

ETL

N8N

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DATE : 09/10/2023

TP ISIMA ZZ3 F3 BUSINESS INTELLIGENCE



**PLACE À LA
PRATIQUE**

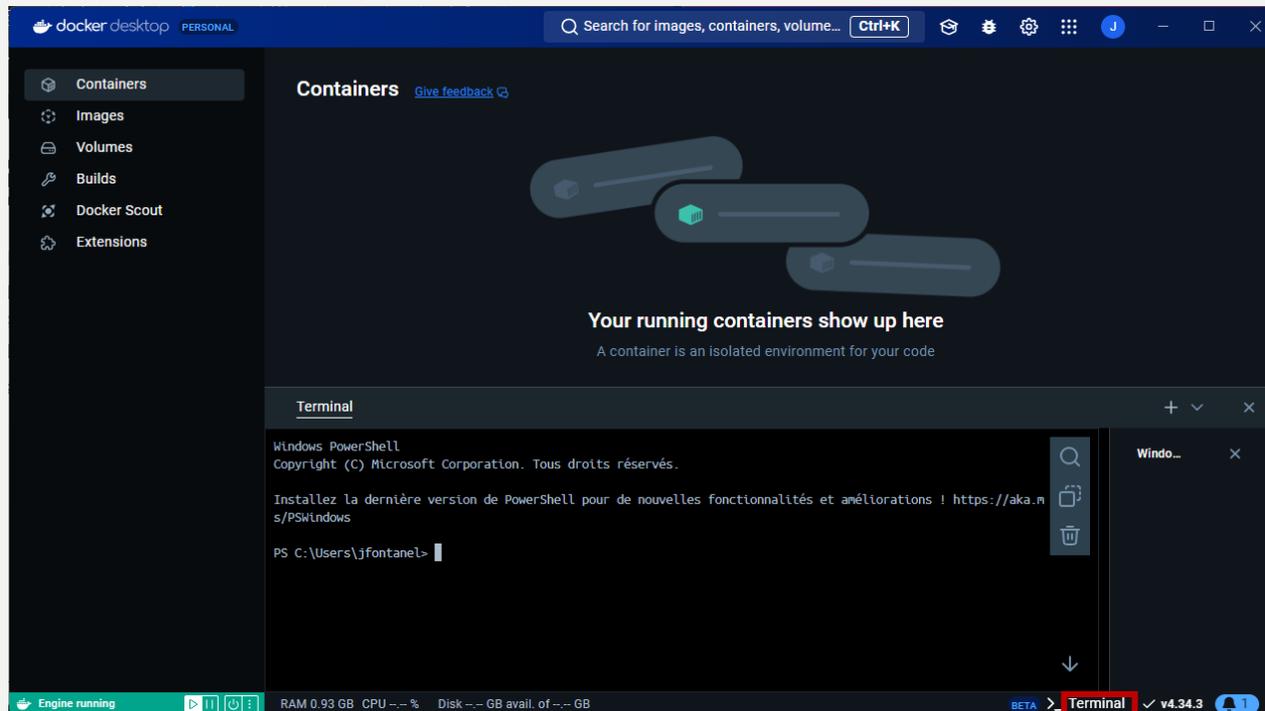


TP4

N8N

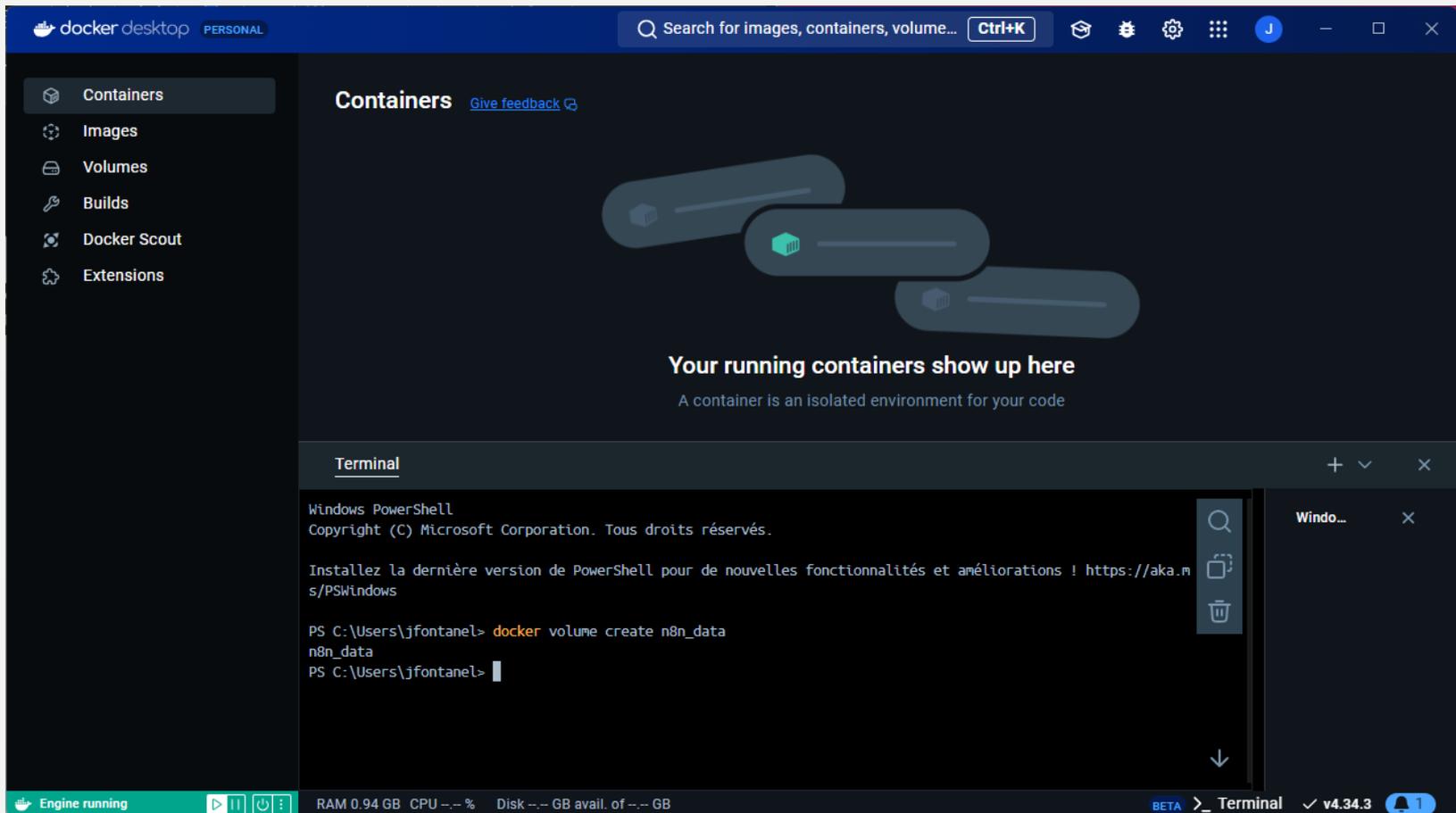
INSTALLATION DE N8N

- Installer de Docker Desktop en laissant les paramètres par défaut :
 - Lien de téléchargement : <https://www.docker.com/products/docker-desktop/>
- Par la suite lancer Docker Desktop après avoir créé un compte en cliquant sur terminal en bas à droite



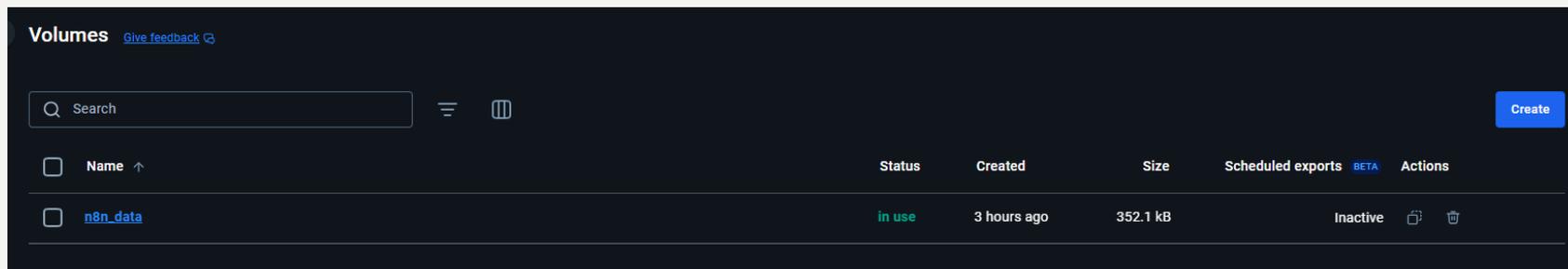
INSTALLATION DE N8N

- Lancer la commande suivante dans le terminal permettant de garder vos data dans un volume à côté : `docker volume create n8n_data`



INSTALLATION DE N8N

- Voici votre volume créé :

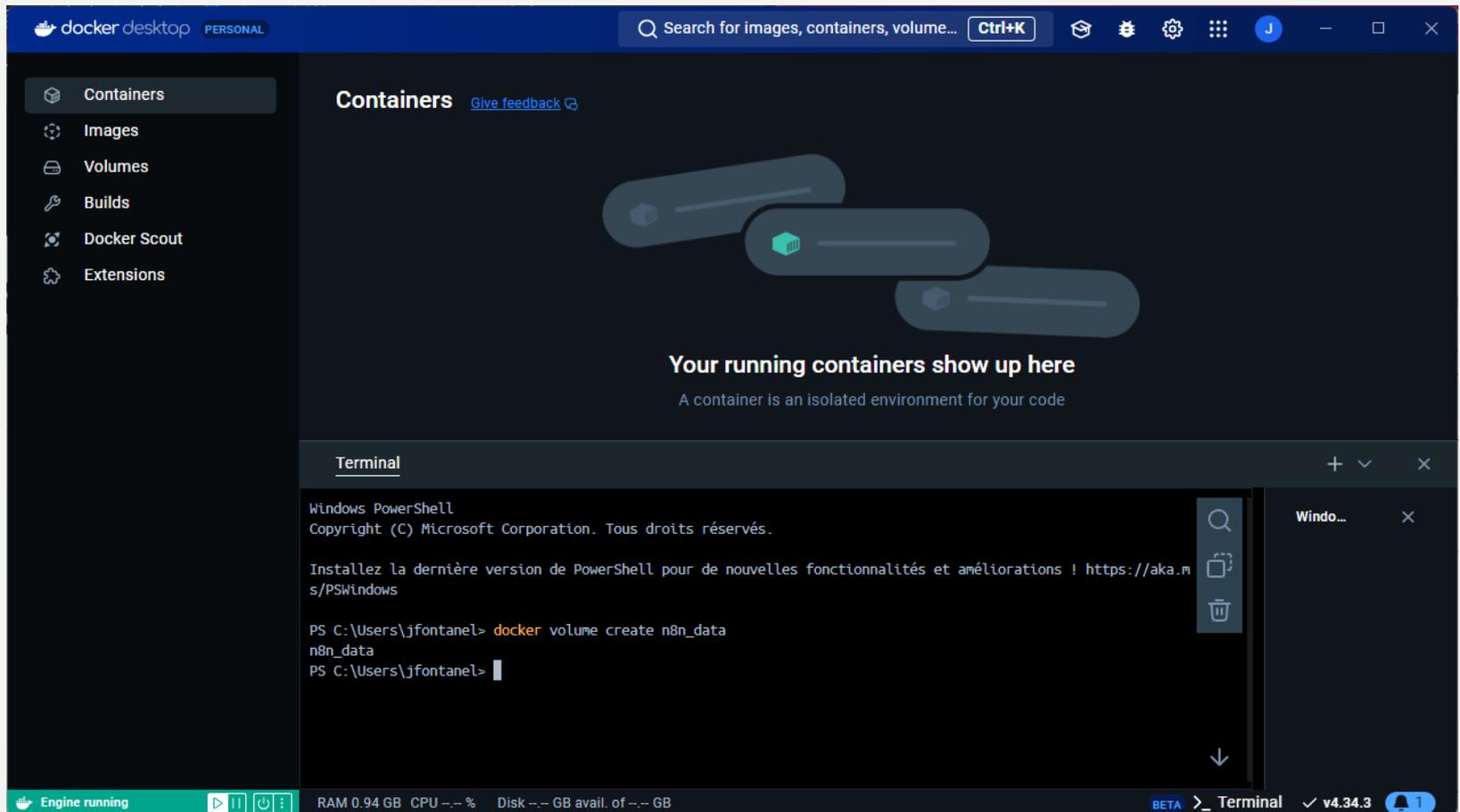


The screenshot shows the 'Volumes' management interface in N8N. It features a search bar, a 'Create' button, and a table listing the volumes. The table has columns for Name, Status, Created, Size, Scheduled exports, and Actions.

<input type="checkbox"/>	Name ↑	Status	Created	Size	Scheduled exports <small>BETA</small>	Actions
<input type="checkbox"/>	n8n_data	in use	3 hours ago	352.1 kB		Inactive  

INSTALLATION DE N8N

- Lancer la commande suivante dans le terminal :
 - `docker run -it --rm --name n8n -p 5678:5678 -v n8n_data:/home/node/.n8n docker.n8n.io/n8nio/n8n`



INSTALLATION DE N8N

- Un nouveau container est créé à partir de l'image et une liaison a été faite avec le volume pour le stockage des données

The screenshot shows the Docker Desktop interface. On the left is a sidebar with navigation options: Containers, Images, Volumes, Builds, Docker Scout, and Extensions. The main area is titled 'Containers' and displays system metrics: 'Container CPU usage' at 0.01% / 1200% (12 CPUs available) and 'Container memory usage' at 135.2MB / 7.42GB. A search bar and a toggle for 'Only show running containers' are present. Below is a table of containers:

Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
n8n	n8nio/n8n<none>	Running	5678:5678	0.1%	3 hours ago	[Stop] [Refresh] [Delete]

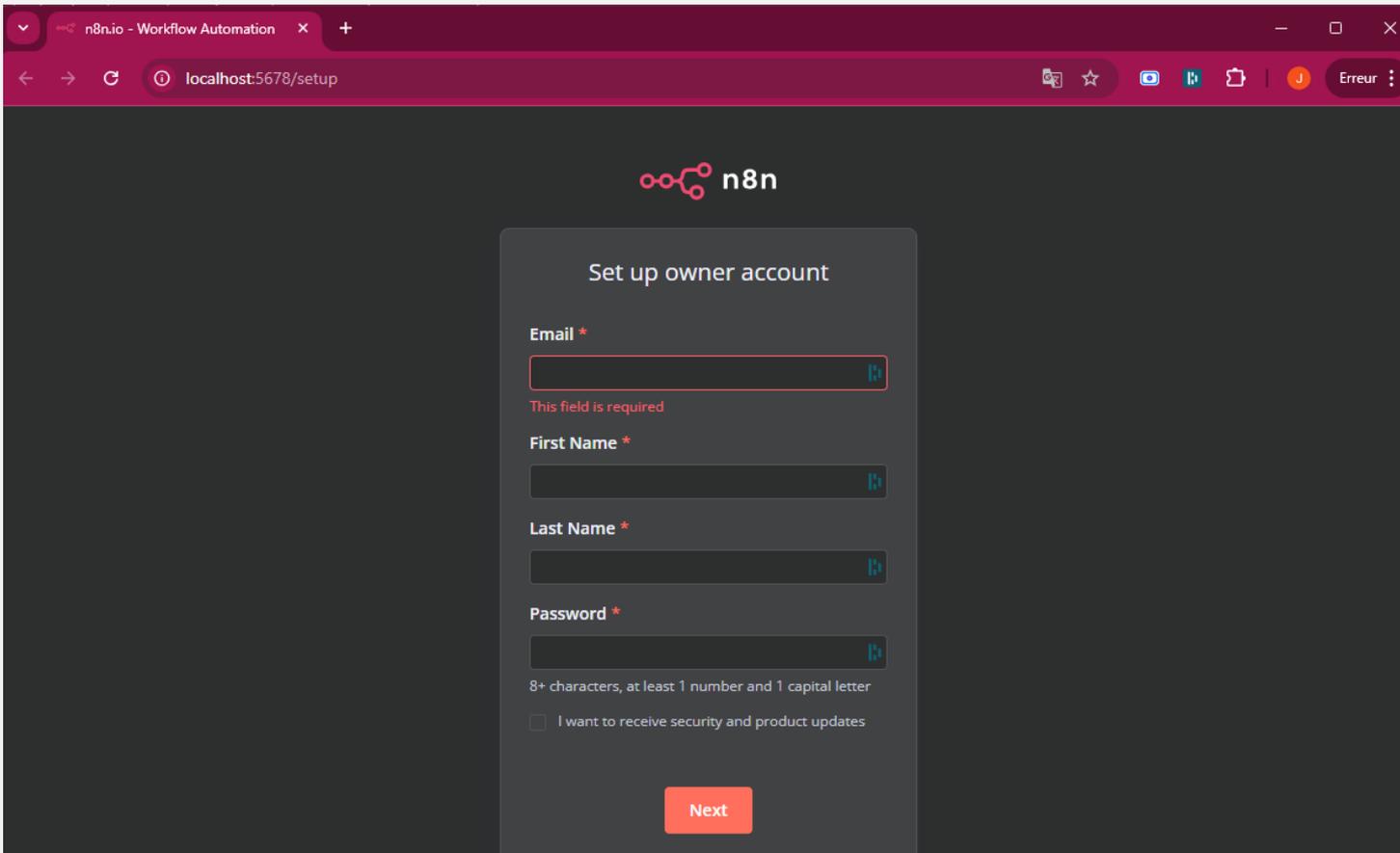
- Image qui a servi de modèle pour le container

The screenshot shows the Docker Desktop interface for the 'Images' tab. It displays system metrics: '839.09 MB / 0 Bytes in use' and '1 images'. A search bar and a refresh button are visible. Below is a table of images:

Name	Tag	Status	Created	Size	Actions
docker.n8n.io/n8nio/n8n	latest	In use	2 days ago	1.01 GB	[Play] [Refresh] [Delete]

CONFIGURATION DE N8N

- Se rendre à l'adresse suivante : <http://localhost:5678/setup>
- Configuration du compte admin avec



n8n.io - Workflow Automation

localhost:5678/setup

Erreur

 n8n

Set up owner account

Email *

This field is required

First Name *

Last Name *

Password *

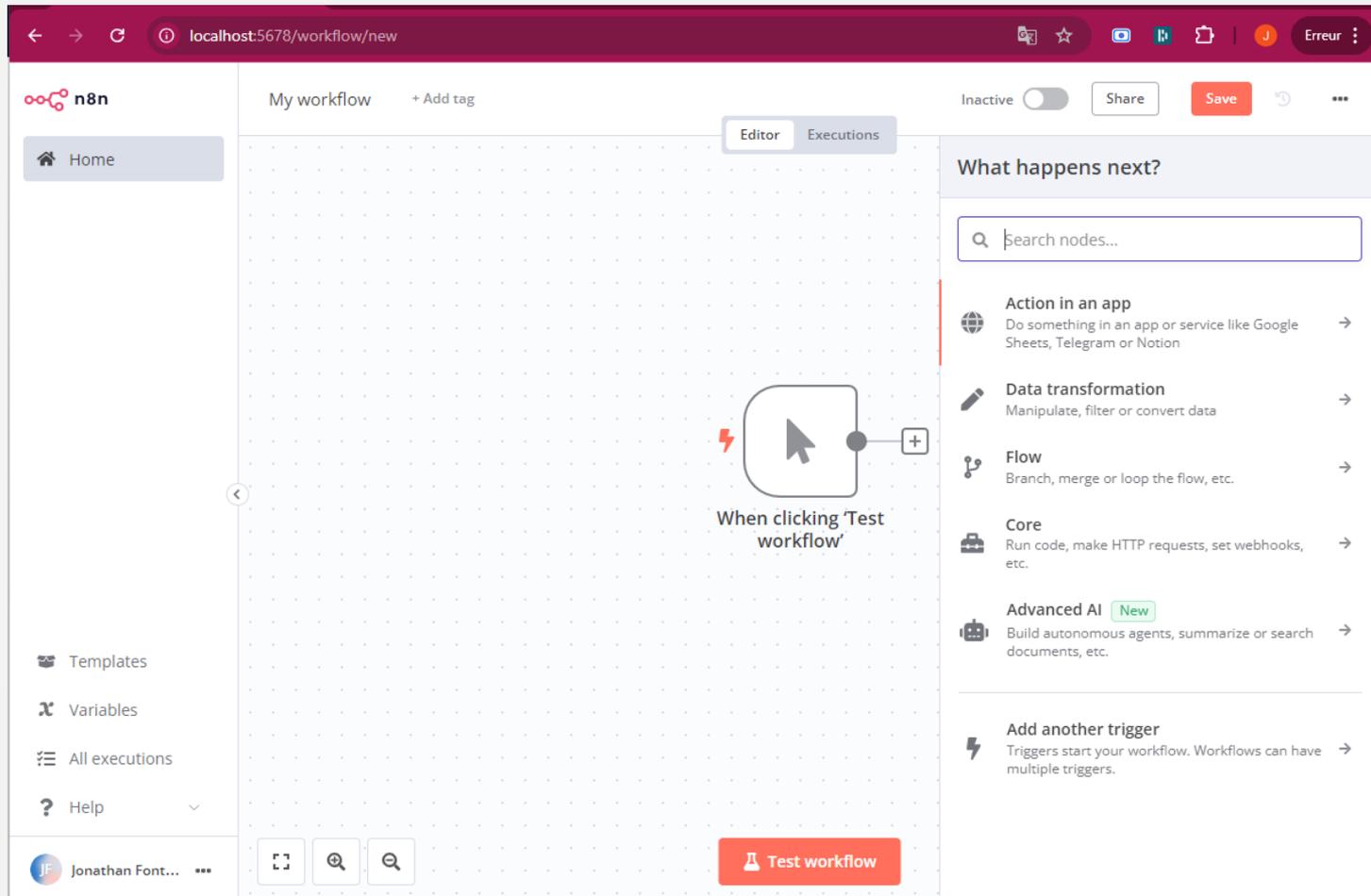
8+ characters, at least 1 number and 1 capital letter

I want to receive security and product updates

Next

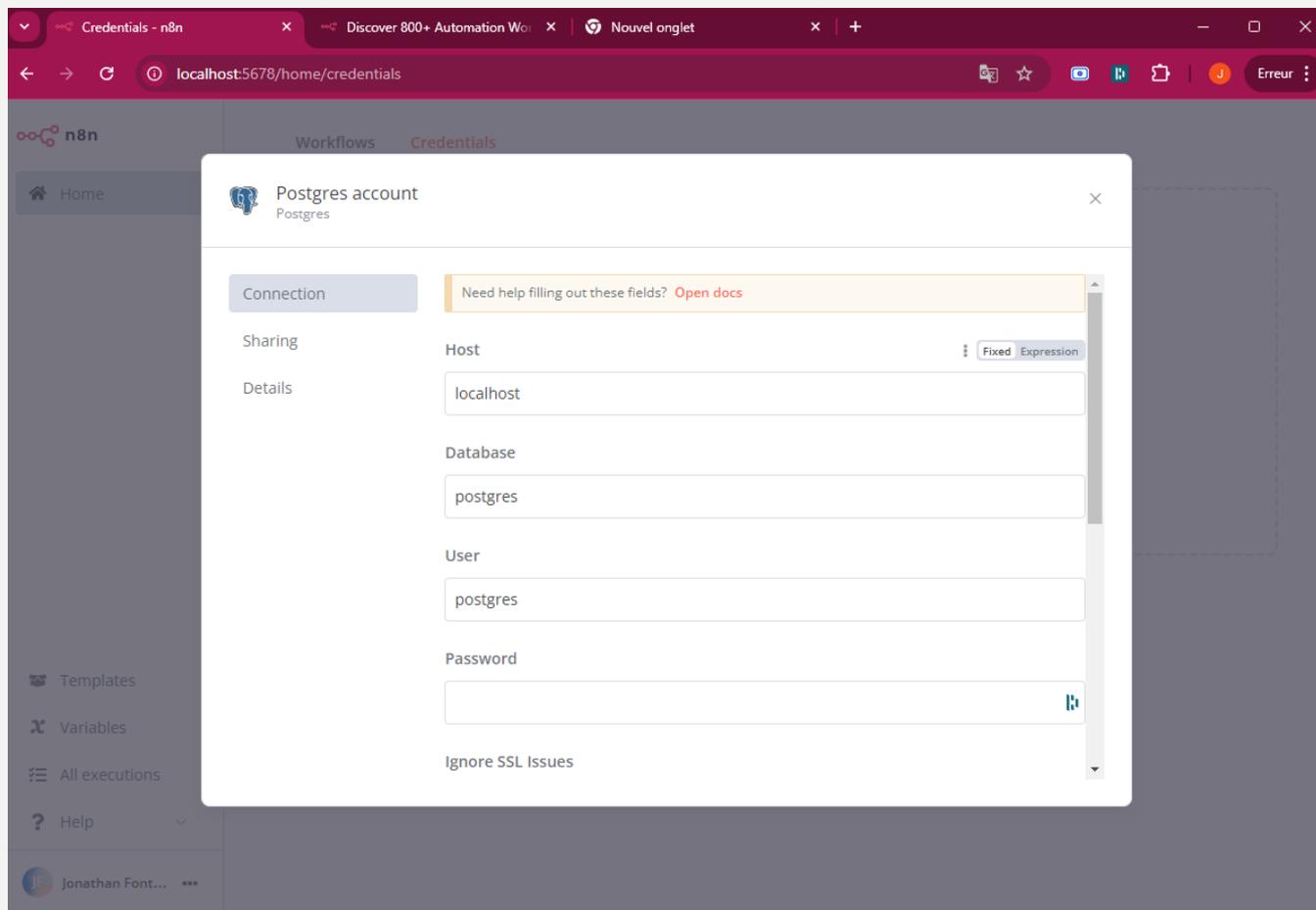
PRÉSENTATION DE N8N

- Les workflows permettent de pouvoir créer des flux



PRÉSENTATION DE N8N

- Les credentials permettent de pouvoir stocker les identifiants et les mots de passe pour accéder aux applications ou aux bases de données



PRÉSENTATION DE N8N

- Les templates permettent de pouvoir récupérer des workflows de la communauté

The screenshot shows the n8n website's '995 Workflow Automation Templates' page. The navigation bar includes 'Product', 'Use cases', 'Docs', 'Community', 'Enterprise', and 'Pricing', along with 'Sign in' and 'Get started' buttons. The main heading is '995 Workflow Automation Templates' with a subtitle 'Explore 900+ workflow templates submitted by our global creator community'. A search bar is present with the placeholder text 'Search apps, roles, usecases...'. Below the search bar are various category filters: AI, SecOps, Sales, IT Ops, Marketing, Engineering, DevOps, Building Blocks, Design, Finance, HR, Other, Product, and Support. The featured template is 'Creating an API endpoint' by Jonathan, which includes a task description, a workflow diagram, and instructions on how to use it.

995 Workflow Automation Templates

Explore 900+ workflow templates submitted by our global creator community

Search apps, roles, usecases...

AI SecOps Sales IT Ops Marketing Engineering DevOps

Building Blocks Design Finance HR Other Product Support

Newcomer essentials: learn by doing

Creating an API endpoint

Task: Create a simple API endpoint using the Webhook and Respond to Webhook nodes Why: You can prototype or replace a backend process with a single workflow Mai...

Jonathan

Create a simple API endpoint

In this workflow we show how to create a simple API endpoint with **Webhook** and **Respond to Webhook** nodes

```
graph LR; A[Webhook] --> B[Create URL string]; B --> C[Respond to Webhook];
```

How to use it

1. Execute the workflow so that the webhook starts listening
2. Make a test request by pasting, in a new browser tab, the test URL from the **Webhook** node and appending the following test at the end ? `first_name=boob&last_name=dylan`

You will receive the following output in the new tab The URL of search query for the term "bob dylan" is: `https://search?q=bob=dylan`

PRÉSENTATION DE N8N

- Visualisation des exécutions des workflows :

The screenshot shows the n8n web interface. On the left is a sidebar with the n8n logo and navigation links: Home, Templates, Variables, and All executions. The main area is titled 'Executions' and contains a table with the following header:

<input type="checkbox"/>	Name	Started At	Status	Execution ID
--------------------------	------	------------	--------	--------------

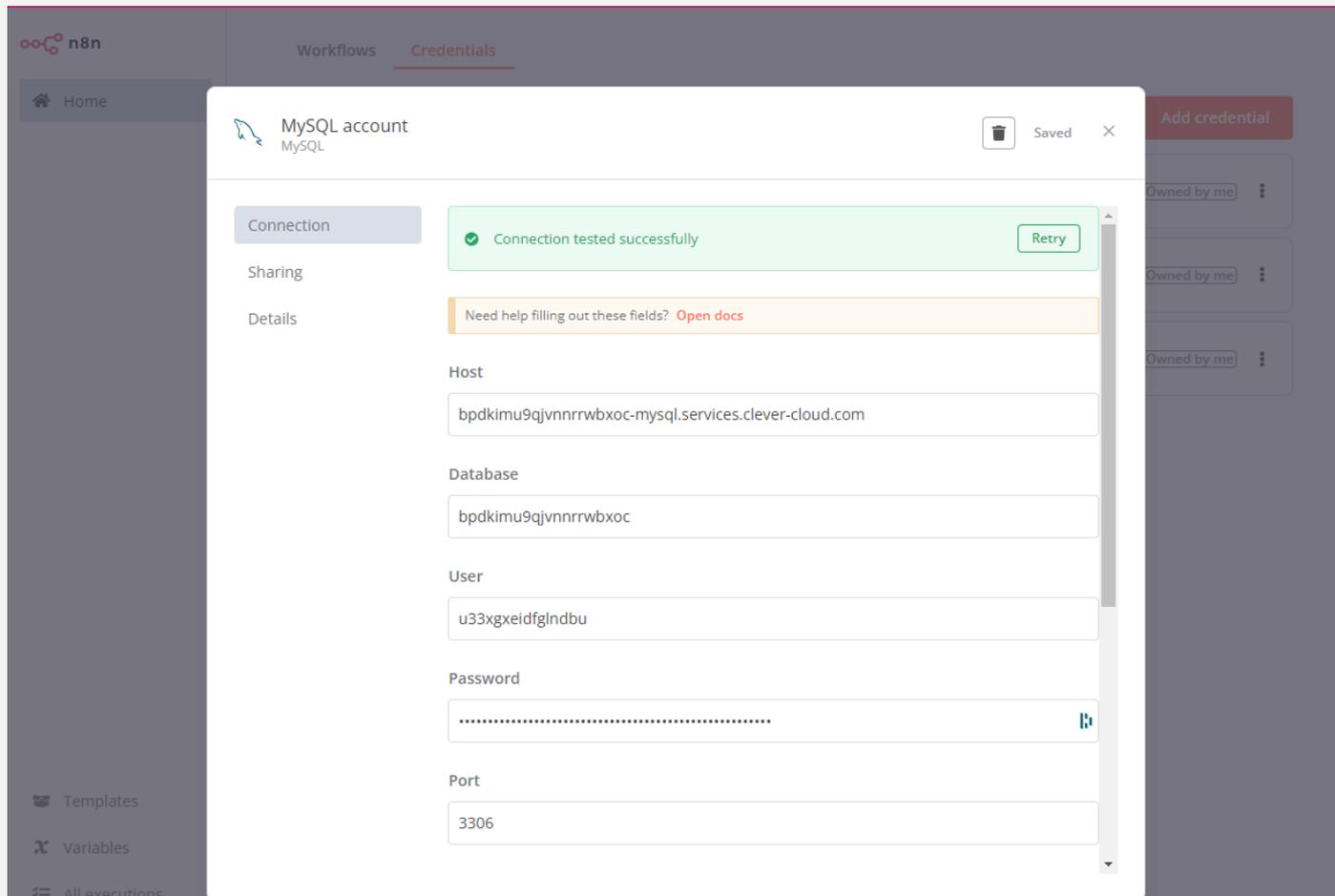
. Below the header, the text 'No executions' is displayed. In the top right corner of the main area, there are controls for 'Auto refresh' (checked) and 'Filters'.

TO DO

- 1^{er} job pour lire une table et ajouter un champ et enregistrer dans Google Drive :
 - Création d'un credential pour se connecter à MySQL
 - Création d'un workflow
 - Ajout de plusieurs nœuds
 - Ajout d'un champ calculé à partir d'un champ présent – edit fields
 - Exécution du job avec un champ supplémentaire
 - Création d'une connexion avec Google Drive
 - Création d'un fichier Google Sheet qui enregistre dans Google Drive les données extraites de MySQL

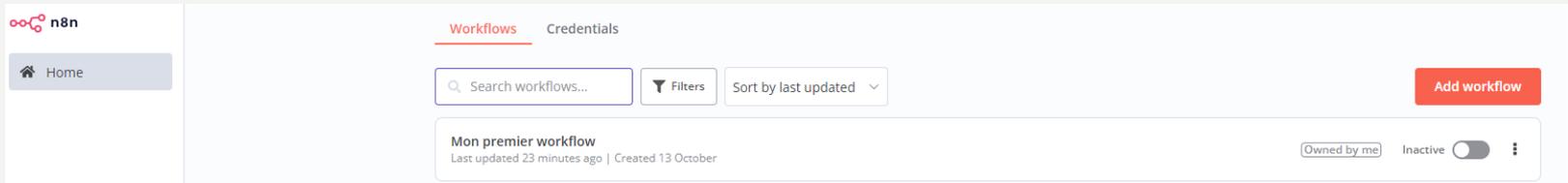
ATELIERS SUR N8N

- Création d'un credential pour se connecter à MySQL (cf. information tableau)

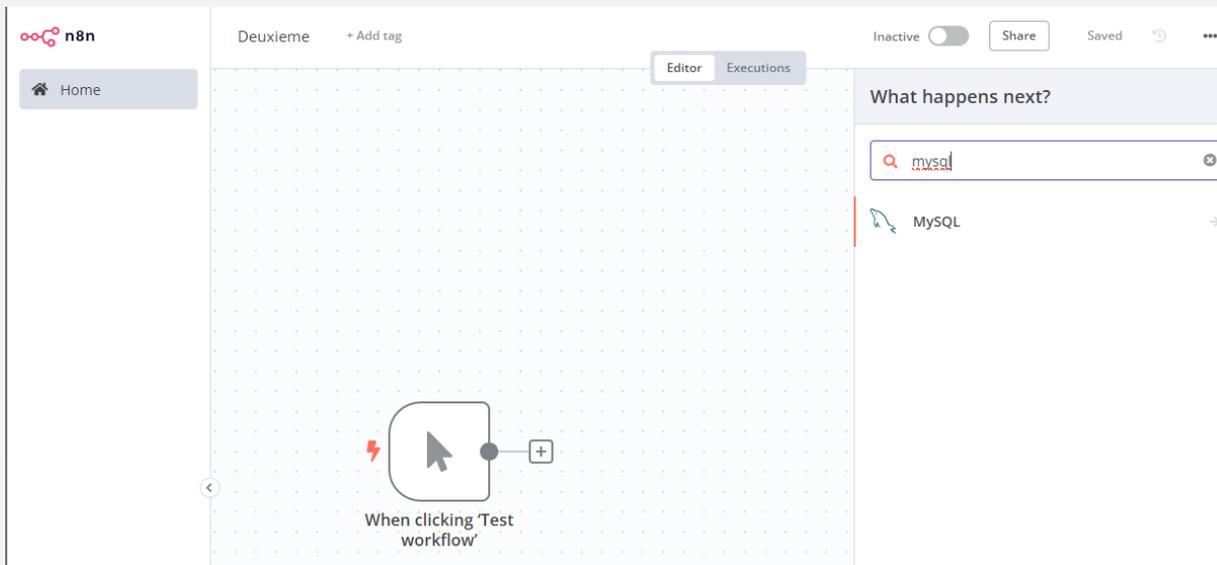


ATELIERS SUR N8N

- Création d'un workflow

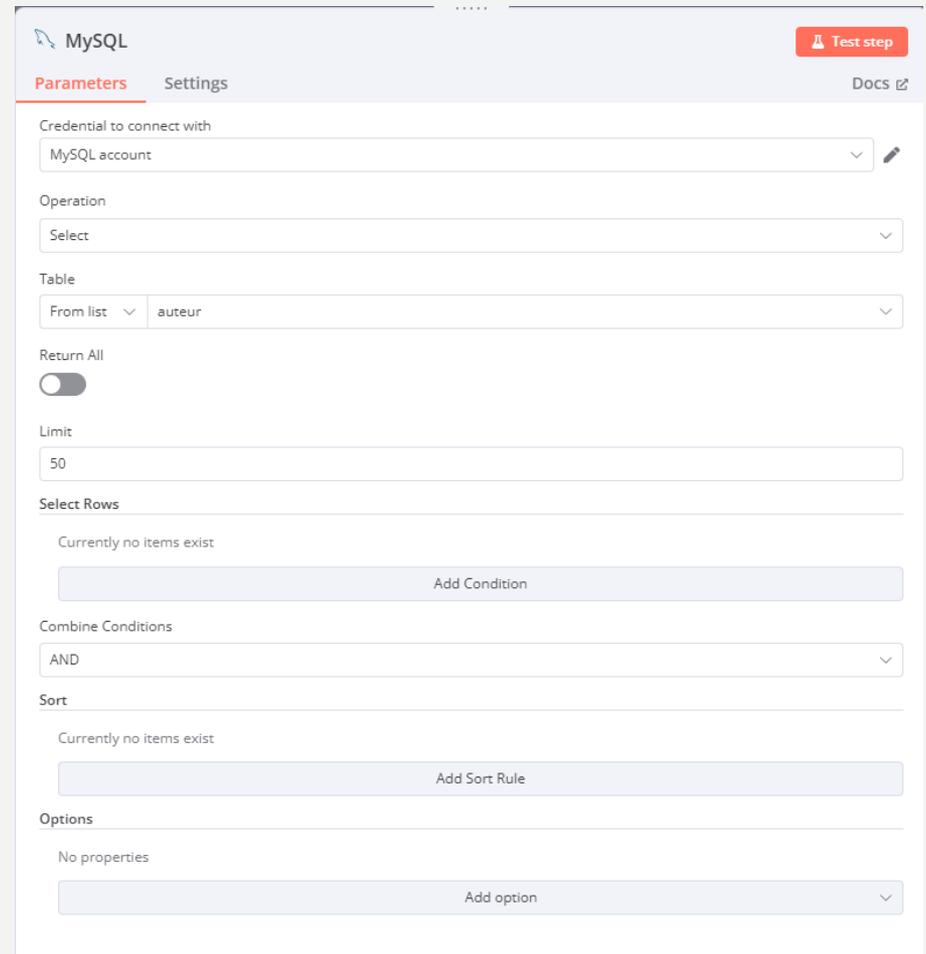
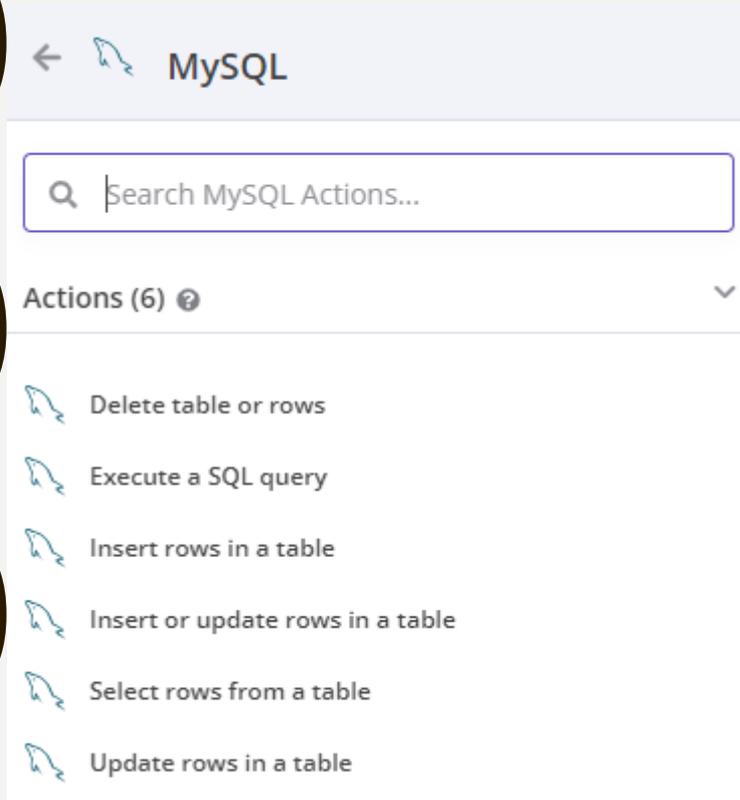


- Ajouter un composant MySQL en cliquant sur « + »



ATELIERS SUR N8N

- Cliquer sur la ligne « Select rows from a table »



ATELIERS SUR N8N

- Cliquer sur « Test step » :

The screenshot shows the n8n interface with a MySQL connector configuration window open. The configuration includes fields for 'Credential to connect with' (MySQL account), 'Operation' (Select), 'Table' (auteur), and 'Limit' (50). The 'Return All' toggle is turned off. The 'OUTPUT' panel on the right displays a table with 6 items.

MySQL Configuration:

- Credential to connect with: MySQL account
- Operation: Select
- Table: From list / auteur
- Return All:
- Limit: 50
- Select Rows: Currently no items exist
- Combine Conditions: AND
- Sort: Currently no items exist
- Options: No properties

OUTPUT:

NUMERO_A	NOM	PRENOM	DOMICILE
1	Taylor	Annie	Pen Argyl
2	Marine	Corbin	Nice
3	Jeanette	Charron	Agen
4	Antoine	Phaneuf	Epinal
5	Philippine	Rochefort	SAINT-LAURENT-DU-VAR
8547585	Florus	Racine	NOGENT-SUR-MARNE

ATELIERS SUR N8N

- Ajouter un champ calculé avec Edit fields (Set) :

The screenshot displays the n8n workflow editor interface. The main workspace shows a workflow with two nodes: 'When clicking Test workflow' (trigger) and 'MySQL select' (action). The workflow is titled 'Deuxieme' and is currently inactive. The right sidebar shows a search for 'edit' and a list of nodes including 'Edit Fields (Set)'. The 'Edit Fields (Set)' node is highlighted, indicating it is the selected node for the next step.

Workflow details:

- Workflow name: Deuxieme
- Workflow status: Inactive
- Workflow tags: + Add tag
- Workflow nodes: 1 item (When clicking Test workflow) → 6 items (MySQL select)

Right sidebar search results:

- Search: edit
- Nodes listed: Edit Image, Edit Fields (Set), Reddit, Remove Duplicates, Read/Write Files from Disk, LDAP, Google Cloud Firestore, Acuity Scheduling, Cisco Secure Endpoint

ATELIERS SUR N8N

- Créer un champ qui s'appelle « Old or new autor » :
 - Bien mettre expression
 - Cocher « Include Other Input Fields »

The screenshot displays the n8n 'Edit Fields' configuration window. On the left, the 'INPUT' section shows a MySQL schema with fields: NUMERO_A (1), NOM (Taylor), PRENOM (Annie), and DOMICILE (Pen Argyl). The 'Edit Fields' window is open, showing the 'Parameters' tab. The 'Mode' is set to 'Manual Mapping'. Under 'Fields to Set', a new field 'Old or new autor' is being created, set to 'String' type, with the expression: `{{ $json.NUMERO_A >10000? 'Auteur ancien' : 'Auteur jeune'}}`. The 'Include Other Input Fields' toggle is checked. The 'Input Fields to Include' dropdown is set to 'All'. The 'OUTPUT' panel on the right contains the text: 'Execute this node to view data or set mock data'.

ATELIERS SUR N8N

- Exécuter en appuyant sur « Test step » :

The screenshot displays the n8n interface with a workflow step configuration window open. The left pane shows the 'INPUT' section with a MySQL connector and a table with 6 items. The central 'Edit Fields' window is in 'Parameters' mode, showing a 'Manual Mapping' configuration for the 'Old or new autor' field. The mapping is defined as: `Old or new autor = {{{ $json.NUMERO_A >10000? 'Auteur ancien' : 'Auteur jeune'}}}`. The right pane shows the 'OUTPUT' section with a table of 6 items.

NUMERO_A	NOM	PRENOM	DOMICILE	Old or new autor
1	Taylor	Annie	Pen Argyl	Auteur jeune
2	Marine	Corbin	Nice	Auteur jeune
3	Jeanette	Charron	Agen	Auteur jeune
4	Antoine	Phaneuf	Epinal	Auteur jeune
5	Philippine	Rochefort	SAINT-LAURENT-DU-VAR	Auteur jeune
8547585	Florus	Racine	NOGENT-SUR-MARNE	Auteur ancien

ATELIERS SUR N8N

- Créer une connexion à Google Sheet et Google Drive :

The screenshot displays the n8n configuration page for a Google Sheets account. At the top, it shows 'Google Sheets account' and 'Google Sheets OAuth2 API'. A 'Saved' button is visible in the top right corner. The left sidebar contains three tabs: 'Connection', 'Sharing', and 'Details'. The 'Connection' tab is active, showing a green status bar with a checkmark and the text 'Account connected'. To the right of this bar is a 'Reconnect:' button with the Google logo and the text 'Sign in with Google'. Below this is a yellow warning box that says 'Need help filling out these fields? [Open docs](#)'. The main configuration area includes three input fields: 'OAuth Redirect URL' with the value 'http://localhost:5678/rest/oauth2-credential/callback', 'Client ID *' with the value '808654123050-ub9nvn490r0tnqprdmjfiomkr7scv7q.apps.googleusercontent.com', and 'Client Secret *' which is currently masked with dots. At the bottom, another yellow warning box states: 'Make sure you enabled the following APIs & Services in the Google Cloud Console: Google Drive API, Google Sheets API. [More info](#)'. A final note at the very bottom indicates: 'Enterprise plan users can pull in credentials from external vaults. [More info](#)'.

ATELIERS SUR N8N

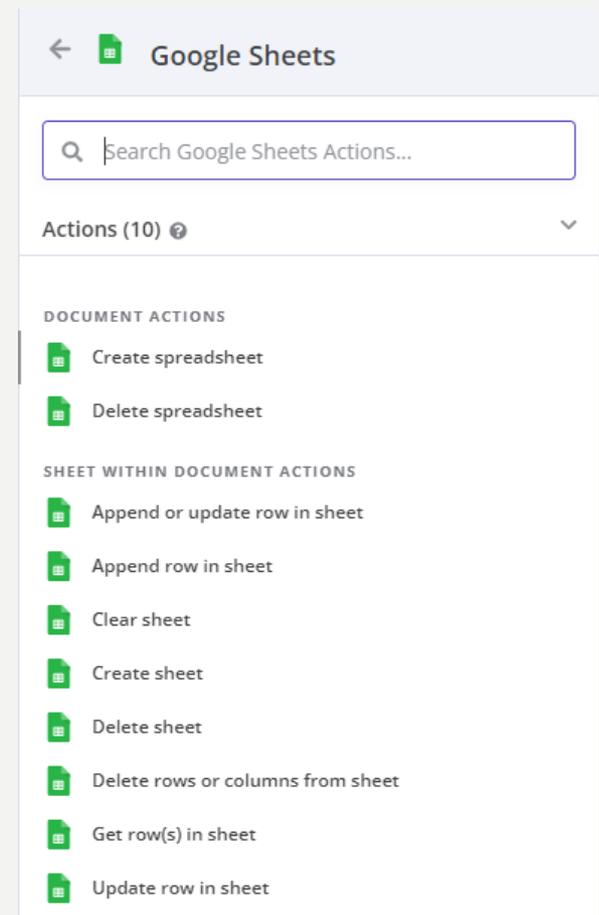
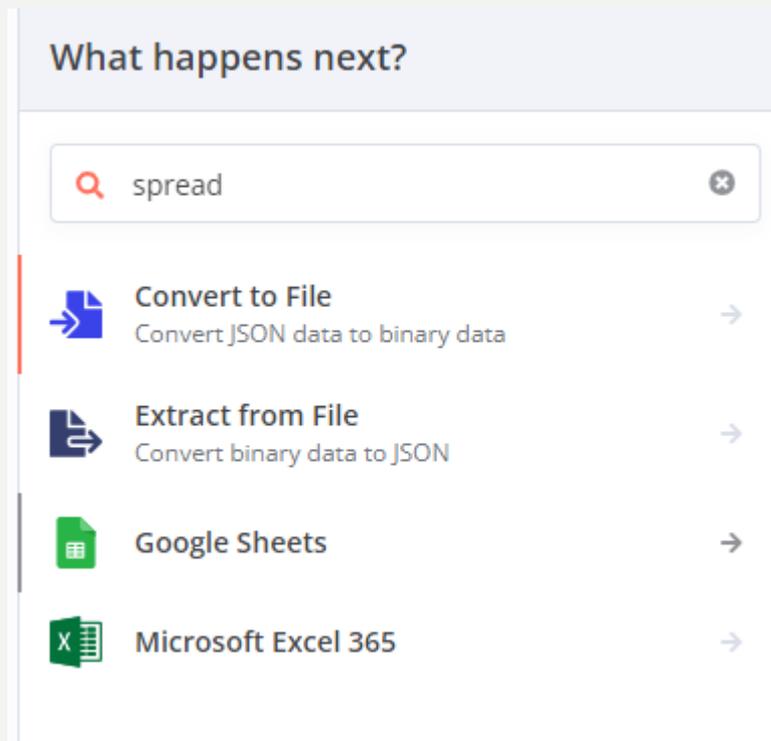
- Créer une connexion à Google Sheet et Google Drive :

The screenshot shows the 'Google Drive account' configuration page in N8N. The page title is 'Google Drive account' with the subtitle 'Google Drive OAuth2 API'. In the top right corner, there is a 'Saved' status with a trash icon and a close button. On the left side, there are three tabs: 'Connection' (selected), 'Sharing', and 'Details'. The main content area is divided into several sections:

- Connection:** A green box indicates 'Account connected'. To the right, there is a 'Reconnect:' button with the Google logo and the text 'Sign in with Google'.
- Help:** A yellow box contains the text 'Need help filling out these fields?' followed by a link to 'Open docs'.
- OAuth Redirect URL:** A text input field contains the URL 'http://localhost:5678/rest/oauth2-credential/callback'. Below the field, it says 'In Google Drive, use the URL above when prompted to enter an OAuth callback or redirect URL'.
- Client ID *:** A text input field contains the value '808654123050-ub9nvn490r0tnqprdmjfiomrkr7scv7q.apps.googleusercontent.com'.
- Client Secret *:** A text input field is filled with dots, indicating a masked secret. There is a small icon on the right side of the field.
- Warning:** A yellow box at the bottom contains the text 'Make sure that you have enabled the Google Drive API in the Google Cloud Console. More info.'
- Info:** At the very bottom, there is an information icon followed by the text 'Enterprise plan users can pull in credentials from external vaults. More info'.

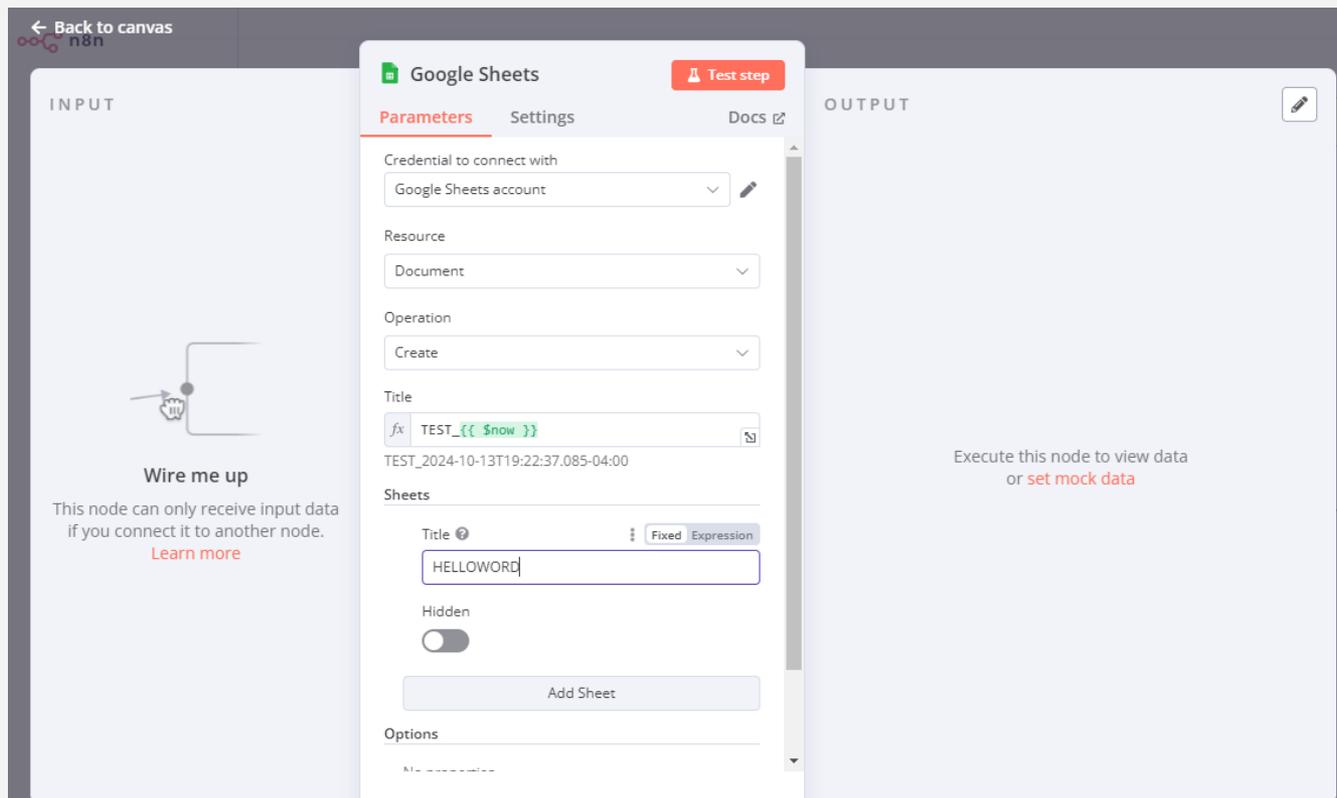
ATELIERS SUR N8N

- Ajouter un nœud pour créer un fichier Google sheet :
 - Sélectionner Create spreadsheet



ATELIERS SUR N8N

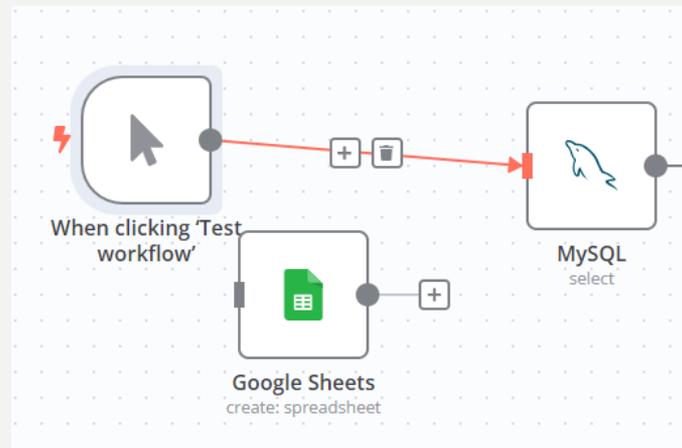
- Ajouter un nœud pour créer un fichier Google sheet :
 - Ajouter un nom de fichier variabilisé : `TEST_{{ $now }}`
 - Ajouter un nom de feuille de calcul



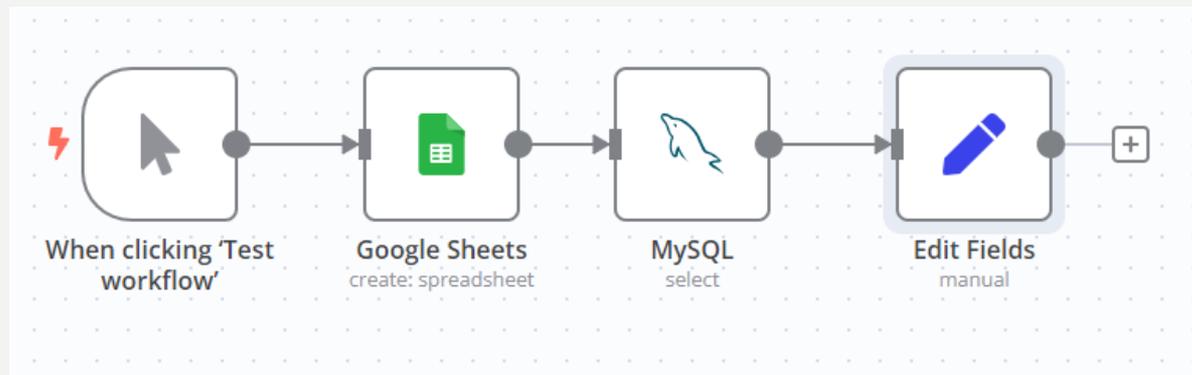
ATELIERS SUR N8N

- Ajouter ce nouveau nœud entre le premier nœud et le nœud qui se connecte à la base MySQL :

– Avant

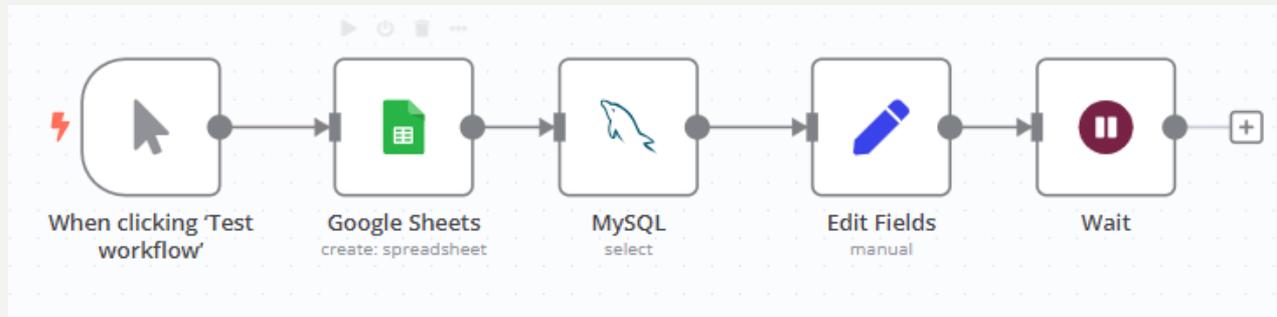
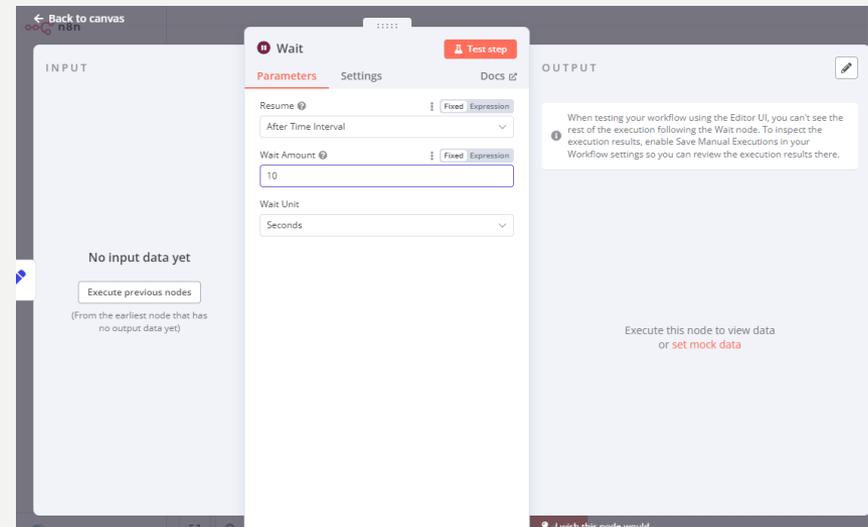
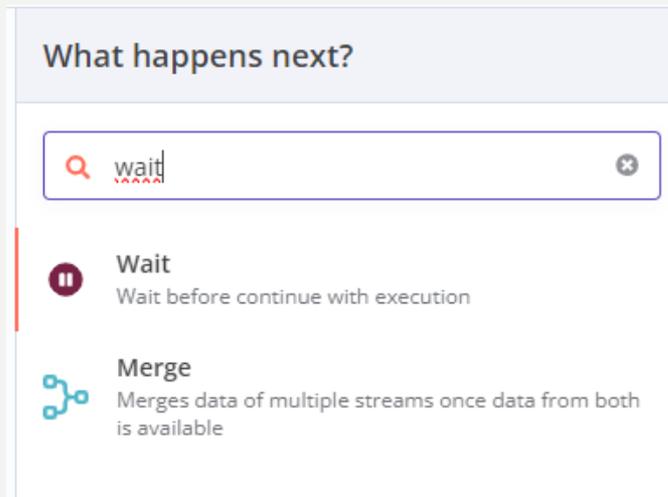


– Après



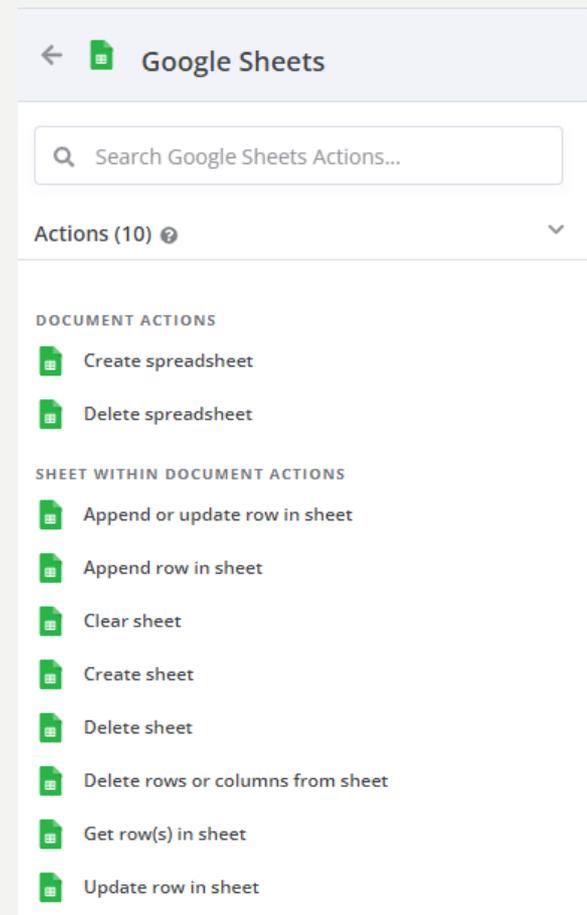
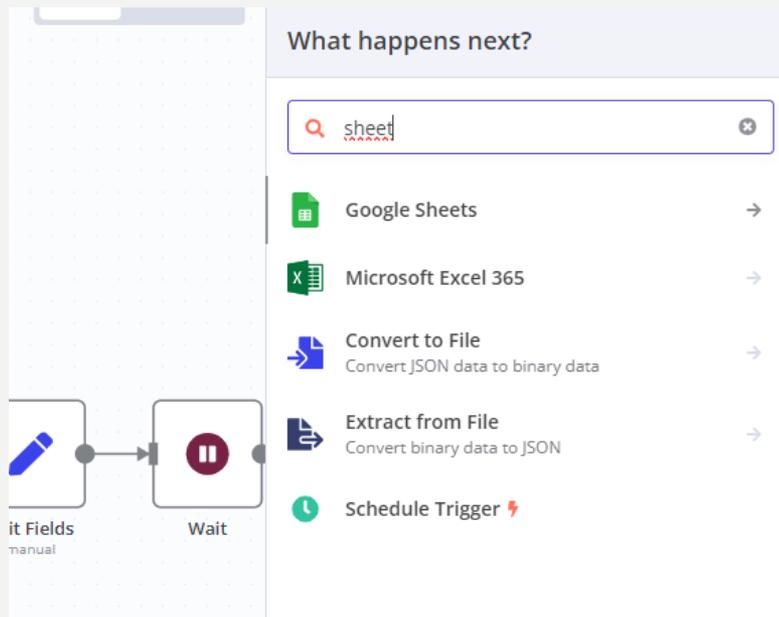
ATELIERS SUR N8N

- Ajouter un composant d'attente pour que Google puisse avoir le temps de créer la Google Sheet :
 - Mettre 10 secondes



ATELIERS SUR N8N

- Ajouter un composant pour écrire dans le fichier Google Sheet créé :
 - Pour cela sélectionner Append row in sheet



ATELIERS SUR N8N

- Ajouter un composant pour écrire dans le fichier Google Sheet créé :
 - Choisir By URL puis aller chercher la variable qui contient l'URL du fichier créé
 - Renseigner le nom de l'onglet où on souhaite écrire
 - Mapping automatique si l'onglet est vide

The screenshot shows the n8n interface with a workflow configuration for Google Sheets. The workflow starts with a 'Wait' node, followed by an 'Edit Fields' node that sets up input fields: NUMERO_A (1), NOM (Taylor), PRENOM (Annie), DOMICILE (Pen Argyl), and Old or new autor (Auteur jeune). The main configuration node is 'Google Sheets1', set to 'By URL' with a dynamic URL using a function: `function({Google Sheets}).item.json.spreadsheeturl`. The resource is 'Sheet Within Document', the operation is 'Append Row', and the sheet is named 'HELLOWORD'. The 'Mapping Column Mode' is set to 'Map Automatically'. The output shows a table with 6 items, including the data from the input fields and a new row for 'Auteur ancien'.

NUMERO_A	NOM	PRENOM	DOMICILE	Old or new autor
1	Taylor	Annie	Pen Argyl	Auteur jeune
2	Marine	Corbin	Nice	Auteur jeune
3	Jeanette	Charron	Agen	Auteur jeune
4	Antoine	Phaneuf	Epinal	Auteur jeune
5	Philippine	Rochefort	SAINT-LAURENT-DU-VAR	Auteur jeune
8547585	Florus	Racine	NOGENT-SUR-MARNE	Auteur ancien

ATELIERS SUR N8N

- Lancement de votre workflow en cliquant sur « Test Workflow » :

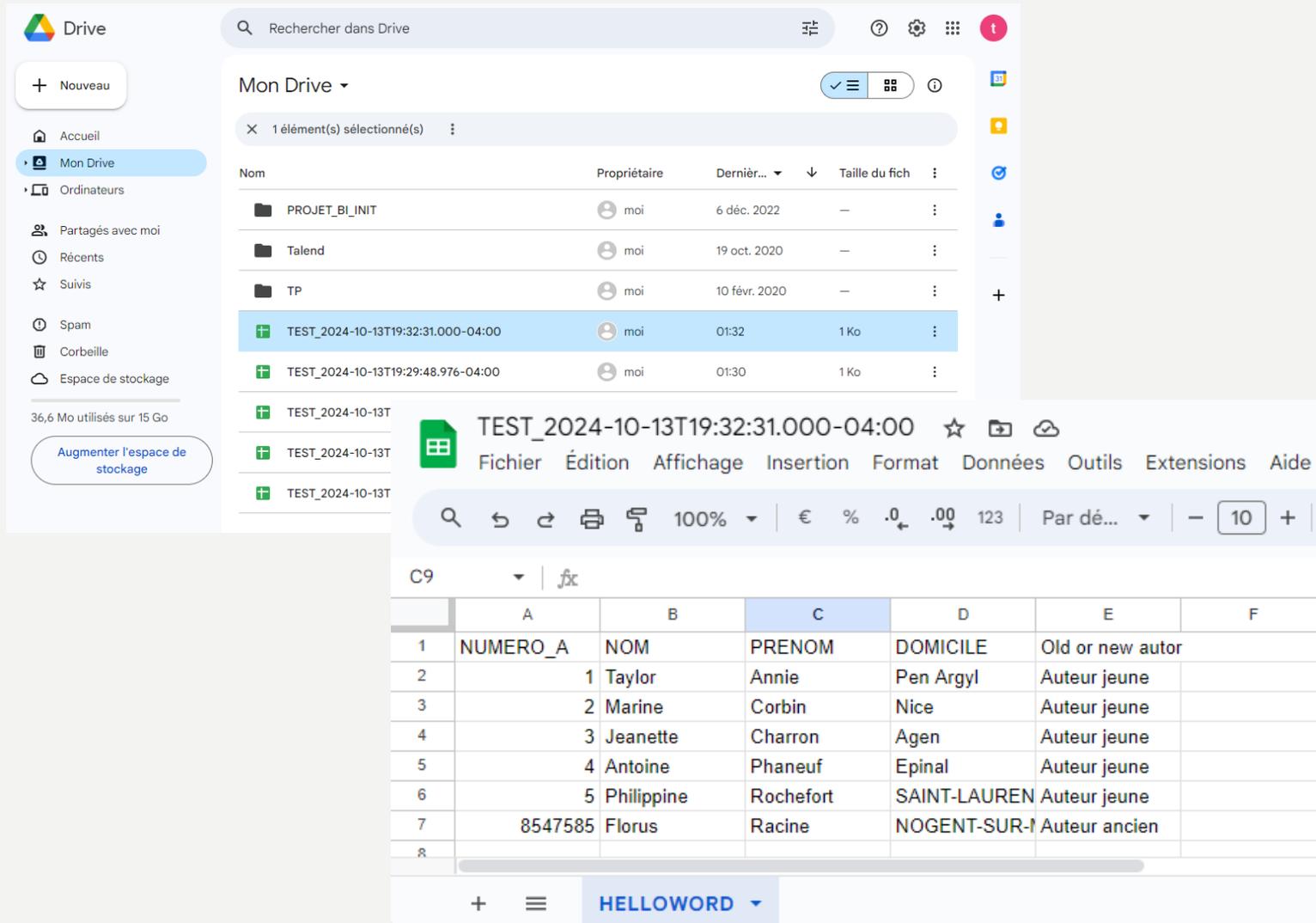
The screenshot displays the n8n workflow editor interface. The workflow, titled "Deuxieme", consists of the following steps:

- When clicking 'Test workflow'**: Trigger event.
- Google Sheets create: spreadsheet**: Action to create a spreadsheet.
- MySQL select**: Action to query a database.
- Edit Fields manual**: Action to manually edit data.
- Wait**: Action to pause the workflow.
- Google Sheets1 append: sheet**: Action to append data to a spreadsheet, receiving "6 items" from the previous step.

The workflow is shown as completed, with a green checkmark on each step. A notification at the bottom right states "Workflow executed successfully". The interface includes a sidebar with navigation options (Home, Templates, Variables, All executions, Help) and a top bar with "Editor" and "Executions" tabs, along with "Share" and "Save" buttons.

ATELIERS SUR N8N

- Vérification que le fichier a bien été créé avec les données



The screenshot shows the Google Drive interface with a file named "TEST_2024-10-13T19:32:31.000-04:00" selected. The file is open in Google Sheets, displaying a table with columns A-F and rows 1-8. The table contains data for a list of authors and their details.

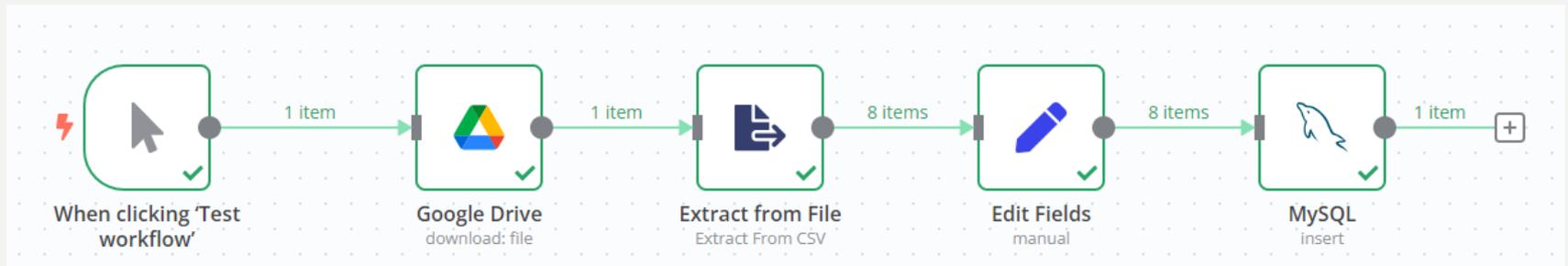
	A	B	C	D	E	F
1	NUMERO_A	NOM	PRENOM	DOMICILE	Old or new autor	
2		1 Taylor	Annie	Pen Argyl	Auteur jeune	
3		2 Marine	Corbin	Nice	Auteur jeune	
4		3 Jeanette	Charron	Agen	Auteur jeune	
5		4 Antoine	Phaneuf	Epinal	Auteur jeune	
6		5 Philippine	Rocheftort	SAINT-LAUREN	Auteur jeune	
7	8547585	Florus	Racine	NOGENT-SUR-I	Auteur ancien	
8						

TO DO

- 2^{ème} job pour lire un fichier CSV et enregistrer les données en BDD
 - Création d'un deuxième job
 - Lecture d'un fichier CSV
 - Création d'un champ complémentaire qui concatène le nom et le prénom
 - Ajout d'un composant pour écrire dans une base MySQL
 - Exécution du job

TO DO

- 2^{ème} job pour lire un fichier CSV et enregistrer les données en BDD
 - Créer le deuxième job



Back to canvas

INPUT

When clicking Test workflow

No input data yet

Execute previous nodes

(From the earliest node that has no output data yet)

Google Drive

Parameters Settings Docs

Credential to connect with

Google Drive account

Resource

File

Operation

Download

File

By URL <https://drive.google.com/file/d/1vBulGat8mxQkLIOnhFpmmnZTO93qcR-tL/view?usp...>

Options

No properties

Add option

TO DO

- Trouver plusieurs templates que vous allez adapter au TP