



PSI3541 2023

SISTEMAS EMBARCADOS DISTRIBUIDOS

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ATIVIDADE 3.1 AZURE IOT CENTRAL

PROF. SERGIO TAKEO KOFUJI - KOFUJI@USP.BR

OBJETIVO

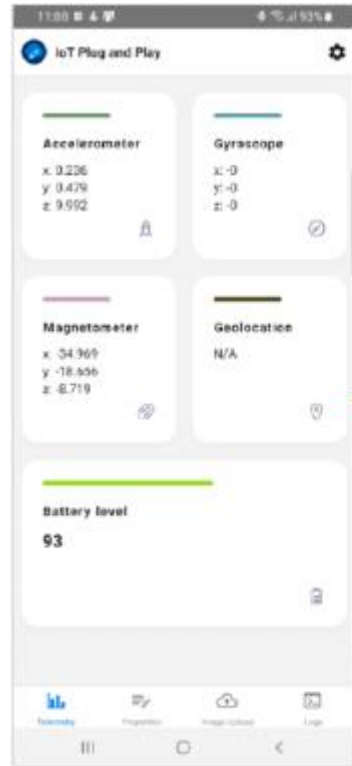
- CRIAR UMA APLICAÇÃO SIMPLES DE IOT PARA MONITORAMENTO USANDO
 - A PLATAFORMA AZURE IOT CENTRAL E
 - UM SMARTPHONE COMO DISPOSITIVO IOT

ROTEIRO

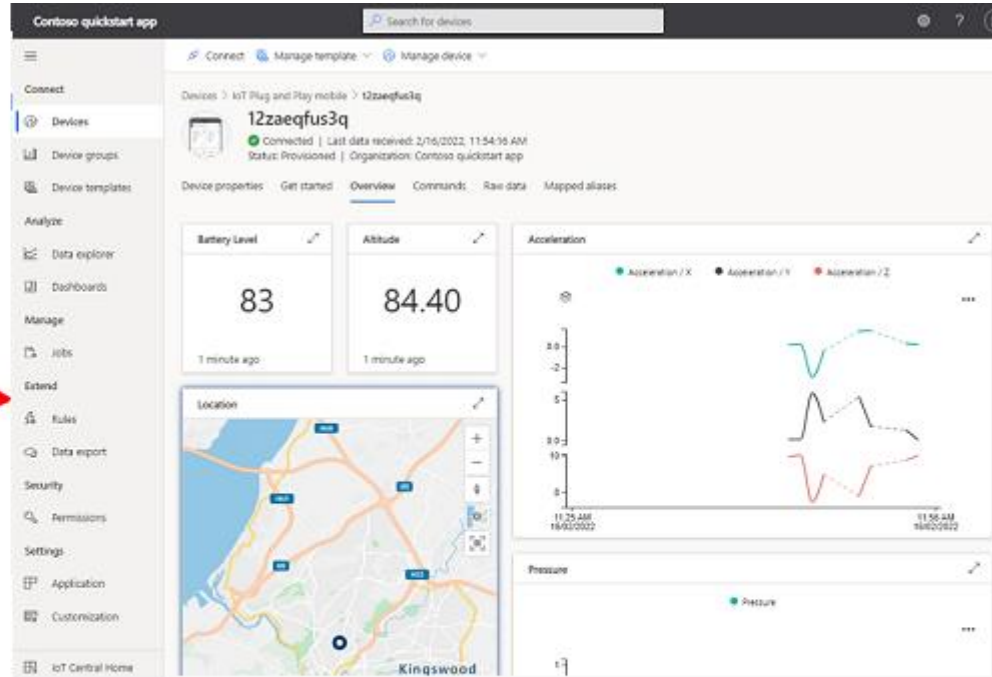
- [SEGUIR O ROTEIRO](#)

- <https://learn.microsoft.com/pt-br/azure/iot-central/core/quick-deploy-iot-central>
- Criar um aplicativo do IoT Central.
- Registrar um novo dispositivo no aplicativo.
- Conectar um dispositivo ao aplicativo e exiba a telemetria que ele envia.
- Controlar o dispositivo do aplicativo
- Limpar os recursos.

APLICAÇÃO DE MONITORAMENTO



Smartphone app



IoT Central Application

PRÉ-REQUISITOS

- Uma conta do Azure com uma assinatura ativa.
- Um smartphone Android ou iOS no qual você possa instalar um aplicativo gratuito de uma das lojas de aplicativos oficiais.



Criar um aplicativo

- Vá para o site do Azure IoT Central. Entre na sua conta Microsoft Azure
- <https://apps.azureiotcentral.com/home>



Azure IoT Central



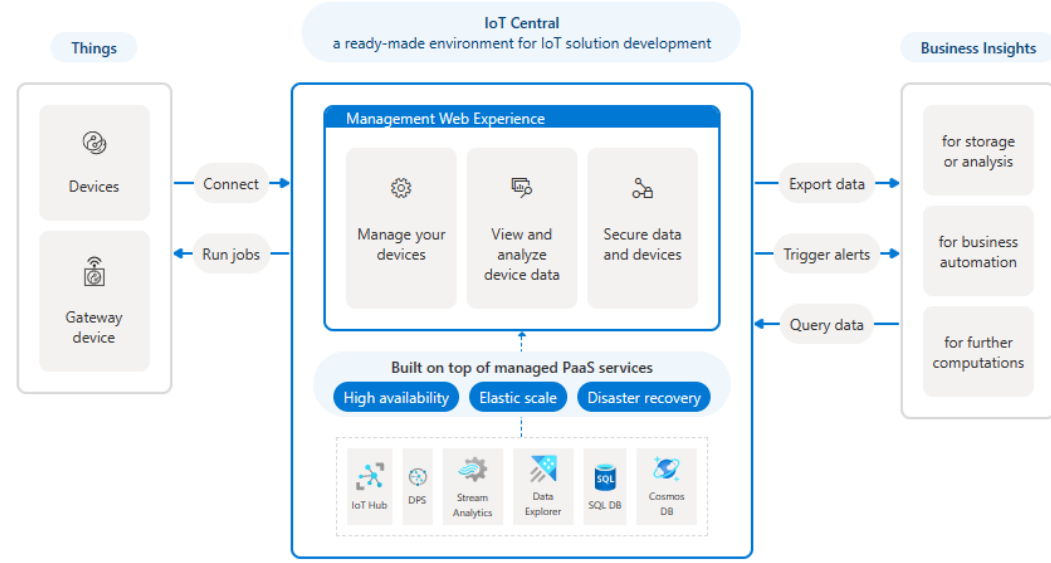
- Home
- Build
- My apps

Architecture

IoT Central gives you a **ready to use UI and API surface** built to connect, manage, and operate fleets of devices at scale.

All the power of PaaS services, operated and managed for you.

[IoT Central architectural concepts >](#)



Connect your devices

Three ways to get connected

Connect your phone and go from zero to live data in five minutes with our app. Or get started with Azure Certified Devices that serve up the telemetry you need. Want something truly custom? Let us help you create your own device.

Five minutes to live data

Five minutes to live data


An app, a cell phone, and five minutes are all you need to start for free.

Explore IoT Central using your phone as an IoT device – see telemetry in a device dashboard, configure which sensors are enabled, and send a



Build your IoT application

Featured




Custom app
Create a custom application to build a unique solution for your business using powerful tools to connect, monitor, and manage your IoT data.

[Create app](#)
[Learn more](#)




[Retail](#) [Energy](#) [Government](#) [Healthcare](#)




Connected logistics
Track your shipment in real-time across air, water and land with location and condition monitoring.

[Create app](#)
[Learn more](#)




Digital distribution center
Improve warehouse output efficiency by digitalizing key assets and actions.

[Create app](#)
[Learn more](#)




In-store analytics – condition monitoring
Digitally connect and monitor your store environment to reduce operating costs and create experiences that customers love.

[Create app](#)
[Learn more](#)




In-store analytics – checkout
Monitor and manage the checkout flow inside your store to improve efficiency and reduce wait times.

[Create app](#)
[Learn more](#)



Smart inventory management
Use sensors to automate receiving, product movement, cycle counting, and tracking.

[Create app](#)
[Learn more](#)



Micro-fulfillment center
Digitally connect and manage a fully automated fulfillment center to reduce costs by eliminating downtime, increasing security and efficiency.

[Create app](#)
[Learn more](#)

- Home
- Build
- My apps

Build > New application

New application Custom

Answer a few quick questions and we'll get your app up and running.

About your app

Application name * ⓘ

URL * ⓘ
.azureiotcentral.com

Application template * ⓘ

- Pricing plan
- Standard 0
For devices sending a few messages per day
2 free devices 400 messages/mo
 - Standard 1
For devices sending a few messages per hour
2 free devices 5,000 messages/mo
 - Standard 2 (most popular)
For devices sending messages every few minutes
2 free devices 30,000 messages/mo

Billing info

Directory * ⓘ

Azure subscription * ⓘ [Don't have a subscription? Create subscription](#)

Location * ⓘ

By clicking "Create" you agree to the [Subscription Agreement](#) and [Privacy Statement](#). "Standard" plans require an Azure subscription, and you acknowledge that this service is licensed to you under the terms applicable to your [Azure Subscription](#).



We've got you covered

Pricing
No termination fees. Pay only for what you need. [Get pricing details](#)

Security
Protect your connected products with built-in, end-to-end IoT security. Keep control of your data with privacy features like role-based access and integration with your Active Directory permissions.

Scale
You invest in your business. Microsoft invests in IoT. We're building and inventing every day - when you're ready to scale up, we'll be ready.



IoT Hub and DPS are updating their TLS certificates with a new Microsoft Certificate Authority (CA) chained under a new CA root - DigiCert Global G2 Root. You will need to take action to ensure your devices can continue to connect. See [here](#) for details.

- Connect
 - Devices
 - Device groups
 - Device templates
 - Edge manifests
- Analyze
 - Data explorer
 - Dashboards
- Manage
 - Jobs
- Extend
 - Rules
 - Data export
- Security
 - Audit logs
 - Permissions
- Settings
 - Application
 - Customization
- IoT Central Home


Devices

All devices

+ New Import

All devices

Tour IoT Central right now, with live data



Explore top features using real data from your phone with our **IoT Plug and Play** app

Your data is only available within your IoT Central application and is not used for any other purposes



Start IoT solution development

Choose an Azure-ready device from our catalog, or connect a custom device. Try built-in tools like auto-detect to generate a template from device data.

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Devices

All devices


IoT Plug and Play mobile

Add, detect, or modify templates—blueprints that structure device data.

All devices

To get started with IoT Central, connect a device


Devices will send data to IoT Central for you to view, analyze and export.



Get up and running in 5 minutes

New to IoT? Grab our mobile app to connect your phone. Then we'll help you try out a few key IoT Central features using live data.

[Use phone as a device](#)



Start IoT solution development

Choose an Azure-ready device from our catalog, or connect a custom device. Try built-in tools like auto-detect to generate a template from device data.

[Add a device](#)



Connect

Filter templates

Devices

Device groups

Device templates

Edge manifests

Analyze

Data explorer

Dashboards

Manage

Jobs

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IoT Central Home

+ New Import

All devices

Create a new device

To create a new device, select a device template, a name, and a unique ID. [Learn more](#)

Device name * ⓘ
4pw3oxs1o7

Device ID * ⓘ
4pw3oxs1o7

Organization * ⓘ
Custom svmwyj6678

Device template *
Unassigned

Simulate this device?
A simulated device generates telemetry that enables you to test the behavior of your application before you connect a real device.
 No

Azure IoT Edge device?
Azure IoT Edge moves cloud analytics and custom business logic from the cloud to your devices.
 No

Create Cancel



- Connect
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+ New Import



All devices

Device explorer helps you see all your devices. Detailed information like device raw data helps you troubleshoot. [Learn more](#)

Device name	Device ID	Device status	Device template	Organization	Simulated
4pw3oxs1o7	4pw3oxs1o7	Registered	Unassigned	Custom svmwyj6678	No



- Connect
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Connect Manage template Manage device

Devices > 4pw3oxs1o7

4pw3oxs1o7

Last data received: N/A | Status: Registered | Organization: Custom svmwyj6678

Raw data Mapped aliases Files

Timestamp ↓	Message type	Event creation time	Unmodeled data	Error
No rows found				

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Connect Manage template Manage device

Devices > 4pw3oxs1o7

4pw3oxs1o7
Last data received: N/A | Status: Registered | Organization: Custom svmwyj6678

Raw data Mapped aliases Files

Timestamp ↓	Message type
-------------	--------------

Device connection groups

ID scope ⓘ
0ne009A67DB


Device ID ⓘ
4pw3oxs1o7

Choose the connection type for this device. You can change this later if you need to.

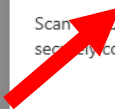
Authentication type
Shared access signature (SAS)

Key **QR code**

Scan the QR code from a supported mobile app, like [IoT Plug and Play](#), to quickly and securely connect your device to IoT Central.



Close



- Connect
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Connect Manage template Manage device

Run

To see response, please check the [command history](#).

IoT Plug and Play mobile / Sensors / Change Delivery Interval

▼ Payload

Sensor
Select a value

Interval

Run

To see response, please check the [command history](#).

IoT Plug and Play mobile / LightOn

▼ Parameters

Duration
3

Pulses interval

Pulses
2

Run

To see response, please check the [command history](#).

E, POR FIM....

- LIMPAR OS RECURSOS UTILIZADOS!!!



BOA SORTE!

kofuji@usp.br