

## Vagrant / Docker:

Initializing Docker container using Vagrantfile.

```
root@ip-172-31-7-119:~/new_data# vi Vagrantfile
root@ip-172-31-7-119:~/new_data# vagrant up
Bringing machine 'default' up with 'docker' provider...
==> default: Building the container from a Dockerfile...
default: Sending build context to Docker daemon  8.704kB
default: Step 1/11 : FROM ubuntu:20.04
default: --> bdb8e84df0b98
default: Step 2/11 : ENV DEBIAN_FRONTEND=noninteractive
default: --> Using cache
default: --> c14e0fba8b1d
default: Step 3/11 : RUN apt-get update && apt-get -y install python3
default: --> Using cache
default: --> 91d2b0b6d7dd
default: Step 4/11 : RUN apt-get -y install -y build-essential python3-pip libffi-dev python3-dev python3-setuptools libssl-dev
default: --> Using cache
default: --> 28694dal06fd
default: Step 5/11 : RUN pip3 install flask
default: --> Using cache
default: --> 7b0a55ccae06
default: Step 6/11 : RUN apt-get install -y openssh-server
default: --> Using cache
default: --> 778c29812136
default: Step 7/11 : RUN mkdir /var/run/ssh
default: --> Using cache
default: --> 44f3357895c6
default: Step 8/11 : RUN echo 'root:root' | chpasswd
default: --> Using cache
default: --> a79588c6e7f1
default: Step 9/11 : RUN sed -i'' -e 's/^#PermitRootLogin prohibit-password$/PermitRootLogin yes/' /etc/ssh/sshd_config && sed -i'' -e 's/^#PasswordAuthentic
tion yes$/PasswordAuthentication yes/' /etc/ssh/sshd_config && sed -i'' -e 's/^#PermitEmptyPasswords no$/PermitEmptyPasswords yes/' /etc/ssh/sshd_config
&& sed -i'' -e 's/^#UsePAM yes$/UsePAM no/' /etc/ssh/sshd_config
default: --> Using cache
default: --> c871266c0f28
default: Step 10/11 : EXPOSE 22
default: --> Using cache
default: --> e4c6a65942f6
default: Step 11/11 : CMD ["/usr/sbin/sshd", "-D"]
default: --> Using cache
default: --> 2266ade4e282
default: Successfully built 2266ade4e282
default:
default: Image: 2266ade4e282
==> default: Fixed port collision for 22 => 2222. Now on port 2201.
```

Connect the Docker using SSH

```
default: Name: new_data_default_1663444795
default: Image: 2266ade4e282
default: Volume: /root/new_data:/vagrant
default: Port: 127.0.0.1:2201:22
default:
default: Container created: 1d924a8c08236e37
==> default: Starting container...
==> default: Waiting for machine to boot. This may take a few minutes...
default: SSH address: 127.0.0.1:2201
default: SSH username: root
default: SSH auth method: password
==> default: Machine booted and ready!
root@ip-172-31-7-119:~/new_data# vagrant ssh
==> default: The machine you're attempting to SSH into is configured to use
==> default: password-based authentication. Vagrant can't script entering the
==> default: password for you. If you're prompted for a password, please enter
==> default: the same password you have configured in the Vagrantfile.
root@127.0.0.1's password:
root@1d924a8c0823:~#
root@1d924a8c0823:~#
```

Executing basic application on the Build environment.

```
root@1d924a8c0823:~# flask run
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

Validating application status using **netstat -tupln** command.

```
root@1d924a8c0823:~# netstat -tupln
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.1:5000          0.0.0.0:*                LISTEN      23/python3
tcp        0      0 0.0.0.0:22              0.0.0.0:*                LISTEN      1/sshd: /usr/sbin/s
tcp6       0      0 :::22                   :::*                    LISTEN      1/sshd: /usr/sbin/s
```