Pontifícia Universidade Católica de Minas Gerais

Eco Trade - K8s

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A apresentação

- O Sistema
- A arquitetura
- O front-end
- A Autenticação
- O upload
- O Ambiente
- Hands-on

O sistema

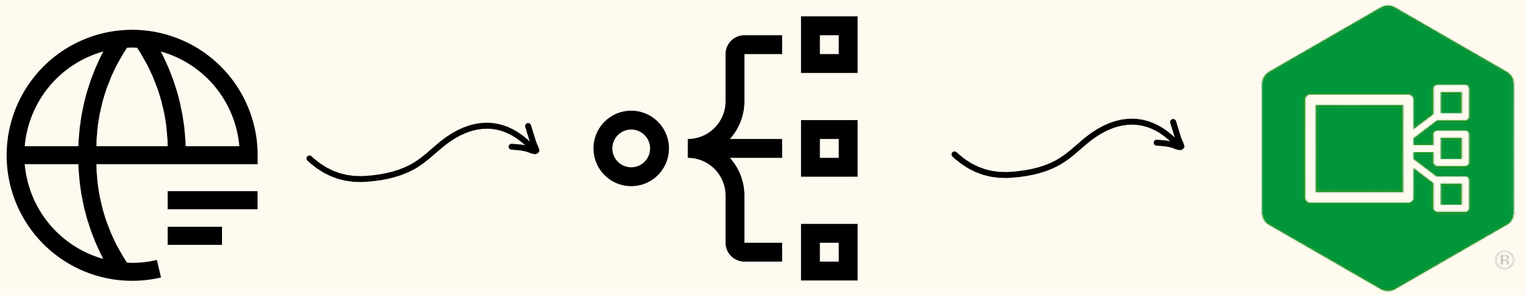
- Trocas
- Reutilização
- Dimunuição do consumismo

O sistema

- Usuários
- Anúncios
- Propostas
- Chat
- Ecopoints
- Confiança

A arquitetura

Porta de Entrada



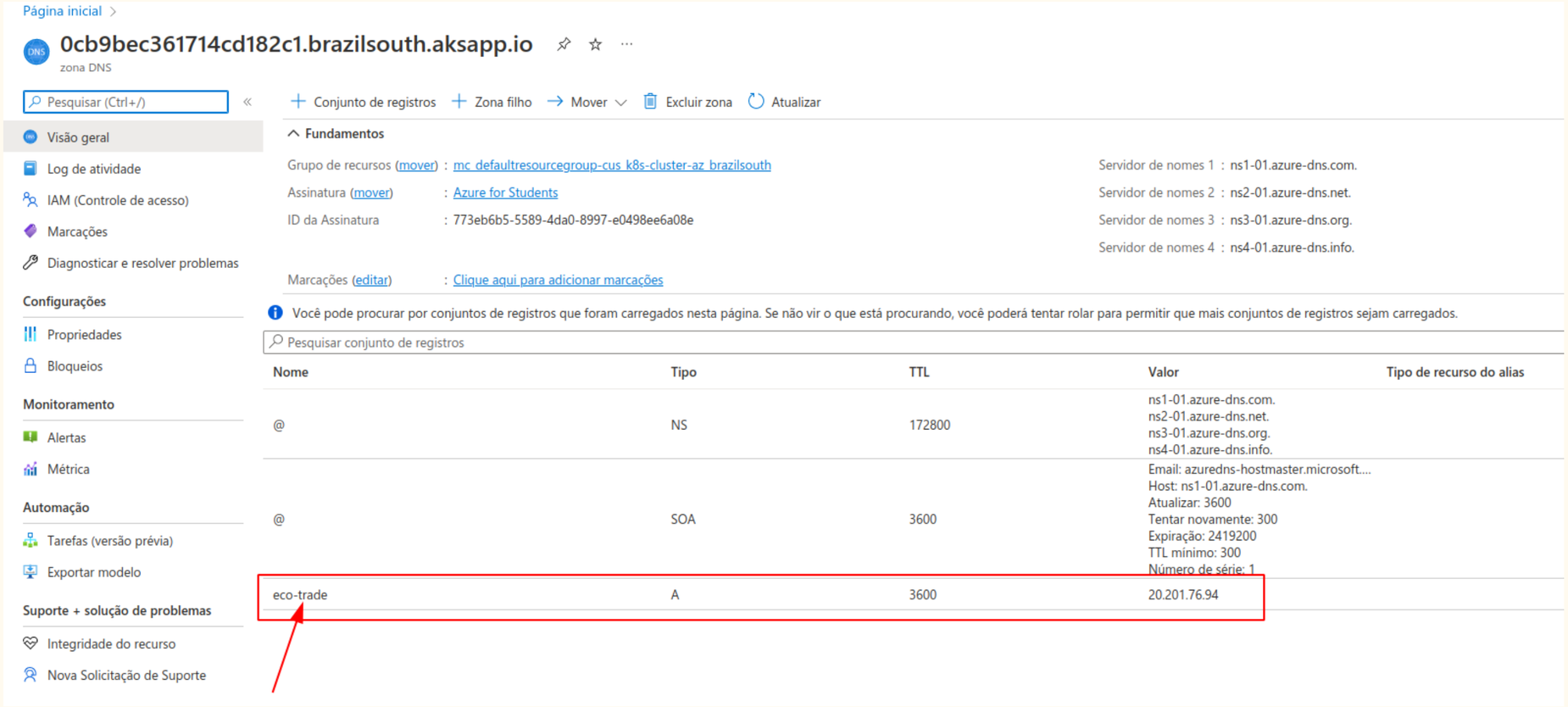
DNS Da Azure

Load Balancer

Nginx Ingress

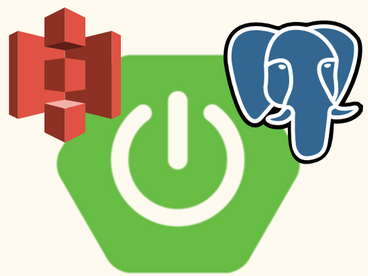
A arquitetura

Porta de Entrada



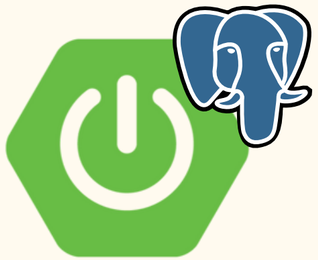
A arquitetura

Microsserviços



MS Trade

Save/Check Token



MS Chat

Check Token

MS Front

Redis

O front-end

- Vue JS
- Open source
- Documentação detalhada
- Vue CLI
- Vue Files
- Componentes independentes e reutilizáveis
- Framework progressivo

A autenticação

Geral

- Requisição de login (Email e Senha)
- Token JWT (Json Web Token)
- Banco Redis

A autorização

Geral

- Permissões de acesso
- Uso do Token de Autenticação
- Sessão do usuário

A autenticação

Entre Microsserviços

- Comunicação entre microsserviços (Trade e Chat)
- Funcionalidade do Chat
- Token especial (ROLE-HOST-TO-HOST)

A autenticação

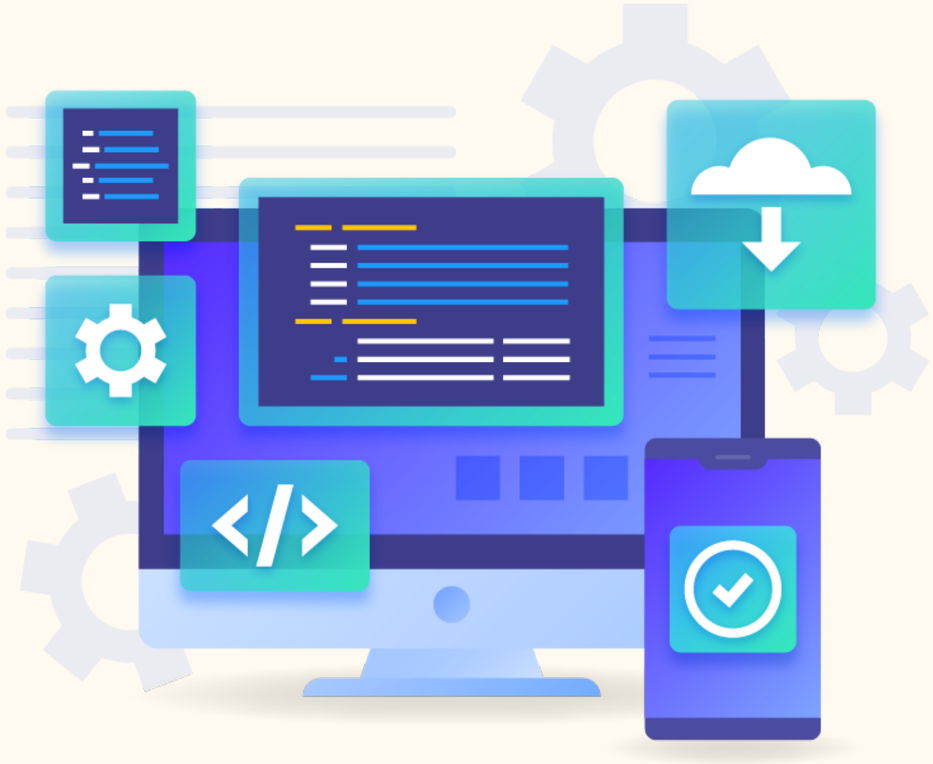
AWS S3 - Bucket

- Autorização para máquinas subirem arquivos
- Parametrizado de acordo com ambiente

A autorização

Front-end

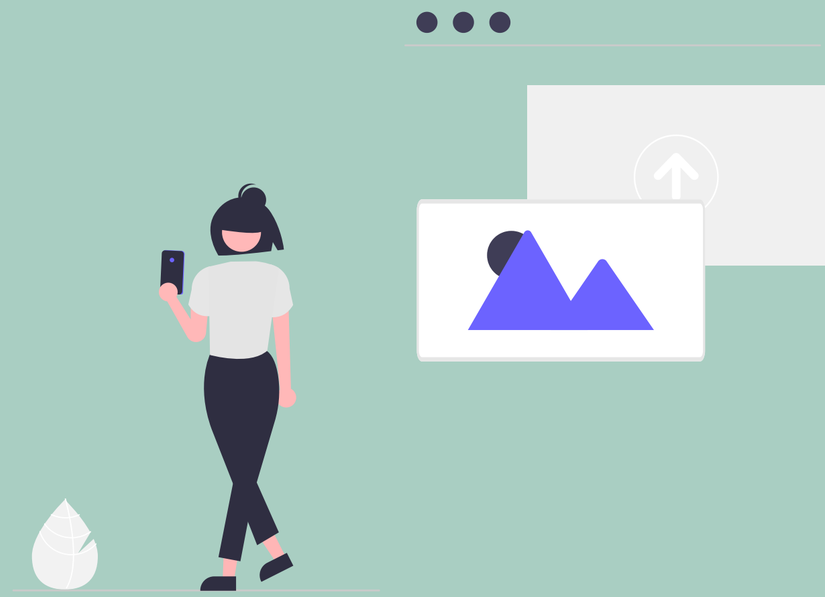
- Requisiçao de login
- Token salvo em Local Storage
- Interceptor



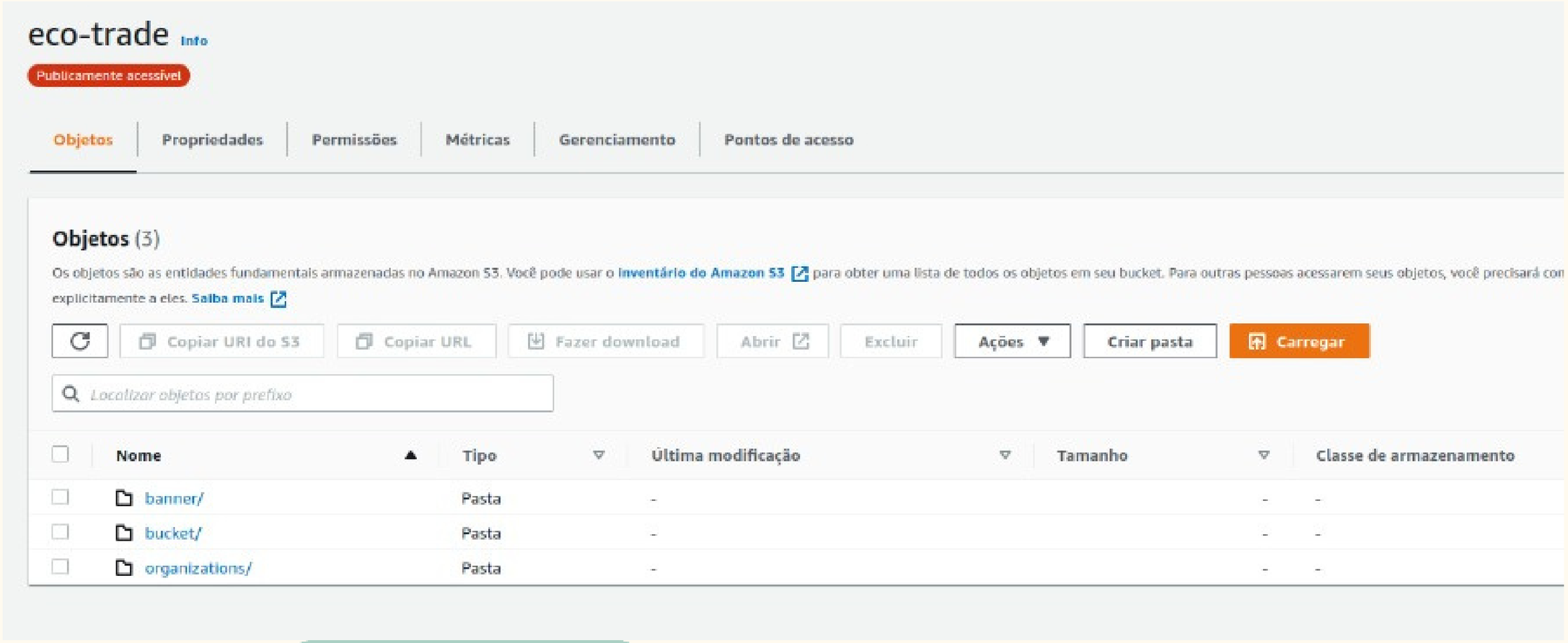
O upload

Arquivos de Imagens

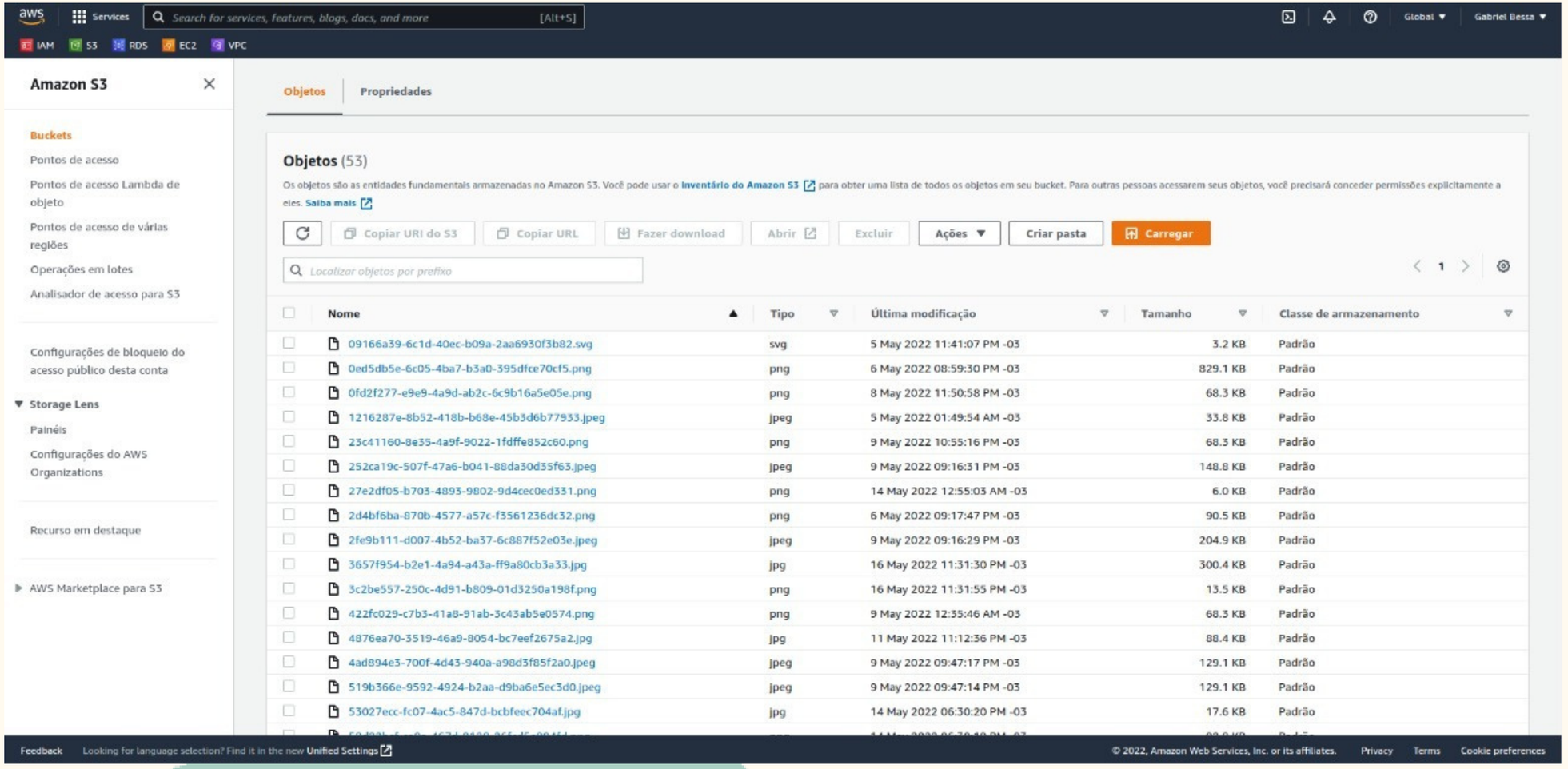
- O que é ?
- Amazon S3
- Implementação



Estrutura Amazon S3



Estrutura Amazon S3

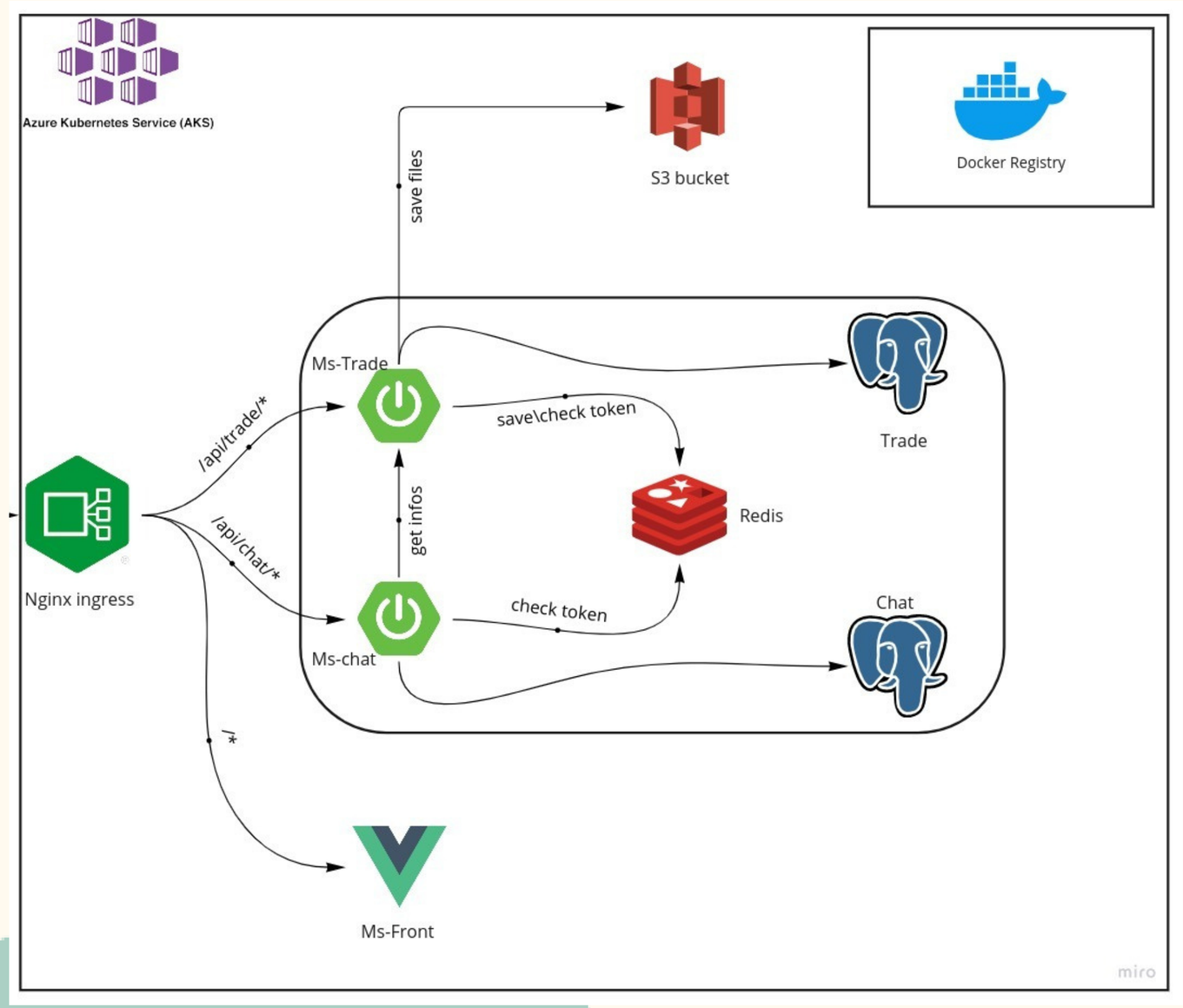


Cenário Atual

Arquivos de Imagens

- Infraestrutura
- Onde ocorre
- Pontos negativos

Cenário Atual

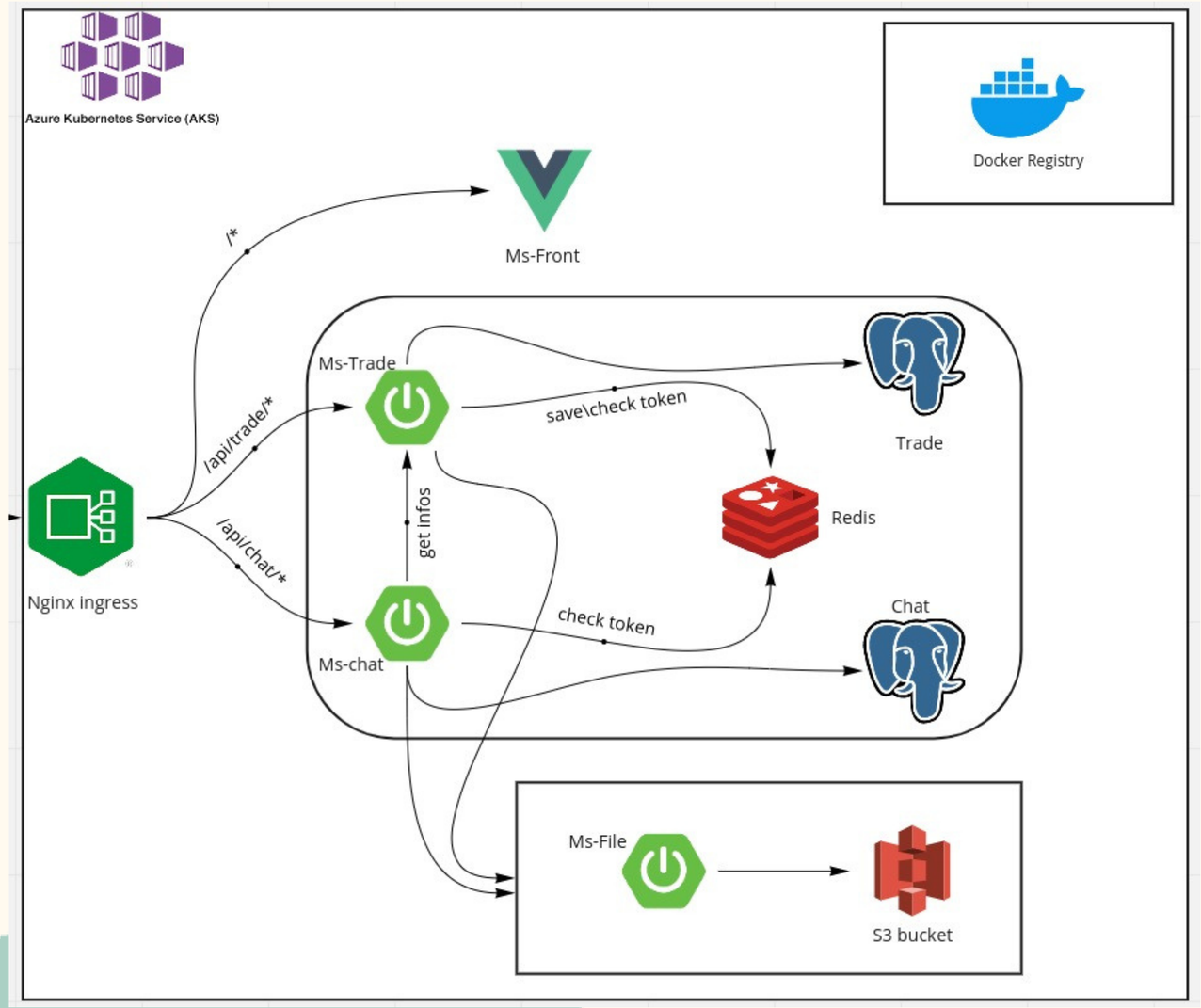


Cenário Ideal

Arquivos de Imagens

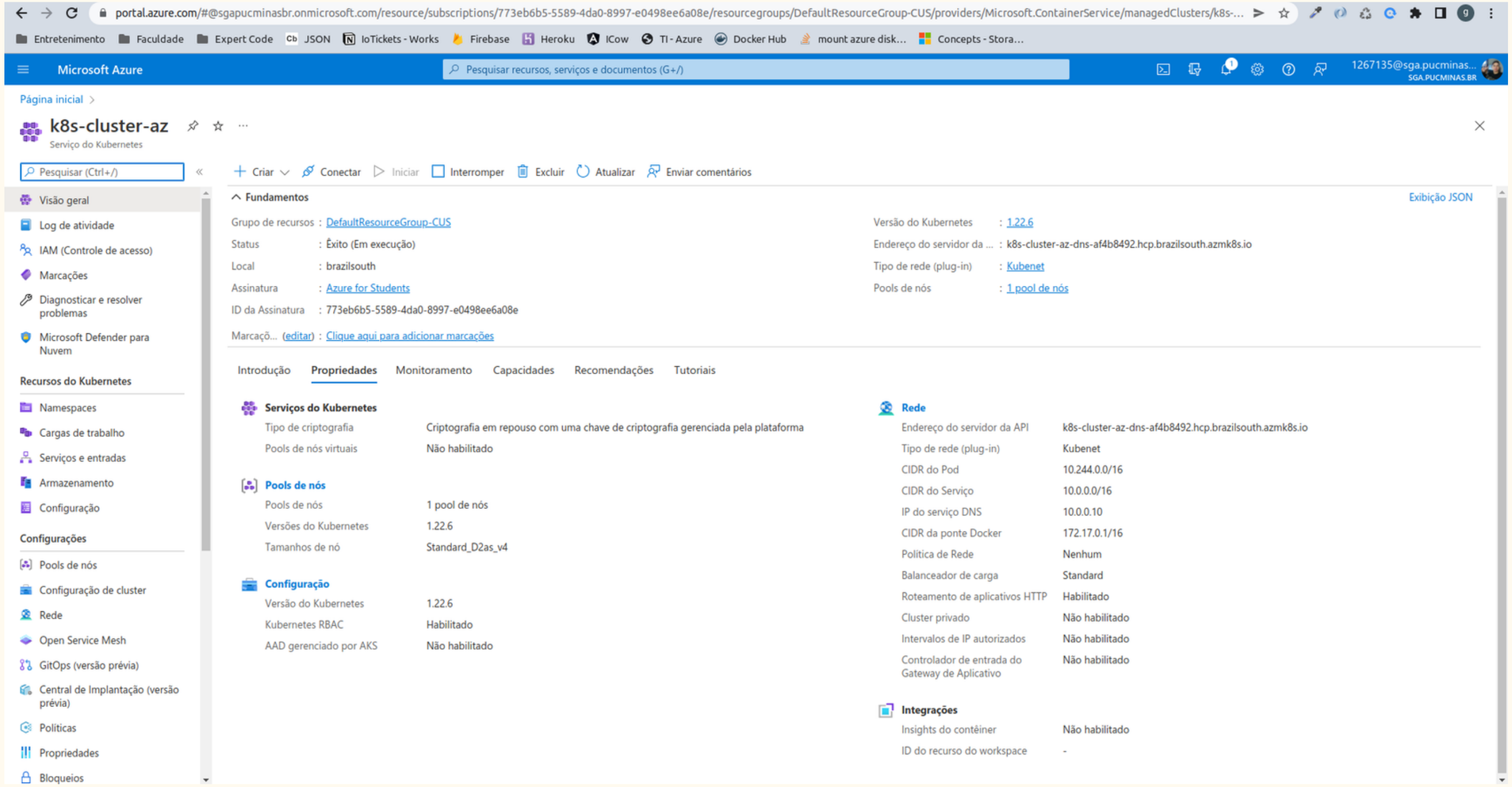
- Infraestrutura
- Visibilidade
- Impedimentos para implantação

Cenário Ideal



O ambiente

Produção



O ambiente

Scripts

```yaml
# apiVersion: networking.k8s.io/v1beta1 # for k3s < v1
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: nginx
  annotations:
    ingress.kubernetes.io/ssl-redirect: "false"
spec:
  ingressClassName: nginx
  rules:
  - http:
      paths:
      - path: /api/chat
        pathType: Prefix
        backend:
          service:
            name: service-ms-websocket
            port:
              number: 8081
      - path: /api/trade
        pathType: Prefix
        backend:
          service:
            name: service-ms-trade
            port:
              number: 8080
      - path: /
        pathType: Prefix
        backend:
          service:
            name: service-ms-front
            port:
              number: 80
```

```yaml
        valueFrom:
          configMapKeyRef:
            name: postgres-config
            key: trade-schema
      - name: REDIS_PASSWORD
        valueFrom:
          secretKeyRef:
            name: redis-credentials
            key: password
      - name: REDIS_PASSWORD
        valueFrom:
          secretKeyRef:
            name: redis-credentials
            key: password
      - name: BUCKET_REGION
        valueFrom:
          secretKeyRef:
            name: bucket-credentials
            key: region
      - name: BUCKET_NAME
        valueFrom:
          secretKeyRef:
            name: bucket-credentials
            key: bucket-name
      - name: BUCKET_KEY
        valueFrom:
          secretKeyRef:
            name: bucket-credentials
            key: key
      - name: BUCKET_SECRET
        valueFrom:
          secretKeyRef:
            name: bucket-credentials
            key: secret
```

O deploy

Geração da imagem

```
Arquivo  Editar  Ver  Pesquisar  Terminal  Ajuda
gabriel@Desktop:~/Faculdade/ms-trade$ docker build -t gabrielbessadev/ms-trade:1.1.3 .
Sending build context to Docker daemon    114MB
Step 1/3 : FROM openjdk:8-jdk-alpine
 ---> a3562aa0b991
Step 2/3 : COPY target/*.jar app.jar
 ---> Using cache
 ---> ab7b61ac888c
Step 3/3 : ENTRYPOINT ["java", "-jar", "/app.jar"]
 ---> Using cache
 ---> 58d9c7180e4e
Successfully built 58d9c7180e4e
Successfully tagged gabrielbessadev/ms-trade:1.1.3
gabriel@Desktop:~/Faculdade/ms-trade$
```

```
Arquivo  Editar  Ver  Pesquisar  Terminal  Ajuda
gabriel@Desktop:~/Faculdade/ms-trade$ docker push gabrielbessadev/ms-trade:1.1.3
The push refers to repository [docker.io/gabrielbessadev/ms-trade]
3f8362ee1d71: Layer already exists
ceaf9e1ebef5: Layer already exists
9b9b7f3d56a0: Layer already exists
f1b5933fe4b5: Layer already exists
1.1.3: digest: sha256:b4d821315ce366fca9403afba2ecfada312f226d4a6e787a9e208f17249bc4
gabriel@Desktop:~/Faculdade/ms-trade$
```

O deploy

Docker hub

gabrielbessadev / **ms-trade**

This repository does not have a description

Last pushed: 2 minutes ago

Tags and Scans

VULNERABILITY SCANNING - **DISABLED**
Enable

This repository contains 18 tag(s).

TAG	OS	PULLED	PUSHED
1.1.3		---	2 minutes ago
1.1.5		---	2 days ago
1.1.4		---	2 days ago
1.1.2		---	4 days ago
1.1.1		4 days ago	4 days ago

See all

gabrielbessadev / **ms-front**

This repository does not have a description

Last pushed: 4 days ago

Tags and Scans

VULNERABILITY SCANNING - **DISABLED**
Enable

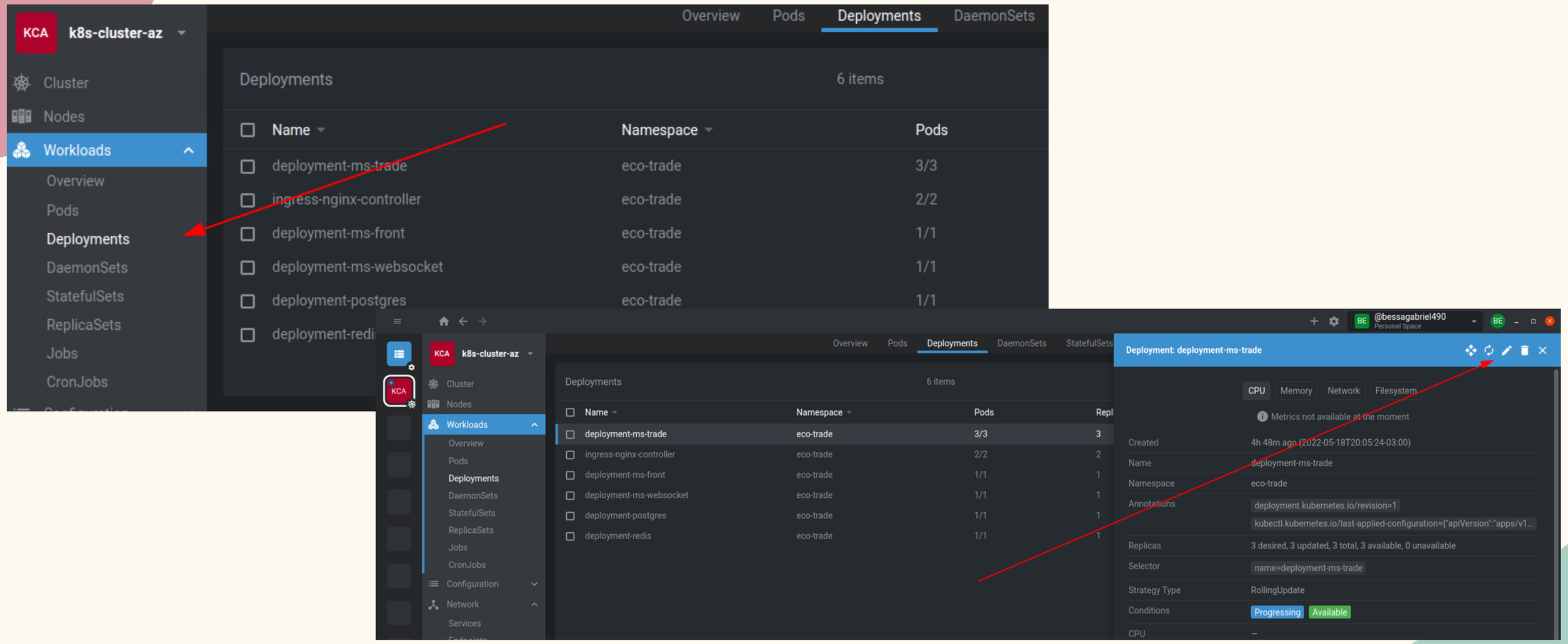
This repository contains 13 tag(s).

TAG	OS	PULLED	PUSHED
1.1.2		4 days ago	4 days ago
1.1.1		4 days ago	4 days ago
1.1.0		---	5 days ago
1.0.10		2 days ago	8 days ago
1.0.9		---	11 days ago

See all

O deploy

Atualização no ambiente



O deploy

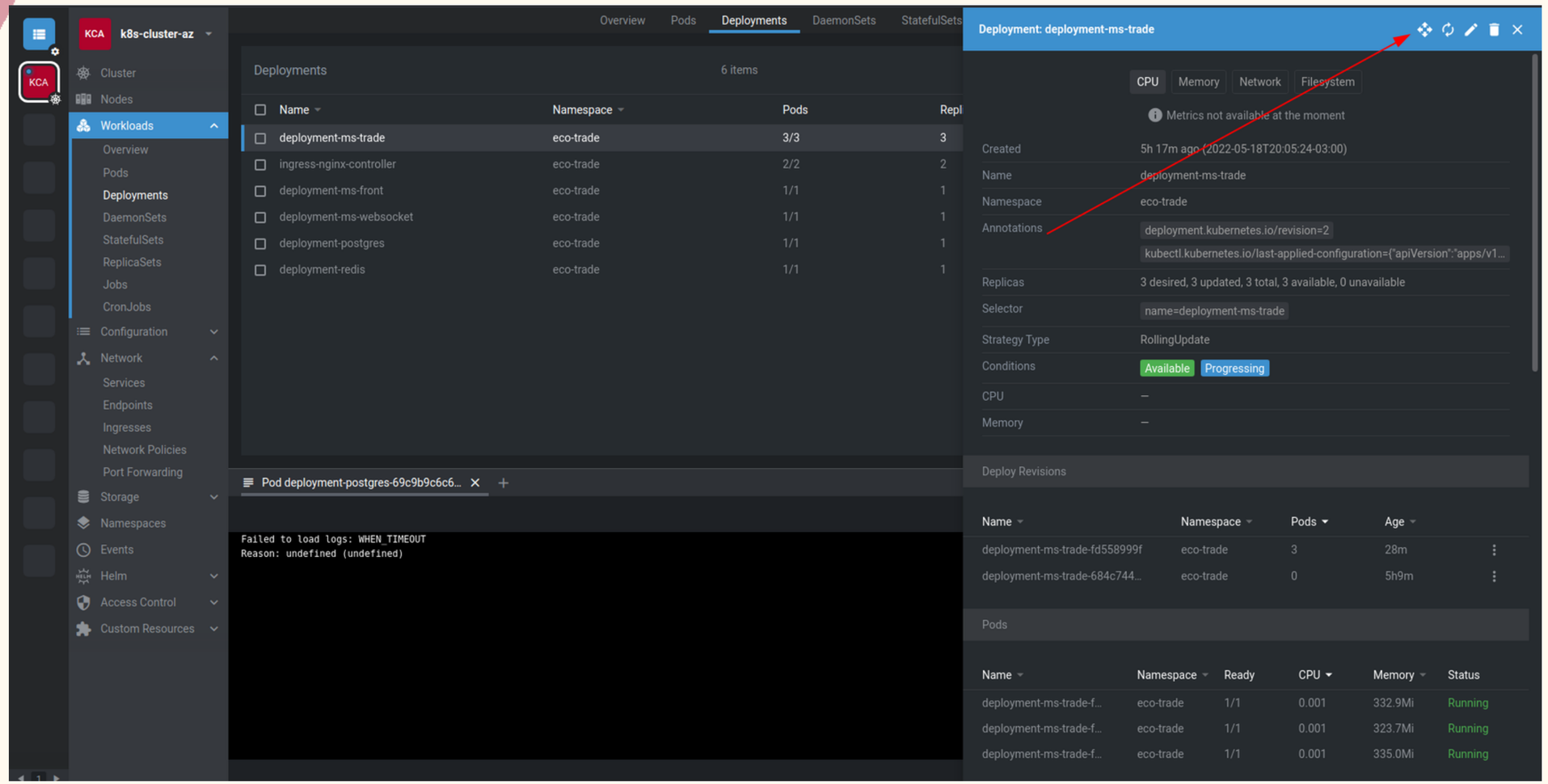
Atualização no ambiente

```yaml
    - type: Available
      status: 'True'
      lastUpdateTime: '2022-05-19T03:12:37Z'
      lastTransitionTime: '2022-05-19T03:12:37Z'
      reason: MinimumReplicasAvailable
      message: Deployment has minimum availability.
spec:
  replicas: 3
  selector:
    matchLabels:
      name: deployment-ms-trade
  template:
    metadata:
      creationTimestamp: null
      labels:
        name: deployment-ms-trade
    spec:
      containers:
        - name: ms-trade
          image: gabrielbessadev/ms-trade:1.1.0
          ports:
            - containerPort: 8080
              protocol: TCP
          env:
            - name: DB_URL
              value: service-postgres
            - name: SPRING_DATASOURCE_USERNAME
              valueFrom:
                secretKeyRef:
```

Name	Namespace	Containers	Restarts	Controlled By	Node	QoS	Age	Status
deployment-ms-front-6d478cf4d9-jc647	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	4h30m	Running
deployment-ms-trade-684c7446db-wwrrs	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	42m	Terminating
deployment-ms-trade-fd558999f-6mv28	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	5s	Running
deployment-ms-trade-fd558999f-bkl8b	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	3s	Running
deployment-ms-trade-fd558999f-q8shg	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	12s	Running
deployment-ms-websocket-6cf48d7fdb-8c2mp	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	42m	Running
deployment-postgres-9bf4d7848-d2l86	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	4h30m	Running
deployment-redis-6d59bd8d76-4jpx4	eco-trade		0	ReplicaSet	aks-agentpool-2002448	BestEffort	4h30m	Running

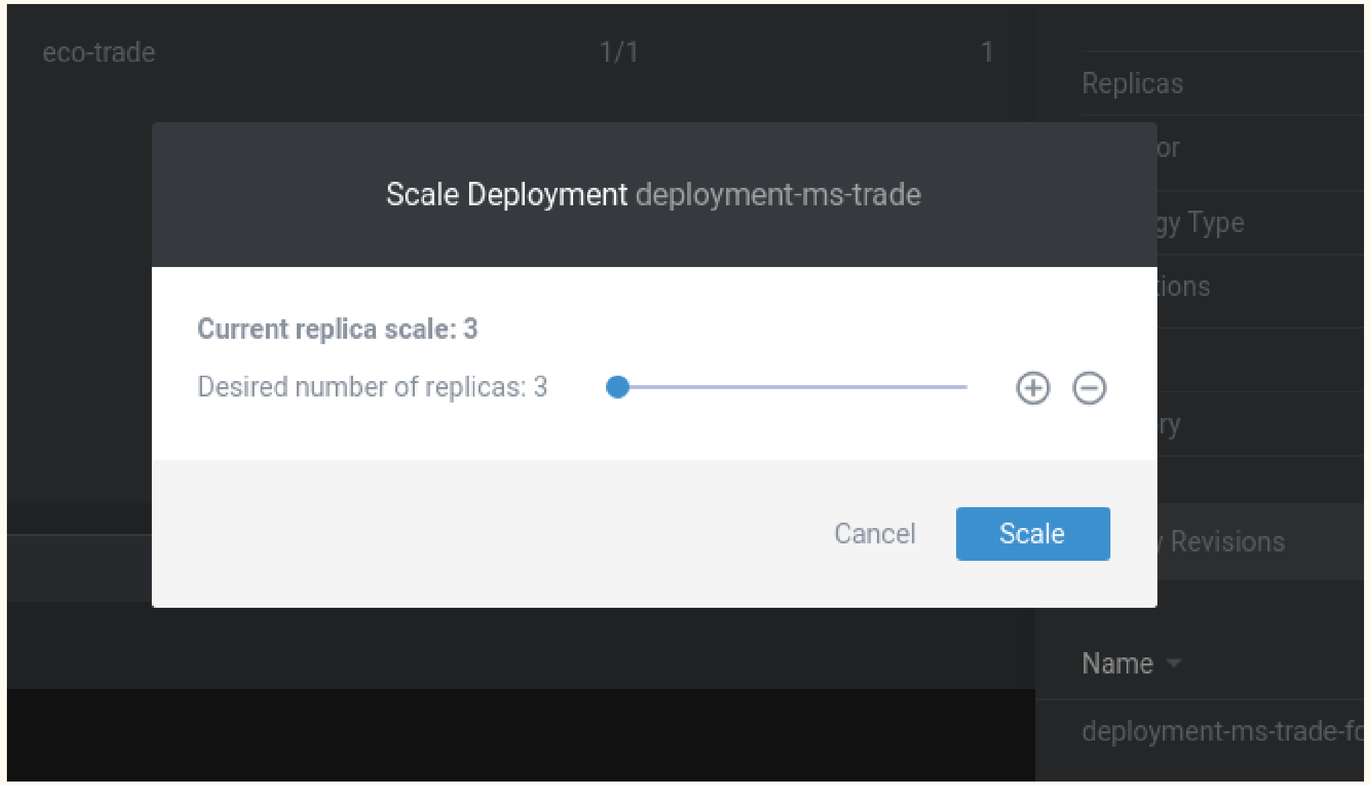
Escalando

Escalando o ambiente



Escalando

Escalando o ambiente



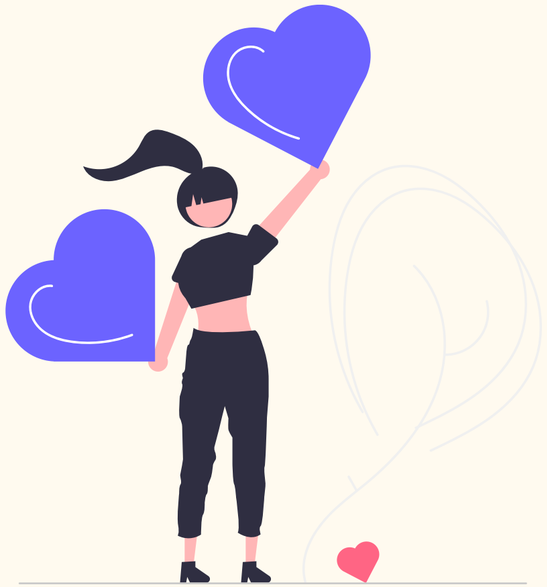
O cluster em real time

Usuário: apresentacao@gmail.com
Senha: apresentacao@2022

Referências

https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/docs/vmware-kubernetes-up-running-dive-into-the-future-of-infrastructure.pdf

Dúvidas?



Obrigado!!!

kubernetes