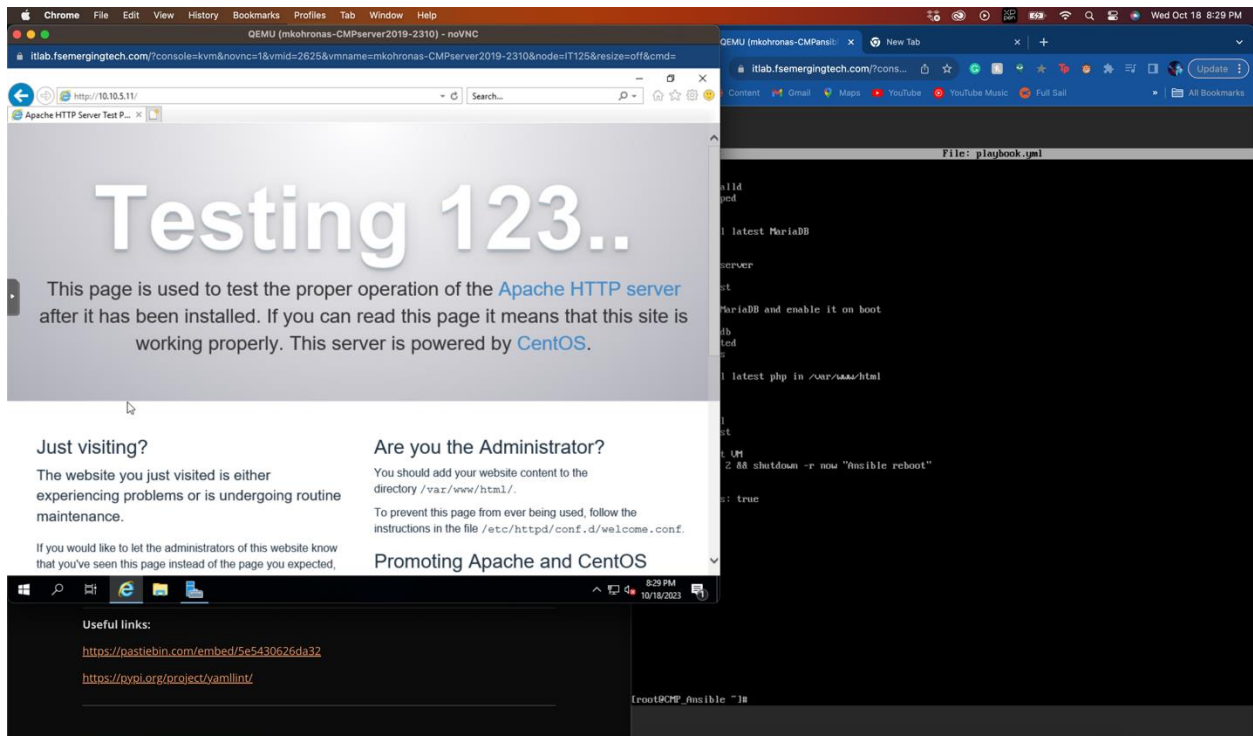
TASK [Start MariaDB and enable it on boot] ****************************************
ok: [10.10.5.11]

TASK [install latest php in /var/www/html] ****************************************
changed: [10.10.5.11]

TASK [Restart VM] *************************************************************
changed: [10.10.5.11]

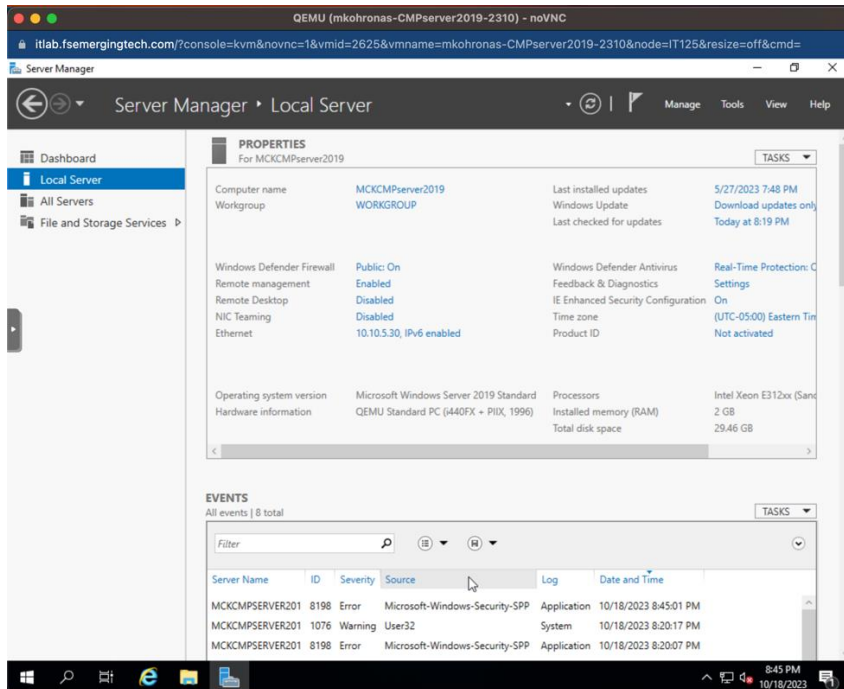
PLAY RECAP *********************************************************************
10.10.5.11      : ok=9  changed=5  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0

[root@CHP_ansible ~]#
```



PowerShell -

Step 1: Change Computer name



Step 2: Run Script in powershell as administrator

