

Web Server inside Docker

1. Check the IP of the VM

ifconfig

```
[root@localhost ~]# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 192.168.43.61  netmask 255.255.255.0  broadcast 192.168.43.255
    inet6 2401:4900:384f:1c16:1e14:52fd:6c3c:50b7  prefixlen 64  scopeid 0x20<link>
    ether 08:00:27:43:c7:d9  txqueuelen 1000  (Ethernet)
    RX packets 173  bytes 106812 (104.3 KiB)
    RX errors 0  dropped 0  overruns 0  frame 0
```

2. start docker services

systemctl start docker

systemctl status docker

```
[root@localhost ~]# systemctl start docker
[root@localhost ~]# systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; disabled; vendor preset: enabled)
   Active: active (running) since Fri 2020-11-06 00:37:41 IST; 5s ago
     Docs: https://docs.docker.com
   Main PID: 3076 (dockerd)
```

3. Check for ansible Version

>> if not present then go to <https://github.com/a4abhishekkmr/Configuring-Automation-1> link and install ansible.

Ansible --version

```
[root@localhost ~]# ansible --version
ansible 2.10.3
  config file = /etc/ansible/ansible.cfg
  configured module search path = ['/root/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/local/lib/python3.6/site-packages/ansible
  executable location = /usr/local/bin/ansible
  python version = 3.6.8 (default, Jan 11 2019, 02:17:16) [GCC 8.2.1 20180905 (Red Hat 8.2.1-3)]
```

4. Check for all the agents

ansible all - - list-hosts

```
[root@localhost ~]# ansible all --list-hosts
hosts (1):
    192.168.43.216
```

5. now install centos through docker

docker pull centos

```
[root@localhost ~]# docker pull centos
Using default tag: latest
Cannot connect to the Docker daemon at unix:///var/run/docker.sock. Is the docker
n running?
[root@localhost ~]# docker images
Cannot connect to the Docker daemon at unix:///var/run/docker.sock. Is the docker
n running?
```

docker ps

docker images

to see the installed docker images on the system.

6. Launch the New Docker OS by centos

docker run -it --name <name> centos:latest

```
[root@localhost ~]# docker run -it --name webaa centos:latest
[root@50bcd180456b /]# yum whatprovides ifconfig
```

Now one problem may comes that connction inside docker is not there.

To check that run

Ping www.google.com

```
[root@b8069e9e5af3 /]# ping www.google.com
ping: www.google.com: Name or service not known
```

If so then

Open new terminal or terminal tab

Inside root

Write down the commands:-

Masquerading allows for docker ingress and egress

firewall-cmd --zone=public --add-masquerade --permanent

Specifically allow incoming traffic on port 80/443 (nothing new here)

firewall-cmd --zone=public --add-port=80/tcp

firewall-cmd --zone=public --add-port=443/tcp

Reload firewall to apply permanent rules

firewall-cmd --reload

#Restart docker

systemctl restart docker

```
[root@localhost ~]# firewall-cmd --zone=public --add-masquerade --permanent
success
[root@localhost ~]# firewall-cmd --zone=public --add-port=80/tcp
success
[root@localhost ~]# firewall-cmd --zone=public --add-port=443/tcp
success
[root@localhost ~]# firewall-cmd --reload
success
[root@localhost ~]# cd /var/www/html
[root@localhost html]# vim d.html
[root@localhost html]# cat d.html
<html>
    <body>
        hello hi how are yu
    </body>
</html>
```

7.Before going to that just install some of the necessary packages

Yum install httpd

```
[root@50bcd180456b /]# yum install httpd
Failed to set locale, defaulting to C.UTF-8
Last metadata expiration check: 0:04:45 ago on Thu Nov  5
Dependencies resolved.
=====
Package                Arch      Version
=====
Installing:
httpd                  x86_64    2.4.37-21.module_el8.2.0+494+
Installing dependencies:
apr                    x86_64    1.6.3-9.el8
apr-util               x86_64    1.6.1-6.el8
```

And then

Yum install net-tools

```
[root@50bcd180456b /]# yum install net-tools
Failed to set locale, defaulting to C.UTF-8
Last metadata expiration check: 9:00:15 ago on Thu Nov  5 19:27:25 2020
Dependencies resolved.
=====
Package                Architecture Version                                Repository
=====
Installing:
net-tools              x86_64      2.0-0.51.20160912git.el8              BaseOS
```

8. Go to html and make a html file

Cd /var/www/html

Vim d.html

And write the html basic code

Now we need to copy this file from this root@localhost to that container

```
[root@50bcd180456b ~]# docker cp webaa:/root/new.py /hello/
bash: docker: command not found
[root@50bcd180456b ~]# docker cp webaa:/root/new.py /mnt/
bash: docker: command not found
[root@50bcd180456b ~]# yum install docker
```

And a file back from that local directory to docker-

```
[root@localhost ~]# docker cp webaa:/root/new.py /mnt/
[root@localhost ~]# ls
anaconda-ks.cfg  Desktop          initial-setup-ks.cfg  Music
c1.txt           directory_first  ip.txt                my.txt
c2.txt           Documents        menu1.py              Picture
c3.txt           Downloads        menu.py               Public
[root@localhost ~]# cd /mnt/
[root@localhost mnt]# ls
new.py
[root@localhost mnt]# cat
```

As systemctl is not supported inside docker, so we shall check the status by using the above command.

Therefore, we use the above command which shows that port number 80 is working.

Therefore, we know that httpd has been successfully started on docker container.

```
[root@50bcd180456b html]# netstat -tnlp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       Program
tcp        0      0 0.0.0.0:80               0.0.0.0:*                LISTEN      httpd
```

Port number 80 has started, hence, httpd has successfully been configured on the docker container.