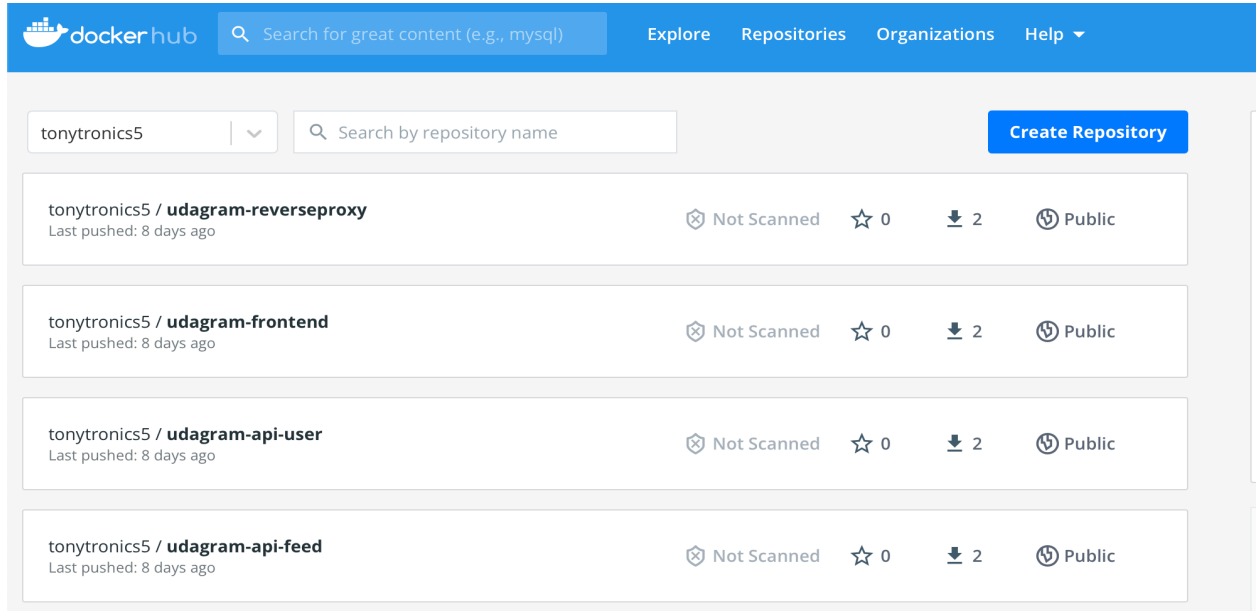


Udacity Nano Degree: Cloud Developer
Student: Tony Okusanya
Project: Refactor Monolith to Microservices

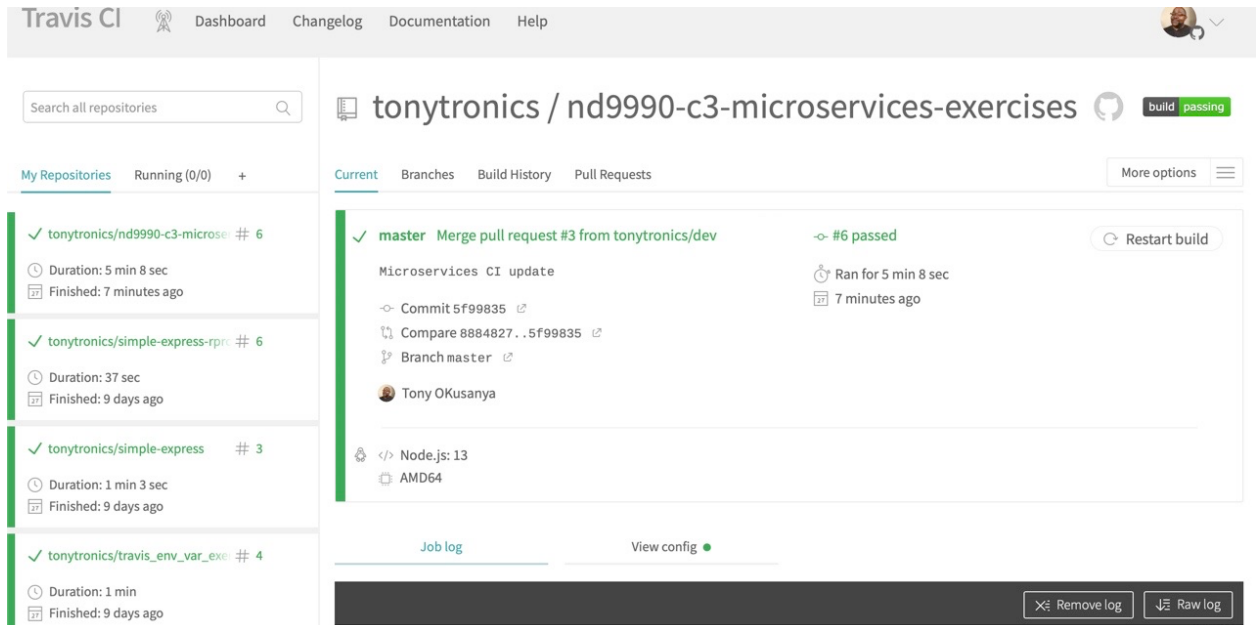
1. Docker Hub screen shot



Images

tonytronics5/udagram-reverseproxy:v1
tonytronics5/udagram-frontend:v1
tonytronics5/udagram-api-user:v1
tonytronics5/udagram-api-feed:v1

2. Travis-CI Build Screen shot



3. Output of the kubectl get pods command

```
Last login: Sun Feb 27 03:13:53 on ttys003
Login profile: ~/.zshrc
labokusa@Anthonys-MacBook-Pro ~ % kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
backend-feed-77574b855-vlpdf        1/1     Running   0           28m
backend-feed-77574b855-w9khc        1/1     Running   0           28m
backend-user-5bc6cb99c6-78dkz       1/1     Running   0           28m
backend-user-5bc6cb99c6-lbcnr       1/1     Running   0           28m
frontend-5764cbb8fb-4l6rd           1/1     Running   0           28m
frontend-5764cbb8fb-djtw4           1/1     Running   0           28m
reverseproxy-7f945495f4-jf7vv       1/1     Running   0           28m
reverseproxy-7f945495f4-mds9n       1/1     Running   0           28m
labokusa@Anthonys-MacBook-Pro ~ %
```

4. Outputs of the kubectl describe services command:

```
labokusa@Anthonys-MacBook-Pro ~ % kubectl describe services
Name: backend-feed
Namespace: default
Labels: service=backend-feed
Annotations: <none>
Selector: service=backend-feed
Type: ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP: 10.100.166.81
IPs: 10.100.166.81
Port: 8080 8080/TCP
TargetPort: 8080/TCP
Endpoints: 172.31.12.237:8080,172.31.30.236:8080
Session Affinity: None
Events: <none>

Name: backend-user
Namespace: default
Labels: service=backend-user
Annotations: <none>
Selector: service=backend-user
Type: ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP: 10.100.101.87
IPs: 10.100.101.87
Port: 8080 8080/TCP
TargetPort: 8080/TCP
Endpoints: 172.31.31.72:8080,172.31.5.171:8080
Session Affinity: None
Events: <none>
```

```
Name:      frontend
Namespace: default
Labels:    service=frontend
Annotations: <none>
Selector:  service=frontend
Type:      ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP:        10.100.85.125
IPs:       10.100.85.125
Port:      8100 8100/TCP
TargetPort: 80/TCP
Endpoints: 172.31.17.127:80,172.31.26.172:80
Session Affinity: None
Events:    <none>
```

```
Name:      kubernetes
Namespace: default
Labels:    component=apiserver
           provider=kubernetes
Annotations: <none>
Selector:  <none>
Type:      ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP:        10.100.0.1
IPs:       10.100.0.1
Port:      https 443/TCP
TargetPort: 443/TCP
Endpoints: 172.31.20.251:443,172.31.9.121:443
Session Affinity: None
Events:    <none>
```

```
Name:      publicfrontend
Namespace: default
Labels:    service=frontend
Annotations: <none>
Selector:  service=frontend
```

```

Name:                publicfrontend
Namespace:           default
Labels:              service=frontend
Annotations:         <none>
Selector:            service=frontend
Type:               LoadBalancer
IP Family Policy:    SingleStack
IP Families:         IPv4
IP:                 10.100.189.45
IPs:                10.100.189.45
LoadBalancer Ingress: a07ecd306e5b341a8b684de35e3c9da5-252629886.us-west-1.elb.amazonaws.com
Port:               <unset> 80/TCP
TargetPort:         80/TCP
NodePort:           <unset> 31165/TCP
Endpoints:          172.31.17.127:80,172.31.26.172:80
Session Affinity:    None
External Traffic Policy: Cluster
Events:             <none>

Name:                publicreverseproxy
Namespace:           default
Labels:              service=reverseproxy
Annotations:         <none>
Selector:            service=reverseproxy
Type:               LoadBalancer
IP Family Policy:    SingleStack
IP Families:         IPv4
IP:                 10.100.160.12
IPs:                10.100.160.12
LoadBalancer Ingress: a35dc53112a8a4d3dac67f3aa305435b-506690234.us-west-1.elb.amazonaws.com
Port:               <unset> 8080/TCP
TargetPort:         8080/TCP
NodePort:           <unset> 30688/TCP
Endpoints:          172.31.25.156:8080,172.31.3.51:8080
Session Affinity:    None
External Traffic Policy: Cluster
Events:             <none>

Name:                reverseproxy
Namespace:           default
Labels:              service=reverseproxy
Annotations:         <none>
Selector:            service=reverseproxy
Type:               ClusterIP
IP Family Policy:    SingleStack
IP Families:         IPv4
IP:                 10.100.224.62
IPs:                10.100.224.62
Port:               8080 8080/TCP
TargetPort:         8080/TCP
Endpoints:          172.31.25.156:8080,172.31.3.51:8080

```

5. Kubectl describe hpa

```

abokusa@Anthony's-MacBook-Pro ~ % kubectl describe hpa
Name:                backend-feed
Namespace:           default
Labels:              <none>
Annotations:         <none>
CreationTimestamp:   Sun, 27 Feb 2022 17:19:47 -0600
Reference:            Deployment/backend-feed
Metrics:              ( current / target )
  resource cpu on pods (as a percentage of request): 0% (0) / 70%
Min replicas:        3
Max replicas:        5
Deployment pods:      3 current / 3 desired
Conditions:
  Type            Status  Reason                        Message
  ----            -
  AbleToScale     True    ReadyForNewScale             recommended size matches current size
  ScalingActive   True    ValidMetricFound             the HPA was able to successfully calculate a replica count from cpu resource utilization (percentage of request)
  ScalingLimited  True    TooFewReplicas               the desired replica count is less than the minimum replica count

Events:
  Type            Reason              Age   From                      Message
  ----            -
  Normal          SuccessfulRescale   39s   horizontal-pod-autoscaler  New size: 3; reason: Current number of replicas below Spec.MinReplicas
abokusa@Anthony's-MacBook-Pro ~ %

```

6. Kubectl logs {pod name}

```
I Shell Edit View Window Help
abokusa@Anthony's-MacBook-Pro ~ % kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
backend-feed-77574b855-vlpdf        1/1     Running   0           49m
backend-feed-77574b855-w9kthc       1/1     Running   0           49m
backend-user-5bc6cb99c6-78dkz       1/1     Running   0           49m
backend-user-5bc6cb99c6-lbcnr       1/1     Running   0           49m
frontend-5764cbb8fb-4l6rd           1/1     Running   0           49m
frontend-5764cbb8fb-djtw4           1/1     Running   0           49m
reverseproxy-7f945495f4-jf7vv       1/1     Running   0           49m
reverseproxy-7f945495f4-mds9n       1/1     Running   0           49m
abokusa@Anthony's-MacBook-Pro ~ % kubectl logs backend-feed-77574b855-vlpdf

> udagram-api@2.0.0 prod /usr/src/app
> tsc && node ./www/server.js

Initialize database connection...
Executing (default): CREATE TABLE IF NOT EXISTS "FeedItem" ("id" SERIAL, "caption" VARCHAR(255), "url" VARCHAR(255), "createdAt" TIMESTAMP WITH TIME ZONE, "updatedAt" TIMESTAMP WITH TIME ZONE, PRIMARY KEY ("id"));
Executing (default): SELECT i.relname AS name, ix.indisprimary AS primary, ix.indisunique AS unique, ix.indkey AS indkey, array_agg(a.attname) AS column_indexes, array_agg(a.attname) AS column_names, pg_get_indexdef(ix.indexrelid) AS definition FROM pg_class t, pg_class i, pg_index ix, pg_attribute a WHERE t.oid = ix.in
drelid AND i.oid = ix.indexrelid AND a.attrelid = t.oid AND t.relkind = 'r' and t.relname = 'FeedItem' GROUP BY i.relname, ix.indexrelid, ix.indisprimary, ix.in
disunique, ix.indkey ORDER BY i.relname;
server running http://localhost:8100
press CTRL+C to stop server
Executing (default): INSERT INTO "FeedItem" ("id","caption","url","createdAt","updatedAt") VALUES (DEFAULT,$1,$2,$3,$4) RETURNING *;
abokusa@Anthony's-MacBook-Pro ~ %
```

7. sdf