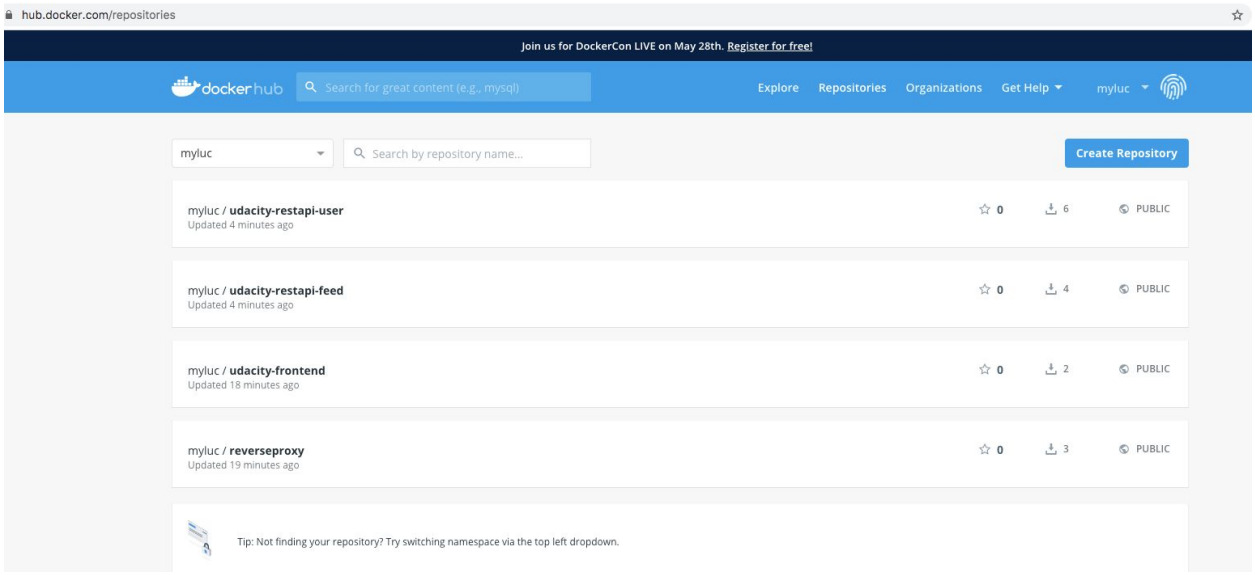
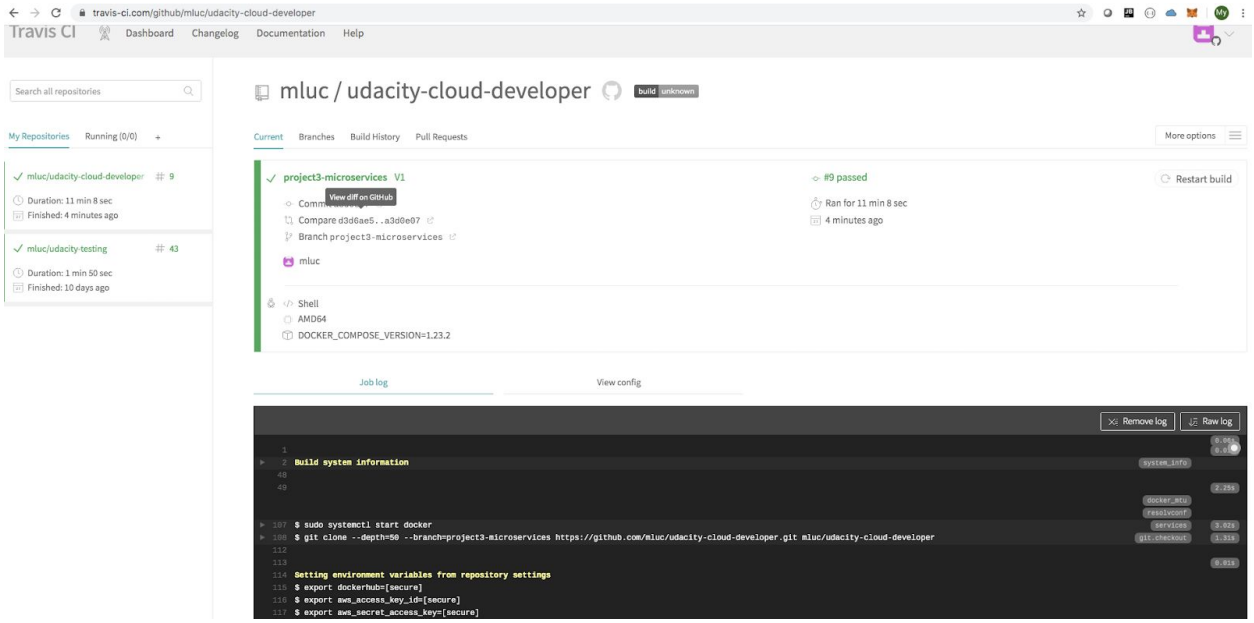
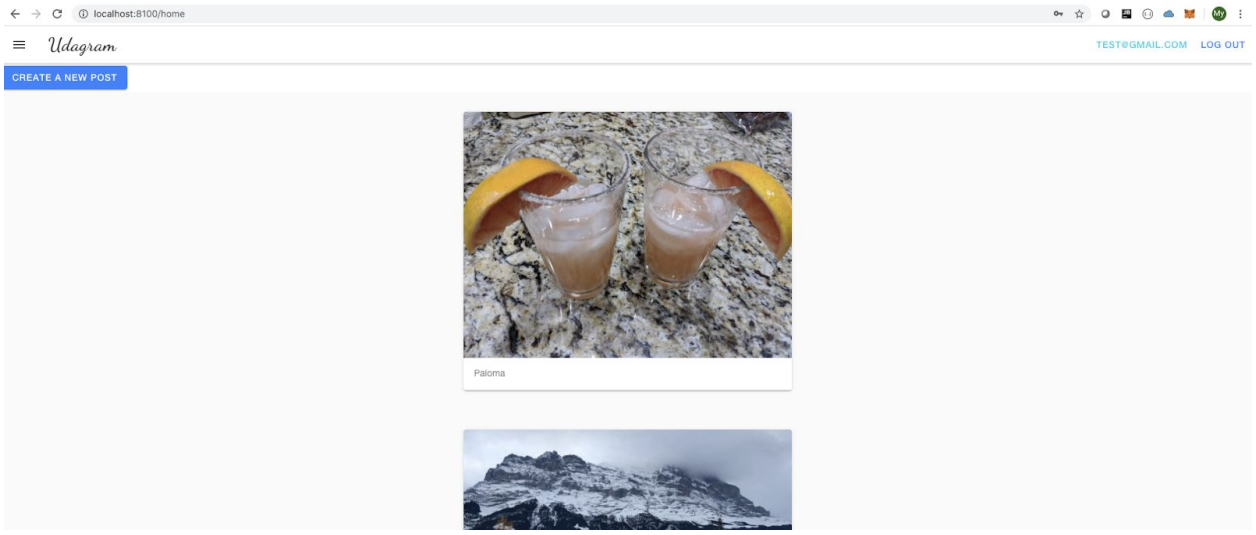
- Dockerhub:

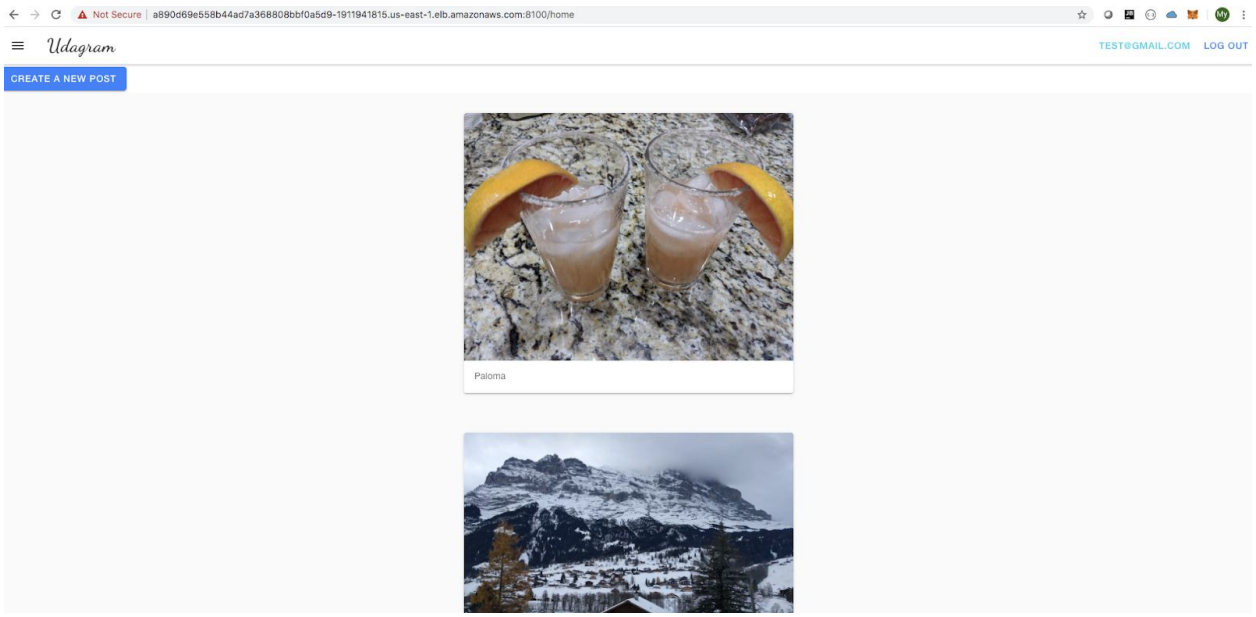


- Travis-ci (see https://api.travis-ci.com/v3/job/335693921/log.txt for more detail)



- Application:





- kubectl get all

```
Roberts-MBP:k8s myluc$ kubectl get all
NAME                                    READY   STATUS    RESTARTS   AGE
pod/backend-feed-6994cf777b-flnc7       1/1     Running   0          42m
pod/backend-feed-6994cf777b-q85h2       1/1     Running   0          43m
pod/backend-user-857559f868-bmchf       1/1     Running   0          43m
pod/backend-user-857559f868-hxbbd       1/1     Running   0          42m
pod/frontend-679db64ffc-5xz8x           1/1     Running   0          42m
pod/frontend-679db64ffc-gt7w7           1/1     Running   0          42m
pod/reverseproxy-557c7c7d56-nnqdt       1/1     Running   0          42m
pod/reverseproxy-557c7c7d56-r52h5       1/1     Running   0          42m

NAME                   TYPE           CLUSTER-IP       EXTERNAL-IP                                                                PORT(S)          AGE
service/backend-feed   ClusterIP      10.100.26.115    <none>                                                                     8080/TCP         62m
service/backend-user   ClusterIP      10.100.132.212   <none>                                                                     8080/TCP         62m
service/frontend       LoadBalancer   10.100.60.14     a890d69e558b44ad7a368808bbf0a5d9-1911941815.us-east-1.elb.amazonaws.com   8100:30195/TCP   62m
service/kubernetes     ClusterIP      10.100.0.1       <none>                                                                     443/TCP          94m
service/reverseproxy   LoadBalancer   10.100.225.188   af0a9378d9689491684073d9c21e96c8-1741251400.us-east-1.elb.amazonaws.com   8080:32346/TCP   62m

NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/backend-feed        2/2     2            2           62m
deployment.apps/backend-user        2/2     2            2           62m
deployment.apps/frontend            2/2     2            2           62m
deployment.apps/reverseproxy        2/2     2            2           62m

NAME                                           DESIRED   CURRENT   READY   AGE
replicaset.apps/backend-feed-5896bf4cdc        0         0         0       62m
replicaset.apps/backend-feed-6994cf777b        2         2         2       43m
replicaset.apps/backend-user-55b579d94f        0         0         0       62m
replicaset.apps/backend-user-857559f868        2         2         2       43m
replicaset.apps/frontend-54c9898684            0         0         0       62m
replicaset.apps/frontend-679db64ffc            2         2         2       42m
replicaset.apps/reverseproxy-557c7c7d56        2         2         2       42m
replicaset.apps/reverseproxy-6577f9b77         0         0         0       62m
Roberts-MBP:k8s myluc$
```

- Rolling update without downtime:

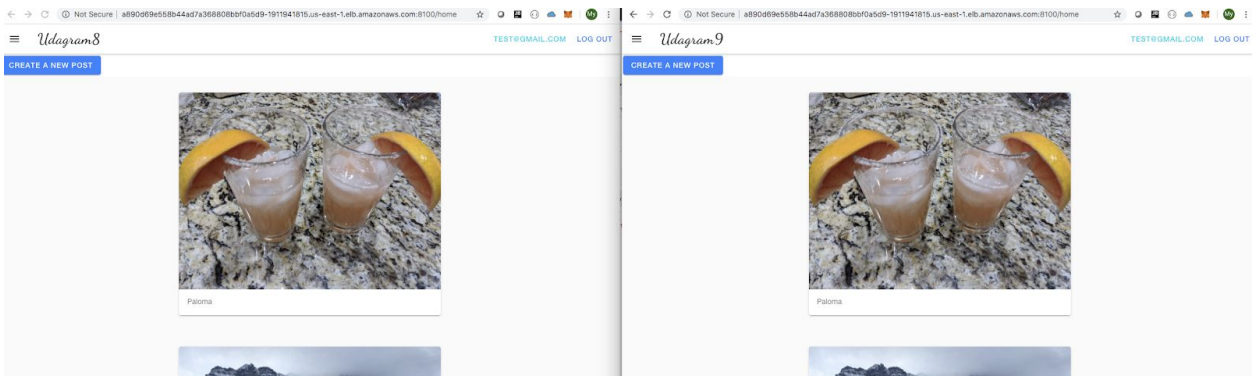
```
Roberts-MBP:udacity-cloud-developer myluc$ kubectl get pods
NAME                                READY   STATUS              RESTARTS   AGE
backend-feed-59d579b4d9-4kqdl       0/1     ContainerCreating   0          10s
backend-feed-6994cf777b-flnc7       1/1     Running             0          46m
backend-feed-6994cf777b-q85h2       1/1     Running             0          47m
backend-user-857559f868-bmchf       1/1     Running             0          47m
backend-user-857559f868-hxbbd       1/1     Running             0          46m
frontend-679db64ffc-5xz8x           1/1     Running             0          47m
frontend-679db64ffc-gt7w7           1/1     Running             0          47m
reverseproxy-557c7c7d56-nnqdt       1/1     Running             0          46m
reverseproxy-557c7c7d56-r52h5       1/1     Running             0          46m
Roberts-MBP:udacity-cloud-developer myluc$ kubectl get pods
NAME                                READY   STATUS              RESTARTS   AGE
backend-feed-59d579b4d9-4kqdl       1/1     Running             0          14s
backend-feed-59d579b4d9-xvchz       0/1     ContainerCreating   0          0s
backend-feed-6994cf777b-flnc7       1/1     Terminating         0          47m
backend-feed-6994cf777b-q85h2       1/1     Running             0          47m
backend-user-6789c8c759-r8qwx       0/1     ContainerCreating   0          1s
backend-user-6789c8c759-rjbwb       1/1     Running             0          3s
backend-user-857559f868-bmchf       1/1     Running             0          47m
backend-user-857559f868-hxbbd       1/1     Terminating         0          46m
frontend-679db64ffc-5xz8x           1/1     Running             0          47m
frontend-679db64ffc-gt7w7           1/1     Running             0          47m
reverseproxy-557c7c7d56-nnqdt       1/1     Running             0          46m
reverseproxy-557c7c7d56-r52h5       1/1     Running             0          46m
```

- A/B deployment: canary deploy is used (2 versions of the same application run simultaneously

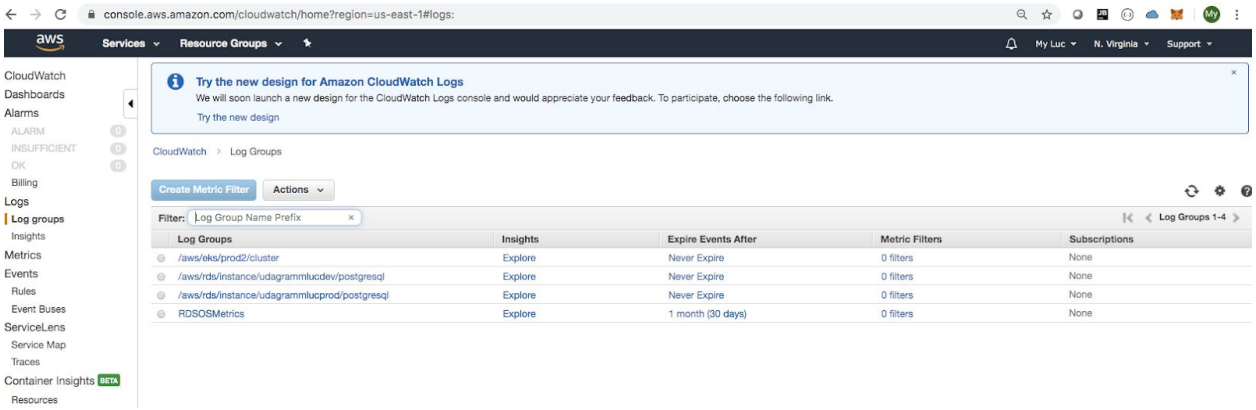
```
Roberts-MBP:k8s myluc$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
backend-feed-59d579b4d9-4kqdl       1/1     Running   0          81m
backend-feed-59d579b4d9-xvchz       1/1     Running   0          81m
backend-user-6789c8c759-r8qwx       1/1     Running   0          81m
backend-user-6789c8c759-rjbwb       1/1     Running   0          81m
frontend-7946d7f55d-7q85p           1/1     Running   0          8m5s
frontend-7946d7f55d-dwrn4           1/1     Running   0          8m5s
frontend-canary-65f79c458d-6cpgp    1/1     Running   0          100s
frontend-canary-65f79c458d-6qcqx    1/1     Running   0          100s
reverseproxy-6f7f7476c-6qjzr        1/1     Running   0          81m
reverseproxy-6f7f7476c-qx6ml        1/1     Running   0          81m
```

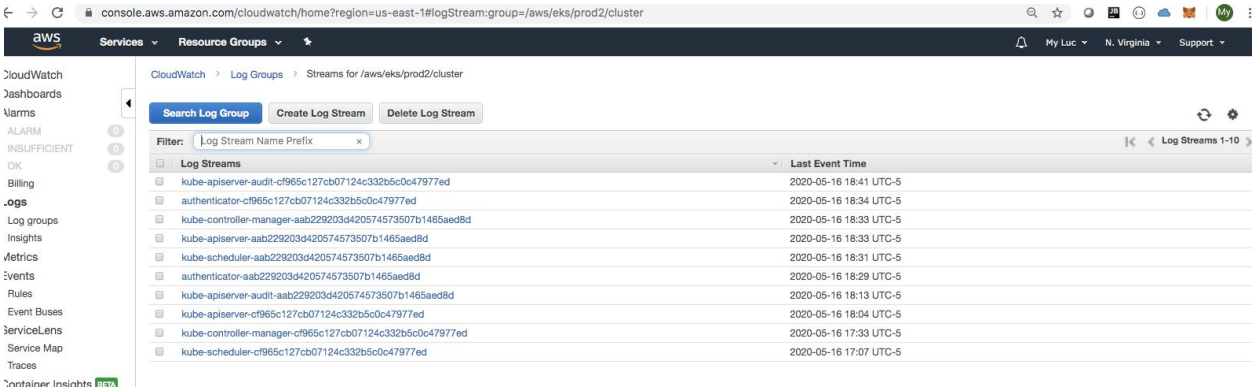
```
Roberts-MBP:docker myluc$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
backend-feed-59d579b4d9-4kqdl       1/1     Running   0          83m
backend-feed-59d579b4d9-xvchz       1/1     Running   0          83m
backend-user-6789c8c759-r8qwx       1/1     Running   0          83m
backend-user-6789c8c759-rjbwb       1/1     Running   0          83m
frontend-7946d7f55d-7q85p           1/1     Running   0          9m48s
frontend-7946d7f55d-dwrn4           1/1     Running   0          9m48s
frontend-canary-65f79c458d-6cpgp    1/1     Running   0          3m23s
frontend-canary-65f79c458d-6qcqx    1/1     Running   0          3m23s
reverseproxy-6f7f7476c-6qjzr        1/1     Running   0          82m
reverseproxy-6f7f7476c-qx6ml        1/1     Running   0          82m
Roberts-MBP:docker myluc$ kubectl describe pod/frontend-7946d7f55d-7q85p
Name:           frontend-7946d7f55d-7q85p
Namespace:      default
Priority:       0
Node:           ip-192-168-56-190.ec2.internal/192.168.56.190
Start Time:     Sat, 16 May 2020 19:00:17 -0500
Labels:         api=external
                pod-template-hash=7946d7f55d
                service=frontend
                track=stable
Annotations:    kubernetes.io/psp: eks.privileged
Status:         Running
IP:             192.168.42.19
IPs:            <none>
Controlled By:  ReplicaSet/frontend-7946d7f55d
Containers:
  frontend:
    Container ID:   docker://a85408cf6fa13af2056a8551b1d5891541a848692000075967fbb4fa13221d4e
    Image:          myluc/udacity-frontend:V8
    Image ID:       docker-pullable://myluc/udacity-frontend@sha256:9c53d48a6b5f3908739b86e950a54806d6705d5edcd
0836220b4b4ecf59c20fc
    Port:           80/TCP
    Host Port:      0/TCP
    State:          Running
      Started:      Sat, 16 May 2020 19:00:19 -0500
    Ready:          True
    Restart Count:  0
    Limits:
```

```
Roberts-MBP:~ myluc$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
backend-feed-59d579b4d9-4kqdl       1/1     Running   0          83m
backend-feed-59d579b4d9-xvchz       1/1     Running   0          83m
backend-user-6789c8c759-r8qwx       1/1     Running   0          83m
backend-user-6789c8c759-rjbwb       1/1     Running   0          83m
frontend-7946d7f55d-7q85p           1/1     Running   0          9m55s
frontend-7946d7f55d-dwrn4           1/1     Running   0          9m55s
frontend-canary-65f79c458d-6cpgp    1/1     Running   0          3m30s
frontend-canary-65f79c458d-6qcqx    1/1     Running   0          3m30s
reverseproxy-6f7f7476c-6qjzr        1/1     Running   0          83m
reverseproxy-6f7f7476c-qx6ml        1/1     Running   0          83m
Roberts-MBP:~ myluc$
Roberts-MBP:~ myluc$
Roberts-MBP:~ myluc$ kubectl describe pod/frontend-canary-65f79c458d-6cpgp
Name:           frontend-canary-65f79c458d-6cpgp
Namespace:      default
Priority:       0
Node:           ip-192-168-56-190.ec2.internal/192.168.56.190
Start Time:     Sat, 16 May 2020 19:06:42 -0500
Labels:         api=external
                pod-template-hash=65f79c458d
                service=frontend
                track=canary
Annotations:    kubernetes.io/psp: eks.privileged
Status:         Running
IP:             192.168.38.11
IPs:            <none>
Controlled By:  ReplicaSet/frontend-canary-65f79c458d
Containers:
  frontend:
    Container ID:   docker://d179b2a24c60dd4399359d9571acbf3e8142bbd3bade2417de5d9c9bc15b7970
    Image:          myluc/udacity-frontend:V9
    Image ID:       docker-pullable://myluc/udacity-frontend@sha256:2c0d15ea01d39879e9c67e550f56fdf
99df32d179e4f4a0875add550e18815e9
    Port:           80/TCP
    Host Port:      0/TCP
    State:          Running
      Started:      Sat, 16 May 2020 19:06:45 -0500
    Ready:          True
```



- Cloudwatch:


console.aws.amazon.com/cloudwatch/home?region=us-east-1#logs:
Services
Resource Groups
My Luc
N. Virginia
Support
CloudWatch
Dashboards
Alarms
ALARM
INSUFFICIENT
OK
Billing
Logs
Log groups
Insights
Metrics
Events
Rules
Event Buses
ServiceLens
Service Map
Traces
Container Insights BETA
Resources
Try the new design for Amazon CloudWatch Logs
We will soon launch a new design for the CloudWatch Logs console and would appreciate your feedback. To participate, choose the following link.
Try the new design
CloudWatch › Log Groups
Create Metric Filter
Actions
Filter: Log Group Name Prefix
Log Groups 1-4
Log Groups
Insights
Expire Events After
Metric Filters
Subscriptions
/aws/eks/prod2/cluster
Explore
Never Expire
0 filters
None
/aws/rds/instance/udagrammlucdev/postgresql
Explore
Never Expire
0 filters
None
/aws/rds/instance/udagrammlucprod/postgresql
Explore
Never Expire
0 filters
None
RDSOSMetrics
Explore
1 month (30 days)
0 filters
None


console.aws.amazon.com/cloudwatch/home?region=us-east-1#logStream:group=/aws/eks/prod2/cluster
Services
Resource Groups
My Luc
N. Virginia
Support
CloudWatch › Log Groups › Streams for /aws/eks/prod2/cluster
Search Log Group
Create Log Stream
Delete Log Stream
Filter: Log Stream Name Prefix
Log Streams 1-10
Log Streams
Last Event Time
kube-apiserver-audit-cf965c127cb07124c332b5c0c47977ed
2020-05-16 18:41 UTC-5
authenticator-cf965c127cb07124c332b5c0c47977ed
2020-05-16 18:34 UTC-5
kube-controller-manager-aab229203d420574573507b1465aed8d
2020-05-16 18:33 UTC-5
kube-apiserver-aab229203d420574573507b1465aed8d
2020-05-16 18:33 UTC-5
kube-scheduler-aab229203d420574573507b1465aed8d
2020-05-16 18:31 UTC-5
authenticator-aab229203d420574573507b1465aed8d
2020-05-16 18:29 UTC-5
kube-apiserver-audit-aab229203d420574573507b1465aed8d
2020-05-16 18:13 UTC-5
kube-apiserver-cf965c127cb07124c332b5c0c47977ed
2020-05-16 18:04 UTC-5
kube-controller-manager-cf965c127cb07124c332b5c0c47977ed
2020-05-16 17:33 UTC-5
kube-scheduler-cf965c127cb07124c332b5c0c47977ed
2020-05-16 17:07 UTC-5