

# ¿Cómo vincular un activo a un plan de mantenimiento desde Fractal Hub?

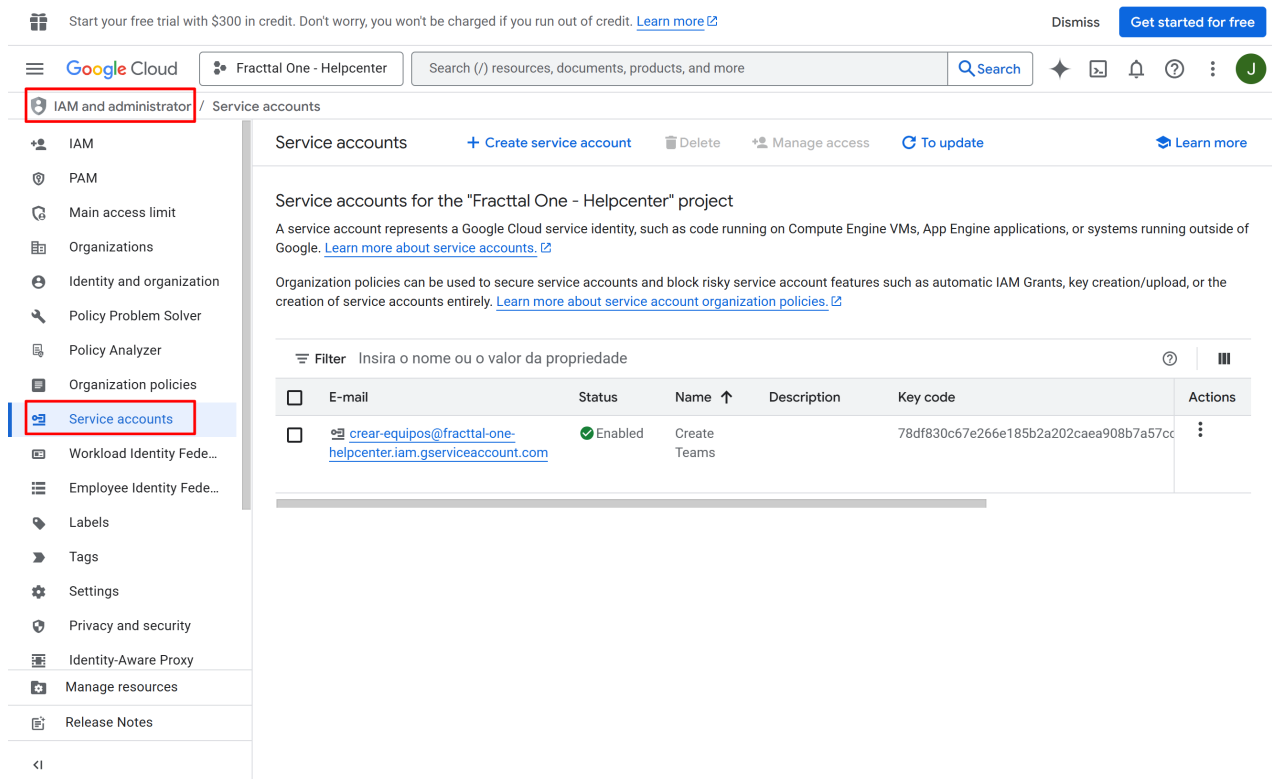
[help.fractal.com/hc/es-es/articles/37555734218893--Cómo-vincular-un-activo-a-un-plan-de-mantenimiento-desde-Fractal-Hub](https://help.fractal.com/hc/es-es/articles/37555734218893--Cómo-vincular-un-activo-a-un-plan-de-mantenimiento-desde-Fractal-Hub)

Fractal Hub permite asociar activos a planes de mantenimiento de forma masiva a partir de Google Sheets. Para que la carga sea válida, el activo no debe estar vinculado a otro plan, debe ser una ubicación, equipo o herramienta, y el plan no puede incluir activadores ni subtareas con lecturas de medidor.

## Paso 1: Accede a la consola de Google Cloud

La comunicación entre Fractal y Google Sheets se realiza de forma segura mediante una cuenta de servicio.

1. Accede a la consola de Google Cloud.
2. En el menú de navegación, ve a **IAM y administrador > Cuentas de servicio**.



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**IAM and administrator** / Service accounts

Service accounts [+ Create service account](#) [Delete](#) [Manage access](#) [To update](#) [Learn more](#)

Service accounts for the "Fractal One - Helpcenter" project

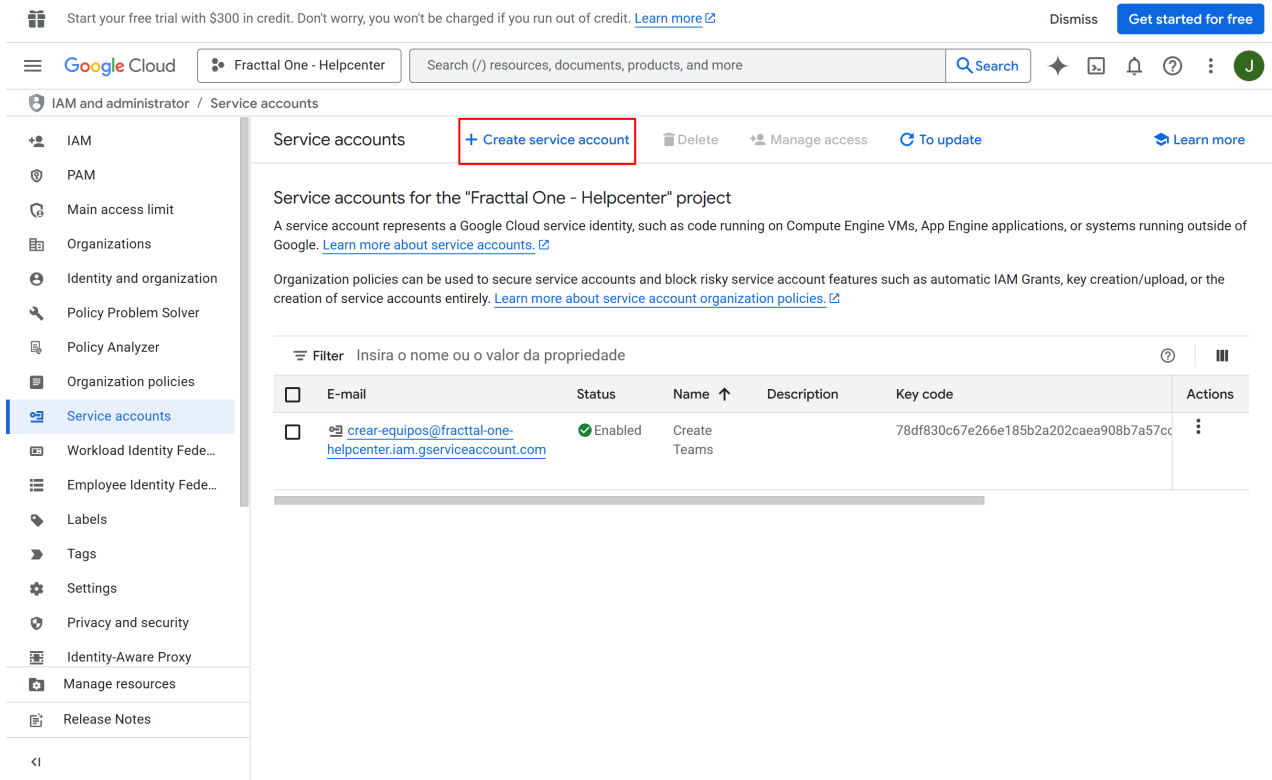
A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine applications, or systems running outside of Google. [Learn more about service accounts.](#)

Organization policies can be used to secure service accounts and block risky service account features such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

Filter Insira o nome ou o valor da propriedade

| <input type="checkbox"/> | E-mail                                                                                                                                         | Status  | Name ↑       | Description | Key code                               | Actions |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-------------|----------------------------------------|---------|
| <input type="checkbox"/> | <a href="mailto:crear-equipos@fractal-one-helpcenter.iam.gserviceaccount.com">crear-equipos@fractal-one-helpcenter.iam.gserviceaccount.com</a> | Enabled | Create Teams |             | 78df830c67e266e185b2a202caea908b7a57cc | ⋮       |

### 3. Haz clic en + CREAR CUENTA DE SERVICIO.



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Service accounts for the "Fractal One - Helpcenter" project

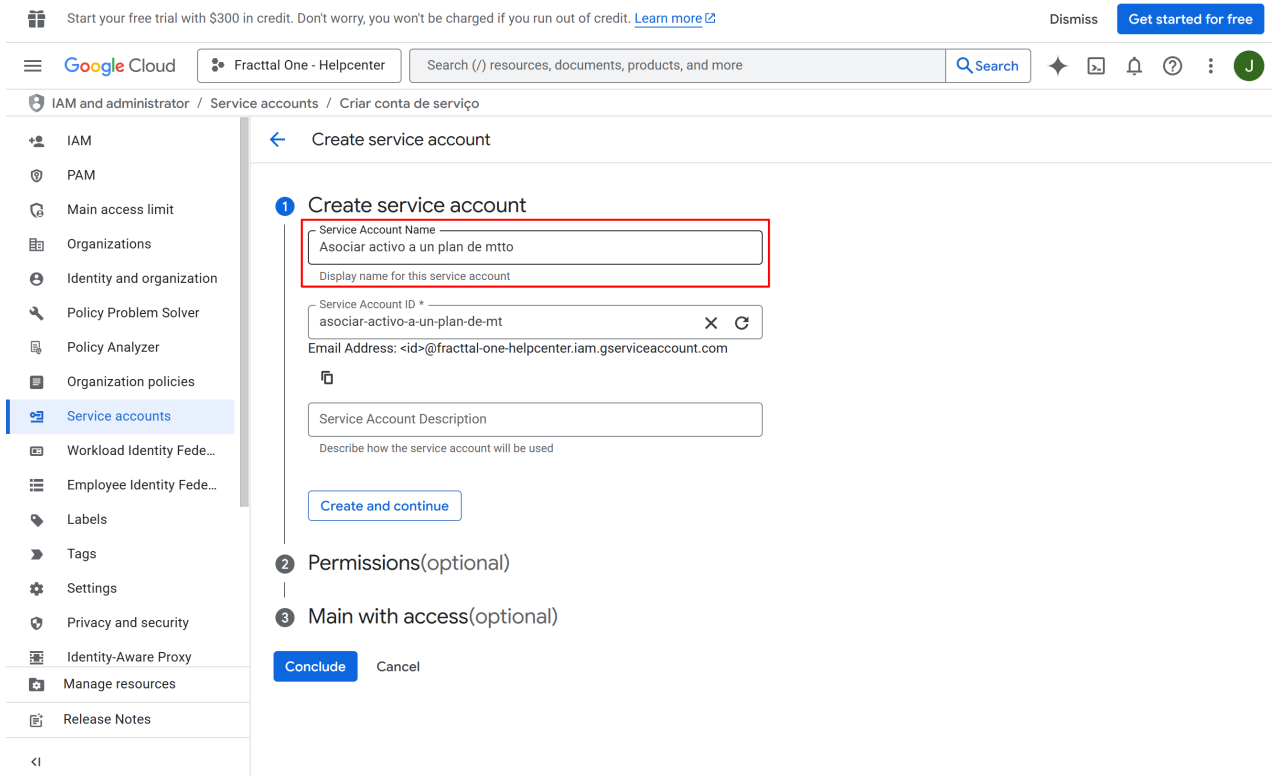
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Organization policies can be used to secure service accounts and block risky service account features such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

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| <input type="checkbox"/> | E-mail                                                                                                                                         | Status  | Name ↑       | Description | Key code                               | Actions |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-------------|----------------------------------------|---------|
| <input type="checkbox"/> | <a href="mailto:crear-equipos@fractal-one-helpcenter.iam.gserviceaccount.com">crear-equipos@fractal-one-helpcenter.iam.gserviceaccount.com</a> | Enabled | Create Teams |             | 78df830c67e266e185b2a202caea908b7a57cc |         |

### 4. Asigna un nombre a la cuenta de servicio que sea fácil de identificar, por ejemplo: asociar-activo-plan-mantenimiento.



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IAM and administrator / Service accounts / Criar conta de serviço

Create service account

1 Create service account

Service Account Name

Display name for this service account

Service Account ID \*

Email Address: <id>@fractal-one-helpcenter.iam.gserviceaccount.com

Service Account Description

Describe how the service account will be used

[Create and continue](#)

2 Permissions(optional)

3 Main with access(optional)

[Conclude](#) Cancel

5. Haz clic en **FINALIZAR** para crear la cuenta sin configurar permisos adicionales.

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IAM and administrator / Service accounts / Criar conta de serviço

IAM  
PAM  
Main access limit  
Organizations  
Identity and organization  
Policy Problem Solver  
Policy Analyzer  
Organization policies  
**Service accounts**  
Workload Identity Fede...  
Employee Identity Fede...  
Labels  
Tags  
Settings  
Privacy and security  
Identity-Aware Proxy  
Manage resources  
Release Notes

Create service account

1 Create service account

Service Account Name  
Asociar activo a un plan de mtto  
Display name for this service account

Service Account ID \*  
asociar-activo-a-un-plan-de-mt X ↺

Email Address: <id>@fracttal-one-helpcenter.iam.gserviceaccount.com

Service Account Description  
Describe how the service account will be used

Create and continue

2 Permissions(optional)

3 Main with access(optional)

Conclude Cancel

## Paso 2: Generar y descargar la clave de la cuenta de servicio

Para que Fractal pueda autenticarse, es necesario generar una clave privada para la cuenta de servicio.

1. En la lista de cuentas de servicio, haz clic en el correo electrónico de la cuenta que acabas de crear.
2. Ve a la pestaña **CLAVES**.

### 3. Haz clic en **AGREGAR CLAVE** y selecciona **Crear nueva clave**.

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IAM and administrator / Service accounts / Conta de serviço: 117194353684544360531 / Chaves

← Associate asset to a maintenance plan

Details Permissions **Keys** Metric Records Main with access

**Keys**

Service account keys can pose a security risk if compromised. We recommend that you avoid downloading service account keys. Instead, use Workload Identity Federation. [Learn more about the best way to authenticate service accounts in Google Cloud](#).

Google automatically disables service account keys discovered in public repositories. This behavior can be customized using the "iam.serviceAccountKeyExposureResponse" organization policy. [Learn more](#)

Add a new key pair or upload a public key certificate of the existing pair.

Block service account key creation using [organization policies](#). [Learn more about configuring organization policies for service accounts](#)

**Add key** ▼

**Create new key**

Upload a current key

Service account created

### 4. Elige el tipo de clave **JSON** y haz clic en **CREAR**.

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Add a new key pair or upload a public key certificate of the existing pair.

Block service account key creation using [organization policies](#). [Learn more about configuring organization policies for service accounts](#)

**Add key** ▼

**Create a private key to "Associate an asset with a maintenance plan"**

A file containing the private key is downloaded. Store the file safely because this key cannot be recovered if lost.

**Key type**

☒ **JSON**  
Recommended

☐ **P12**  
For backward compatibility using code with P12 format

Cancel **To create**

Service account created

5. Se descargará automáticamente un archivo .json en tu ordenador. Guarda este archivo en un lugar seguro, ya que contiene las credenciales de acceso.

### Paso 3: Compartir la hoja de cálculo de Google con la cuenta de servicio

---

Ahora necesitas otorgar permisos a la cuenta de servicio para acceder y editar tu hoja de cálculo.

1. Abre el archivo .json que descargaste. Localiza y copia el valor del campo "client\_email".

```
iu/GJnbMTuPKUpPhPrRy\ntZCxNW/B3Rn5NDb+yCGFnsMhVHUqdolZgnaIpPwfxchw6Y9z13o
lbsETqWNNHo7R\ncZ1oTC05KsPs4eLr421Tf8jHbDR1VsGqZQchWq7XygebVsr4cyEkkLJVAo
GAcI4P\nfw7iK95IuZEQOWNkRo6TS2MuYJ256ifdDiHMa4ZmbMuL43dXNLT011p7SctyiuC2\
nomIw9Kj8j9rebDHD0iLnU5Y7tZggInIXEs9bZsowkxbNz73s8h/QpLY2Oxb7KZFk\n5RA2nI
SubZYqV08TZ9N6alcwqmFxJ4XSkd3PFuECgYEAs5qjpCHYbQdRvj7yq5I5\n7rxFXxDOov9WI
tW7/AlEkxAGnxDxTFGqXrytrCDsh7rC3s1xKmeKCnRJcto/KZDQ\nnNWgnXuk0uOu/GBkZjWgP
7aLR5E7j27IY/gpUEDsTQRxe+bQOayF/RB2ZTcbeEKyO\n5Q9oAXxNsVo6DiSMg8329K4=\n-
-----END_PRIVATE_KEY-----\n",
  "client_email": "asociar-activo-a-un-plan-de-mt@fracttal-one-
helpcenter.iam.gserviceaccount.com",
  "client_id": "117194353684544360531",
  "auth_uri": "https://accounts.google.com/o/oauth2/auth",
```

2. Abre tu hoja de cálculo en Google Sheets.
3. Haz clic en el botón **Compartir** (parte superior derecha).
4. Pega el correo de la cuenta de servicio en el campo de compartir.
5. Asegúrate de otorgar el permiso de **Editor**.
6. Haz clic en **Enviar**.

|  | B | C | D |
|--|---|---|---|
|  |   |   |   |

## Share ×

Add people and groups

asociar-activo-a-un-plan-de-mt@fracttal-one-helpcenter.iam.gserviceaccount.com Editor

Message (optional)

Cancel Send

## Paso 4: Preparar la hoja de cálculo de Google Sheets

La primera fila de tu hoja debe contener los encabezados (parámetros) exactos que Fracttal espera recibir.

1. Accede a la documentación de la API de Fracttal para consultar los parámetros necesarios.

2. En la primera fila, inserta los siguientes encabezados:

| id_tasks_plan | code_user  | item_code | last_date_maintenance  |
|---------------|------------|-----------|------------------------|
| 284558        | 1928182192 | HUB-001   | 2025-03-12T20:00:00-03 |

3. Rellena las filas siguientes con los datos correspondientes:

- **id\_tasks\_plan:** ID del plan de tareas al que deseas asociar el activo. Puedes encontrarlo en Fracttal.
- **code\_user:** Código del usuario responsable de la transacción. Encuéntralo en *Catálogos > Recursos Humanos*.
- **item\_code:** Código del activo (equipo, ubicación, etc.) que deseas vincular. Encuéntralo en *Catálogos > Activos*.
- **last\_date\_maintenance:** Fecha del último mantenimiento.

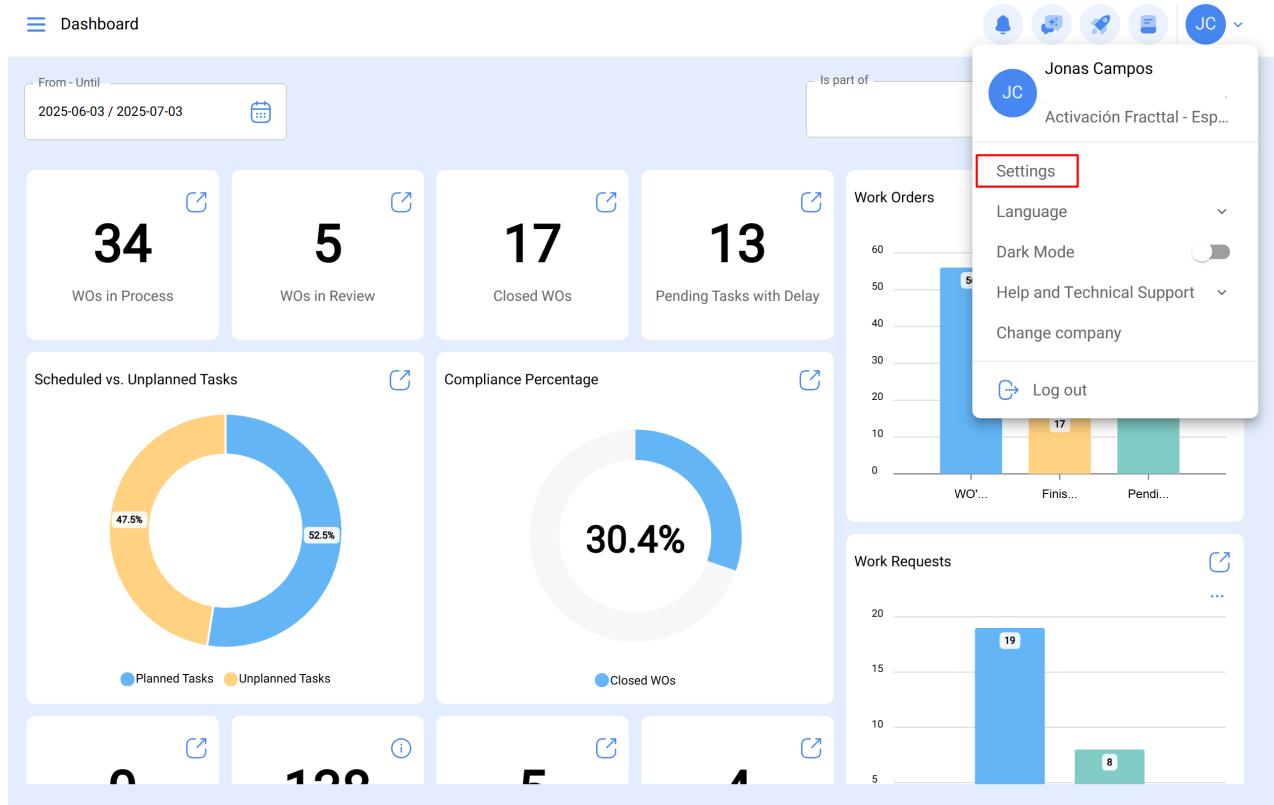
**Importante:** El formato de la fecha `last_date_maintenance` debe ser AAAA-MM-DDTHH:MM:SS-UTC. Copia el formato desde la documentación de la API para evitar errores.

## Paso 5: Crear la conexión en Fracttal One

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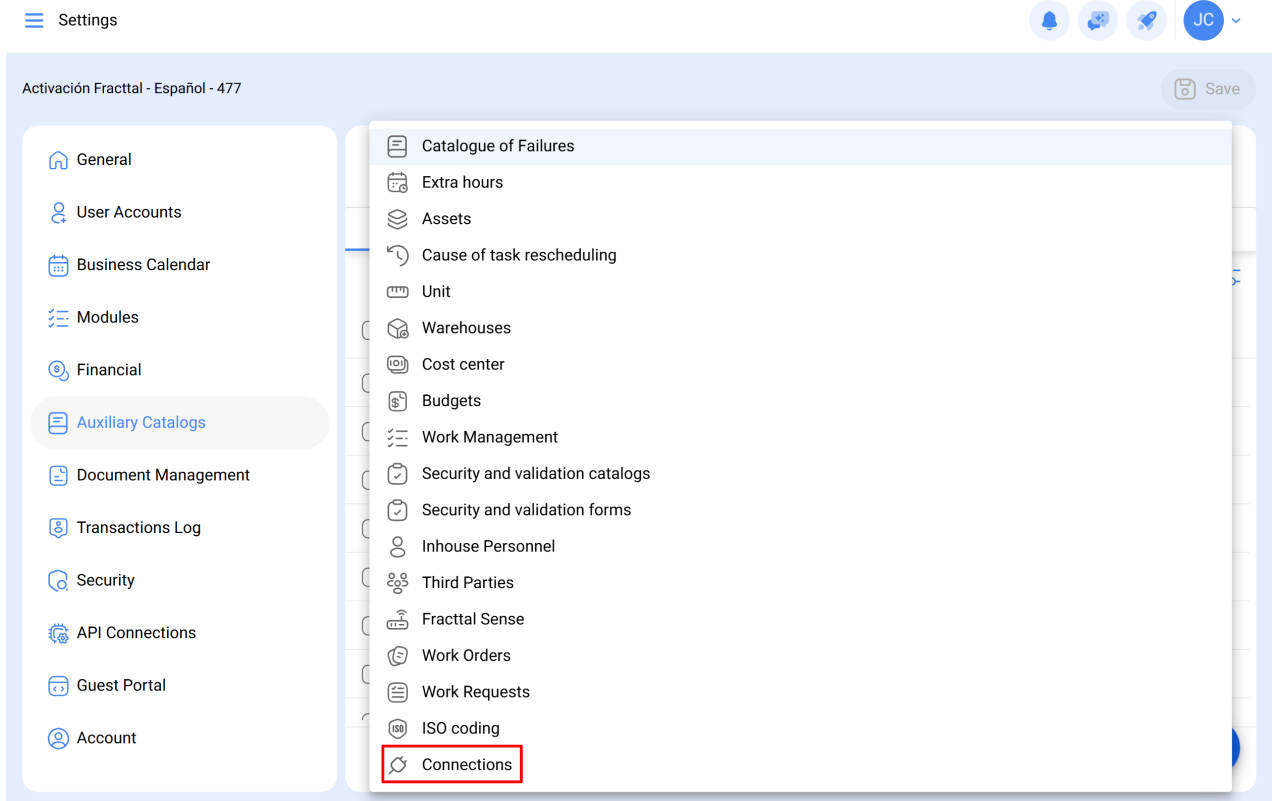
Ahora vamos a configurar la conexión dentro de Fracttal para que pueda usar las credenciales de la cuenta de servicio.

# 1. En Fractal, navega hasta **Configuración > Catálogos Auxiliares > Conexiones.**

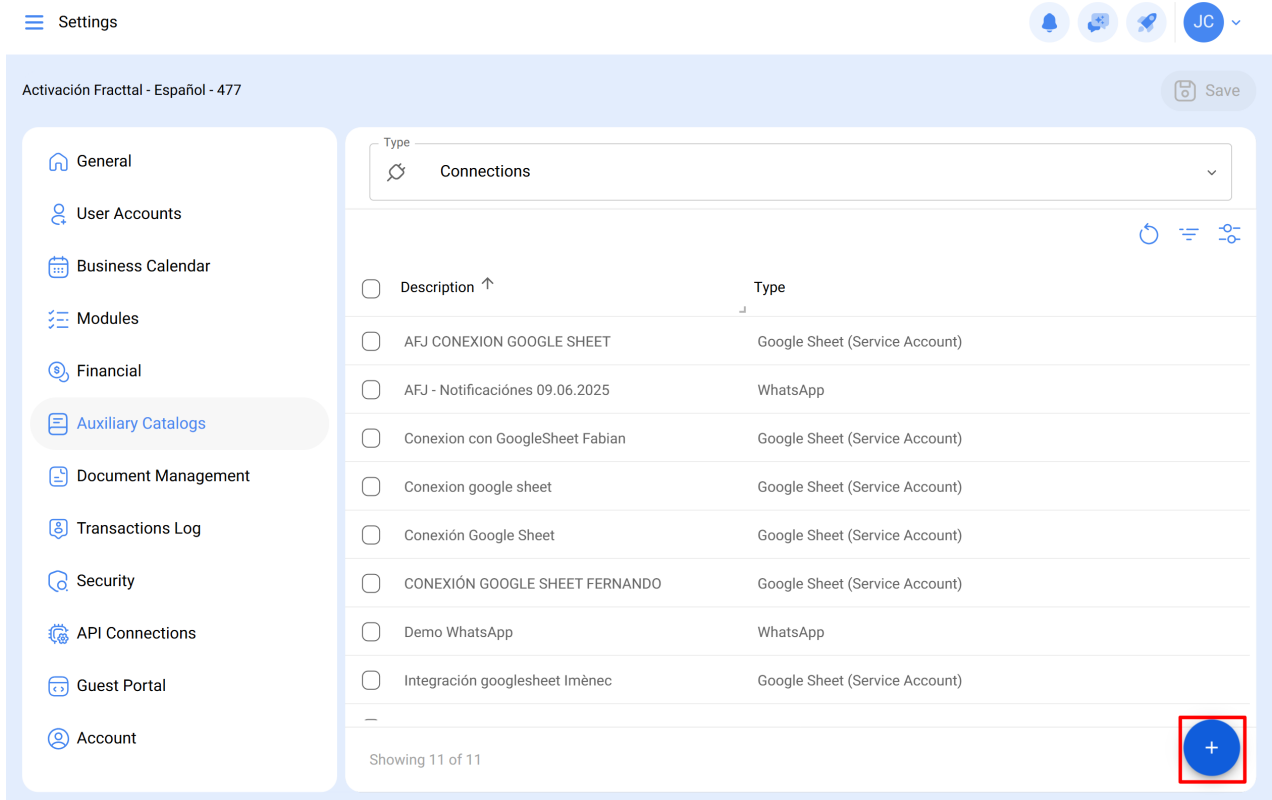


The settings page is titled "Activación Fractal - Español - 477". The left sidebar lists various settings categories, with "Auxiliary Catalogs" highlighted. The main content area shows the configuration for this catalog:

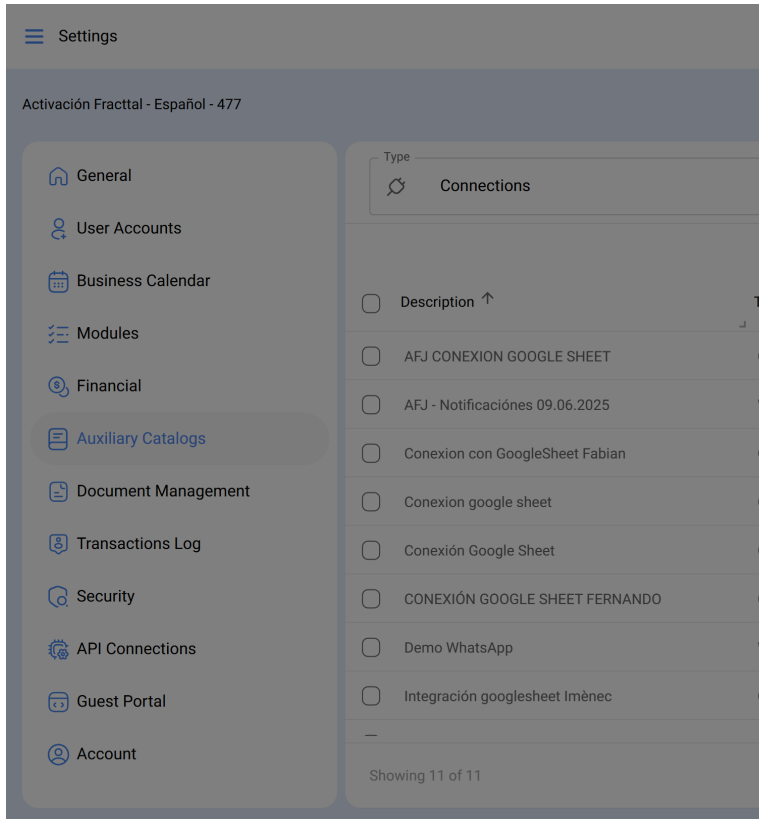
- General:**
  - Code: RFC10829120
  - Name: Activación Fractal - Español - 477
  - Email: contacto@fractal.com
  - Currency: Chilean Peso
  - Thousands separator: (.) The character used is a p
- Address:**
  - Address: Calle de San José Artesano, 12
  - City: Bogota
  - State: Cundinamarca
  - Country: Colombia
  - Zip code: 28108
- Map:** A Google Map showing the location of Inacap Apoquindo.



2. Haz clic en el ícono + para agregar una nueva conexión.



### 3. Rellena los siguientes campos:



← ✓

Type

Type can't be blank

Description

Description can't be blank

- **Tipo:** Selecciona **Google Sheet (Service Account)**.

- **Descripción:** Asigna un nombre a la conexión:

4. Abre el archivo .json descargado y copia/pega el contenido de los siguientes campos en sus respectivos lugares del formulario de Fractal:

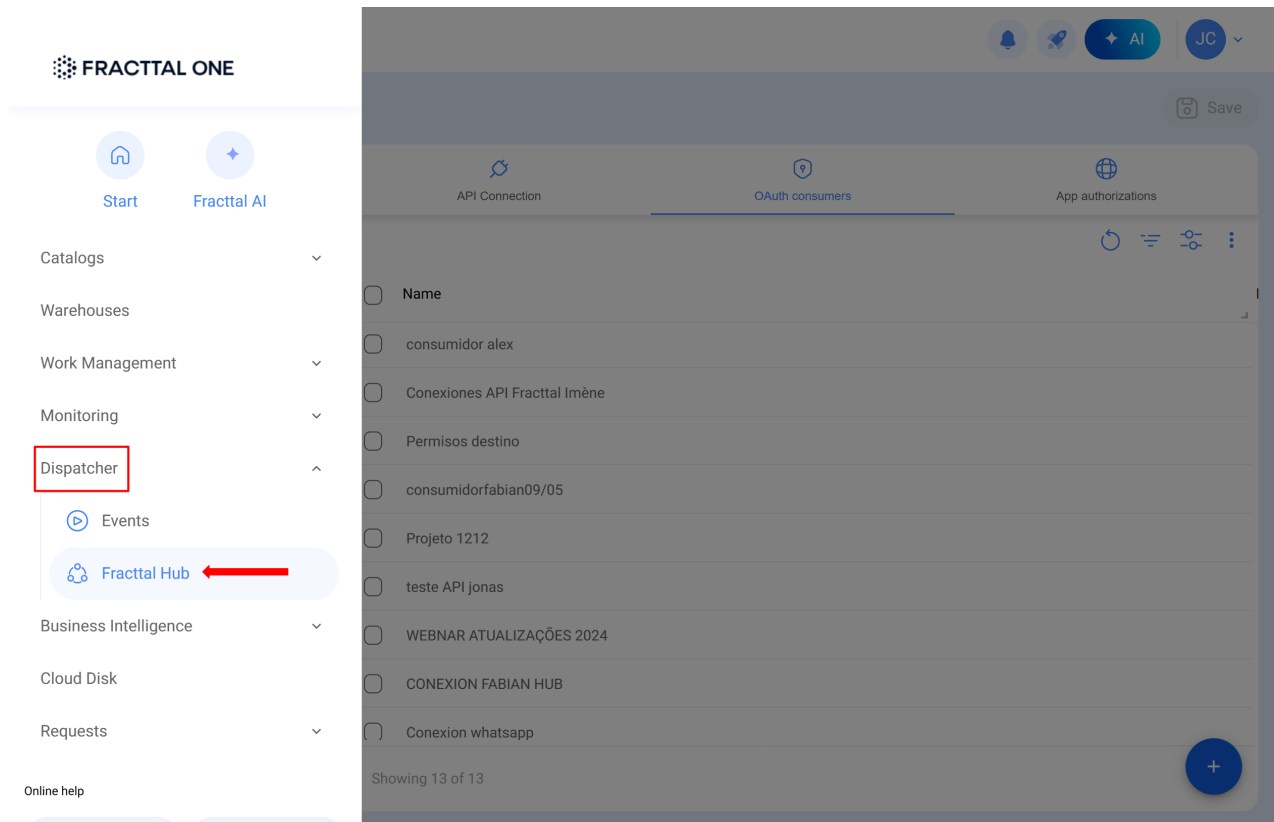
- private\_key
- client\_email
- client\_id
- client\_x509\_cert\_url

5. Haz clic en el ícono ✓ para guardar y luego en **Guardar**.

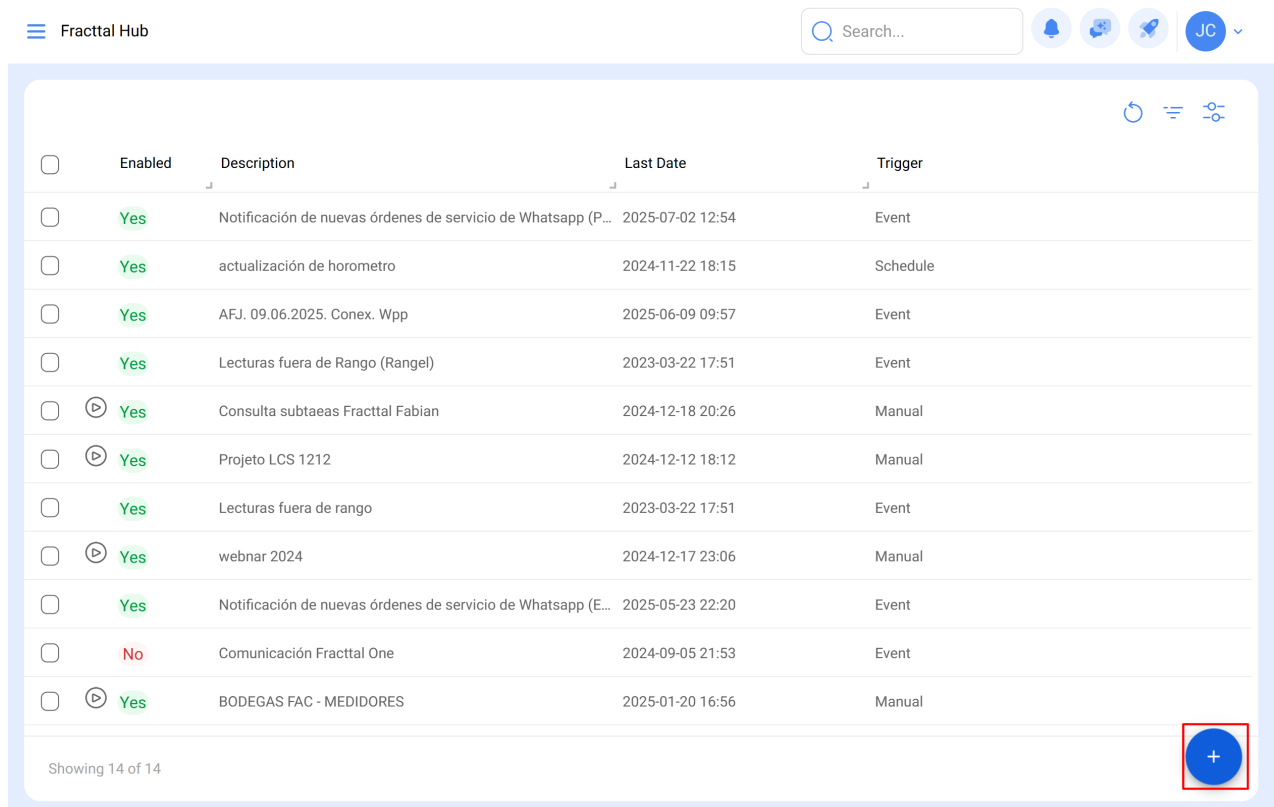
## Paso 6: Configurar el flujo en Fractal Hub

Con la conexión lista, el último paso es crear el flujo de automatización.

## 1. Navega hasta el módulo **Fractal Hub**.



## 2. Haz clic en el ícono + para crear un nuevo flujo.



### 3. Añade una **Descripción** para el flujo:

The screenshot displays the Fractal Hub interface for configuring a flow. At the top, the header includes the 'Fractal Hub' logo, a notification bell, a search icon, an 'AI' button, and a user profile 'JC'. On the left sidebar, there is a toggle for 'Enabled', a 'Required Information' section with three bullet points, and a 'Flow' section with 'Execution history' and 'Event queue' links. The main area is titled 'Flow settings' and contains a 'Description' field with the text 'CREAR MEDIDOR', which is highlighted by a red rectangle. Below the description is a flow diagram with three stages: 'Source' (containing 'Trigger' and 'Source' components), 'Filter' (containing 'Select One' component), and 'Target' (containing 'Connection' and 'Settings' components). Arrows indicate the flow from Source to Filter to Target.

### Configuración del activador:

Haz clic en **Activador** y selecciona el tipo **Manual**. Esto permite ejecutar el flujo cuando se desee.

Fractal Hub

Save

Enabled

Required Information

- Source configuration cannot be empty
- Target connection settings cannot be empty
- Mapping to destination configuration cannot be empty

Flow

Execution history

Event queue

Flow settings

Description

CREAR MEDIDOR

Trigger

Source

→

Select One

→

Connection

Settings

Source

Filter

Target

## Configuración de la Fuente:

Fractal Hub

Save

Enabled

Required Information

- Source configuration cannot be empty
- Target connection settings cannot be empty
- Mapping to destination configuration cannot be empty

Flow

Execution history

Event queue

Flow settings

Description

CREAR MEDIDOR

Trigger

Source

→

Select One

→

Connection

Settings

Source

Filter

Target

- Haz clic en **Fuente**.
- **Módulo**: Selecciona GoogleSheet.
- **Conexión**: Selecciona la conexión creada en el paso anterior.
- **Acción**: Selecciona Leer.
- **spreadsheet\_id**: Copia el ID de tu hoja de cálculo (lo encuentras en la URL, entre /d/ y /edit/).
- **sheet**: Escribe 0 para leer la primera pestaña.
- **Campos**: Agrega los nombres de las columnas: *description*, *item\_code*, *unit\_code*, *is\_counter*.

## Configuración del Destino:

The screenshot displays the Fractal Hub interface for configuring a destination. On the left sidebar, the 'Flow' section is active, showing 'Execution history' and 'Event queue'. The main area is titled 'Flow settings' and contains a 'Description' field with the text 'Asociar activo a plan de MTTO'. Below this, a flow diagram shows three stages: 'Source' (with 'Trigger' and 'Source' options), 'Filter' (with 'Select One' option), and 'Target' (with 'Connection' and 'Settings' options). The 'Connection' option in the Target stage is highlighted with a red box. A 'Required Information' section on the left lists the following requirements:

- Source configuration cannot be empty
- Target connection settings cannot be empty
- Mapping to destination configuration cannot be empty

- Haz clic en **Conexión** en la sección de destino.
- **Módulo**: Selecciona Fractal.
- **Conexión**: Elige FRACTTAL HUB.

- **Acción:** Selecciona Crear Medidor.

The screenshot displays the Fractal Hub interface. On the left, there is a sidebar with a menu icon and the text 'Fractal Hub'. Below this, there is a section labeled 'Enabled' with a toggle switch. A 'Required Information' section contains a message: 'Target connection settings cannot be empty'. The main area shows a 'Flow' configuration with a 'Description' field containing 'CREAR MEDIDOR'. Below the description, there are two buttons: 'Trigger' and 'Source', followed by a large blue arrow pointing right. To the right of the arrow, there is a 'Select One' dropdown menu. On the far right, a 'Target' configuration panel is open, showing a list of modules and connections. The 'Module' is set to 'Fractal', the 'Connection' is 'FRACTAL HUB', and the 'Action' is 'Create Gauges'. A red box highlights the 'Target' tab and the configuration fields.

**Configuración de campos (mapeo):**

Fractal Hub

Enabled ☒

**Required Information**

- Target connection settings cannot be empty

Flow

Execution history

Event queue

Flow settings

Description

CREAR MEDIDOR

Trigger Source

Select One

Connection Settings

Source Filter Target

Save

- Haz clic en **Configuración** en la sección de destino.
- Mapea los campos de la hoja (Origen) con los del sistema (Destino), asegurándote de que coincidan:

Fracttal Hub

Enabled

Information

Flow

Execution history

Event queue

Description

CREAR MEDIDOR

Trigger

Source

Source

Fields Configuration

Source: Google Sheet → Target: Fracttal API

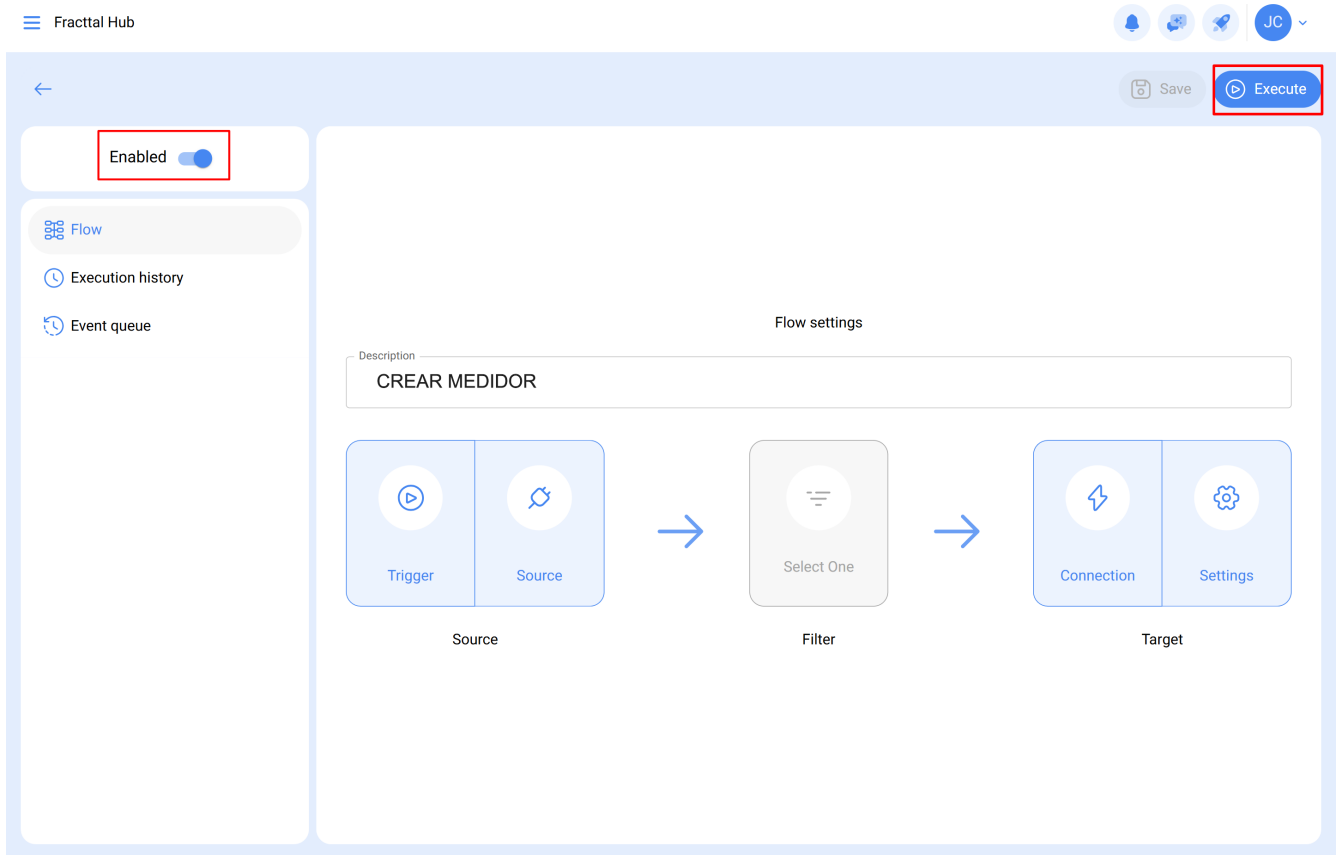
| Source (Fields) |   | Target (Fields)     |  |
|-----------------|---|---------------------|--|
| description     | → | description         |  |
| item_code       | → | item_code           |  |
| unit_code       | → | unit_code           |  |
| is_counter      | → | serial              |  |
| All -> Object   | → | is_counter          |  |
| All -> Object   | → | serial_parent_meter |  |
| All -> Object   | → | last_reading        |  |

## Paso 7: Ejecutar y verificar el flujo

1. Haz clic en **Guardar** para guardar la configuración del flujo.

The screenshot displays the 'Fractal Hub' interface. On the left, there's a sidebar with 'Enabled' toggle, 'Information' (You have pending changes to save!), 'Flow' section, 'Execution history', and 'Event queue'. The main area shows a flow diagram with a 'Trigger' and 'Source' block, and a 'Flow set' block. On the right, the 'Fields Configuration' panel is open, showing a mapping between 'Source (Fields)' and 'Target (Fields)'. The source fields are 'description', 'item\_code', 'unit\_code', 'is\_counter', 'All -> Object', 'All -> Object', and 'All -> Object'. The target fields are 'description', 'item\_code', 'unit\_code', 'serial', 'is\_counter', 'serial\_parent\_meter', and 'last\_reading'. Each mapping has a gear icon for configuration. A red checkmark icon is visible in the top right corner of the 'Fields Configuration' panel.

2. Activa el interruptor **Habilitado**.
3. Haz clic nuevamente en **Guardar**.
4. Haz clic en el botón **Ejecutar** para iniciar el proceso.



Puedes monitorear el progreso en las pestañas **Cola de eventos** e **Historial de Ejecución**. Un proceso exitoso mostrará "Proceso Realizado" y marcará como completas las etapas de Extracción, Transformación y Carga.

**Para verificar**, ve a **Tareas > Plan de Tareas**, selecciona el plan correspondiente y, en la pestaña **Activos Vinculados**, verás el activo que fue asociado mediante la hoja de cálculo.

#### Notas:

- Este método es compatible únicamente con planes de tareas basados en **frecuencia (fecha)**. No es compatible con planes que tengan activadores por lectura de **medidor**.
- Puedes añadir múltiples filas en tu hoja de Google Sheets para asociar varios activos a uno o más planes de una sola vez.