

# Aplicativo web de auxílio à navegação aérea

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# Outline

1 Introdução

2 Arquitetura

3 Projeto

4 Teste de carga

5 Conclusão

# Introdução



Figure: Flight Bag (Wikimedia CC BY-SA 2.0)

# Introdução



Figure: Flight Bag (Wikimedia CC BY-SA 2.0)

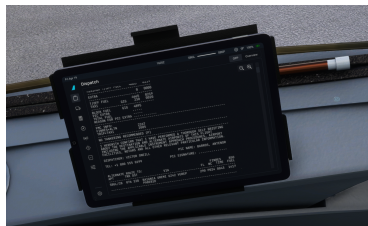


Figure: Electronic Flight Bag  
MSFS2020 / FlyByWire  
Simulations

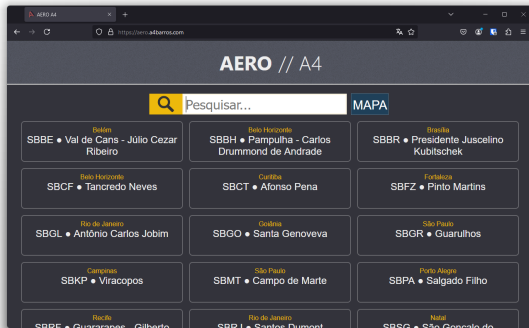
# Introdução

## ■ Simulação de voo

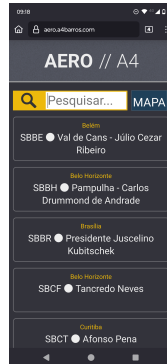
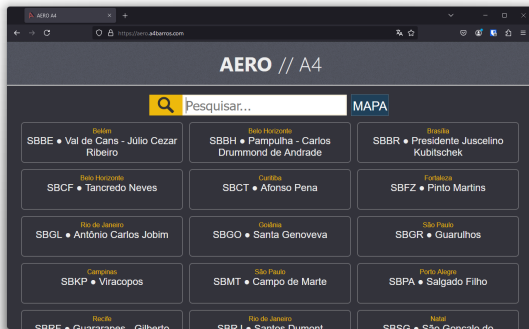
# Introdução

- Simulação de voo
- AISWEB, METAR-TAF, SIGMET

## UI










## UI





# Servidor

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 ORACLE Cloud Cloud Classic >  Brazil East (Sao Paulo) ▾     

Compute

Overview

**Instances**

Instance Maintenance

Dedicated Virtual Machine Hosts

Instance Configurations

Instance Pools

Cluster Networks

Compute Clusters

Autoscaling Configurations

Capacity Reservations

Custom Images

## Instances *in a4server (root) compartment*


An [instance](#) is a compute host. Choose between virtual machines (VMs) and bare metal instances. The image that you use to launch an instance determines its operating system and other software.

Create instance

Actions ▾

<input type="checkbox"/>	Name	State	Public IP	Private IP	Shape	OCPU count	Memory (GB)	Availability domain
<input type="checkbox"/>	<a href="#">a4metal</a> <small>Always Free</small>	<span>●</span> Running	167.234.237.41	10.0.1.138	VM.Standard.E2.1.Micro	1	1	AD-1
<input type="checkbox"/>	<a href="#">a4server</a> <small>Always Free</small>	<span>●</span> Running	164.152.43.215	10.0.0.94	VM.Standard.E2.1.Micro	1	1	AD-1

0 selected Showing 2 items < 1 of 1 >



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# Arquitetura

## ■ Docker/Docker Compose

# Arquitetura

- Docker/Docker Compose
- Banco: MariaDB

# Arquitetura

- Docker/Docker Compose
- Banco: MariaDB
- Backend: Flask FastAPI

# Arquitetura

- Docker/Docker Compose
- Banco: MariaDB
- Backend: Flask FastAPI
- Frontend: Jinja2

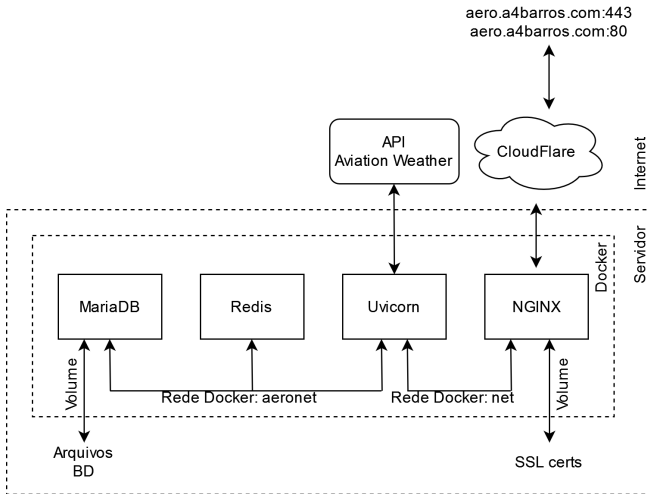
# Arquitetura

- Docker/Docker Compose
- Banco: MariaDB
- Backend: Flask FastAPI
- Frontend: Jinja2
- Observabilidade: GoAccess

# Arquitetura

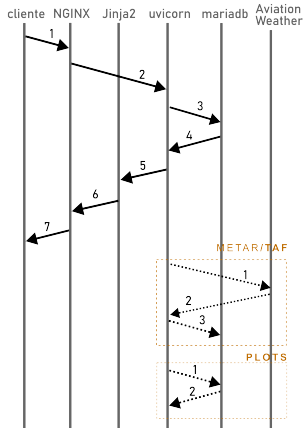
- Docker/Docker Compose
- Banco: MariaDB
- Backend: Flask FastAPI
- Frontend: Jinja2
- Observabilidade: GoAccess
- Outros subdomínios

# Diagrama da arquitetura

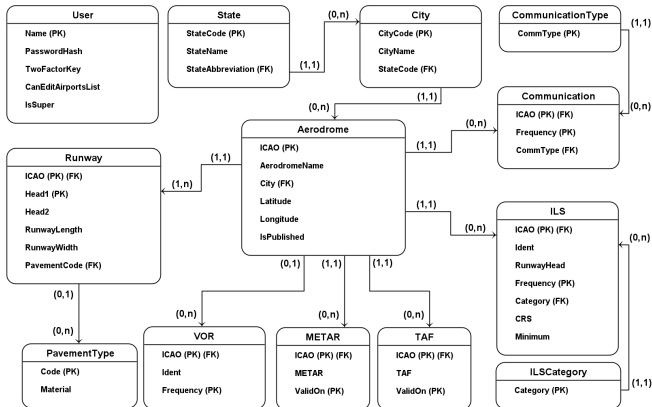




# Diagrama de tempo



# Tabelas



# METAR

221300Z 04008KT 9000 FEW020 BKN100 30/23 Q1012

221300Z	METAR válido para dia 22 as 13:00 (UTC)
04008KT	Vento proa <b>040°</b> com velocidade <b>08</b> nós (kt).
9000	Visibilidade 9000 metros.
FEW020	Poucas nuvens (1/8 a 2/8 do céu com nuvens) em <b>2000</b> pés de altitude.
BKN100	Nuvens broken (5/8 a 7/8 do céu com nuvens) em <b>10000</b> pés de altitude.
30/23	Temperatura <b>30°C</b> e ponto de orvalho <b>23°C</b> .
Q1012	O altímetro deve ser ajustado para <b>1012</b> hPa (29.88 inHg)

# TAF

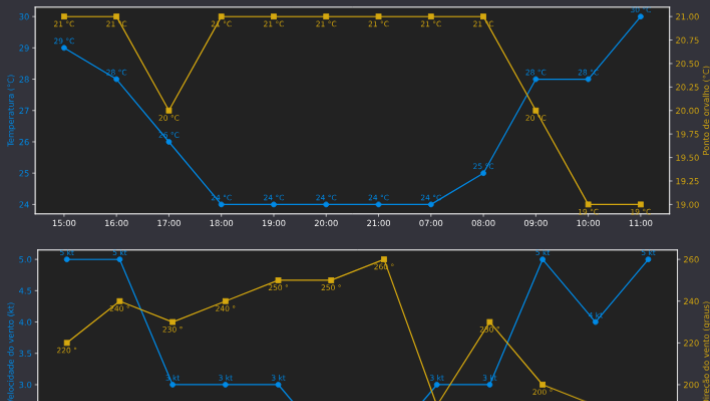
220859Z 2212/2312 06006KT 9999 SCT040 TX34/2217Z TN24/2309Z  
BECMG 2215/2217 34013KT SCT040 FEW045TCU  
TEMPO 2220/2222 TS SCT030 FEW035CB  
BECMG 2222/2224 04008KT CAVOK  
BECMG 2310/2312 SCT020 RMK PGX

220859Z	Disponibilizado em 08:59Z no dia 22
2212/2312	Válido do dia 22 as 12:00Z até dia 23 as 12:00Z
06006KT	Vento proa 060° com velocidade 06 nós (kt).
9999	Visibilidade 9999 metros
SCT040	Nuvens espalhadas (3/8 a 4/8 do céu com nuvens) em 4000 pés de altitude.
TX34/2217Z	A temperatura máxima é de 34°C prevista de ocorrer dia 22 as 17:00 (UTC)
TN24/2309Z	A temperatura mínima é de 24°C prevista de ocorrer dia 23 as 09:00 (UTC)
BECMG 2215/2217 ▲	Condições previstas do dia 22 as 15:00 (UTC) até dia 22 as 17:00 (UTC)
34013KT	Vento proa 340° com velocidade 13 nós (kt).
SCT040	Nuvens espalhadas (3/8 a 4/8 do céu com nuvens) em 4000 pés de altitude.
FEW045TCU	Poucas nuvens (1/8 a 2/8 do céu com nuvens) em 4500 pés de altitude. <b>Atenção:</b> nuvens de grande extensão vertical.
TEMPO 2220/2222 ▼	Condições temporárias previstas do dia 22 as 20:00 (UTC) até dia 22 as 22:00 (UTC)

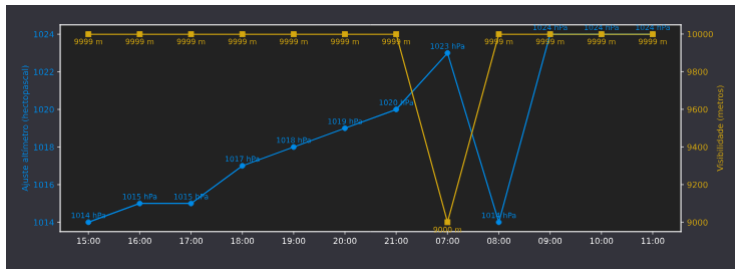
# Histórico

## SBJR // Jacarepaguá - Roberto Marinho

&lt; Voltar

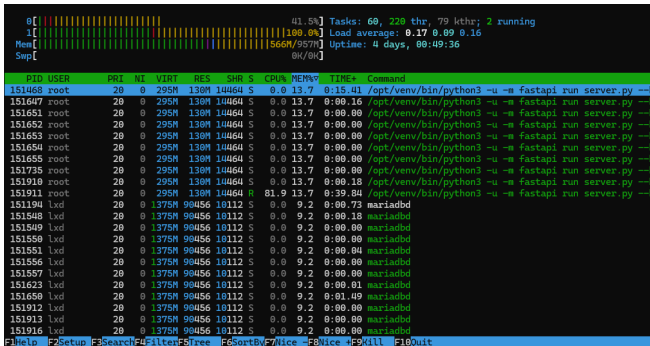


# Histórico



# Uso de recursos

- 500 acessos simultâneos (usando Locust)



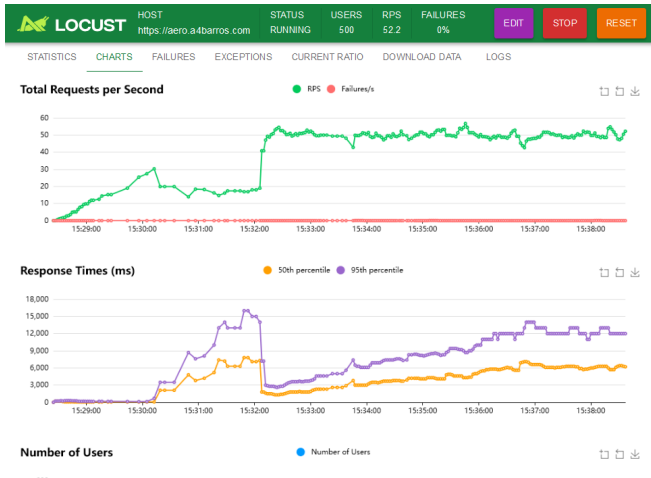
# Sem cache

Modo desenvolvedor CloudFlare



# Sem cache

## Modo desenvolvedor CloudFlare

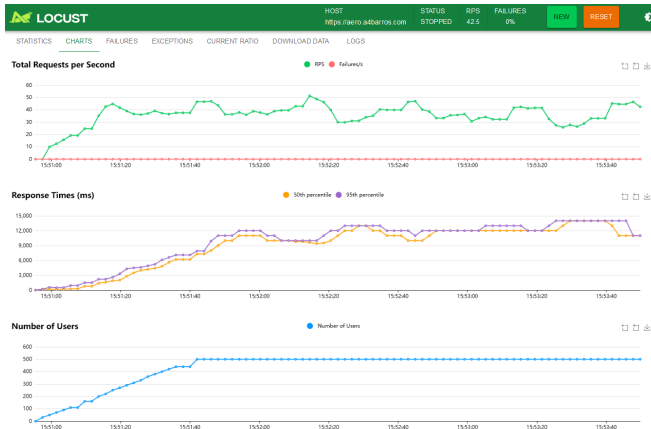


# Cache Redis

Decorator Python `cache_it`

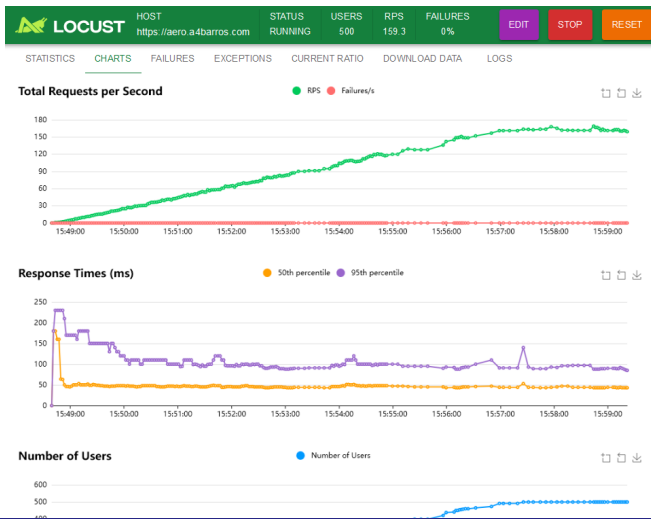
# Cache Redis

## Decorator Python cache\_it



# Cache NGINX

# Cache NGINX



# Demonstração

`https://aero.a4barros.com`

# Obrigado

# Obrigado!

Perguntas?