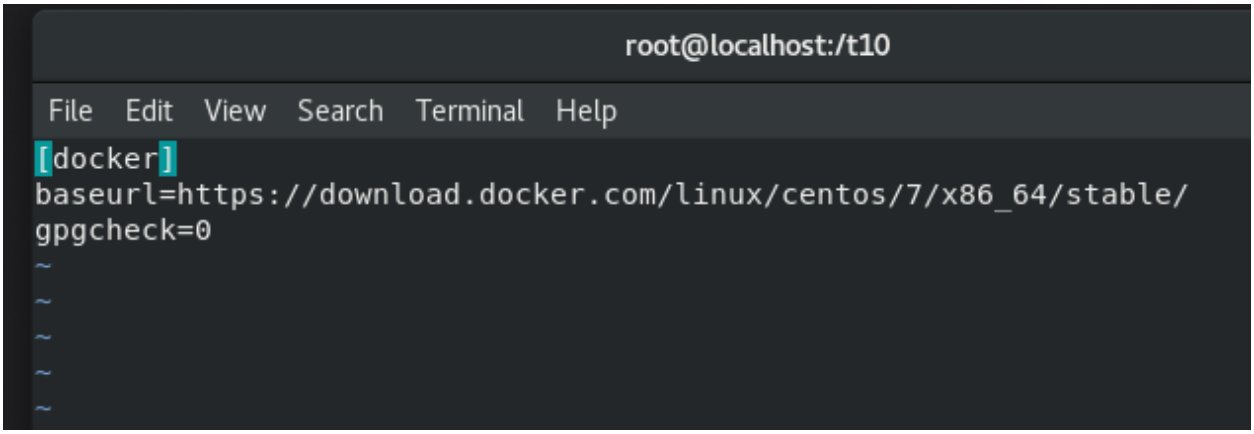
Ansible and Docker

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

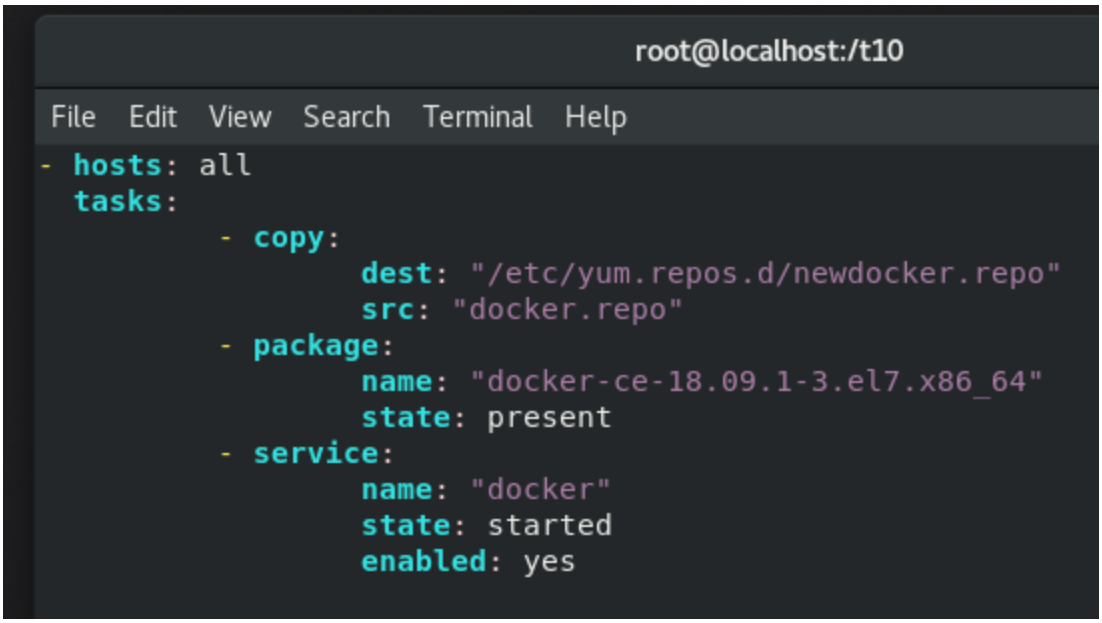


First of all, we create a file named docker.repo and write the following text into it. It basically provides the path from where docker shall be pulled.

Now, we shall write a playbook in which, we shall use the copy module, to copy docker.repo on the target node. We provide the destination which specifies where we need to copy the particular file and source which states where the file currently resides.

Next, we use package module, which specifies the name of the package we need to configure. Lastly, we use the service module to start the docker services.

We run this file, and hence we have configured and enabled docker, completing 2 of the required use cases.




```
[root@localhost t10]# ansible-playbook task10.yml

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

TASK [Gathering Facts] *********************************************************
ok: [192.168.43.144]

TASK [copy] ********************************************************************
ok: [192.168.43.144]

TASK [package] *****************************************************************
ok: [192.168.43.144]

TASK [service] *****************************************************************
ok: [192.168.43.144]

PLAY RECAP *********************************************************************
192.168.43.144             : ok=4    changed=0    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
```

Now, we shall pull the image from the docker hub. The name of the image is “httpd” as mentioned in the question.

```
- hosts: all
  tasks:
          - copy:
                  dest: "/etc/yum.repos.d/newdocker.repo"
                  src: "docker.repo"
          - package:
                  name: "docker-ce-18.09.1-3.el7.x86_64"
                  state: present
          - service:
                  name: "docker"
                  state: started
                  enabled: yes
          - pip:
                  name: docker
          - name: "pull docker image"
            docker_image:
                    name: "httpd"
                    source: pull
```

```
TASK [service] *****************************************************************
ok: [192.168.43.144]

TASK [pip] *********************************************************************
changed: [192.168.43.144]

TASK [pull docker image] *******************************************************
changed: [192.168.43.144]

PLAY RECAP *********************************************************************
192.168.43.144             : ok=6    changed=2    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0

[root@localhost t10]#
```

Enterprise Linux

The next step is to expose the port to public and allow the firewall on the specific ports.

```
View  Search  Terminal  Help
  docker_image:
          name: "httpd"
          source: pull
- name: "creating docker container"
  community.general.docker_container:
          name: "shreya"
          image: "httpd"
          state: started
          exposed_ports:
                  - "80"
          ports:
                  - "6666:80"
- name: "Allowing firewall for new port no."
  firewalld:
          port: "6666/tcp"
          state: enabled
          permanent: yes
          immediate: yes
- name: "Allowing firewall for new port no."
  firewalld:
          port: "80/tcp"
          state: enabled
          permanent: yes
```

```
File  Edit  View  Search  Terminal  Help
TASK [pip] ********************************************************************
ok: [192.168.43.144]

TASK [pull docker image] ******************************************************
ok: [192.168.43.144]

TASK [creating docker container] **********************************************
[DEPRECATION WARNING]: The container_default_behavior option will change its
default value from "compatibility" to "no_defaults" in community.general 3.0.0.
 To remove this warning, please specify an explicit value for it now. This
feature will be removed from community.general in version 3.0.0. Deprecation
warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
changed: [192.168.43.144]

TASK [Allowing firewall for new port no.] *************************************
changed: [192.168.43.144]

TASK [Allowing firewall for new port no.] *************************************
ok: [192.168.43.144]

PLAY RECAP ********************************************************************
192.168.43.144             : ok=9    changed=2    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
```

Now, we shall create an html file named t10.html and copy it to the target nodes.

```
File  Edit  View  Search  Terminal  Help
<html>
<style>
body{
        background-color: beige;
        }
h1{
        text-align:center;
        color: salmon;
}
h4{
        text-align:center;
        color: indianred;
}
</style>
<body>
        <h1> Ansible Task-10</h1>
        <h4> Successfully completed task 10 of ARTH </h4>
</body>
</html>
```

```
        firewalld:
                port: "80/tcp"
                state: enabled
                permanent: yes
                immediate: yes
    - copy:
            dest: "/var/www/html"
            src: "t10.html"
```

After running the playbook, go to the target node and check if the file has reached there.

```
TASK [creating docker container] ***********************************************
[DEPRECATION WARNING]: The container_default_behavior option will change its
default value from "compatibility" to "no_defaults" in community.general 3.0.0.
 To remove this warning, please specify an explicit value for it now. This
feature will be removed from community.general in version 3.0.0. Deprecation
warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [192.168.43.144]

TASK [Allowing firewall for new port no.] **************************************
ok: [192.168.43.144]

TASK [Allowing firewall for new port no.] **************************************
ok: [192.168.43.144]

TASK [copy] ********************************************************************
changed: [192.168.43.144]

PLAY RECAP *********************************************************************
192.168.43.144             : ok=10   changed=1    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
```

```
[root@localhost html]# ls
ans.html  t10.html  web.html
[root@localhost html]#
```

Now, we can use the browser to view the file.