



Monitoramento de Estação Meteorológica com Grafana

```
graph LR; A[Monitoramento de Estação Meteorológica com Grafana] --> B[O que é Grafana]; A --> C[Principais Vantagens]; A --> D[Etapas de Configuração];
```

O que é Grafana

>

Principais Vantagens

>

Etapas de Configuração

>

O que é Grafana

```
graph LR; A[O que é Grafana] --- B[Plataforma de código aberto]; A --- C[Conecta-se a várias fontes de dados]; A --- D[Exibe informações em dashboards personalizados]; A --- E[Usado em projetos domésticos e ambientes industriais]; A --- F[Flexível e escalável];
```

A mind map diagram with a central node on the left and five branches extending to the right. The central node is a light blue rounded rectangle containing the text 'O que é Grafana'. A small light blue circle with a less-than sign '<' is positioned at the junction of the branches. The five branches are light blue curved lines connecting to five light green rounded rectangles on the right. The text in these rectangles, from top to bottom, is: 'Plataforma de código aberto', 'Conecta-se a várias fontes de dados', 'Exibe informações em dashboards personalizados', 'Usado em projetos domésticos e ambientes industriais', and 'Flexível e escalável'.

Plataforma de código aberto

Conecta-se a várias fontes de dados

Exibe informações em dashboards personalizados

Usado em projetos domésticos e ambientes industriais

Flexível e escalável



Etapas de Configuração

1. Obtenha os dados da estação



Estação envia dados para local acessível

Pode envolver configuração de servidor

Uso de sistema de armazenamento de séries temporais



Ex: Prometheus

Ex: VictoriaMetrics

2. Conecte o Grafana às fontes de dados



Suporta ampla variedade de fontes

Configurar conexão onde dados são armazenados

3. Crie um dashboard personalizado



Utilize ferramentas de painel visual

Selecione métricas



Temperatura

Umidade

Velocidade do vento

4. Configure alertas



Definir alertas para eventos específicos

Receber notificação (e-mail, SMS, etc.)

Ex: Limite de temperatura atingido

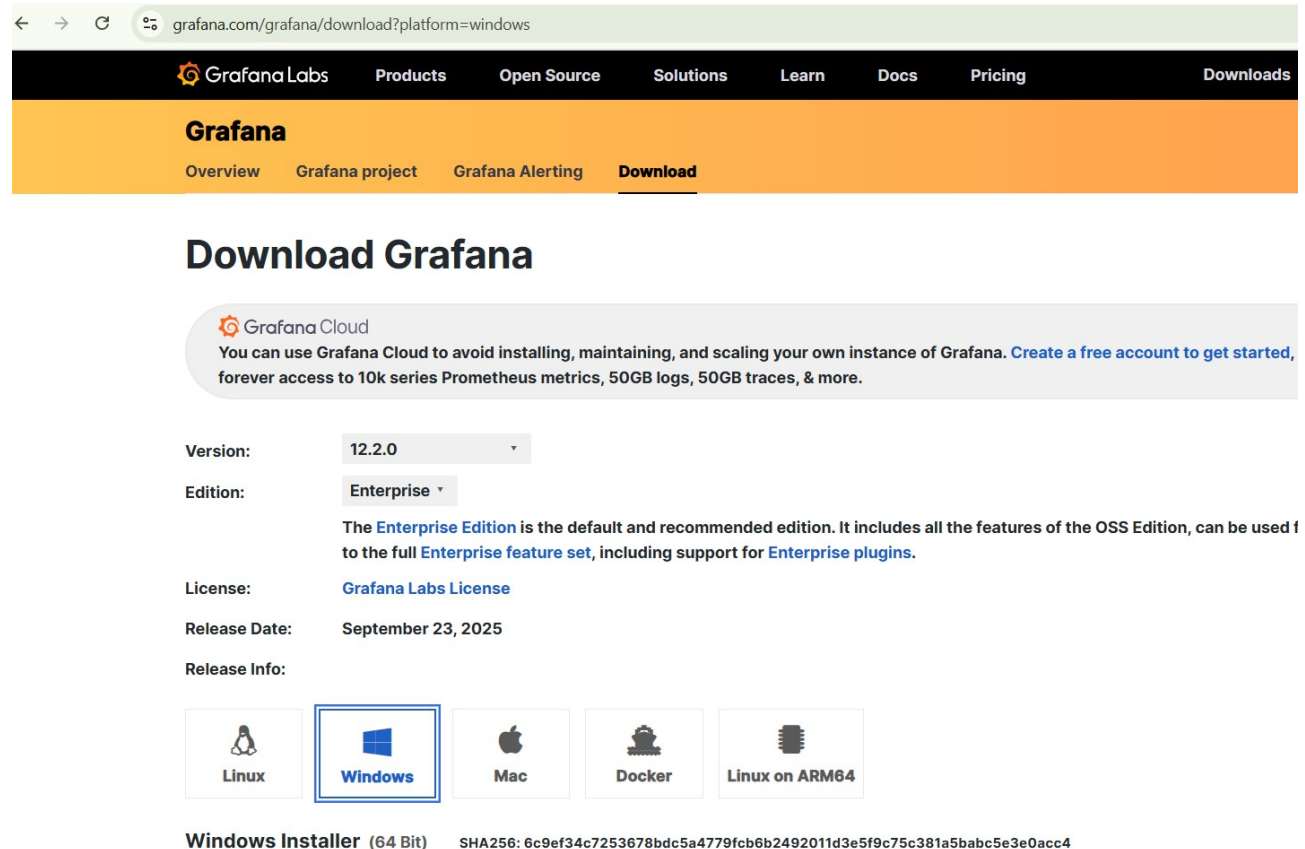
Conteúdo ruim

Grafana

Instalar o Grafana no Windows

<https://grafana.com/grafana/download?platform=windows>

Baixe o instalador oficial (MSI) de Windows no site da Grafana e execute-o.



The screenshot shows the Grafana Labs website's download page for Windows. The browser address bar displays the URL `grafana.com/grafana/download?platform=windows`. The navigation bar includes links for Products, Open Source, Solutions, Learn, Docs, Pricing, and Downloads. The main header features the Grafana logo and a sub-navigation menu with Overview, Grafana project, Grafana Alerting, and Download. The page title is "Download Grafana". A section for Grafana Cloud offers a free account to avoid self-hosting. Below this, configuration options are shown: Version 12.2.0, Edition Enterprise, License Grafana Labs License, and Release Date September 23, 2025. The Release Info section contains five platform icons: Linux, Windows (highlighted with a blue border), Mac, Docker, and Linux on ARM64. At the bottom, the "Windows Installer (64 Bit)" is listed with its SHA256 hash.

Version: 12.2.0

Edition: Enterprise

The **Enterprise Edition** is the default and recommended edition. It includes all the features of the OSS Edition, can be used to the full **Enterprise feature set**, including support for **Enterprise plugins**.

License: [Grafana Labs License](#)

Release Date: September 23, 2025

Release Info:

- Linux
- Windows**
- Mac
- Docker
- Linux on ARM64

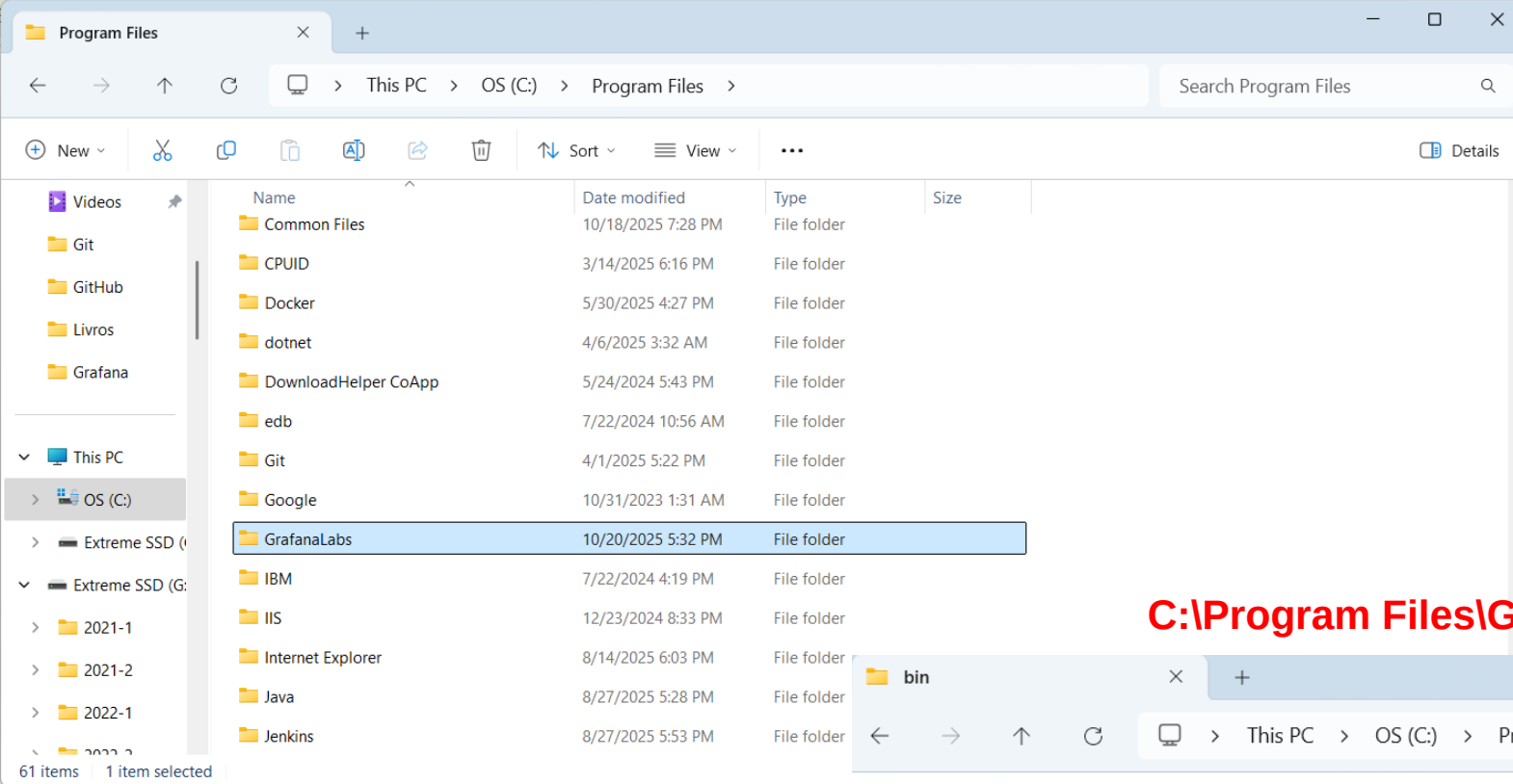
Windows Installer (64 Bit) SHA256: 6c9ef34c7253678bdc5a4779fcb6b2492011d3e5f9c75c381a5babc5e3e0acc4

Observação: Grafana no Windows

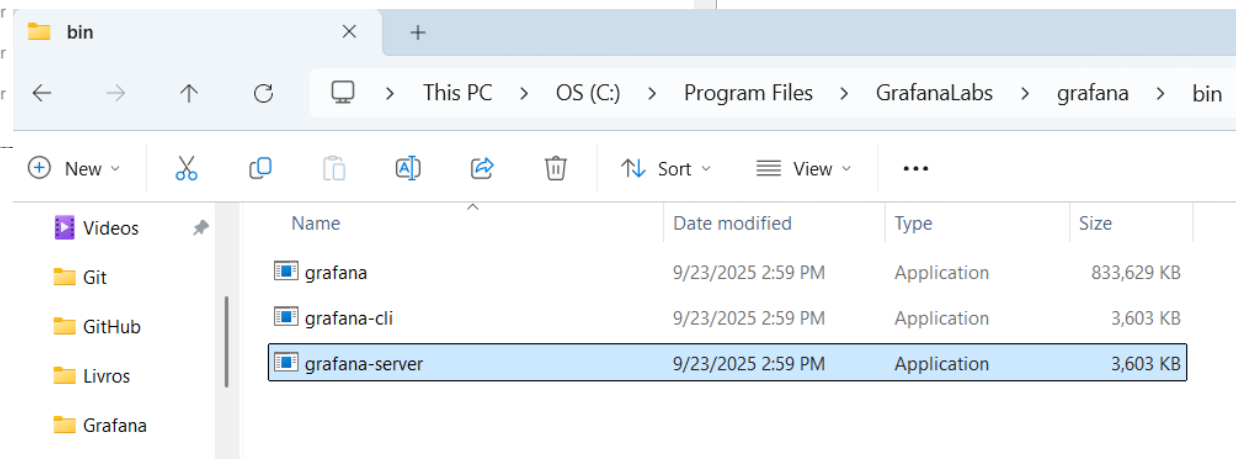
Para rodar o Grafana localmente (self-hosted) no Windows, você não precisa criar conta.

Basta instalar, abrir `http://localhost:3000`, entrar com usuário admin e senha admin e trocar a senha no primeiro acesso.

Você só precisa de conta se optar por usar o Grafana Cloud (versão hospedada pela Grafana).



C:\Program Files\GrafanaLabs\grafana\bin







C:\Program Files\GrafanaLabs



```
network address/port) is normally permitted." duration=14.088ms
INFO [10-20|17:38:57] Starting MultiOrg Alertmanager logger=ngalert.multiorg.alertmanager
ERROR [10-20|17:38:57] Creating shutdown snapshot failed logger=ngalert.notifier err="attempt to write a readonly
database"
INFO [10-20|17:38:57] Closing tracing logger=tracing
INFO [10-20|17:38:57] Starting scheduler logger=ngalert.scheduler tickInterval=10s maxAttempts=3
INFO [10-20|17:38:57] starting logger=ngalert.scheduler component=ticker first_tick=2025
-10-20T17:39:00-03:00
INFO [10-20|17:38:57] Adding GroupVersion notifications.grafana.app v0alpha1 to ResourceManager logger=grafana-
apiserver
INFO [10-20|17:38:57] Adding GroupVersion folder.grafana.app v1beta1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion dashboard.grafana.app v1beta1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion dashboard.grafana.app v0alpha1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion dashboard.grafana.app v2beta1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion dashboard.grafana.app v2alpha1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion iam.grafana.app v0alpha1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion userstorage.grafana.app v0alpha1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion features.grafana.app v0alpha1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Adding GroupVersion playlist.grafana.app v0alpha1 to ResourceManager logger=grafana-apiserver
INFO [10-20|17:38:57] Installed APIs for app caller=logger.go:214 time=2025-10-20T17:38:57.9024258-03:
00 app=playlist
INFO [10-20|17:38:57] Skipping API plugins.grafana.app/v0alpha1 because it has no resources. logger=grafana-apiserver
INFO [10-20|17:38:57] Installed APIs for app caller=logger.go:214 time=2025-10-20T17:38:57.9033807-03:
00 app=plugins
INFO [10-20|17:38:58] StorageObjectCountTracker pruner is exiting logger=grafana-apiserver
INFO [10-20|17:38:58] App initialized caller=logger.go:214 time=2025-10-20T17:38:58.0081318-03:
00 app=playlist
INFO [10-20|17:38:58] App initialized caller=logger.go:214 time=2025-10-20T17:38:58.0081318-03:
00 app=plugins
```



Welcome to Grafana

 Login failed
Invalid username or password

Email or username

Password


Log in

[Forgot your password?](#)

O usuário e senha para o primeiro acesso é padrão, sendo respectivamente: admin, admin.



Update your password

 Continuing to use the default password exposes you to security risks.

New password

Confirm new password

Submit

[Skip](#)

Após o primeiro acesso, fica a seu critério trocar a senha do usuário admin, ou como iremos ver logo em seguida, criar um outro usuário para acesso.

Home - Dashboards - Grafana

localhost:3000/?orgId=1&from=now-6h&to=now&timezone=browser

Grafana

Home

Bookmarks

Starred

Dashboards

Explore

Drilldown

Alerting

Connections

Administration

Home > Dashboards > Home

Search...

ctrl+k

Welcome to Grafana

Need help? [Documentation](#) [Tutorials](#) [Community](#) [Public Slack](#)

Basic

The steps below will guide you to quickly finish setting up your Grafana installation.

TUTORIAL

DATA SOURCE AND DASHBOARDS

Grafana fundamentals

Set up and understand Grafana if you have no prior experience. This tutorial guides you through the entire process and covers the "Data source" and "Dashboards" steps to the right.

DATA SOURCES

Add your first data source

Learn how in the docs

DASHBOARDS

Create your first dashboard


Learn how in the docs

Dashboards

Starred dashboards

Recently viewed dashboards

Latest from the blog



Tips for optimizing logs in Grafana Cloud

Criando um novo usuário

Acesse a barra lateral e vá em Administração

Acesse a aba de usuários e acessos

Vá em usuários

Clique em novo usuário

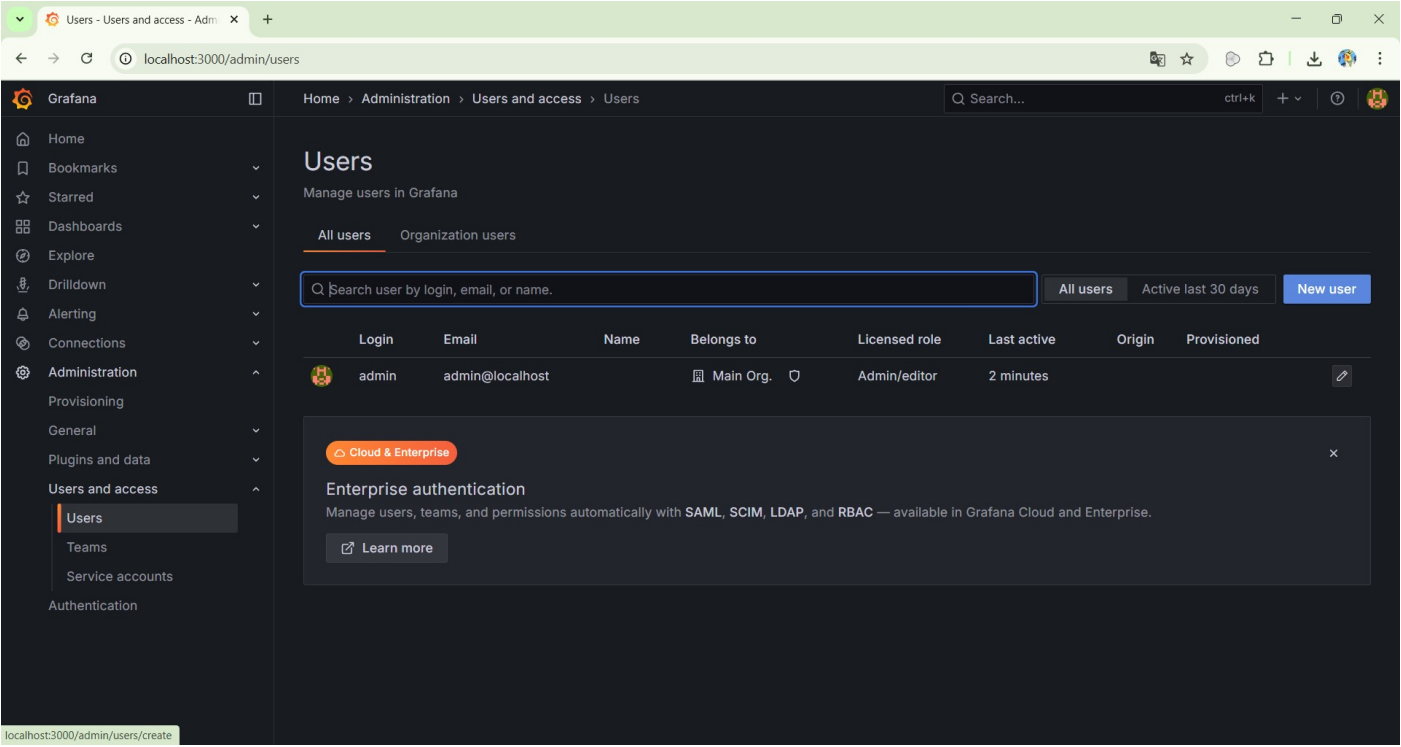
Preencha as informações, sendo estas:

Nome: nome da pessoa que será o novo usuário.

Email: email que deseja atrelar a esse novo usuário (não obrigatório).

Username: nome do usuário.

Password: senha de acesso ao novo usuário.



Observação

Porta padrão: 3000.

Se precisar mudar (ex.: para 8080), edite `conf\custom.ini` e ajuste `http_port = 8080`, depois reinicie o Grafana.

**Exemplo prático (sem precisar
instalar banco externo)**

Browser address bar: `localhost:3000/dashboards`

Grafana Home > Dashboards

Dashboards

Create and manage dashboards to visualize your data


Search for dashboards and folders

Filter by tag ☐ Starred

Sort

New ^

- New dashboard
- New folder
- Import

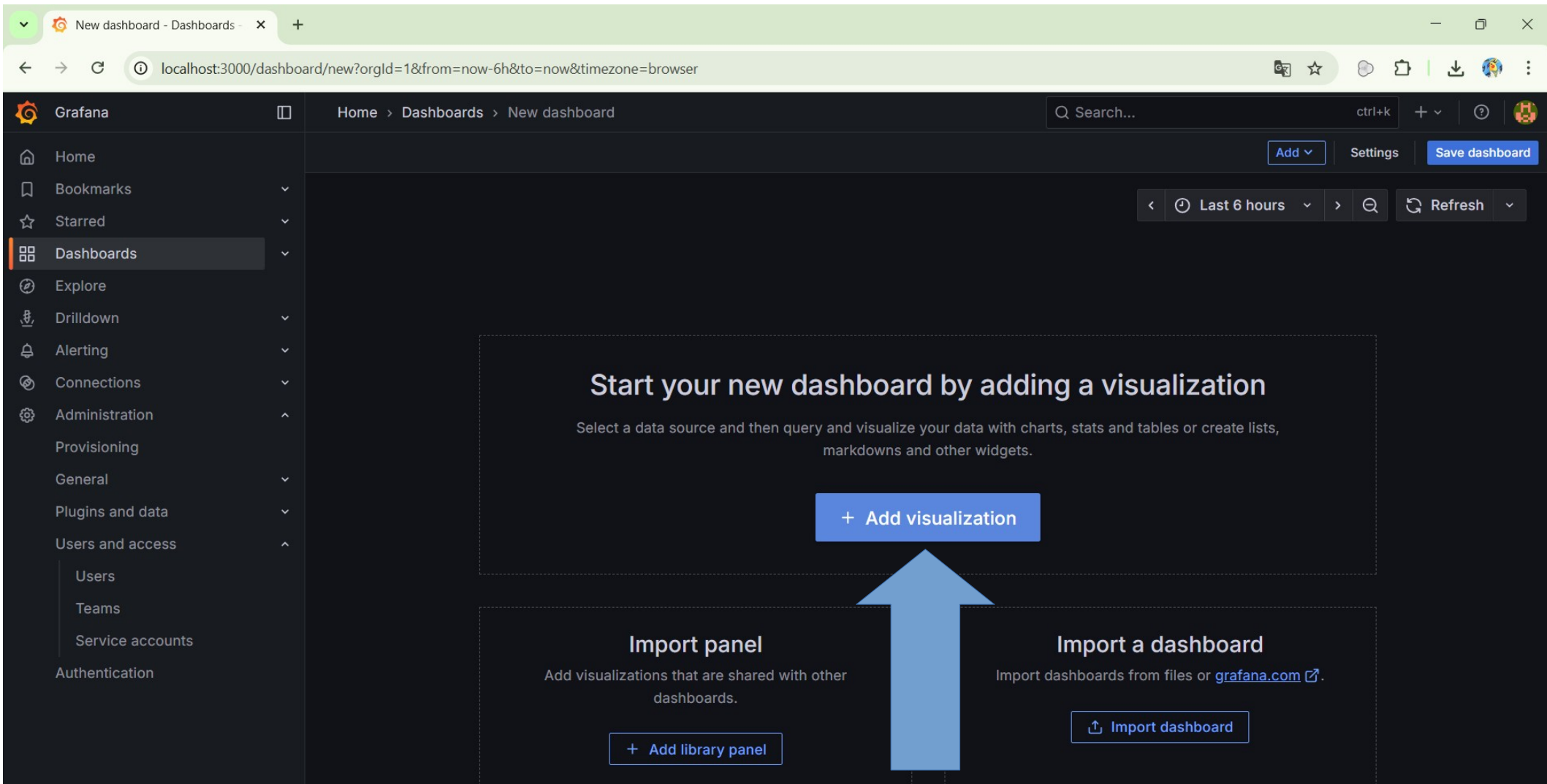


You haven't created any dashboards yet

+ Create dashboard

Left sidebar menu:

- Home
- Bookmarks
- Starred
- Dashboards**
- Explore
- Drilldown
- Alerting
- Connections
- Administration
- Provisioning
- General
- Plugins and data
- Users and access
 - Users
 - Teams
 - Service accounts
- Authentication



Start your new dashboard by adding a visualization

Select a data source and then query and visualize your data with charts, stats and tables or create lists, markdowns and other widgets.

+ Add visualization

Import panel

Add visualizations that are shared with other dashboards.

+ Add library panel

Import a dashboard

Import dashboards from files or grafana.com.

Import dashboard

▼

Edit panel - New dashboard - D

×

⚙️

Add data source - Data sources

×

+

localhost:3000/dashboard/new?orgId=1&from=now-6h&to=now&timezone=browser&editPanel=1

🔍

Search...

ctrl+k

+

▼

?

🔍

☆

⋮

⚙️

Grafana

🏠

Home

🔖

Bookmarks

☆

Starred

🗃️

Dashboards

🔍

Explore

📊

Drilldown

🔔

Alerting

🔗

Connections

⚙️

Administration

📦

Provisioning

📄

General

👤

Plugins and data

👥

Users and access

👤

Users

👥

Teams

👤

Service accounts

🔑

Authentication

🏠

Home

🔖

Bookmarks

☆

Starred

🗃️

Dashboards

🔍

Explore

📊

Drilldown

🔔

Alerting

🔗

Connections

⚙️

Administration

📦

Provisioning

📄

General

👤

Plugins and data

👥

Users and access

👤

Users

👥

Teams

👤

Service accounts

🔑

Authentication

Home > Dashboards > New dashboard > Edit panel

🔍

Search...

ctrl+k

+

▼

?

←

Back to dashboard

🗑️

Discard panel

💾

Save dashboard

Select data source

×

🔍

Select data source

No data sources found

Configure a new data source

🔗

-- Mixed --

Use multiple data sources

📄

-- Dashboard --

Reuse query results from other visualizations

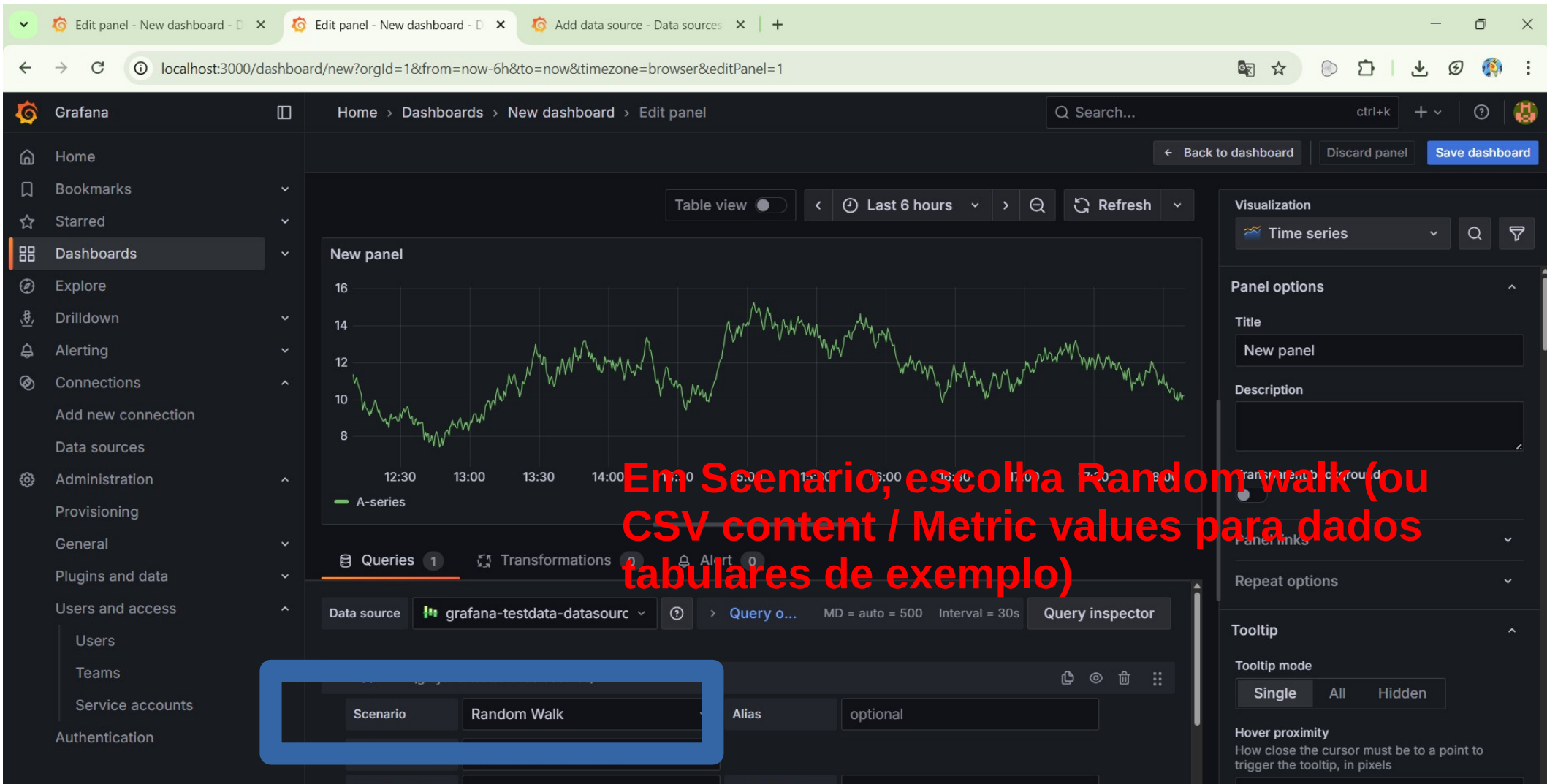
🗃️

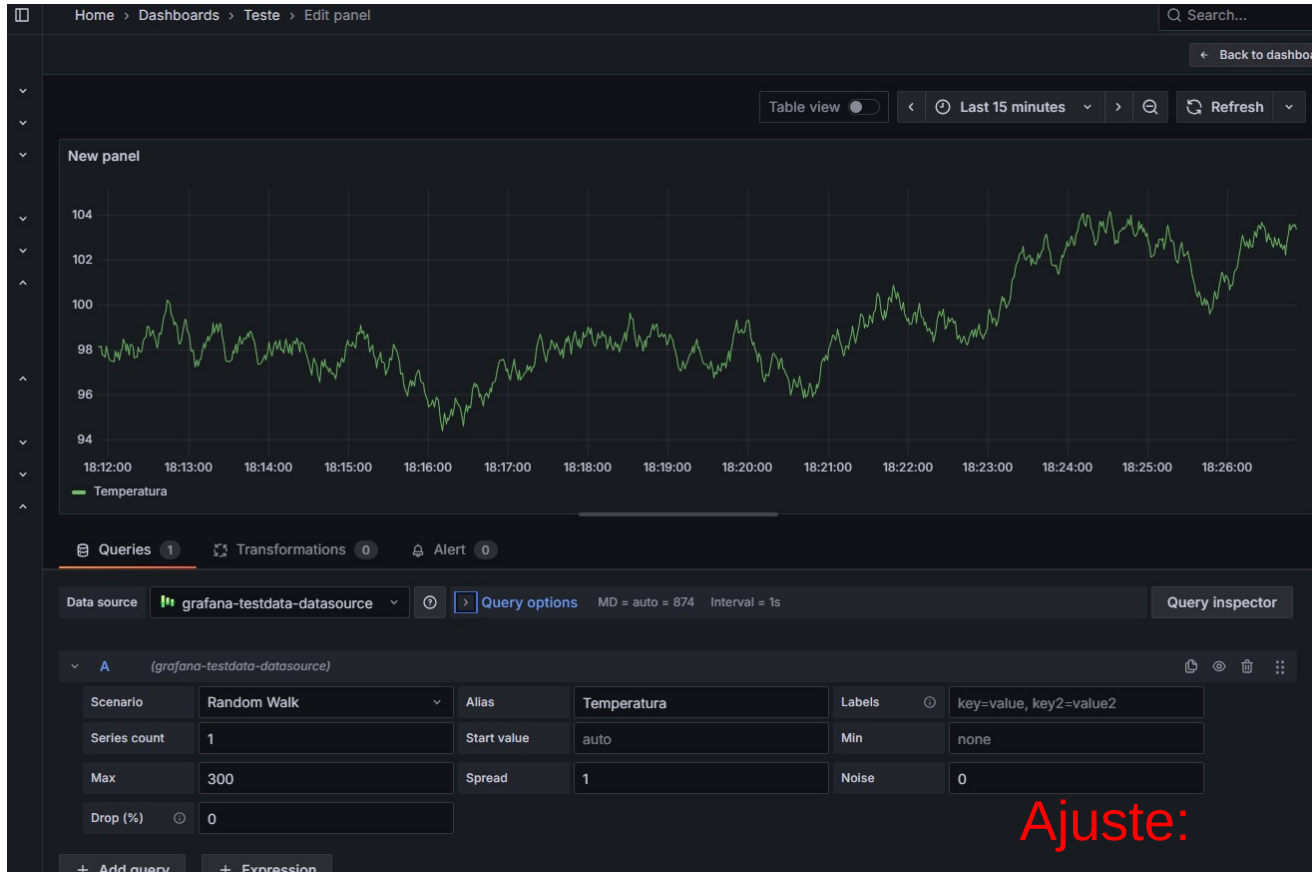
-- Grafana --

Discover visualizations using mock data

Open a new tab and configure a data source

Configure a new data source

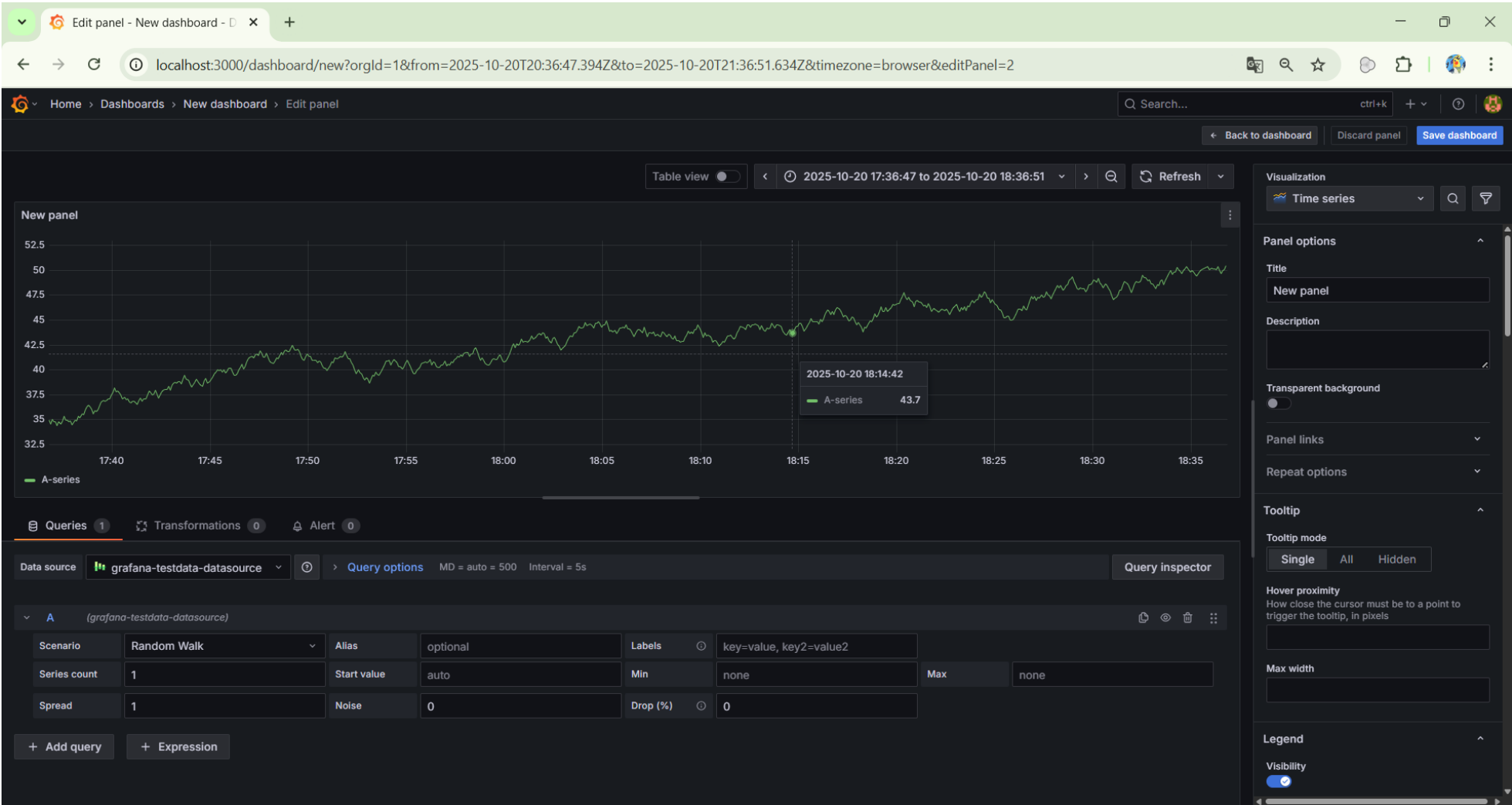




Ajuste:

Alias: Temperatura

Max points: 300 Series count: 1



New panel



Queries 1

Transformations 0

Alert 0

Data source grafana-testdata-datasource

Query options MD = auto = 500 Interval = 5s

Query inspector

A (grafana-testdata-datasource)

Scenario	Random Walk	Alias	optional	Labels	key=value, key2=value2		
Series count	1	Start value	auto	Min	none	Max	none
Spread	1	Noise	0	Drop (%)	0		

+ Add query + Expression

Visualization

Time series

Panel options

Title

New panel

Description

Transparent background

Panel links

Repeat options

Tooltip

Tooltip mode

Single

All

Hidden

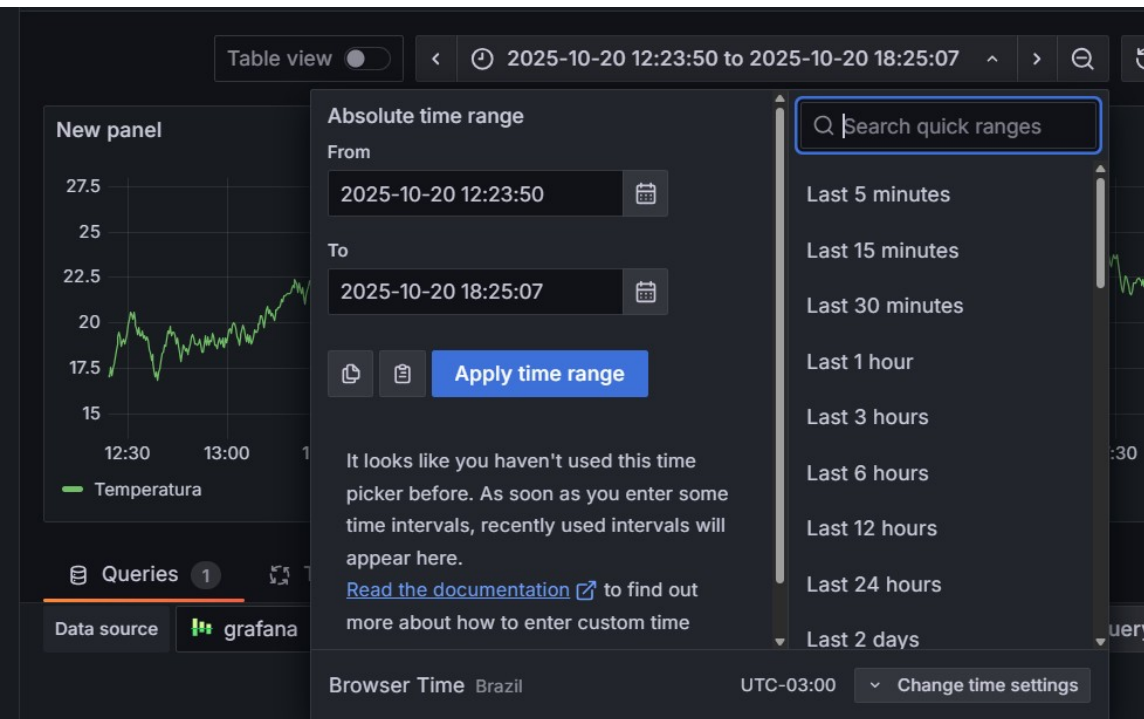
Hover proximity

How close the cursor must be to a point to trigger the tooltip, in pixels

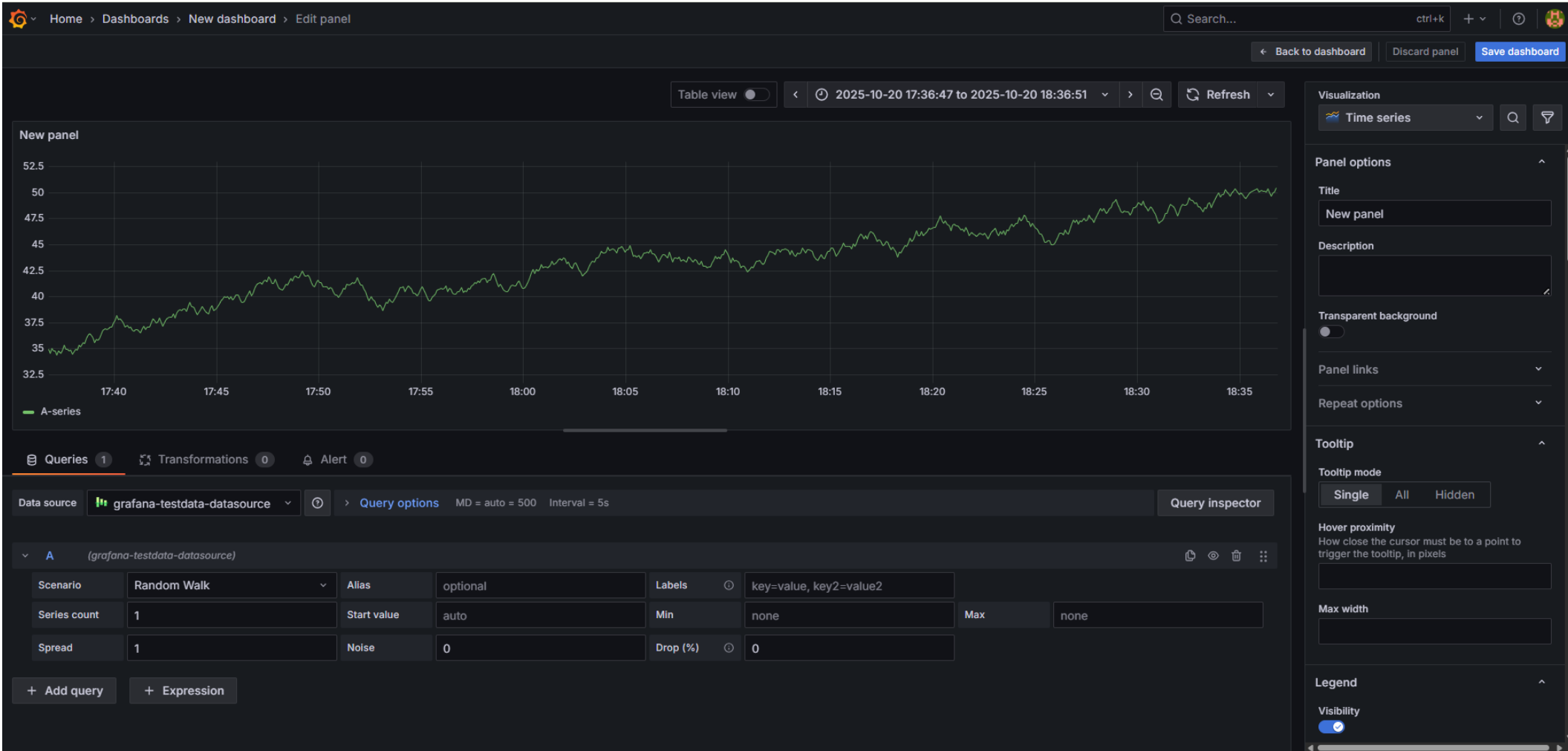
Max width

Legend

Visibility



Intervalo de tempo (canto superior direito): Last 15 minutes



← Back to dashboard

Discard panel

Save dashboard

Table view



2025-10-20 17:36:47 to 2025-10-20 18:36:51



Refresh



Visualization

Gauge



Click to change visualization

Panel options

Title

New panel

Description

Transparent background



Panel links

Repeat options

Value options

Show

Calculate a single value per column or series or

Transformations 0

Alert 0

- <https://embarcados.com.br/desenvolvimento-de-um-ambiente-iot-completo-do-microcontrolador-ao-grafana/#Funcionamento-basico-e-caracteristicas-do-DHT11>