

## TASK1:

Write an Ansible PlayBook that does the following operations in the managed nodes:

- ◆ Configure Docker
- ◆ Start and enable Docker services
- ◆ Pull the httpd server image from the Docker Hub
- ◆ Run the httpd container and expose it to the public
- ◆ Copy the html code in /var/www/html directory and start the web server

### **- *Configuring yum***

**- *creating a folder and mounting the cdrom***

**- *creating repo dvd.repo and dvd1.repo***

- name: task\_1  
gather\_facts: No  
hosts: server1  
tasks:
  - name: create\_dvd\_folder  
file:
    - path: /dvd
    - state: directory
    - mode: "0755"
  - name: mount\_dvd  
mount:
    - path: /dvd/
    - src: /dev/cdrom
    - fstype: iso9660
    - opts: ro,loop
    - state: mounted
  - name: yum\_repo\_BaseOS  
yum\_repository:
    - name: BaseOS
    - description: Local\_baseos
    - file: dvd1
    - baseurl: file:///dvd/BaseOS
    - gpgcheck: no
  - name: yum\_repo\_AppStream  
yum\_repository:
    - name: AppStream
    - description: Local\_appstream

**file: dvd2**

**baseurl: file:///dvd/AppStream**

**gpgcheck: no**

```

[root@localhost html]# mkdir /dvd
mkdir: cannot create directory '/dvd': File exists
[root@localhost html]# cd /dvd
[root@localhost dvd]# ls
AppStream  EFI  extra_files.json  images  media.repo  RPM-GPG-KEY-redhat-release
BaseOS     EULA  GPL  isolinux  RPM-GPG-KEY-redhat-beta  TRANS.TBL
[root@localhost dvd]# yum repolist
Updating Subscription Management repositories.
Unable to read consumer identity
This system is not registered to Red Hat Subscription Management. You can use subscription-manager to register.
Repository docker-ce-edge is listed more than once in the configuration
Repository docker-ce-edge-debuginfo is listed more than once in the configuration
Repository docker-ce-edge-source is listed more than once in the configuration
Repository docker-ce-nightly is listed more than once in the configuration
Repository docker-ce-nightly-debuginfo is listed more than once in the configuration
Repository docker-ce-nightly-source is listed more than once in the configuration
Repository docker-ce-stable is listed more than once in the configuration
Repository docker-ce-stable-debuginfo is listed more than once in the configuration
Repository docker-ce-stable-source is listed more than once in the configuration
Repository docker-ce-test is listed more than once in the configuration
Repository docker-ce-test-debuginfo is listed more than once in the configuration
Repository docker-ce-test-source is listed more than once in the configuration
Last metadata expiration check: 0:55:10 ago on Sat 01 Aug 2020 03:30:10 AM IST.
repo id                                repo name                                status
AppStream                              Local_appstream                          4,672
BaseOS                                  Local_baseos                             1,658
docker-ce-stable                        Docker CE Stable - x86_64                71
[root@localhost dvd]# _

```

```

[root@localhost ~]# cd /etc/yum.repos.d
[root@localhost yum.repos.d]# ls
docker-ce.repo  docker-ce.repo  dvd1.repo  dvd2.repo  redhat.repo
[root@localhost yum.repos.d]# cat dvd1.repo
[BaseOS]
baseurl = file:///dvd/BaseOS
gpgcheck = 0
name = Local_baseos

[root@localhost yum.repos.d]# cat dvd2.repo
[AppStream]
baseurl = file:///dvd/AppStream
gpgcheck = 0
name = Local_appstream

[root@localhost yum.repos.d]# _

```

- ***Removing unwanted package precreated if any***
- name: Remove docker if installed from CentOS repo
- yum:
  - name:
    - docker
    - docker-client
    - docker-client-latest
    - docker-common
    - docker-latest
    - docker-latest-logrotate
    - docker-logrotate
    - docker-engine
  - state: removed
- ***Installing dependencies***
- name: Install yum utils

yum:  
name: yum-utils  
state: latest

- name: Install device-mapper-persistent-data

yum:  
name: device-mapper-persistent-data  
state: latest

- name: Install lvm2

yum:  
name: lvm2  
state: latest

- *Conf docker-ce.repo and installing docker using shell as well as using ansible*

- name: Add Docker repo

get\_url:  
url: https://download.docker.com/linux/centos/docker-ce.repo  
dest: /etc/yum.repos.d/docker-ce.repo  
become: yes

- name: Enable Docker Edge repo

ini\_file:  
dest: /etc/yum.repos.d/docker-ce.repo  
section: 'docker-ce-edge'  
option: enabled  
value: 0  
become: yes

- name: Enable Docker Test repo

ini\_file:  
dest: /etc/yum.repos.d/docker-ce.repo  
section: 'docker-ce-test'  
option: enabled  
value: 0  
become: yes

- name: Install Docker

shell: "dnf install --nobest docker-ce -y"

**Or**

**- name: Install Docker**

**package:**

**name: docker-ce**

**state: latest**

**become: yes**

**- Starting docker service and installation req packages**

**- name: Start Docker service**

**service:**

**name: docker**

**state: started**

**enabled: yes**

**become: yes**

**- pip3:**

**name: "docker-py"**

**executable: pip2.7**

**state: present**

**Or**

**- name: docker-py**

**shell: "pip3 install docker"**

```
[root@localhost yum.repos.d]# rpm -q docker-ce
docker-ce-18.09.1-3.el7.x86_64
[root@localhost yum.repos.d]# rpm -q docker-py
package docker-py is not installed
[root@localhost yum.repos.d]# rpm -q docker
package docker is not installed
[root@localhost yum.repos.d]# systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; vendor preset: disabled)
   Active: active (running) since Sat 2020-08-01 01:41:55 IST; 2h 46min ago
     Docs: https://docs.docker.com
  Main PID: 19795 (dockerd)
    Tasks: 36
   Memory: 180.1M
   CGroup: /system.slice/docker.service
           └─19638 /usr/bin/docker-proxy -proto tcp -host-ip 0.0.0.0 -host-port 6379 -container-ip >
             └─19643 containerd-shim -namespace moby -workdir /var/lib/docker/containerd/daemon/io.co>
               └─19795 /usr/bin/dockerd -H fd://
                 └─19812 containerd --config /var/run/docker/containerd/containerd.toml --log-level info>

Aug 01 04:02:09 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:09.442663634+05:30" le>
Aug 01 04:02:09 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:09.452571952+05:30" le>
Aug 01 04:02:10 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:10.669146341+05:30" le>
Aug 01 04:02:10 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:10.827848638+05:30" le>
Aug 01 04:02:10 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:10.842182658+05:30" le>
Aug 01 04:02:10 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:10.845291112+05:30" le>
Aug 01 04:02:10 localhost.localdomain dockerd[19795]: time="2020-08-01T04:02:10.978294017+05:30" le>
Aug 01 04:04:03 localhost.localdomain dockerd[19795]: time="2020-08-01T04:04:03.570485355+05:30" le>
Aug 01 04:27:32 localhost.localdomain dockerd[19795]: time="2020-08-01T04:27:32.092990270+05:30" le>
Aug 01 04:27:32 localhost.localdomain dockerd[19795]: time="2020-08-01T04:27:32.103602041+05:30" le>
lines 1-23/23 (END)
```

```

[root@localhost yum.repos.d]# docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
httpd                latest          9d2a0c6e5b57   9 days ago     166MB
[root@localhost yum.repos.d]# docker ps
CONTAINER ID        IMAGE           COMMAND                  CREATED          STATUS
PORTS              NAMES
b256a2abcdbe       httpd           "httpd-foreground"     24 minutes ago  Up 24 minutes
0.0.0.0:6379->80/tcp  myhttpd
[root@localhost yum.repos.d]# docker exec -it myhttpd bash
root@b256a2abcdbe:/usr/local/apache2# cd /usr/local/apache2/htdocs/
root@b256a2abcdbe:/usr/local/apache2/htdocs# ls
home.html
root@b256a2abcdbe:/usr/local/apache2/htdocs# cat home.html

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root@b256a2abcdbe:/usr/local/apache2/htdocs# _

```

- ***Pulling the docker image and creating the container starting the services ,mounting the data and exporting the port***

- name: pull an image

docker\_image:

name: httpd

source: pull

- name: creating a httpd container

docker\_container:

name: myhttpd

image: httpd

state: started

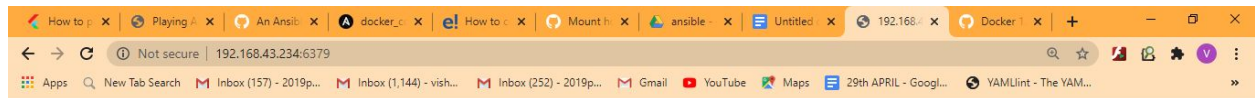
published\_ports:

- "6379:80"

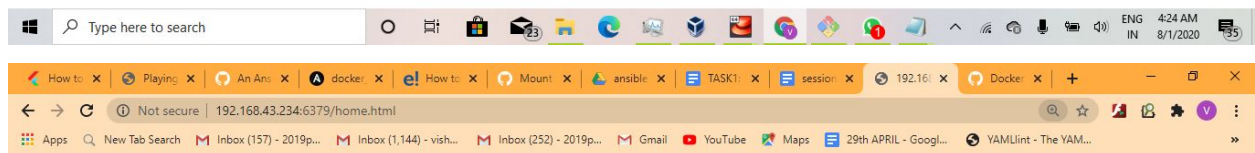
volumes:

- "/var/www/html:/usr/local/apache2/htdocs/:ro"





# It works!



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