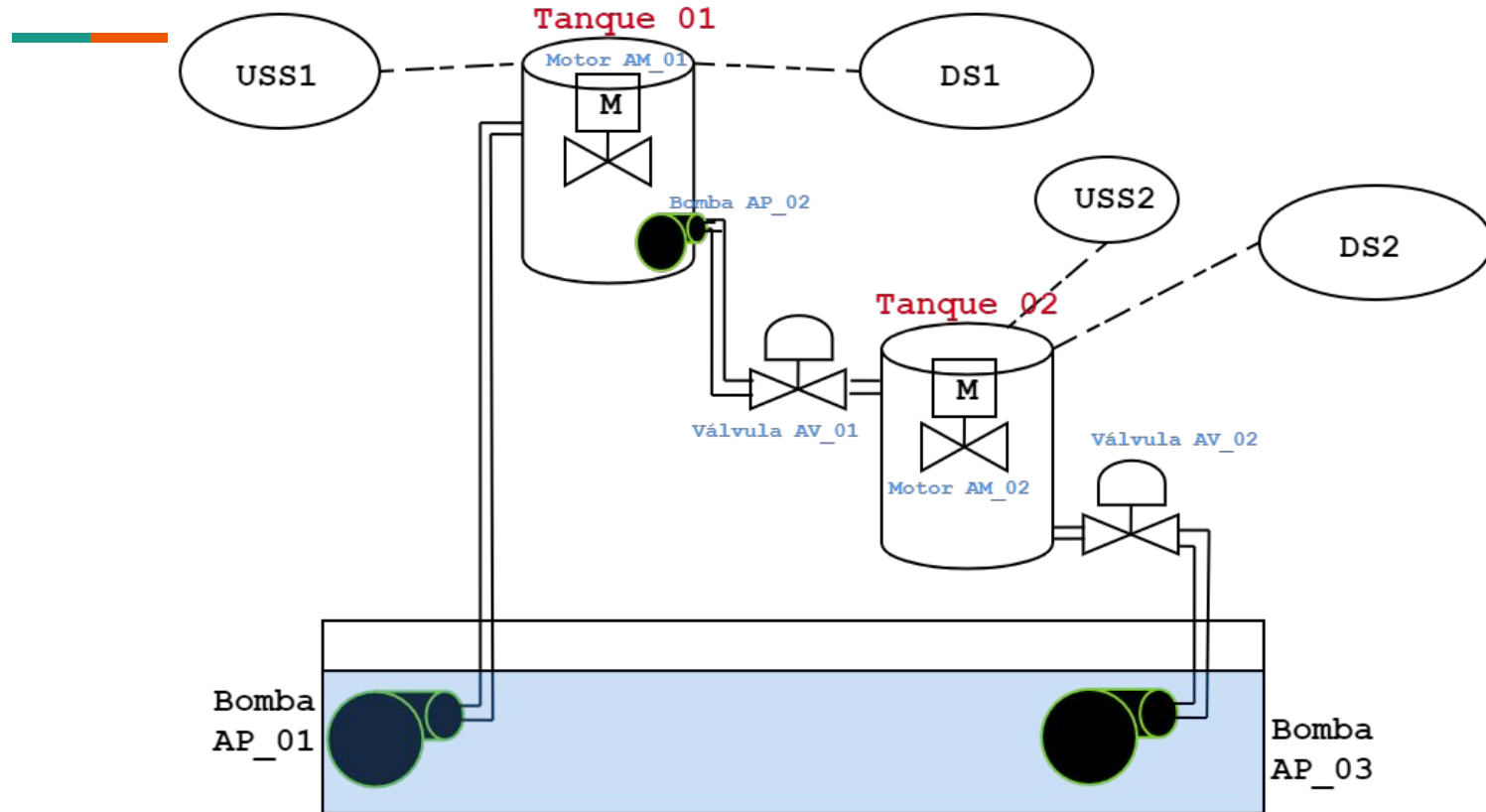




Trabalho Integrado LDDM.

Alberto Magno , Bruno Bitencourt e Oscar Dias

Processo industrial de tanques



Sensores e Atuadores

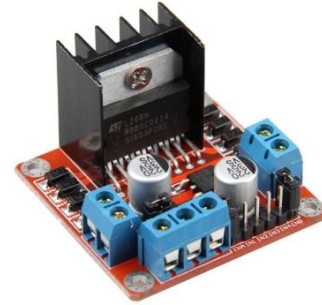
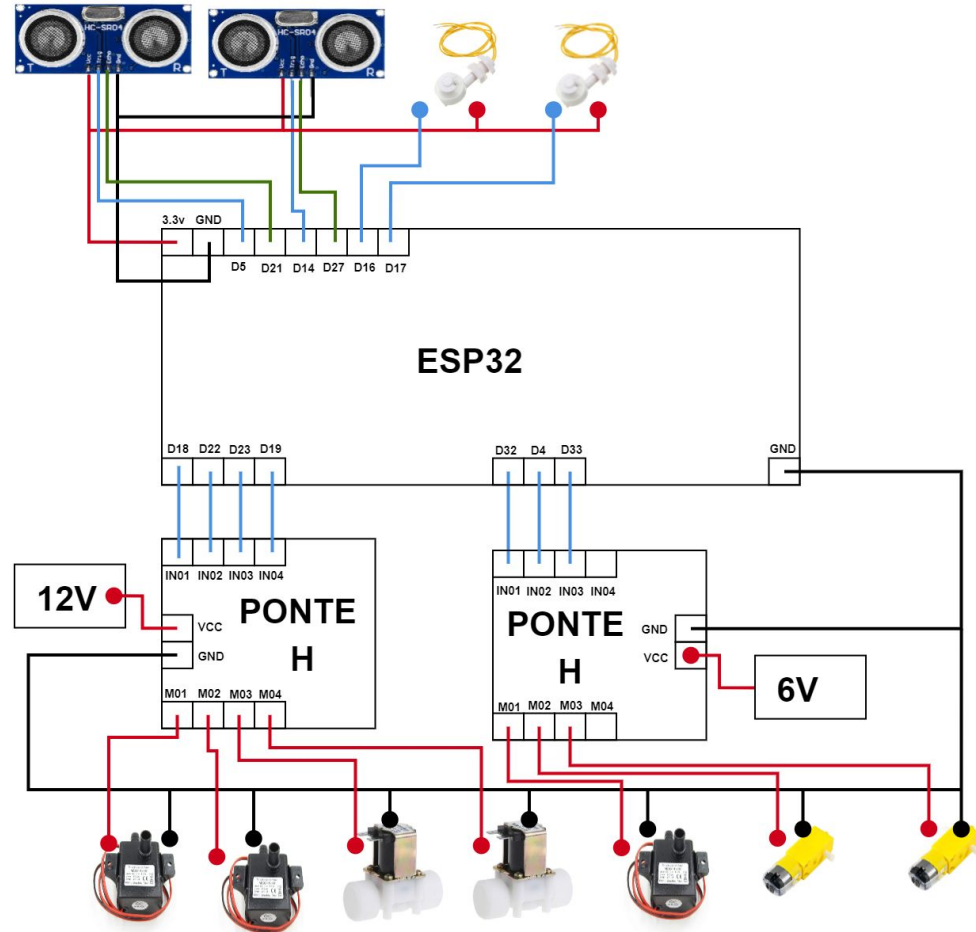
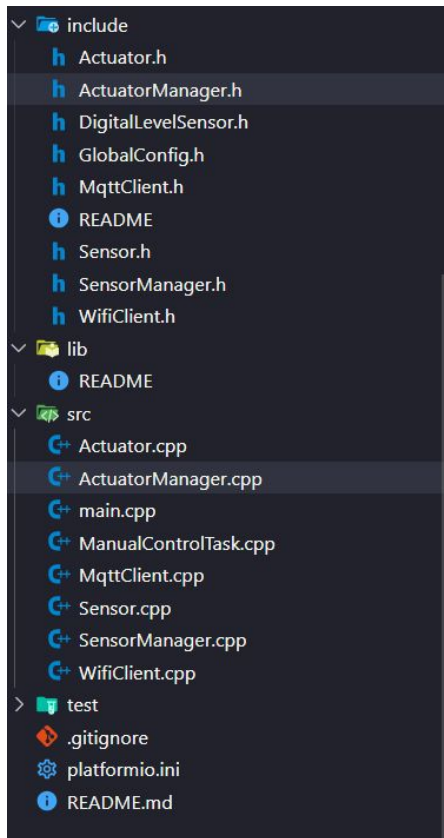


Diagrama Eléctrico



Projeto Plataforma IO



Classes



Actuator
+ id: string
+ description: string
+ type: int
+ outputPin: int
+ state: int
+ pwmOutput: int

ActuatorManager
+ vector<Actuator*> actuators;: vector
+ mqttClient: MqttClient*
+ actuatorQueue: QueueHandle_t

MqttClient
+ espClient: WiFiClient
+ mqttClient: PubSubClient
+ broker: const char*
+ port: int
+ mqttId: const char*

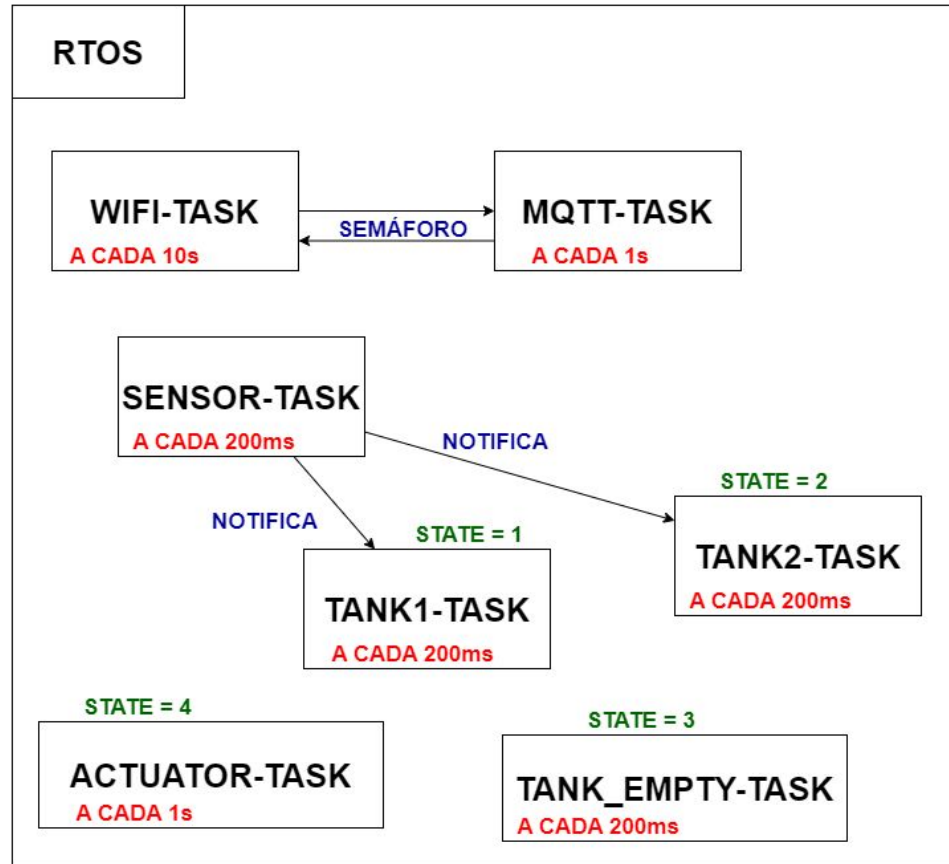
MqttClient
+ espClient: WiFiClient
+ mqttClient: PubSubClient
+ broker: const char*
+ port: int
+ mqttId: const char*

Sensor
+ id: string
+ description: string
+ type: int
+ outputPin1: int
+ outputPin1: int
+ analogValue: double
+ digitalValue: bool
+ timeStamp: longt

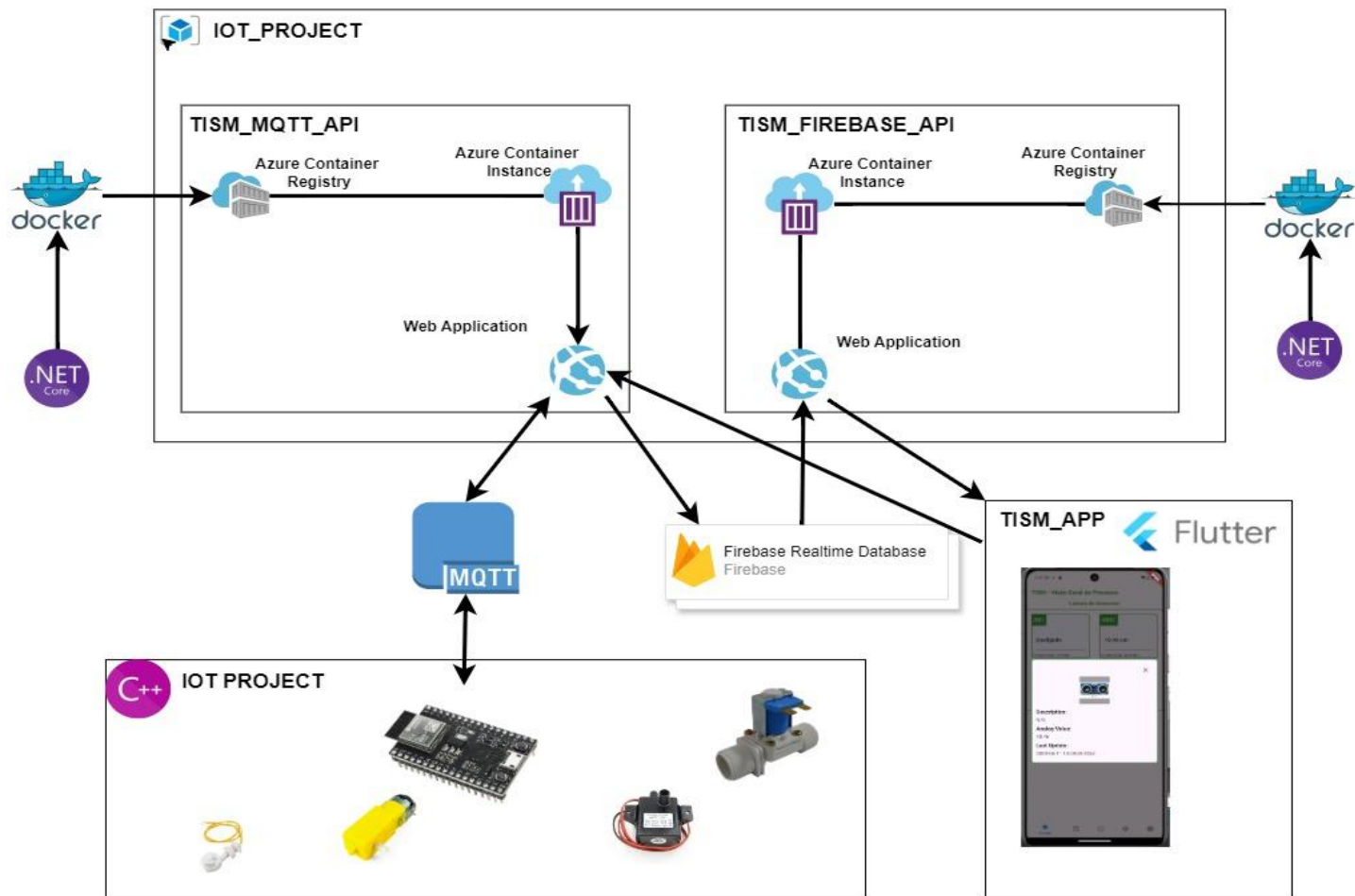
SensorManager
+ vector<Sensor*> sensors;: vector
+ mqttClient: MqttClient*
+ sensorQueue: QueueHandle_t

MqttClient
+ ssid: string
+ password: string
+ connected: bool
+ reconnecting: bool
+ wifiSemaphore: SemaphoreHandle_t
+ espClient: WiFiClientSecure

Sistema de Tempo Real (RTOS)



ARQUITETURA



AZURE DEVOPS - Resource Group

iot_project
Resource group

Search

+ Create Manage view Delete resource group Refresh Export to CSV Open query Assign tags Move

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

Events

Settings

Deployments

Security

Deployment stacks

Policies

Properties

Locks

Cost Management

Cost analysis

Cost alerts (preview)

Budgets

Essentials

Resources Recommendations

Filter for any field... Type equals all Location equals all Add filter

Showing 1 to 8 of 8 records. Show hidden types No grouping List view

Name	Type	Location
ASP-iotproject-9bfb	App Service plan	East US
ASP-iotproject-bbf9	App Service plan	Brazil South
citismfirebase	Container instances	Brazil South
citismmqtt	Container instances	Brazil South
crmqt	Container registry	Brazil South
crtismfirebase	Container registry	Brazil South
tismfirebase	App Service	Brazil South
tismmqtt	App Service	East US

< Previous Page 1 of 1 Next >

Give feedback

AZURE DEVOPS - Azure Container Registry

The screenshot displays the Azure Portal interface for an Azure Container Registry (ACR) instance named 'crtismfirebase'. The breadcrumb navigation at the top shows 'Home > iot_project > crtismfirebase'. The left-hand navigation pane is expanded to show the 'Overview' section, which includes links to 'Activity log', 'Access control (IAM)', 'Tags', 'Quick start', 'Events', 'Settings', and 'Services'. The 'Settings' section is further expanded, showing 'Access keys', 'Encryption', 'Identity', 'Networking', 'Microsoft Defender for Cloud', 'Properties', 'Locks', and 'Webhooks'. The main content area is titled 'Essentials' and provides key information about the registry: 'Resource group (move) : iot_project', 'Location : Brazil South', 'Subscription (move) : Azure for Students', 'Subscription ID : 69098a15-f75b-4d8f-ba8c-7bfbf354c645', 'Soft delete (Preview) : Disabled', 'Tags (edit) : Add tags', 'Login server : crtismfirebase.azurecr.io', 'Creation date : 6/10/2024, 12:46 PM GMT-3', 'Provisioning state : Succeeded', and 'Pricing plan : Basic'. A 'JSON View' link is available in the top right corner. Below the 'Essentials' section, there are four tabs: 'Get started' (selected), 'Monitoring', 'Capabilities (9)', and 'Tutorials'. The 'Get started' tab contains a heading 'Simplify container lifecycle management' and a paragraph explaining that container registry allows building, storing, and managing container images and artifacts in a private registry for all types of container deployments, with a 'Learn more' link. At the bottom of the page, there are three action buttons: 'Push a Container Image' (with a cloud and lightning bolt icon), 'Manage your access controls' (with a key icon), and 'Deploy a container image' (with a blue cube icon).

Home > iot_project > crtismfirebase
Container registry

Search

Move Delete

Overview

Activity log

Access control (IAM)

Tags

Quick start

Events

Settings

Access keys

Encryption

Identity

Networking

Microsoft Defender for Cloud

Properties

Locks

Services

Repositories

Webhooks

Essentials

Resource group (move) : iot_project

Location : Brazil South

Subscription (move) : Azure for Students

Subscription ID : 69098a15-f75b-4d8f-ba8c-7bfbf354c645

Soft delete (Preview) : Disabled

Tags (edit) : Add tags

Login server : crtismfirebase.azurecr.io

Creation date : 6/10/2024, 12:46 PM GMT-3

Provisioning state : Succeeded

Pricing plan : Basic

JSON View

Get started Monitoring Capabilities (9) Tutorials

Simplify container lifecycle management

Container registry allows you to build, store, and manage container images and artifacts in a private registry for all types of container deployments. [Learn more](#)

Push a Container Image

Manage your access controls

Deploy a container image

AZURE DEVOPS - Container Instance

The screenshot displays the Azure portal interface for a Container Instance. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Settings (Containers, Identity, Properties, Locks), Monitoring (Metrics, Alerts), and Automation (CLI / PS, Tasks (preview), Export template). The main content area shows the 'Essentials' tab for the 'citismfirebase' instance. Key details include: Resource group (iot_project), Status (Running), Location (Brazil South), Subscription (Azure for Students), and Subscription ID (69098a15-f75b-4d8f-ba8c-7bfbf354c645). Performance metrics for CPU and Memory are shown as line graphs over time, with CPU usage at 0% and memory usage at 103.86MB.

Home > iot_project > citismfirebase
Container instances

Search

Start Restart Stop Delete Refresh Give feedback

Overview

- Activity log
- Access control (IAM)
- Tags

Settings

- Containers
- Identity
- Properties
- Locks

Monitoring

- Metrics
- Alerts

Automation

- CLI / PS
- Tasks (preview)
- Export template

Essentials [JSON View](#)

Resource group ([move](#)) : [iot_project](#) SKU : Standard

Status : Running OS type : Linux

Location : Brazil South IP address (Public) : 20.201.66.167

Subscription ([move](#)) : [Azure for Students](#) FQDN : citismfirebase.gsdpcfwcjhdagan.brazilsouth.azurecont...

Subscription ID : 69098a15-f75b-4d8f-ba8c-7bfbf354c645 Container count : 1

Tags ([edit](#)) : [Add tags](#)

CPU

100
80
60
40
20
0

1:45 PM 2 PM 2:15 PM 2:30 PM UTC-03:00

CPU Usage (Avg), citismfirebase | 0

Memory

100MB
80MB
60MB
40MB
20MB
0B

1:45 PM 2 PM 2:15 PM 2:30 PM UTC-03:00

Memory Usage (Avg), citismfirebase | 103.86MB

AZURE DEVOPS - Web App

The screenshot displays the Azure portal interface for a Web App named 'tismfirebase'. The left sidebar contains a navigation menu with categories: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Better Together (preview), Log stream, Deployment, Deployment slots, Deployment Center, Performance, Load Testing, and Settings. The main content area is titled 'tismfirebase Web App' and includes a search bar and a toolbar with actions like Browse, Stop, Swap, Restart, Delete, Refresh, Download publish profile, Reset publish profile, and Share to mobile. The 'Essentials' section provides key information: Resource group (iot_project), Status (Running), Location (Brazil South), Subscription (Azure for Students), and Subscription ID (69098a15-f75b-4d8f-ba8c-7bfbf354c645). The 'Properties' tab is selected, showing details for the Web app, including Name (tismfirebase), Publishing model (Container), and Container Image (crtismfirebase.azurecr.io/tismfirebase:latest). The 'Domains' section shows the Default domain (tismfirebase.azurewebsites.net) and an option to Add custom domain.

Home > **tismfirebase** Web App

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Better Together (preview)

Log stream

Deployment

Deployment slots

Deployment Center

Performance

Load Testing

Settings

Environment variables

Essentials

Resource group (...) : [iot_project](#)

Status : Running

Location ([move](#)) : Brazil South

Subscription ([move](#)) : [Azure for Students](#)

Subscription ID : 69098a15-f75b-4d8f-ba8c-7bfbf354c645

Tags ([edit](#)) : [Add tags](#)

Default domain : [tismfirebase.azurewebsites.net](#)

App Service Plan : [ASP-iotproject-bbf9 \(F1: 1\)](#)

Operating System : Linux

Health Check : [Not Configured](#)

[JSON View](#)

Properties Monitoring Logs Capabilities Notifications Recommendations

Web app

Name : tismfirebase

Publishing model : Container

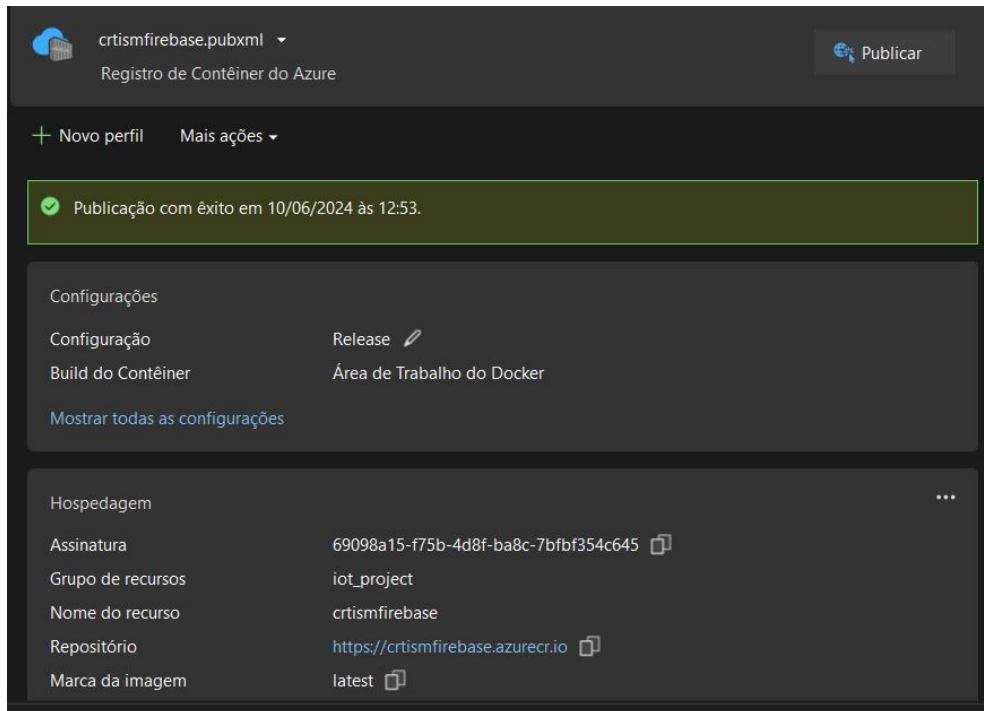
Container Image : crtismfirebase.azurecr.io/tismfirebase:latest

Domains

Default domain : [tismfirebase.azurewebsites.net](#)

Custom domain : [Add custom domain](#)

AZURE DEVOPS - Publicação do Container



The screenshot displays the Azure DevOps interface for a container registry named 'crtismfirebase.pubxml'. The top bar includes the registry name and a 'Publicar' button. Below this, a green notification bar indicates a successful publication on 10/06/2024 at 12:53. The main content area is divided into two sections: 'Configurações' and 'Hospedagem'. The 'Configurações' section lists 'Configuração', 'Release', 'Build do Contêiner', and 'Área de Trabalho do Docker', with a link to 'Mostrar todas as configurações'. The 'Hospedagem' section lists various attributes: 'Assinatura', 'Grupo de recursos', 'Nome do recurso', 'Repositório', and 'Marca da imagem', each with its corresponding value and a copy icon.

crtismfirebase.pubxml
Registro de Contêiner do Azure

Publicar

+ Novo perfil Mais ações

✓ Publicação com êxito em 10/06/2024 às 12:53.

Configurações

Configuração Release
Build do Contêiner Área de Trabalho do Docker
[Mostrar todas as configurações](#)

Hospedagem

Assinatura	69098a15-f75b-4d8f-ba8c-7bfbf354c645
Grupo de recursos	iot_project
Nome do recurso	crtismfirebase
Repositório	https://crtismfirebase.azurecr.io
Marca da imagem	latest

API MQTT



Select a definition

TISM_MQTT v1

TISM_MQTT 1.0 OAS 3.0

<https://tismmqtt.azurewebsites.net/swagger/v1/swagger.json>

Firestore



POST /api/Firebase/actuator



POST /api/Firebase/actuator_data



POST /api/Firebase/sensor



POST /api/Firebase/sensor_data



Mqtt




POST /api/Mqtt/publish



POST /api/Mqtt/subscribe



API FIREBASE

 **Swagger**
powered by SMARTBEAR

Select a definition **TISM_FIREBASE v1**

TISM_FIREBASE 1.0 OAS 3.0
<https://tismfirebase.azurewebsites.net/swagger/json>

Actuator ^

GET

/api/Actuator

▼

POST

/api/Actuator

▼

DELETE

/api/Actuator/id

▼

ActuatorData ^

GET

/api/ActuatorData

▼

POST

/api/ActuatorData

▼

GET

/api/ActuatorData/lastValue/{id}

▼

GET

/api/ActuatorData/lastValues

▼

Sensor ^

GET

/api/Sensor

▼

POST

/api/Sensor

▼

SensorData ^

GET

/api/SensorData

▼

POST

/api/SensorData

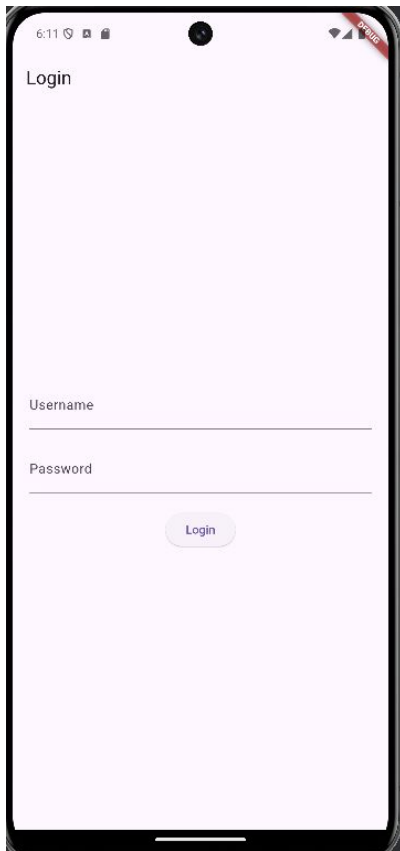
▼

GET

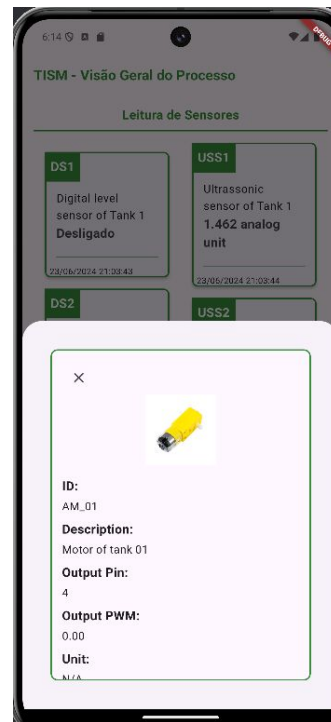
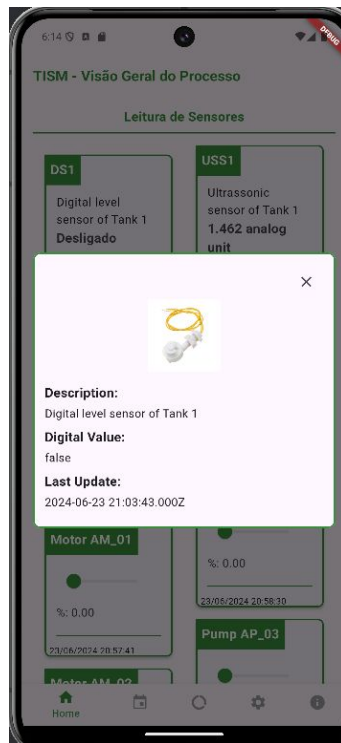
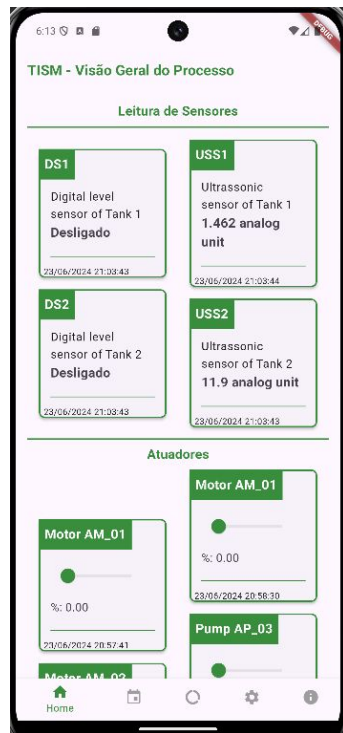
/api/SensorData/lastValue/{id}

▼

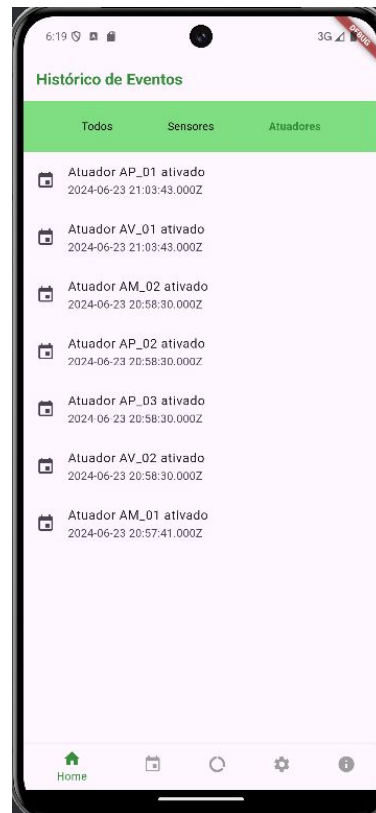
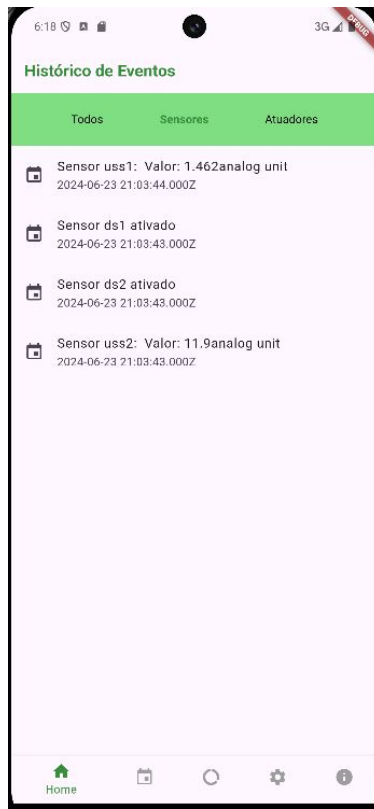
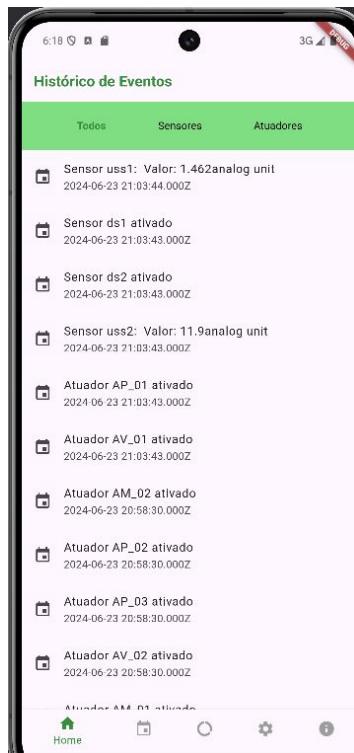
Aplicativo em Flutter



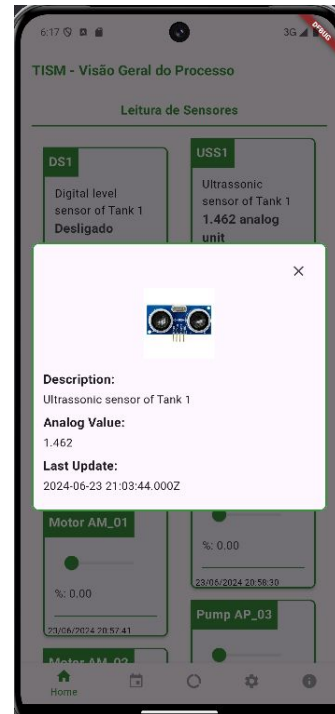
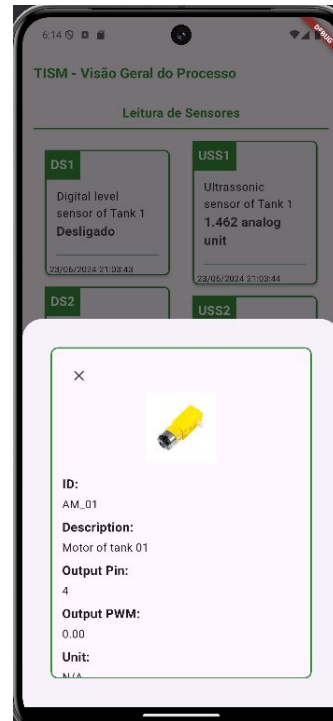
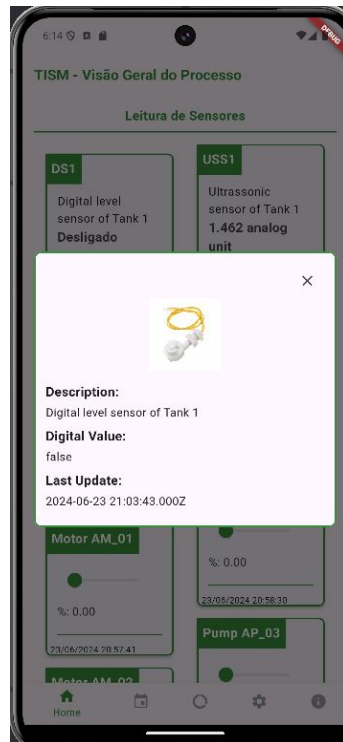
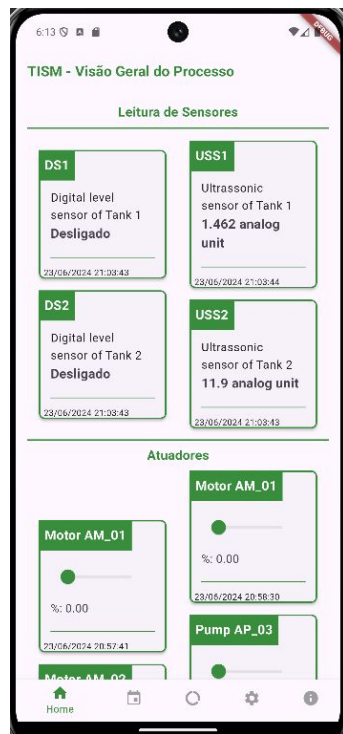
Aplicativo em Flutter



Aplicativo em Flutter



Aplicativo em Flutter





OBRIGADO !

https://github.com/Magno-AI/TISM_App/tree/master
by: Alberto Magno & Bruno Bitencourt



PUC Minas