

Sync me !

We are
FAMOUS !!



What to expect

- Syncing Zabbix's hosts
- Zabbix auto registration
 - Cons
 - Improvement
- What we did



The challenge of managing Zabbix without a CMDB



The challenge of managing Zabbix without a CMDB

- Hard to keep a clear view of hosts and applications.



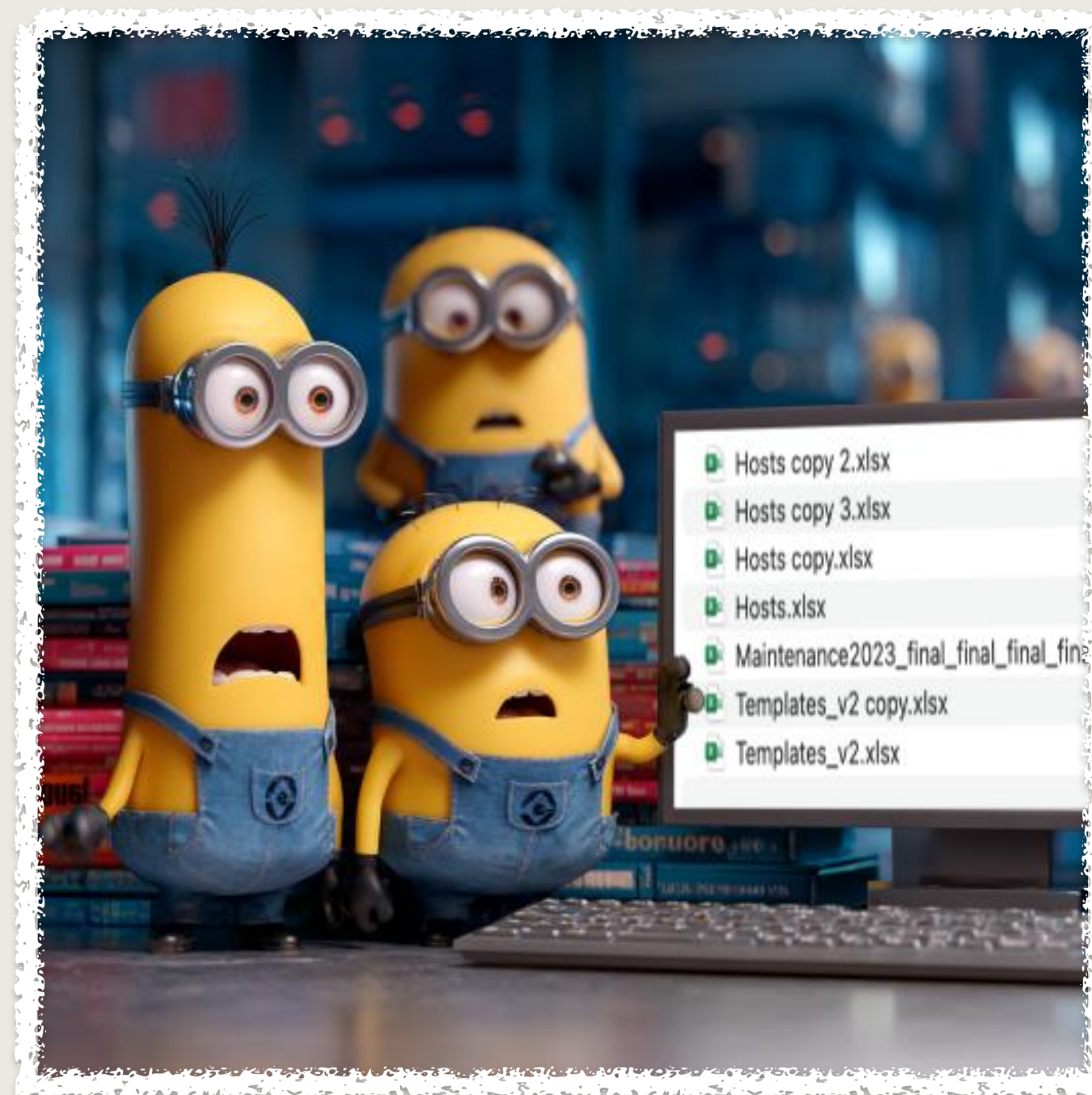
The challenge of managing Zabbix without a CMDB

- Maybe you have a ton of Excel sheets on your Windows Desktop.



The challenge of managing Zabbix without a CMDB

- Does it sound familiar?



The challenge of managing Zabbix with a CMDB



Manage easily what's inside your Zabbix platform

- Sync Zabbix with a CMDB to have hosts and applications ready and monitored by Zabbix.
- Create application maps and dashboards directly, and enjoy!



So, what now ?



Auto-registration ?

- To the rescue



What is Auto-registration ?



Auto-registration

- Auto-registration is useful but limited:
 - No compliance validation.
 - Static assignment of templates and groups.
 - No global application view.
 - Restricted to Zabbix agent.



Auto-registration

If auto-registration rules give you cold sweats, maybe it's time to pull out your banana. 🍌





So, why sync Zabbix with a CMDB?

- Centralization and enrichment of data (OCS Inventory, GLPI, Servicenow, ITSM NG, etc.)

GLPI

Assets

Dashboard

Computers

Monitors

Software

Network devices

Devices

Printers

Cartridges

Consumables

Phones

Racks

Enclosures

PDU's

Passive devices

Unmanaged devices

Cables

Simcards

Global

Assistance

Management

Tools

Administration

Setup

Collapse menu

Home / Assets / Computers

Assets

Model category

Search

Actions on selected rows...

Now

All

Asset tag

Model category

Display name

Substate

State

Configuration Item

Class

Display name

Location

Model

Stockroom

Updated

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In transit

BGM775 - MRIC00010

Hardware

MRIC00010 - ACME Corporation BGM775

615 North Bush Street, Santa Ana, CA

ACME Corporation BGM775

Southern California Warehouse

2014-12-27 12:03:03

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

Ingenuity TF PET/CT - CT00002

Hardware

CT00002 - Philips Ingenuity TF PET/CT

243 South Escondido Boulevard, Escondido, CA

Philips Ingenuity TF PET/CT

Personal stockroom - Rubin Crotts

2022-07-28 06:45:28

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

3Com Fiber Optics

Consumable

3Com Fiber Optics

815 E Street, San Diego, CA

3Com Fiber Optics

Personal stockroom - Carol Coughlin

2022-07-28 06:58:56

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

Brivo MR355 1.5T - MRI00001

Hardware

MR00001 - GE Healthcare Brivo MR355 1.5T

San Francisco

GE Healthcare Brivo MR355 1.5T

Personal stockroom - Alex Ray

2022-07-28 06:47:16

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

BGM775 - MRIC00001

Hardware

MRIC00001 - ACME Corporation BGM775

San Francisco

ACME Corporation BGM775

Personal stockroom - Alex Ray

2022-07-28 06:47:16

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

DC Inverter3

Hardware

P1000962 - Analytic Systems IPS-2000 DC Inverter

815 E Street, San Diego, CA

Analytic Systems IPS-2000 DC Inverter

Personal stockroom - Candice Bruckman

2022-07-28 06:59:08

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

ESG736 - MRIC00003

Hardware

MRIC00003 - ACME Corporation ESG736

815 E Street, San Diego, CA

ACME Corporation ESG736

San Diego South Warehouse

2014-12-27 10:52:59

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

Respironics V200 - MV00006

Hardware

MV00006 - Philips Respironics V200

4492 Camino De La Plaza, San Ysidro, CA

Philips Respironics V200

San Diego Border - Pickup/Dropoff

2014-12-27 15:53:25

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

PST00001 - GE Healthcare D19KT LCD Monitor

Hardware

PST00001 - GE Healthcare D19KT LCD Monitor

815 E Street, San Diego, CA

GE Healthcare D19KT LCD Monitor

San Diego South Warehouse

2014-12-26 16:49:09

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

BGM775 - MRIC00006

Hardware

MRIC00006 - ACME Corporation BGM775

(empty)

ACME Corporation BGM775

Personal stockroom - Rudy Kuhle

2014-12-27 11:47:52

MRIC00010

MRI Cold Head

ACME Corporation BGM775

Reserved

In stock

Vent201 - MV00001

Hardware

MV00001 - GE Healthcare iVent201

615 North Bush Street, Santa Ana, CA

GE Healthcare iVent201

Personal stockroom - Valerie Pou

2022-07-28 06:59:23

Manage

Plugins

Information

Help

Mozilla Firefox 59.0.2 (x86 en-US)

Wildcards: ? (one character), * (several characters)

Send

Show / Hide: Select columns to show / hide

Search in column: Select All

1 Result(s) (Download)

Search:

Computer(s)	IP	DOMAIN	Connected user	Software: Name	Software: Version	Software: Install directory
DESKTOP-G1R5T0F	10.0.2.15	WORKGROUP		Mozilla Firefox 59.0.2 (x86 en-US)	59.0.2	C:/Program Files/Mozilla Firefox

Showing 1 to 1 of 1 entries



So, why sync Zabbix with a CMDB?

- Prior validation of hosts to monitor.
- Smart automation of host creation and template assignment.
- Improved application visibility with structured data.
- Simple and quick application map and dashboard creation.

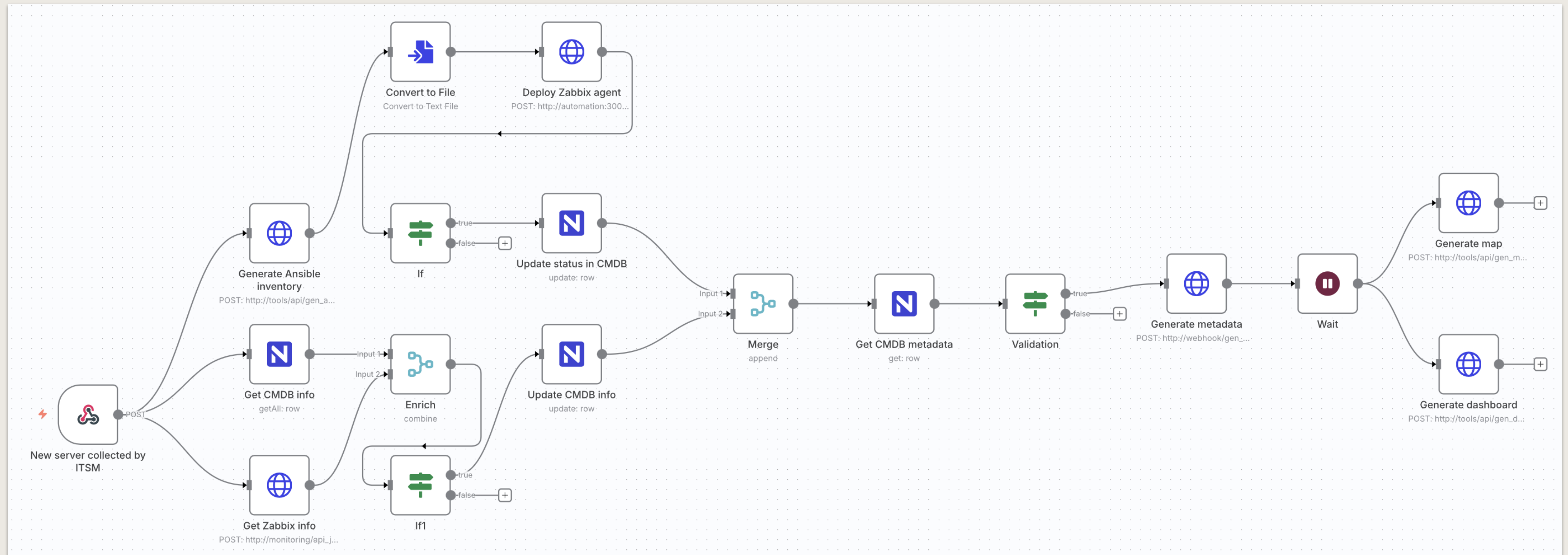


How did we do it ?

- ITSM solution: Collects technical information.
- Nocode solution : Gather informations, enrich them and generate auto-registration metadata.
- Python: Custom API for map and dashboard creation
- Zabbix: Registers hosts, assigns templates.



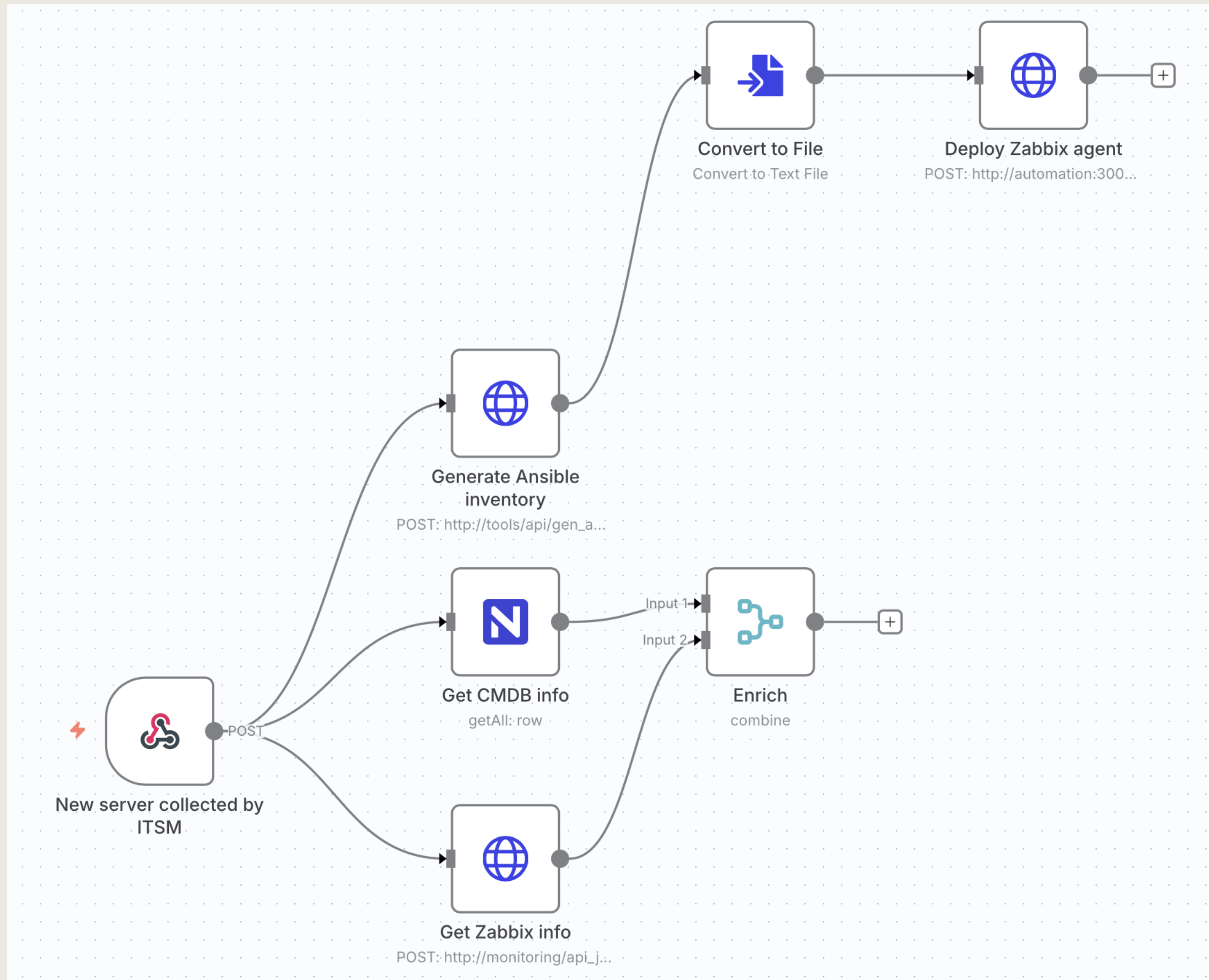
Typical Workflow



*n8n



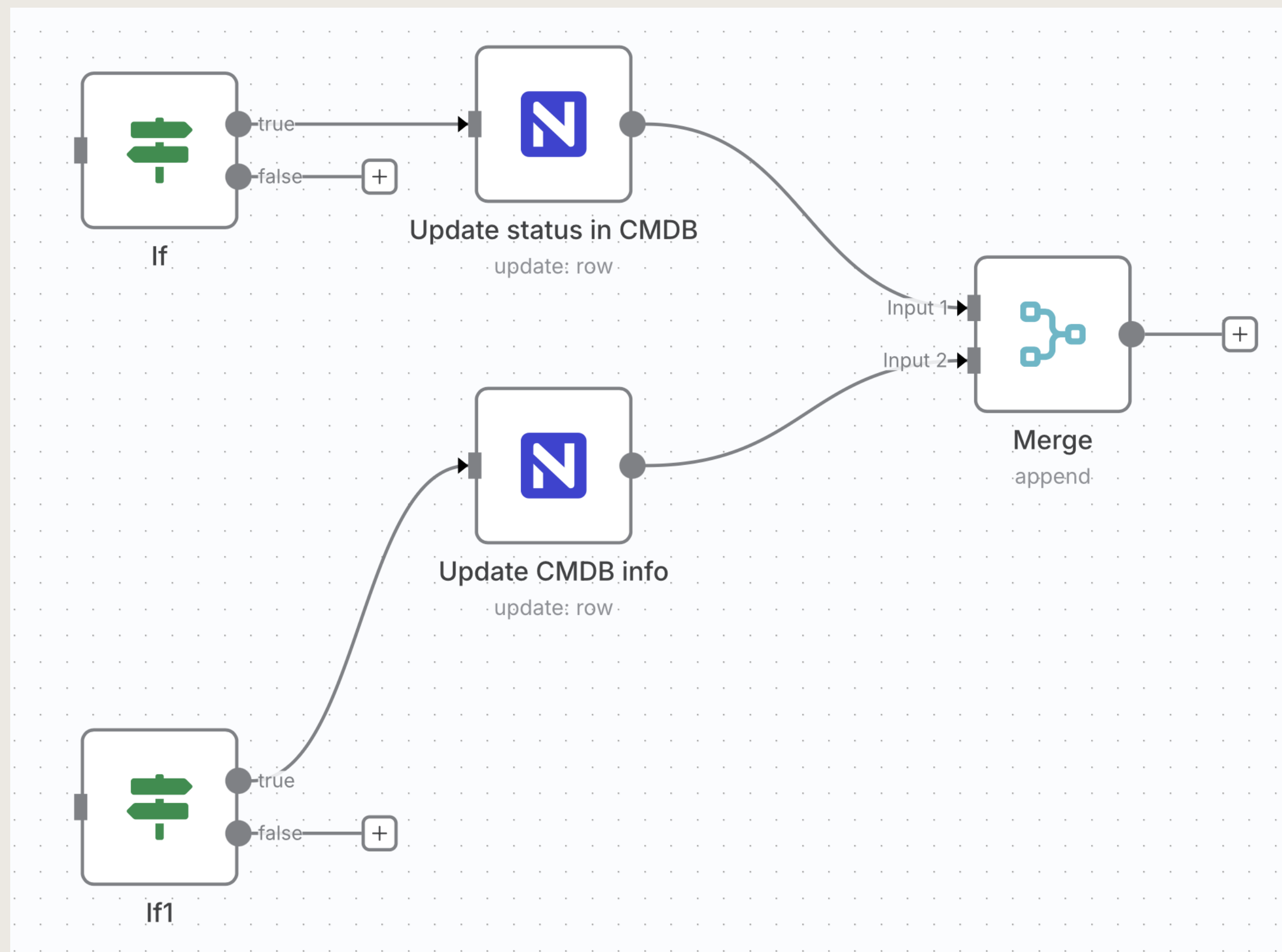
Typical Workflow



- New server: collected by ITSM inventory.
- Validated and enriched in a custom database.



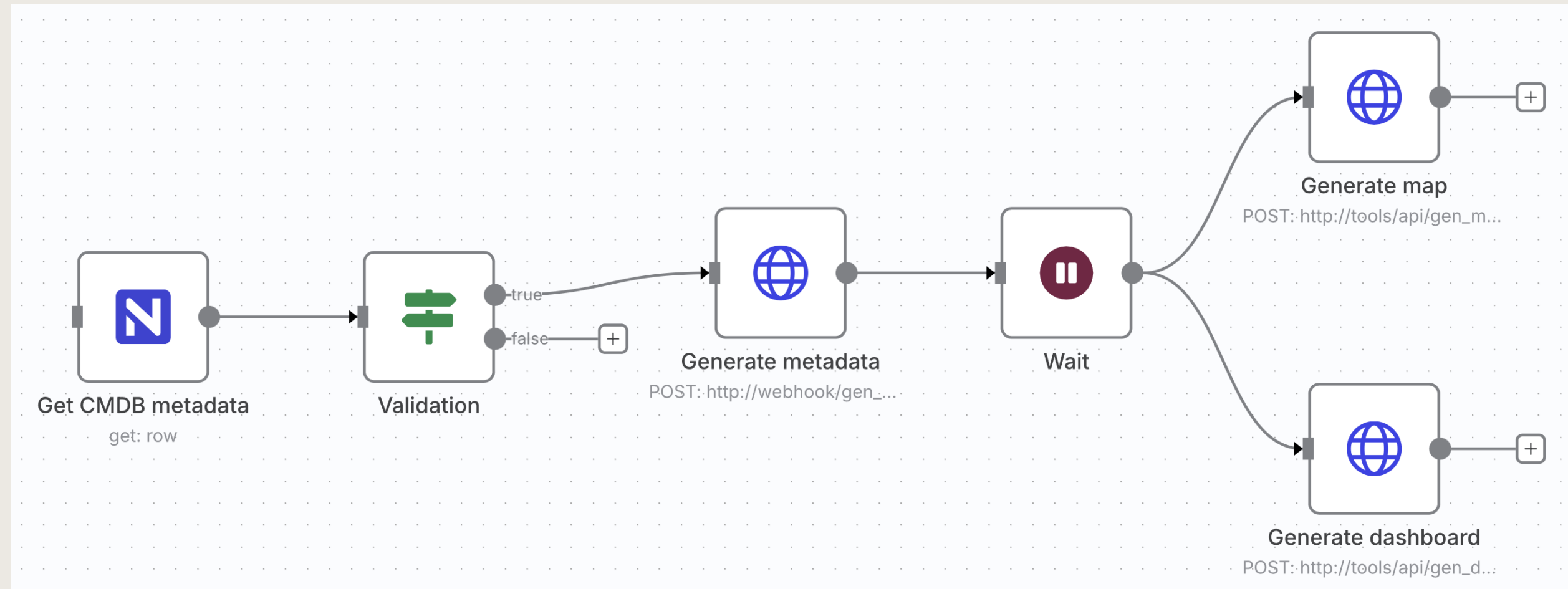
Typical Workflow



- Status changed to "Ready for monitoring."



Typical Workflow



- Get, generate, and send the metadata to Zabbix.
- Zabbix automatically creates the host and its applications.
- The application map and dashboard are generated automatically.



But how are hosts managed?



How are hosts managed?

- In an automated way
- Or manually



How are hosts managed?

- Hosts could be added manually with a custom form

Add a Zabbix host form

Add form description

Hostname *

Type of interface *

Link Records

IP address *

interface ip or dns

Zabbix hostgroups *

Link Records

Softwares

Link Records

Clear Form

Submit



Add a Zabbix host form

Add form description

Hostname *

Type of interface *

Link Records

IP address *

interface ip or dns

Softwares

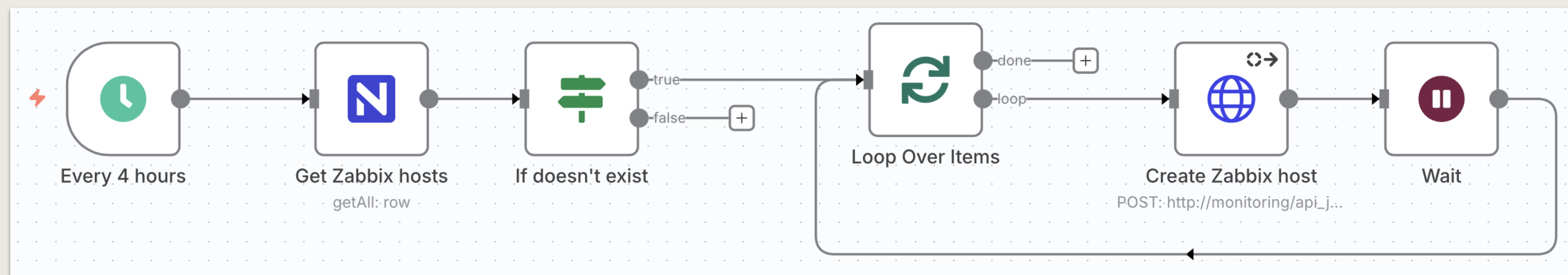
Link Records

Clear Form

Submit

How are hosts managed?

- Or wait for the synchronization



So, what now?

What about auto-registration?



Setting metadata

- Remember that auto-registration rules are using metadata.

```
{  
  "request": "active checks",  
  "host": "Zabbix server",  
  "host_metadata": "mysql,nginx",  
  "interface": "zabbix.server.lan",  
  "ip": "159.168.1.1",  
  "port": 12050,  
  "version": "7.4.0",  
  "variant": 2,  
  "config_revision": 1,  
  "session": "e3dcbd9ace2c9694e1d7bbd030eeef6e"  
}
```



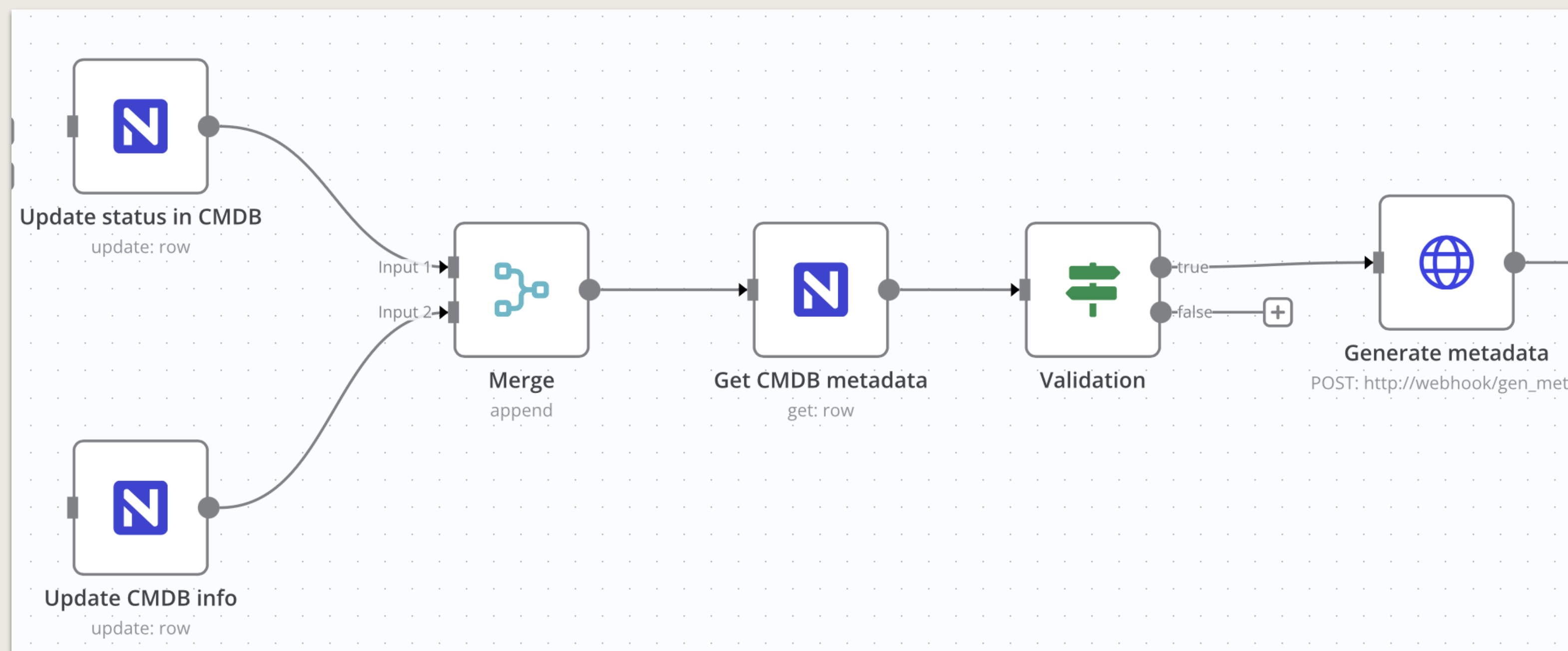
How we generate our custom metadata

T Host	Status	Software	Interface	T IP address	T DNS	# Port	Tags	Hostgroup
Toto	Enabled	MySQL	Agent	127.0.0.1	toto.dns.org	10050		Linux servers
Titi	Enabled	PostgreSQL Apa...	Agent	127.0.0.1	titi.dns.org	10050	Development Linux	Linux servers
Tata	Enabled	Nginx	Agent	127.0.0.1	tata.dns.org	10050		Linux servers
Win-0001	Enabled	Microsoft SQL Ser... ..	Agent	192.168.1.141	win-0001.lan.com	10050	Production Windows	Windows servers
Sw-0001	Enabled		SNMP		sw-0001.lan.com	161	Network	Network devices

*nocodb



How we generate our custom metadata



Manage the auto-registration rules

- Auto-registration rules are managed in Zabbix by the Administrators

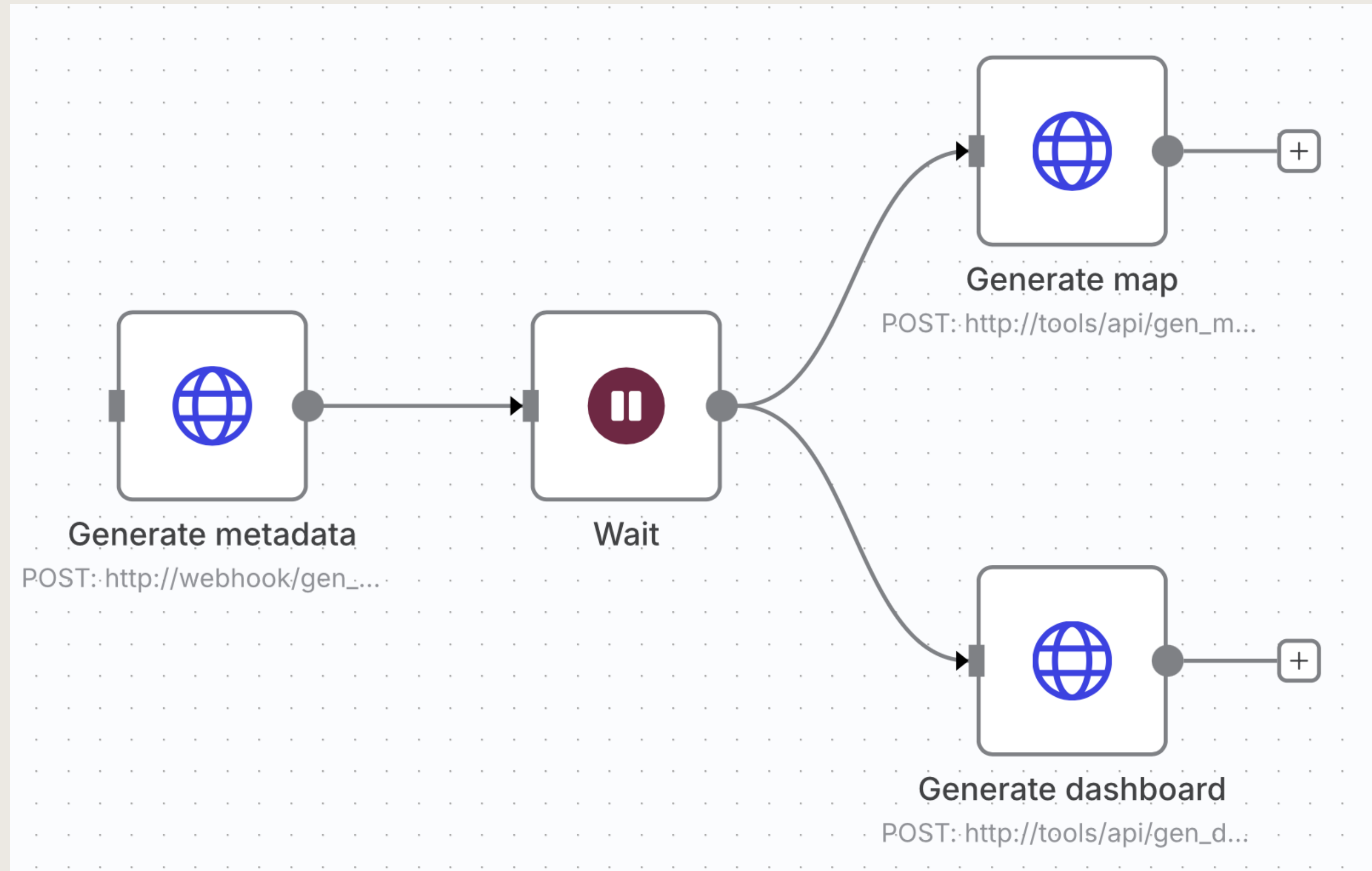
APP - IIS	Host metadata contains <i>IIS</i>	Link templates: IIS by Zabbix agent active Link templates: Get prerequisites
APP - NGINX	Host metadata contains <i>Nginx</i>	Link templates: Nginx by HTTP Link templates: Get prerequisites
DB - Microsoft SQL Server	Host metadata contains <i>Microsoft SQL Server</i>	Link templates: MSSQL by Zabbix agent 2 Link templates: Get prerequisites
DB - PostgreSQL	Host metadata contains <i>PostgreSQL</i>	Link templates: PostgreSQL by Zabbix agent 2 active Link templates: Get prerequisites

GEN - Add hosts	Host metadata contains <i>3ee20a9196b0175747dcd81514f228b5b5b1929d3cc8db6fcab0ce53ad16ee38</i>	Add host Add to host groups: Auto-registration groups
-----------------	--	--

GEN - Linux servers	Host metadata contains <i>Linux servers</i> Host metadata contains <i>ready to monitor</i>	Add to host groups: Linux servers Link templates: Linux by Zabbix agent active
GEN - Windows servers	Host metadata contains <i>ready to monitor</i> Host metadata contains <i>Windows servers</i>	Add to host groups: Windows servers Link templates: Windows by Zabbix agent active



Technical Illustration



- API request to the database to extract hosts.
- Dynamic metadata generation.
- Transmission to Zabbix via the auto-registration protocol.
- Instant visualization in Zabbix (hosts + application map and dashboard).



Benefits of this Approach

- Improved visibility - hosts and applications are well organized.
- Simplified operations - safe and automated process.
- Advanced control - prior validation and governance.
- Time saving - no more tedious manual creations.



Go Further

- Add manual or automatic validation in the database.
- Schedule maintenance directly from the nocode form.
- Zabbix activity reporting in the database.
- Possible extension to other tools (Ansible, Terraform).



Go Further

- Schedule maintenance directly from the nocode form.

Monitoring maintenance

Add form description

Maintenance name *

Hosts *

[Link Records](#)

Date *

03/09/2025

Time *

21:00

Period *

h:mm

[Clear Form](#) [Submit](#)

*nocode



Measured Results

- Monitoring platform aligned with technical inventory.
- Monitoring adapted to the application context.
- Significant operational savings.
 - Provisioning time divided by 2.



Conclusion

- Auto-registration alone is not enough to efficiently manage a complex environment.
- A CMDB offers control, governance, and application visibility.
- Simple and flexible solution: ITSM + nocode solution + Zabbix.
- Gain control and automation without added complexity.



Questions ?

- Thank you for your attention!
- I'm ready for your questions.

