Experiment 10

Aim: -   Working with .dockerignore

Step 1 - First we will create an image where we will record the size of image.

1. Creating an image with name myimg of version 1.0 where two files will be there, first dockerfile and another file will be password.txt in folder named sample.

Command: - mkdir sample
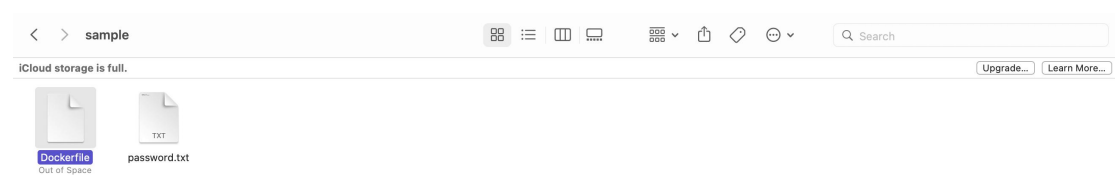Command: - vi Dockerfile
Command: - vi password.txt
Command: - docker build -t myimg:1.0 .
Command: - docker run myimg:1.0 ls /app


```
vishalthakur@vishals-MacBook-Air sample % vi Dockerfile
```

```
FROM alpine
RUN mkdir /app
COPY password.txt /app
WORKDIR . /app
~
~
~
```

```
vishalthakur@vishals-MacBook-Air sample % vi password.txt
```

```
vishalthakur@vishals-MacBook-Air sample % docker build -t myimg:1.0 .
[+] Building 0.3s (9/9) FINISHED
 => [internal] load build definition from Dockerfile                                                                    0.0s
 => => transferring dockerfile: 107B                                                                                    0.0s
 => [internal] load .dockerignore                                                                                       0.0s
 => => transferring context: 2B                                                                                         0.0s
 => [internal] load metadata for docker.io/library/alpine:latest                                                       0.0s
 => CACHED [1/4] FROM docker.io/library/alpine                                                                          0.0s
 => [internal] load build context                                                                                       0.0s
 => => transferring context: 88B                                                                                        0.0s
 => [2/4] RUN mkdir /app                                                                                                0.2s
 => [3/4] COPY password.txt /app                                                                                        0.0s
 => [4/4] WORKDIR . /app                                                                                                0.0s
 => exporting to image                                                                                                  0.0s
 => => exporting layers                                                                                                 0.0s
 => => writing image sha256:4dfec36f501cfdc739e248c05ffd55154cdf6c4d49ea08a79c88ca287306797b                           0.0s
 => => naming to docker.io/library/myimg:1.0                                                                            0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
vishalthakur@vishals-MacBook-Air sample %
```

```
REPOSITORY                                                    TAG                                                             IMAGE ID       CREATED         SIZE
myimg                                                         1.0                                                             4dfec36f501c   5 minutes ago   5.29MB
vishalthakur1920/ubuntu                                       latest                                                          ca2495089e14   3 weeks ago     187MB
mysql                                                         latest                                                          5e229524f286   4 weeks ago     494MB
nginx                                                         latest                                                          0c404972e130   5 weeks ago     135MB
ubuntu                                                        latest                                                          21735dab04ba   6 weeks ago     69.2MB
hubproxy.docker.internal:5000/docker/desktop-kubernetes      kubernetes-v1.25.0-cni-v1.1.1-critools-v1.24.2-cri-dockerd-v0.2.5-1-debian  bf50bf323fa3   7 weeks ago     349MB
k8s.gcr.io/kube-apiserver                                     v1.25.0                                                         4a10a2c929d5   8 weeks ago     123MB
k8s.gcr.io/kube-scheduler                                     v1.25.0                                                         b933d73979ff   8 weeks ago     49.3MB
k8s.gcr.io/kube-proxy                                         v1.25.0                                                         f5e24e0ab5f8   8 weeks ago     58MB
k8s.gcr.io/kube-controller-manager                           v1.25.0                                                         35cb04d93081   8 weeks ago     113MB
alpine                                                        latest                                                          a6215f271958   2 months ago    5.29MB
redis                                                         latest                                                          e800a8da9469   2 months ago    111MB
hubproxy.docker.internal:5000/docker/desktop-kubernetes      kubernetes-v1.24.2-cni-v1.1.1-critools-v1.24.2-cri-dockerd-v0.2.1-1-debian  476af46fb131   3 months ago    353MB
k8s.gcr.io/pause                                              3.8                                                             4e42fb3c9d90   4 months ago    514kB
k8s.gcr.io/kube-apiserver                                     v1.24.2                                                         21a90cbceae7   4 months ago    126MB
k8s.gcr.io/kube-proxy                                         v1.24.2                                                         4f5059b7cbd8   4 months ago    106MB
k8s.gcr.io/kube-controller-manager                           v1.24.2                                                         cbdad6da5e7    4 months ago    116MB
k8s.gcr.io/kube-scheduler                                     v1.24.2                                                         25034e073eab   4 months ago    50MB
k8s.gcr.io/etcd                                               3.5.4-0                                                         8e041a3b0ba8   4 months ago    179MB
k8s.gcr.io/coredns                                            v1.9.3                                                          b19406328e70   4 months ago    47.7MB
k8s.gcr.io/etcd                                               3.5.3-0                                                         a9a710bb96df   6 months ago    178MB
k8s.gcr.io/pause                                              3.7                                                             e5a475a03805   7 months ago    514kB
k8s.gcr.io/coredns/coredns                                   v1.8.6                                                          edaa71f2aee8   12 months ago   46.8MB
docker/desktop-vpnkit-controller                              v2.0                                                            2edf9c994f19   17 months ago   19.2MB
docker/desktop-storage-provisioner                           v2.0                                                            c027a58fa0bb   18 months ago   39.8MB
katacoda/redis-node-docker-example                           latest                                                          eb49f27be288   6 years ago     35.4MB
vishalthakur@vishals-MacBook-Air sample %
```

So the size of myimg image of version 1.0 is 5.29 mb.
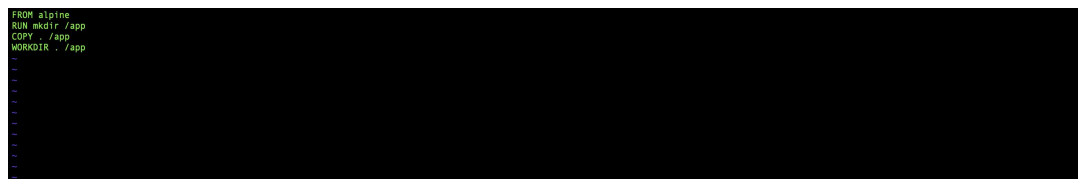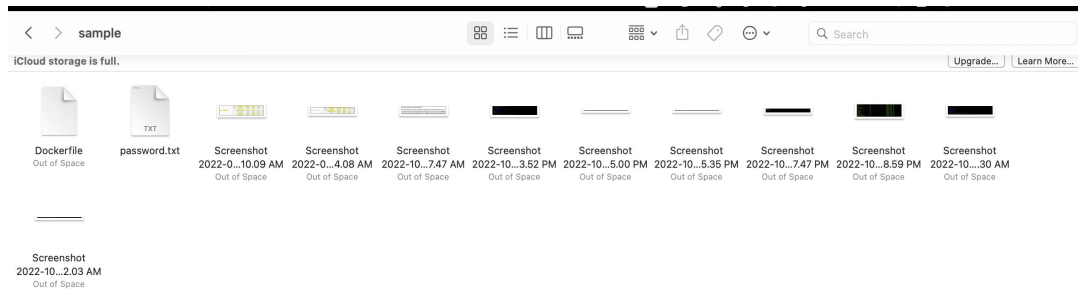
```
vishalthakur@vishals-MacBook-Air sample % docker run myimg:1.0 ls /app

password.txt
```

2. Creating an another image with name myimg of version 1.1 where we will be adding some random image in the same folder and making build of it.

Command: - docker build -t myimg:1.1 .
Command: - docker run myimg:1.1 ls /app

In 3rd line of Dockerfile we have used '.' which commands to copy all the files in the current directory to app folder.

```
vishalthakur@vishals-MacBook-Air sample % vi Dockerfile
vishalthakur@vishals-MacBook-Air sample % docker build -t myimg:1.1 .
[+] Building 0.2s (9/9) FINISHED
 => [internal] load build definition from Dockerfile                                                          0.0s
 => => transferring dockerfile: 96B                                                                           0.0s
 => [internal] load .dockerignore                                                                             0.0s
 => => transferring context: 2B                                                                               0.0s
 => [internal] load metadata for docker.io/library/alpine:latest                                             0.0s
 => [internal] load build context                                                                             0.0s
 => => transferring context: 1.91MB                                                                           0.0s
 => [1/4] FROM docker.io/library/alpine                                                                       0.0s
 => CACHED [2/4] RUN mkdir /app                                                                               0.0s
 => [3/4] COPY . /app                                                                                         0.0s
 => [4/4] WORKDIR . /app                                                                                      0.0s
 => exporting to image                                                                                        0.0s
 => => exporting layers                                                                                       0.0s
 => => writing image sha256:46af9ff10611505265b8e6514f4d8500705ad02c6454dbd8432f63ff9b9f15e0                 0.0s
 => => naming to docker.io/library/myimg:1.1                                                                  0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
```

```
vishalthakur@vishals-MacBook-Air sample % docker image ls
REPOSITORY                                                  TAG                                                                       IMAGE ID       CREATED         SIZE
myimg                                                       1.1                                                                       46af9ff10611   9 seconds ago   7.2MB
myimg                                                       1.0                                                                       4dfec36f501c   19 hours ago    5.29MB
vishathakur1920/ubuntu                                      latest                                                                    ca2495089e14   3 weeks ago     187MB
mysql                                                       latest                                                                    5e229524f286   5 weeks ago     494MB
nginx                                                       latest                                                                    0c404972e130   5 weeks ago     135MB
ubuntu                                                      latest                                                                    21735dab04ba   6 weeks ago     69.2MB
hubproxy.docker.internal:5000/docker/desktop-kubernetes     kubernetes-v1.25.0-cni-v1.1.1-critools-v1.24.2-cri-dockerd-v0.2.5-1-debian bf50bf323fa3   7 weeks ago     349MB
k8s.gcr.io/kube-apiserver                                   v1.25.0                                                                   4a10a2c929d5   8 weeks ago     123MB
k8s.gcr.io/kube-scheduler                                   v1.25.0                                                                   b933d73979ff   8 weeks ago     49.3MB
k8s.gcr.io/kube-controller-manager                          v1.25.0                                                                   35cb04d93081   8 weeks ago     113MB
k8s.gcr.io/kube-proxy                                       v1.25.0                                                                   f5e24e0ab5f8   8 weeks ago     58MB
alpine                                                      latest                                                                    a6215f271958   2 months ago    5.29MB
redis                                                       latest                                                                    e800a8da9469   2 months ago    111MB
hubproxy.docker.internal:5000/docker/desktop-kubernetes     kubernetes-v1.24.2-cni-v1.1.1-critools-v1.24.2-cri-dockerd-v0.2.1-1-debian 476af46fb131   4 months ago    353MB
k8s.gcr.io/pause                                            3.8                                                                       4e42fb3c9d90   4 months ago    514kB
k8s.gcr.io/kube-apiserver                                   v1.24.2                                                                   21a90cbceae7   4 months ago    126MB
k8s.gcr.io/kube-proxy                                       v1.24.2                                                                   4f5059b7cbd8   4 months ago    106MB
k8s.gcr.io/kube-controller-manager                          v1.24.2                                                                   cbadad6da5e7   4 months ago    116MB
k8s.gcr.io/kube-scheduler                                   v1.24.2                                                                   25034e073eab   4 months ago    50MB
k8s.gcr.io/etcd                                             3.5.4-0                                                                   8e041a3b0ba8   4 months ago    179MB
k8s.gcr.io/coredns                                          v1.9.3                                                                    b19406328e70   4 months ago    47.7MB
k8s.gcr.io/etcd                                             3.5.3-0                                                                   a9a710bb96df   6 months ago    178MB
k8s.gcr.io/pause                                            3.7                                                                       e5a475a03805   7 months ago    514kB
k8s.gcr.io/coredns/coredns                                  v1.8.6                                                                    edaa71f2aee8   12 months ago   46.8MB
docker/desktop-vpnkit-controller                            v2.0                                                                      2edf9c994f19   17 months ago   19.2MB
docker/desktop-storage-provisioner                          v2.0                                                                      c027a58fa0bb   18 months ago   39.8MB
katacoda/redis-node-docker-example                          latest                                                                    eb49f27be288   6 years ago     35.4MB
vishalthakur@vishals-MacBook-Air sample %
```

So the size of myimg image of version 1.1 has increased to 7.2 mb

```
vishalthakur@vishals-MacBook-Air sample % docker run myimg:1.1 ls /app
Dockerfile
Screenshot 2022-09-27 at 9.10.09 AM.png
Screenshot 2022-09-27 at 9.34.08 AM.png
Screenshot 2022-10-09 at 11.37.47 AM.png
Screenshot 2022-10-19 at 12.13.52 PM.png
Screenshot 2022-10-19 at 12.15.00 PM.png
Screenshot 2022-10-19 at 12.15.35 PM.png
Screenshot 2022-10-19 at 12.17.47 PM.png
Screenshot 2022-10-19 at 12.18.59 PM.png
Screenshot 2022-10-20 at 6.49.30 AM.png
Screenshot 2022-10-20 at 6.52.03 AM.png
password.txt
```

Now after building both the images we have problem that our password.txt which is a very sensitive file and other .png file which is of no use, should not be bundle up to create an image.

So here we will use .dockerignore file where we will mention the files which should be ignored while creating the image.

3. Creating .dockerignore file and creating another image of version 1.3

Command: - echo password.txt >> .dockerignore
Command: - vi .dockerignore
Command: - docker build -t myimg:1.1 .
Command: - docker run myimg:1.1 ls /app

```
vishalthakur@vishals-MacBook-Air sample % echo password.txt >> .dockerignore
vishalthakur@vishals-MacBook-Air sample % ls -a
.                               Screenshot 2022-10-19 at 12.13.52 PM.png
..                              Screenshot 2022-10-19 at 12.15.00 PM.png
.DS_Store                       Screenshot 2022-10-19 at 12.15.35 PM.png
.dockerignore                   Screenshot 2022-10-19 at 12.17.47 PM.png
Dockerfile                      Screenshot 2022-10-19 at 12.18.59 PM.png
Screenshot 2022-09-27 at 9.10.09 AM.png    Screenshot 2022-10-20 at 6.49.30 AM.png
Screenshot 2022-09-27 at 9.34.08 AM.png    Screenshot 2022-10-20 at 6.52.03 AM.png
Screenshot 2022-10-09 at 11.37.47 AM.png   password.txt
```

```
password.txt
*.png
~
~
~
~
~
~
~
~
```

```
vishalthakur@vishals-MacBook-Air sample % docker build -t myimg:1.2 .
[+] Building 0.1s (9/9) FINISHED
 => [internal] load build definition from Dockerfile                                0.0s
 => => transferring dockerfile: 96B                                                 0.0s
 => [internal] load .dockerignore                                                   0.0s
 => => transferring context: 59B                                                    0.0s
 => [internal] load metadata for docker.io/library/alpine:latest                    0.0s
 => [1/4] FROM docker.io/library/alpine                                             0.0s
 => [internal] load build context                                                   0.0s
 => => transferring context: 8.45kB                                                 0.0s
 => CACHED [2/4] RUN mkdir /app                                                      0.0s
 => [3/4] COPY . /app                                                               0.0s
 => [4/4] WORKDIR . /app                                                            0.0s
 => exporting to image                                                              0.0s
 => => exporting layers                                                             0.0s
 => => writing image sha256:8a1d1b245fb9445cc904a02989594cfbeb7afb9744ffd36db21e11b347a68402   0.0s
 => => naming to docker.io/library/myimg:1.2                                        0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
vishalthakur@vishals-MacBook-Air sample % █
```

```
vishalthakur@vishals-MacBook-Air sample % docker image ls
REPOSITORY                         TAG                                IMAGE ID
          CREATED          SIZE
myimg                              1.2                                8a1d1b24
5fb9   About a minute ago   5.3MB
myimg                              1.1                                46af9ff1
0611   About an hour ago    7.2MB
myimg                              1.0                                4dfec36f
501c   20 hours ago         5.29MB
```

So the size of myimg image of version 1.2 is 5.3 mb.

```
vishalthakur@vishals-MacBook-Air sample % docker run myimg:1.2 ls /app
Dockerfile
vishalthakur@vishals-MacBook-Air sample % █
```

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