

Github URL

- Frontend Service:
<https://github.com/pinmaing/udagram-frontend>
- Reverse Proxy Service :
<https://github.com/pinmaing/udagram-reserve-proxy>
- User API Service :
<https://github.com/pinmaing/udagram-user-api>
- Feed API Service:
<https://github.com/pinmaing/udagram-feed-api>

DockerHub Images

pinmaing

Search by repository name...



Create Repository

pinmaing / udagram-frontend Updated an hour ago	☆ 0	↓ 87	Public
pinmaing / udagram-user-api Updated an hour ago	☆ 0	↓ 39	Public
pinmaing / udagram-feed-api Updated an hour ago	☆ 0	↓ 38	Public
pinmaing / udagram-reverse-proxy Updated 2 hours ago	☆ 0	↓ 37	Public


Travis CI interface

☆	pinmaing udagram-frontend	DEFAULT BRANCH -o- master passed	LAST BUILD ✓ #16 passed	COMMIT -o- 54b66be ↗	FINISHED 📅 51 minutes ago	≡
☆	pinmaing udagram-user-api	DEFAULT BRANCH -o- master passed	LAST BUILD ✓ #5 passed	COMMIT -o- 951db49 ↗	FINISHED 📅 58 minutes ago	≡
☆	pinmaing udagram-feed-api	DEFAULT BRANCH -o- master passed	LAST BUILD ✓ #7 passed	COMMIT -o- 7a71c6a ↗	FINISHED 📅 58 minutes ago	≡
☆	pinmaing udagram-reserve-proxy	DEFAULT BRANCH -o- master passed	LAST BUILD ✓ #5 passed	COMMIT -o- eb0a128 ↗	FINISHED 📅 2 hours ago	≡

Travis CI interface


 pinmaing / udagram-frontend  build passing


Current Branches Build History Pull Requests > Build #16


More options 


✓ master Merge pull request #4 from pinmaing/dev

Merge for final deployment configuration

Commit 54b66be 

Compare a620030...54b66be 

Branch master 


 Pin Maing Soe


#16 passed

Ran for 9 min 7 sec

52 minutes ago

Restart build

 </> Node.js: 13

 AMD64

Job log

View config ●

1 Worker information

6

7 Build system information

161

162

worker_info

system_info

docker_mtu

resolvconf

0.06s



0.01s

2.52s


Remove log


Raw log

Travis CI interface



 pinmaing / udiagram-user-api  build passing



Current Branches Build History Pull Requests > Build #5



More options 


 **master** Merge pull request #2 from pinmaing/dev


Merge to deploy with final configuration


 Commit 951db49 


 Compare 91da4fe...951db49 


 Branch master 


 Pin Maing Soe

 Ran for 1 min 24 sec

 59 minutes ago

 Restart build

 `</>` Node.js: 13

 AMD64

Job log

View config 

 Remove log

 Raw log

▶ 1 Worker information

worker_info

0.06s

6

0.01s

▶ 7 Build system information

system_info

161

2.46s

162

▶ 163 \$ sudo systemctl start docker

services



3.02s

docker_mtu

resolvconf

Top

Travis CI interface

 pinmaing / udagram-feed-api  build passing

Current

Branches

Build History

Pull Requests

> Build #7

More options


✓ master Merge pull request #2 from pinmaing/dev

Merge to deploy with final configuration

↳ Commit 7a71c6a

↳ Compare ec8b1db..7a71c6a

↳ Branch master

 Pin Maing Soe

🕒 #7 passed

🕒 Ran for 1 min 25 sec

📅 about an hour ago

Restart build

🔧 </> Node.js: 13

🖨️ AMD64

Job log

View config

Remove log

Raw log

1 Worker information

6

7 Build system information

161

162

163 \$ sudo systemctl start docker

worker_info 0.06s

system_info 0.00s



docker_mtu 2.44s

resolvconf 3.02s

services

Top

Travis CI interface

 pinmaing / udagram-reserve-proxy  build passing

Current

Branches

Build History

Pull Requests

> Build #5


More options

✓ master added for loadbalancer

Commit eb0a128

Compare 4fb1fd3..eb0a128

Branch master

 Pin Maing Soe

</> Node.js: 13

AMD64

→ #5 passed

Ran for 39 sec

2 hours ago

Restart build

Job log

View config

Remove log

Raw log

1 Worker information

6

7 Build system information

161

162

163 \$ sudo systemctl start docker

164 \$ git clone --depth=50 --branch=master https://github.com/[secure]/udagram-reserve-proxy.git [secure]/udagram-

165

worker_info

system_info

docker_mtu

resolvconf

services

git.checkout

0.08s

0.01s

2.52s

3.02s

0.53s

Top

Deploy to Kubernetes

- kubectl get pods

```
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-feed-api/deploy/deployment.yaml
deployment.apps/udagram-feed-api created
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-feed-api/deploy/service.yaml
service/udagram-feed-api unchanged
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-user-api/deploy/deployment.yaml
deployment.apps/udagram-user-api created
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-user-api/deploy/service.yaml
service/udagram-user-api unchanged
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-reverse-proxy/deploy/deployment.yaml
deployment.apps/udagramreverseproxy created
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-reverse-proxy/deploy/service.yaml
service/udagramreverseproxy unchanged
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-frontend/deploy/deployment.yaml
deployment.apps/udagram-frontend created
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl apply -f udagram-frontend/deploy/service.yaml
service/udagram-frontend unchanged
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
udagram-feed-api-5bc85c7647-5nx6w   1/1     Running   0           2m12s
udagram-frontend-7c9446bccb-h7t5t   1/1     Running   0           26s
udagram-frontend-7c9446bccb-sw12m   1/1     Running   0           25s
udagram-user-api-89b8bbdd6-mtngd     1/1     Running   0           109s
udagramreverseproxy-66d59dc977-mctxh 1/1     Running   0           46s
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
udagram-feed-api-5bc85c7647-5nx6w   1/1     Running   0           2m24s
udagram-frontend-7c9446bccb-h7t5t   1/1     Running   0           38s
udagram-frontend-7c9446bccb-sw12m   1/1     Running   0           37s
udagram-user-api-89b8bbdd6-mtngd     1/1     Running   0           2m1s
udagramreverseproxy-66d59dc977-mctxh 1/1     Running   0           58s
(base) Pins-MacBook-Pro:Session4PJ pinmaing$
```


Deploy to Kubernetes

- kubectl describe services (1)

```
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl describe services
Name:      kubernet
Namespace: default
Labels:    component=apiserver
           provider=kubernetes
Annotations: <none>
Selector:  <none>
Type:      ClusterIP
IP:        10.100.0.1
Port:      https 443/TCP
TargetPort: 443/TCP
Endpoints: 172.31.11.157:443,172.31.19.84:443
Session Affinity: None
Events:    <none>

Name:      udagram-feed-api
Namespace: default
Labels:    app=udagram-feed-api
Annotations: kubectl.kubernetes.io/last-applied-configuration:
              {"apiVersion":"v1","kind":"Service","metadata":{"annotations":{"labels":{"app":"udagram-feed-api"},"name":"udagram-feed-api","namespace"...
Selector:  app=udagram-feed-api
Type:      ClusterIP
IP:        10.100.245.49
Port:      <unset> 8080/TCP
TargetPort: 8080/TCP
Endpoints: 172.31.8.89:8080
Session Affinity: None
Events:    <none>

Name:      udagram-frontend
Namespace: default
Labels:    service=udagram-frontend
Annotations: kubectl.kubernetes.io/last-applied-configuration:
              {"apiVersion":"v1","kind":"Service","metadata":{"annotations":{"labels":{"service":"udagram-frontend"},"name":"udagram-frontend","namesp...
Selector:  service=udagram-frontend
Type:      LoadBalancer
IP:        10.100.69.169
LoadBalancer Ingress: a00695aedd0854c429f9139d011493eb-207895537.ap-northeast-1.elb.amazonaws.com
Port:      8100 8100/TCP
TargetPort: 80/TCP
NodePort:  8100 31723/TCP
Endpoints: 172.31.2.11:80,172.31.22.202:80
Session Affinity: None
External Traffic Policy: Cluster
Events:    <none>
```

Deploy to Kubernetes

- kubectl describe services (2)

```
Name:          udagram-user-api
Namespace:     default
Labels:        app=udagram-user-api
Annotations:   kubectl.kubernetes.io/last-applied-configuration:
                {"apiVersion":"v1","kind":"Service","metadata":{"annotations":{},"labels":{"app":"udagram-user-api"},"name":"udagram-user-api","namespace"...
Selector:      app=udagram-user-api
Type:          ClusterIP
IP:            10.100.179.178
Port:          <unset> 8080/TCP
TargetPort:    8080/TCP
Endpoints:     172.31.18.81:8080
Session Affinity: None
Events:        <none>

Name:          udagramreverseproxy
Namespace:     default
Labels:        service=udagramreverseproxy
Annotations:   kubectl.kubernetes.io/last-applied-configuration:
                {"apiVersion":"v1","kind":"Service","metadata":{"annotations":{},"labels":{"service":"udagramreverseproxy"},"name":"udagramreverseproxy"},"...
Selector:      service=udagramreverseproxy
Type:          LoadBalancer
IP:            10.100.164.29
LoadBalancer Ingress: a3a1488b3045443d68915e64c4e939ac-273229140.ap-northeast-1.elb.amazonaws.com
Port:          8080 8080/TCP
TargetPort:    8080/TCP
NodePort:      8080 32553/TCP
Endpoints:     172.31.14.244:8080
Session Affinity: None
External Traffic Policy: Cluster
Events:        <none>
(base) Pins-MacBook-Pro:Session4PJ pinmaing$
```

Deploy to Kubernetes

- `kubectl describe hpa`

```
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl describe hpa
Name:                                udagram-frontend
Namespace:                           default
Labels:                               <none>
Annotations:                          <none>
CreationTimestamp:                    Wed, 09 Sep 2020 20:08:04 +0900
Reference:                            Deployment/udagram-frontend
Metrics:                              ( current / target )
  resource cpu on pods  (as a percentage of request): 0% (1m) / 50%
Min replicas:                          1
Max replicas:                          4
Deployment pods:                       2 current / 2 desired
Conditions:
  Type           Status  Reason                        Message
  ----           -
  AbleToScale    True    ScaleDownStabilized          recent recommendations were higher than current one, applying the highest recent recommendation
  ScalingActive  True    ValidMetricFound              the HPA was able to successfully calculate a replica count from cpu resource utilization (percentage of request)
  ScalingLimited False   DesiredWithinRange            the desired count is within the acceptable range
Events:          <none>
```

Kubernetes services shows a reverse proxy

```
[ "id":3,"caption":"Dog","url":"xander0.jpg","createdAt":"2020-09-09T04:01:24.102Z","updatedAt":"2020-09-09T04:01:24.102Z"}] # exit
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl describe services udagramreverseproxy
Name:                udagramreverseproxy
Namespace:           default
Labels:              service=udagramreverseproxy
Annotations:         kubectl.kubernetes.io/last-applied-configuration:
                      {"apiVersion":"v1","kind":"Service","metadata":{"annotations":{},"labels":{"service":"udagramreverseproxy"},"name":"udagramreverseproxy"},"..
.
Selector:            service=udagramreverseproxy
Type:                LoadBalancer
IP:                  10.100.164.29
LoadBalancer Ingress: a3a1488b3045443d68915e64c4e939ac-273229140.ap-northeast-1.elb.amazonaws.com
Port:                8080 8080/TCP
TargetPort:          8080/TCP
NodePort:             8080 32553/TCP
Endpoints:           172.31.14.244:8080
Session Affinity:     None
External Traffic Policy: Cluster
Events:              <none>
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl exec -it udagramreverseproxy-66d59dc977-mctxh sh
/ # curl http://udagram-feed-api:8080/api/v0/feed/3
{"id":3,"caption":"Dog","url":"xander0.jpg","createdAt":"2020-09-09T04:01:24.102Z","updatedAt":"2020-09-09T04:01:24.102Z"}/ #
/ # curl http://udagramreverseproxy:8080/api/v0/feed/3
{"id":3,"caption":"Dog","url":"xander0.jpg","createdAt":"2020-09-09T04:01:24.102Z","updatedAt":"2020-09-09T04:01:24.102Z"}/ #
/ #
```

Logging

- `kubectl logs <your pod name>`

```
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl logs udiagram-user-api-89b8bdd6-mtngd

> udiagram-api@2.0.0 dev /usr/src/app
> ts-node-dev --respawn --transpileOnly ./src/server.ts

Using ts-node version 8.0.3, typescript version 3.3.4000
Executing (default): CREATE TABLE IF NOT EXISTS "User" ("email" VARCHAR(255) , "passwordHash" VARCHAR(255), "createdAt" TIMESTAMP WITH TIME ZONE, "updatedAt" TIMESTAMP WITH TIME ZONE, PRIMARY KEY ("email"));
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.indexrelid AND i.oid = ix.indexrelid AND a.attrelid = t.oid AND t.relkind = 'r' and t.relname = 'User' GROUP BY i.relname, ix.indexrelid, ix.indisprimary, ix.indisunique, ix.indkey ORDER BY i.relname;
server running on http://localhost:8080
press CTRL+C to stop server
9/9/2020, 10:41:32 AM: f855ea4c-8068-4134-b1d1-375b3471e556 - Requested for User Login : test@gmail.com
Executing (default): SELECT "email", "passwordHash", "createdAt", "updatedAt" FROM "User" AS "User" WHERE "User"."email" = 'test@gmail.com';
9/9/2020, 10:41:32 AM: f855ea4c-8068-4134-b1d1-375b3471e556 - Finished processing request for User Login : test@gmail.com
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl logs udiagram-feed-api-5bc85c7647-5nx6w

> udiagram-api@2.0.0 dev /usr/src/app
> ts-node-dev --respawn --transpileOnly ./src/server.ts

Using ts-node version 8.0.3, typescript version 3.3.4000
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.indexrelid 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.indisunique, ix.indkey ORDER BY i.relname;
server running http://localhost:8080
press CTRL+C to stop server
9/9/2020, 10:40:50 AM: 9c1d3de3-aa9f-424d-bcee-da56a1821ecf - User requested for Feed Get URL(api/v0/feed/)
Executing (default): SELECT count(*) AS "count" FROM "FeedItem" AS "FeedItem";
Executing (default): SELECT "id", "caption", "url", "createdAt", "updatedAt" FROM "FeedItem" AS "FeedItem" ORDER BY "FeedItem"."id" DESC;
9/9/2020, 10:40:50 AM: 9c1d3de3-aa9f-424d-bcee-da56a1821ecf - Finished processing request for getting all Feed items
9/9/2020, 10:41:05 AM: 02d77046-ca68-4406-874d-5b90fa738aab - User requested for Feed Get URL(api/v0/feed/)
Executing (default): SELECT count(*) AS "count" FROM "FeedItem" AS "FeedItem";
Executing (default): SELECT "id", "caption", "url", "createdAt", "updatedAt" FROM "FeedItem" AS "FeedItem" ORDER BY "FeedItem"."id" DESC;
9/9/2020, 10:41:05 AM: 02d77046-ca68-4406-874d-5b90fa738aab - Finished processing request for getting all Feed items
9/9/2020, 10:41:20 AM: ee824d42-4c22-4363-a824-8ff8d9c32b82 - User requested for Feed Get URL(api/v0/feed/)
Executing (default): SELECT count(*) AS "count" FROM "FeedItem" AS "FeedItem";
Executing (default): SELECT "id", "caption", "url", "createdAt", "updatedAt" FROM "FeedItem" AS "FeedItem" ORDER BY "FeedItem"."id" DESC;
9/9/2020, 10:41:20 AM: ee824d42-4c22-4363-a824-8ff8d9c32b82 - Finished processing request for getting all Feed items
9/9/2020, 10:42:55 AM: 6aeb9d73-250b-4d0a-a68c-7ca6fd9a93f3 - User requested to get Feed Item Signed-URL : travel-3758193_1280.jpg
9/9/2020, 10:42:55 AM: 6aeb9d73-250b-4d0a-a68c-7ca6fd9a93f3 - Finished processing request for getting Feed Item Signed-URL : travel-3758193_1280.jpg
9/9/2020, 10:42:56 AM: 7c29ebea-f7f4-41a6-93a9-adcda3a1818b - User requested to post Feed Item : Travel for relaxing
Executing (default): INSERT INTO "FeedItem" ("id","caption","url","createdAt","updatedAt") VALUES (DEFAULT,$1,$2,$3,$4) RETURNING *;
9/9/2020, 10:42:56 AM: 7c29ebea-f7f4-41a6-93a9-adcda3a1818b - Finished processing request for posting Feed Item : Travel for relaxing
(base) Pins-MacBook-Pro:Session4PJ pinmaing$
```

ingress rules

```
(base) Pins-MacBook-Pro:Session4PJ pinmaing$ kubectl describe ingress
Name:          backend-ingress
Namespace:     default
Address:
Default backend: default-http-backend:80 (<none>)
Rules:
  Host      Path      Backends
  ----      -
a00695aedd0854c429f9139d011493eb-207895537.ap-northeast-1.elb.amazonaws.com /    udagram-frontend:8100 (172.31.2.11:80,172.31.22.202:80)
a3a1488b3045443d68915e64c4e939ac-273229140.ap-northeast-1.elb.amazonaws.com /    udagramreverseproxy:8080 (172.31.14.244:8080)

Annotations:
  kubectl.kubernetes.io/last-applied-configuration: {"apiVersion":"networking.k8s.io/v1beta1","kind":"Ingress","metadata":{"annotations":{"kubernetes.io/ingress.class":"nginx"},"nginx.ingress.kubernetes.io/rewrite-target":"/$1","nginx.ingress.kubernetes.io/use-regex":"true"},"name":"backend-ingress","namespace":"default"},"spec":{"rules":[{"host":"a00695aedd0854c429f9139d011493eb-207895537.ap-northeast-1.elb.amazonaws.com","http":{"paths":[{"backend":{"serviceName":"udagram-frontend","servicePort":8100},"path":"/"}]}},{host":"a3a1488b3045443d68915e64c4e939ac-273229140.ap-northeast-1.elb.amazonaws.com","http":{"paths":[{"backend":{"serviceName":"udagramreverseproxy","servicePort":8080},"path":"/"}]}]}}}

  kubernetes.io/ingress.class:      nginx
  nginx.ingress.kubernetes.io/rewrite-target: /$1
  nginx.ingress.kubernetes.io/use-regex: true
Events:                             <none>
(base) Pins-MacBook-Pro:Session4PJ pinmaing$
```

AWS Resource Limitation

- Limitation Access for RDS with Security Group

udacitydevdb

ModifyActions ▼

Summary

DB identifier udacitydevdb	CPU <div>2.79%</div>	Info ✔ Available	Class db.t2.micro
Role Instance	Current activity <div>0 Connections</div>	Engine PostgreSQL	Region & AZ ap-northeast-1a

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Connectivity & security

<div>Endpoint & port</div> <div>Endpoint <div></div></div> <div>Port 5432</div>	<div>Networking</div> <div>Availability zone ap-northeast-1a</div> <div>VPC vpc-929489f5</div> <div>Subnet group default-vpc-929489f5</div>	<div>Security</div> <div>VPC security groups rds-sg (sg-0a304cbdae8cf5a91) (active)</div> <div>Public accessibility Yes</div> <div>Certificate authority rds-ca-2019</div>
---	---	--

AWS Resource Limitation

- Limitation Access for RDS with Security Group

VPC > Security Groups > sg-0a304cbdae8cf5a91 - rds-sg

sg-0a304cbdae8cf5a91 - rds-sg Delete security group Copy to new security group

Details

Security group name rds-sg	Security group ID sg-0a304cbdae8cf5a91	Description sg for rds to access from ec2 of eke and specific ip	VPC ID vpc-929489f5
Owner [REDACTED]	Inbound rules count 4 Permission entries	Outbound rules count 1 Permission entry	

Inbound rules | Outbound rules | Tags

Inbound rules Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
All TCP	TCP	0 - 65535	sg-045d4535ee3d25bc6 (eks-cluster-sg-UdagramCluster-992197423)	-
All traffic	All	All	124.211.254.179/32	-
All traffic	All	All	10.100.0.0/16	-
All traffic	All	All	sg-00cd9835934c8353a (public-sg)	-

AWS Resource Limitation

- IAM of Kubernetes' node with least privilege for S3

The image shows two screenshots from the AWS IAM console. The left screenshot displays the 'Summary' page for the 'EKSNodeInstanceRole'. The right screenshot shows the 'S3Permission' inline policy, which is configured with a 'VisualEditor' to allow specific S3 actions on resources within the 'udademoddev' bucket.

Summary of EKSNodeInstanceRole:

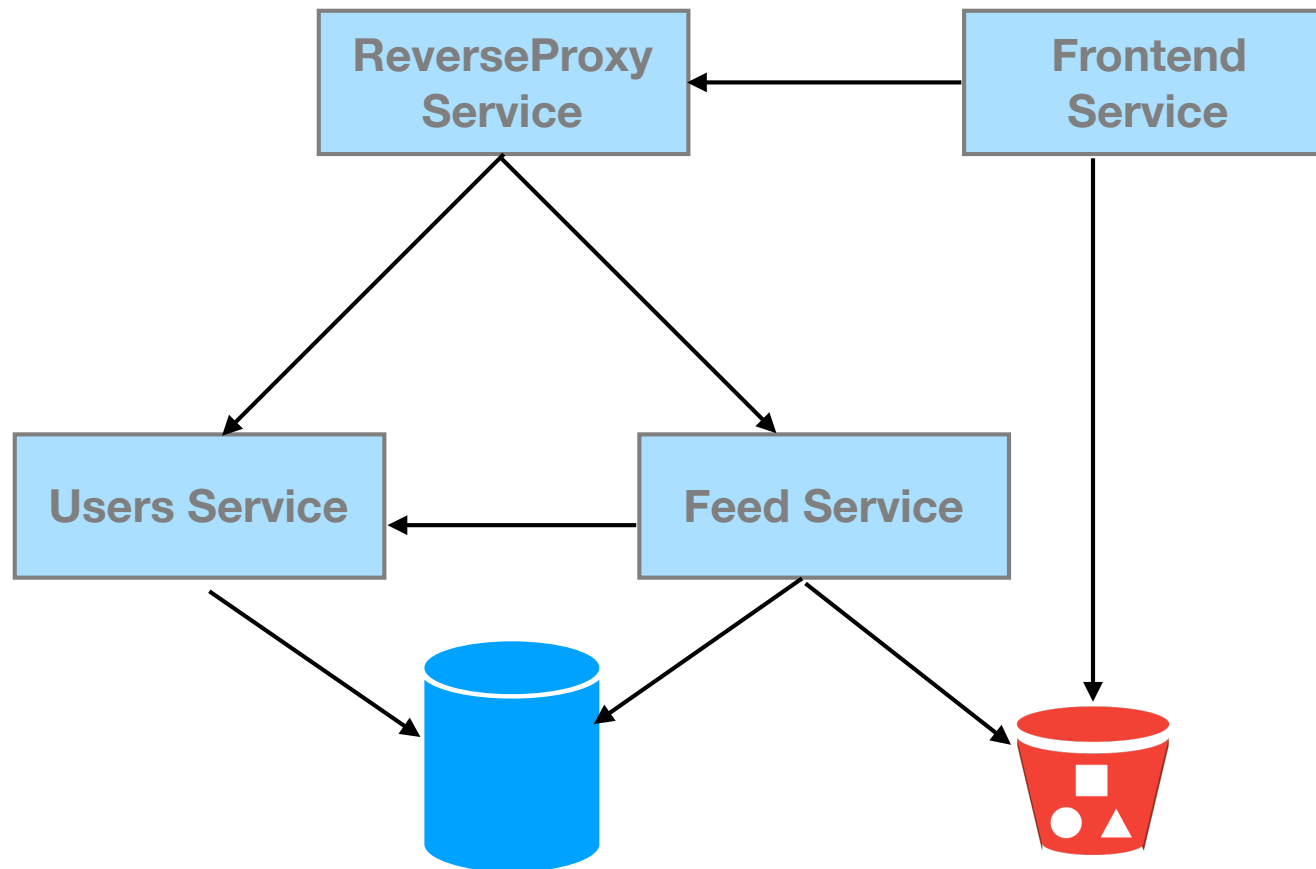
- Role ARN:** `arn:aws:iam::[redacted]:role/EKSNodeInstanceRole`
- Role description:** Amazon EKS - Node Group Role
- Instance Profile ARNs:** `arn:aws:iam::[redacted]:instance-profile/eks-c6ba3699-46fc-985d-d39b-60ceedd2fff7`, `arn:aws:iam::[redacted]:instance-profile/EKSNodeInstanceRole`
- Path:** /
- Creation time:** 2020-09-07 23:49 UTC+0900
- Last activity:** 2020-09-09 20:47 UTC+0900 (Today)
- Maximum session duration:** 1 hour

Permissions policies (4 policies applied):

- AmazonEKSWorkerNodePolicy (AWS managed policy)
- AmazonEC2ContainerRegistryReadOnly (AWS managed policy)
- AmazonEKS_CNI_Policy (AWS managed policy)
- S3Permission (Inline policy)

S3Permission Inline Policy JSON:

```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Sid": "VisualEditor0",
6       "Effect": "Allow",
7       "Action": [
8         "s3:PutObject",
9         "s3:GetObject",
10        "s3:ListBucket"
11      ],
12      "Resource": [
13        "arn:aws:s3:::udademoddev/*",
14        "arn:aws:s3:::udademoddev"
15      ]
16    }
17  ]
18 }
```



Dependency Graph