docker_out.txt and kubernetes_out.txt Below with some screensnhot Below:

```
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes % docker image ls
REPOSITORY          TAG            IMAGE ID       CREATED          SIZE
udacitypredictor    latest         7f60e4d3ef2a   3 minutes ago    1.21GB
circleci/picard     latest         b5cea36980dc   3 days ago       155MB
python              3.7.3-stretch  34a518642c76   3 years ago      929MB
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes %
```
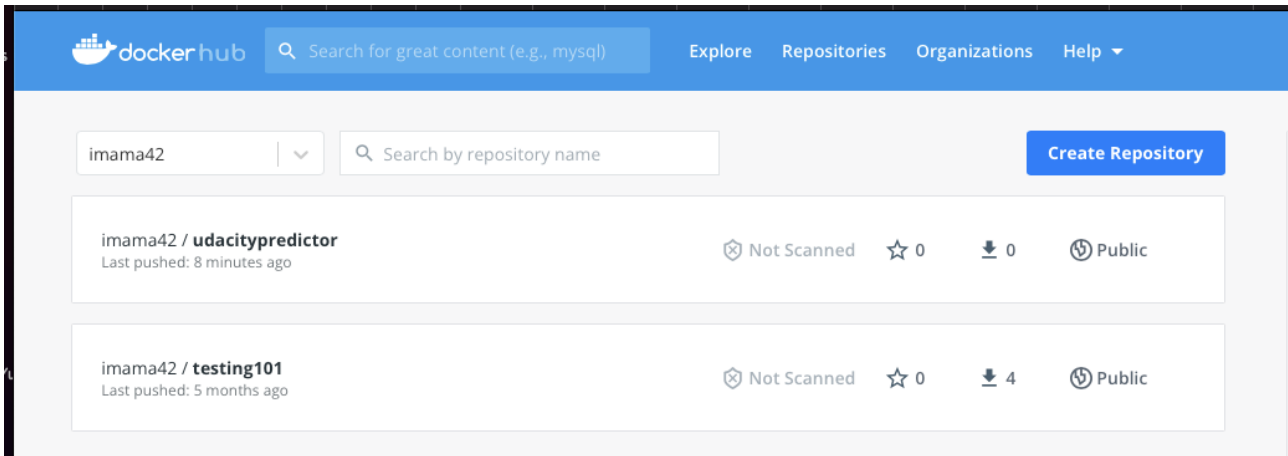


```
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes % sh run_docker.sh
[+] Building 31.9s (9/9) FINISHED
 => [internal] load build definition from Dockerfile                                    0.0s
 => => transferring dockerfile: 37B                                                     0.0s
 => [internal] load .dockerignore                                                       0.0s
 => => transferring context: 2B                                                         0.0s
 => [internal] load metadata for docker.io/library/python:3.7.3-stretch                0.0s
 => [1/4] FROM docker.io/library/python:3.7.3-stretch                                   0.0s
 => [internal] load build context                                                       0.0s
 => => transferring context: 2.88kB                                                     0.0s
 => CACHED [2/4] WORKDIR /app                                                           0.0s
 => [3/4] COPY . app.py /app/                                                           0.0s
 => [4/4] RUN pip install --upgrade --no-cache-dir pip==22.2.1 &&   pip install --no-cache-dir --trusted-host pypi.python.   29.4s
 => exporting to image                                                                  2.3s
 => => exporting layers                                                                 2.3s
 => => writing image sha256:f773618506c98416293dc27661007bdbef0aae668f1aacbe0bf02c3ef5133dd8   0.0s
 => => naming to docker.io/library/udacitypredictor                                     0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
REPOSITORY          TAG            IMAGE ID       CREATED          SIZE
udacitypredictor    latest         f773618506c9   4 seconds ago    1.21GB
<none>              <none>         7f60e4d3ef2a   7 minutes ago    1.21GB
circleci/picard     latest         b5cea36980dc   3 days ago       155MB
python              3.7.3-stretch  34a518642c76   3 years ago      929MB
 * Serving Flask app "app" (lazy loading)
 * Environment: production
   WARNING: Do not use the development server in a production environment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Running on http://0.0.0.0:80/ (Press CTRL+C to quit)
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 194-414-639
[2022-07-30 14:48:55,772] INFO in app: JSON payload:
{'CHAS': {'0': 0}, 'RM': {'0': 6.575}, 'TAX': {'0': 296.0}, 'PTRATIO': {'0': 15.3}, 'B': {'0': 396.9}, 'LSTAT': {'0': 4.98}}
[2022-07-30 14:48:55,793] INFO in app: Inference payload DataFrame:
   CHAS     RM    TAX  PTRATIO      B  LSTAT
0     0  6.575  296.0     15.3  396.9   4.98
[2022-07-30 14:48:55,803] INFO in app: Scaling Payload:
   CHAS     RM    TAX  PTRATIO      B  LSTAT
0     0  6.575  296.0     15.3  396.9   4.98
[2022-07-30 14:48:55,807] INFO in app: Output Prediction:
[20.35373177134412]
172.17.0.1 - - [30/Jul/2022 14:48:55] "POST /predict HTTP/1.1" 200 -
```

```
 * Serving Flask app "app" (lazy loading)
 * Environment: production
   WARNING: Do not use the development server in a production environment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Running on http://0.0.0.0:80/ (Press CTRL+C to quit)
 * Restarting with stat
 * Debugger is active!
```

```
 * Debugger PIN: 194-414-639
[2022-07-30 14:48:55,772] INFO in app: JSON payload:
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[2022-07-30 14:48:55,807] INFO in app: Output Prediction:
[20.35373177134412]
172.17.0.1 - - [30/Jul/2022 14:48:55] "POST /predict HTTP/1.1" 200 -


(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes % ./run_kubernetes.sh
pod/udacitypredictorpod created
NAME                   READY    STATUS              RESTARTS    AGE
udacitypredictorpod    0/1      ContainerCreating   0           1s
```

```
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes %
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes % kubectl get pods
NAME                   READY    STATUS    RESTARTS    AGE
udacitypredictorpod    1/1      Running   0           2m23s
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes % kubectl describe pods udacitypredictorpod
Name:          udacitypredictorpod
Namespace:     default
Priority:      0
Node:          minikube/192.168.49.2
Start Time:    Sat, 30 Jul 2022 16:40:11 +0100
Labels:        app=udacitypredictorpod
Annotations:   <none>
Status:        Running
IP:            172.17.0.3
IPs:
  IP:  172.17.0.3
Containers:
  udacitypredictorpod:
    Container ID:   docker://064f0d8b06d41270fc14c691b80c1b4fcdc9916a90bc501179dbe7c57a5a5abc
    Image:          imama42/udacitypredictor
    Image ID:       docker-pullable://imama42/udacitypredictor@sha256:07983bc7a2f53f3e383ca938ff385696f359cf60e8d06443a2b28986bbdf5
83e
    Port:           80/TCP
    Host Port:      0/TCP
    State:          Running
      Started:      Sat, 30 Jul 2022 16:41:41 +0100
    Ready:          True
    Restart Count:  0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-9ww4x (ro)
Conditions:
  Type              Status
  Initialized       True
  Ready             True
  ContainersReady   True
  PodScheduled      True
Volumes:
  kube-api-access-9ww4x:
    Type:                    Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds:  3607
    ConfigMapName:           kube-root-ca.crt
    ConfigMapOptional:       <nil>
    DownwardAPI:             true
QoS Class:                   BestEffort
Node-Selectors:              <none>
Tolerations:                 node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
                             node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
  Type    Reason     Age    From               Message
  ----    ------     ----   ----               -------
  Normal  Scheduled  3m2s   default-scheduler  Successfully assigned default/udacitypredictorpod to minikube
  Normal  Pulling    3m1s   kubelet            Pulling image "imama42/udacitypredictor"
  Normal  Pulled     94s    kubelet            Successfully pulled image "imama42/udacitypredictor" in 1m27.262579078s
  Normal  Created    93s    kubelet            Created container udacitypredictorpod
  Normal  Started    92s    kubelet            Started container udacitypredictorpod
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes %
```

```
-rwxr-xr-x  1 qrios  staff   449 Jul 30 16:39 run_kubernetes.sh
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes %
(.devops) qrios@imamas-MacBook-Pro project-ml-microservice-kubernetes % ./run_kubernetes.sh
pod/udacitypredictorpod created
NAME                   READY    STATUS              RESTARTS    AGE
udacitypredictorpod    0/1      ContainerCreating   0           1s
error: unable to forward port because pod is not running. Current status=Pending
```