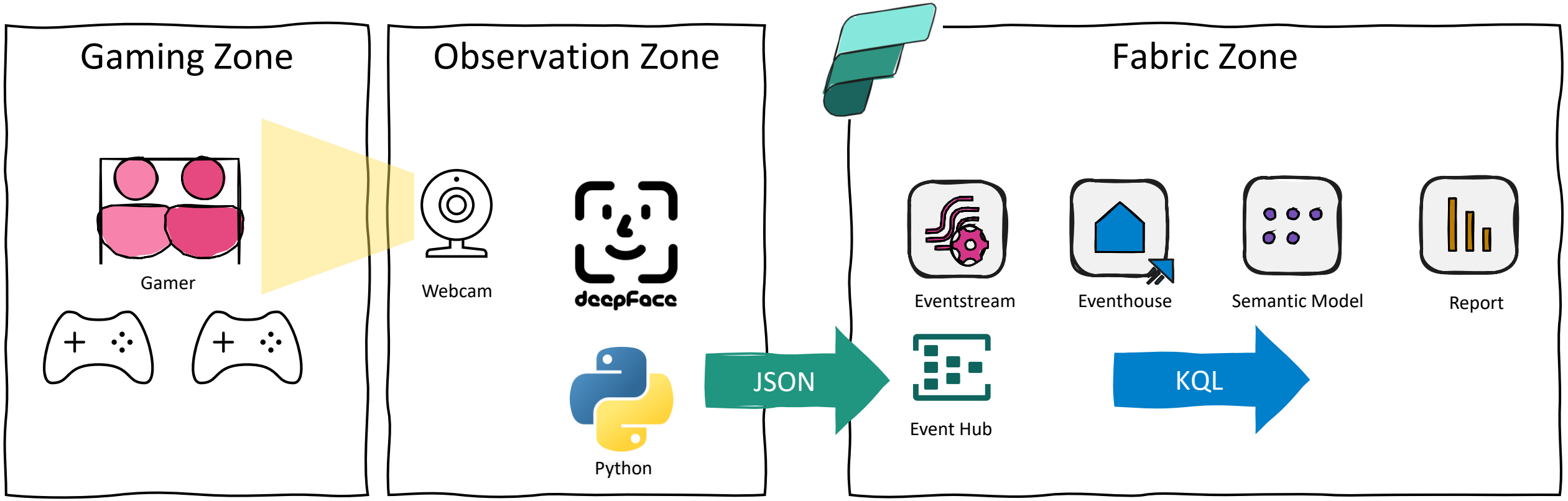

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POWER BI TRIGGERED ROBOTS
DATAGRILLEN 2026
TDWI EXPERT
DATA FUEL
PAGINATED NOT DEAD
EXCEL IM-UND EXPORT GMBH & CO KG
Microsoft Most Valuable Professional
MVP
Marcus Wegener
Full Stack Power BI & Fabric Engineer
Artur König
Founder & CEO
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Fun-o-Meter

Real-time analytics meets gaming



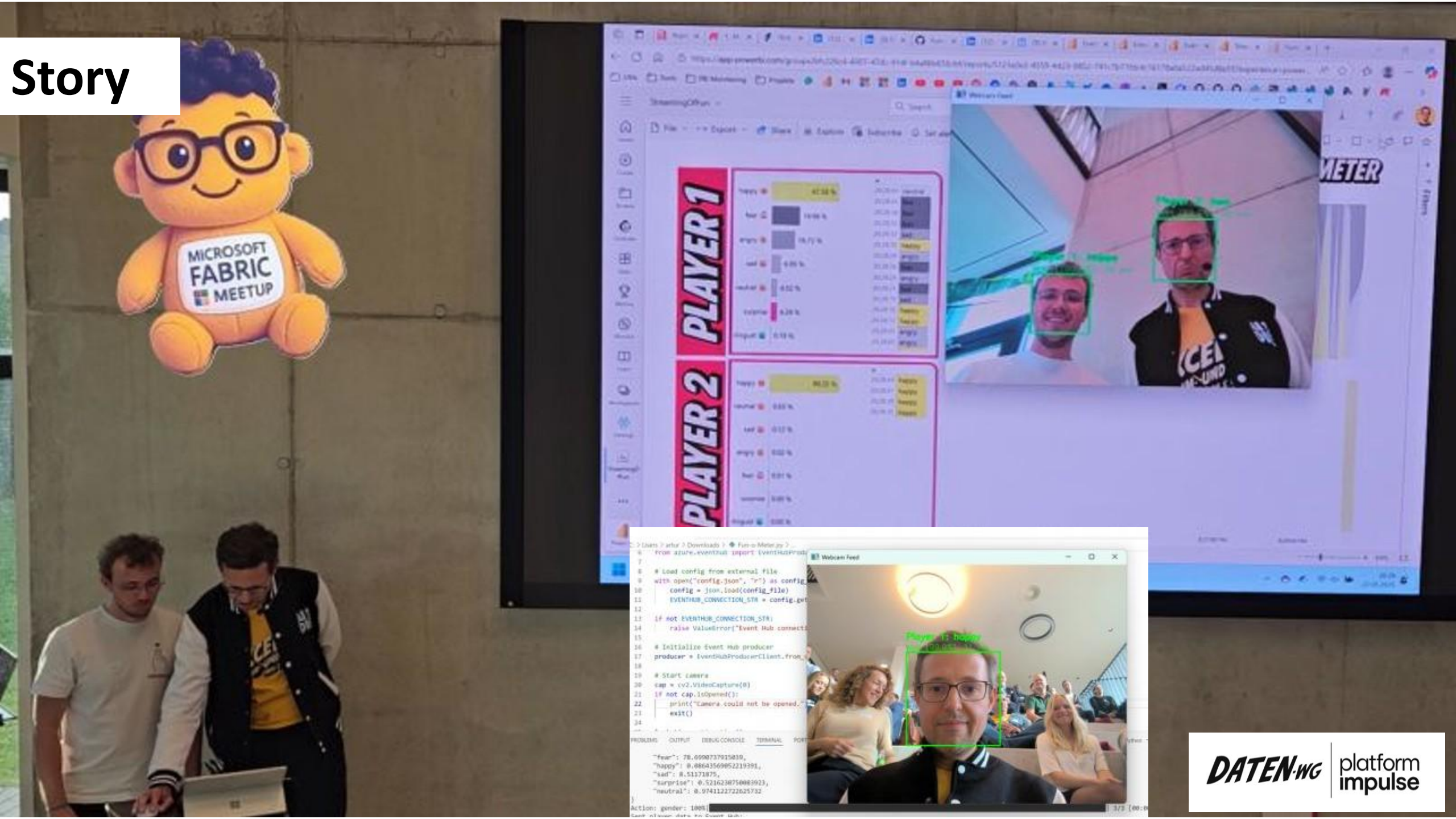
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Story

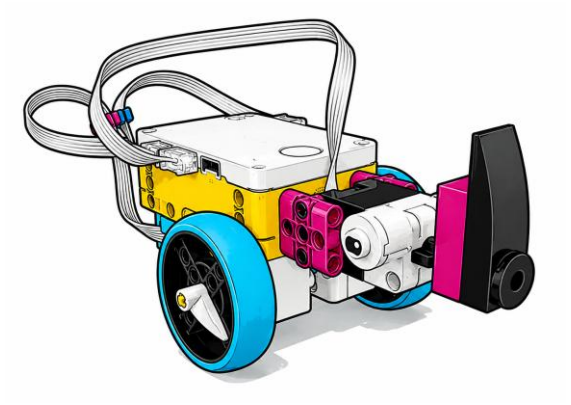


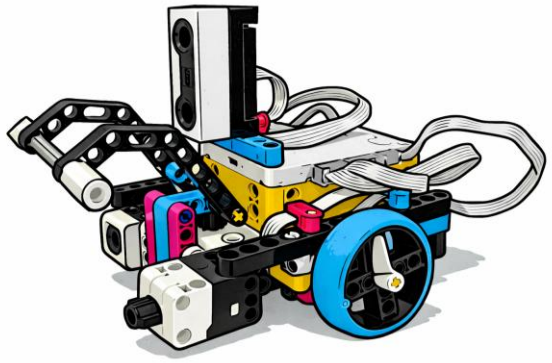
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Story

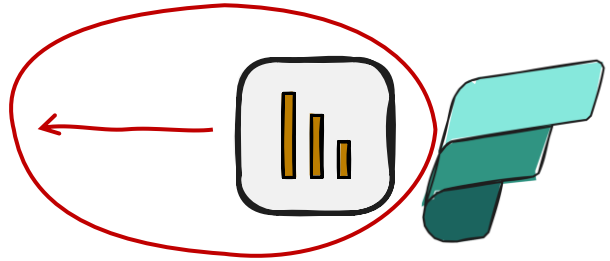

MICROSOFT
FABRIC
MEETUP
PLAYER 1
PLAYER 2
Webcam Feed
"fear": 78.6990737915039,
"happy": 0.08643569052219391,
"sad": 8.51171875,
"surprise": 0.5216230750083923,
"neutral": 0.9741122722625732
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impulse

The Challenges

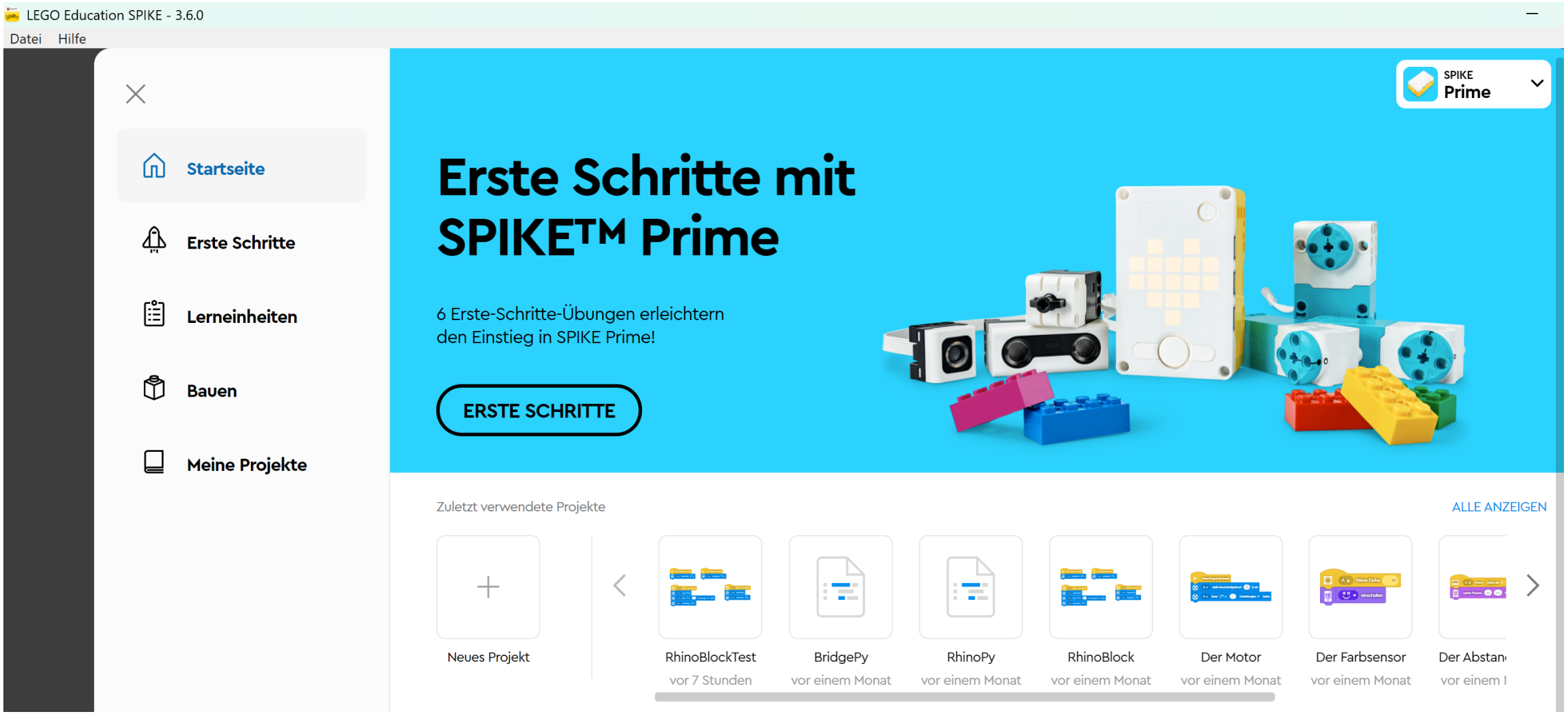




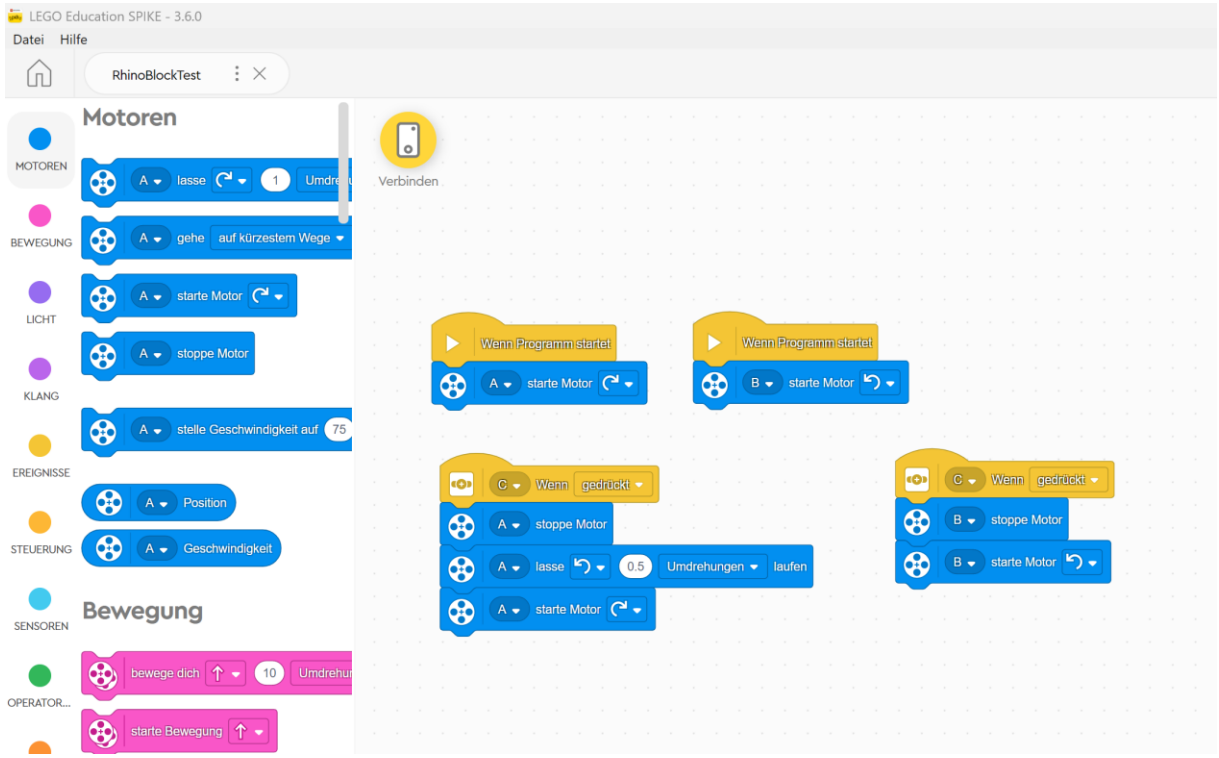


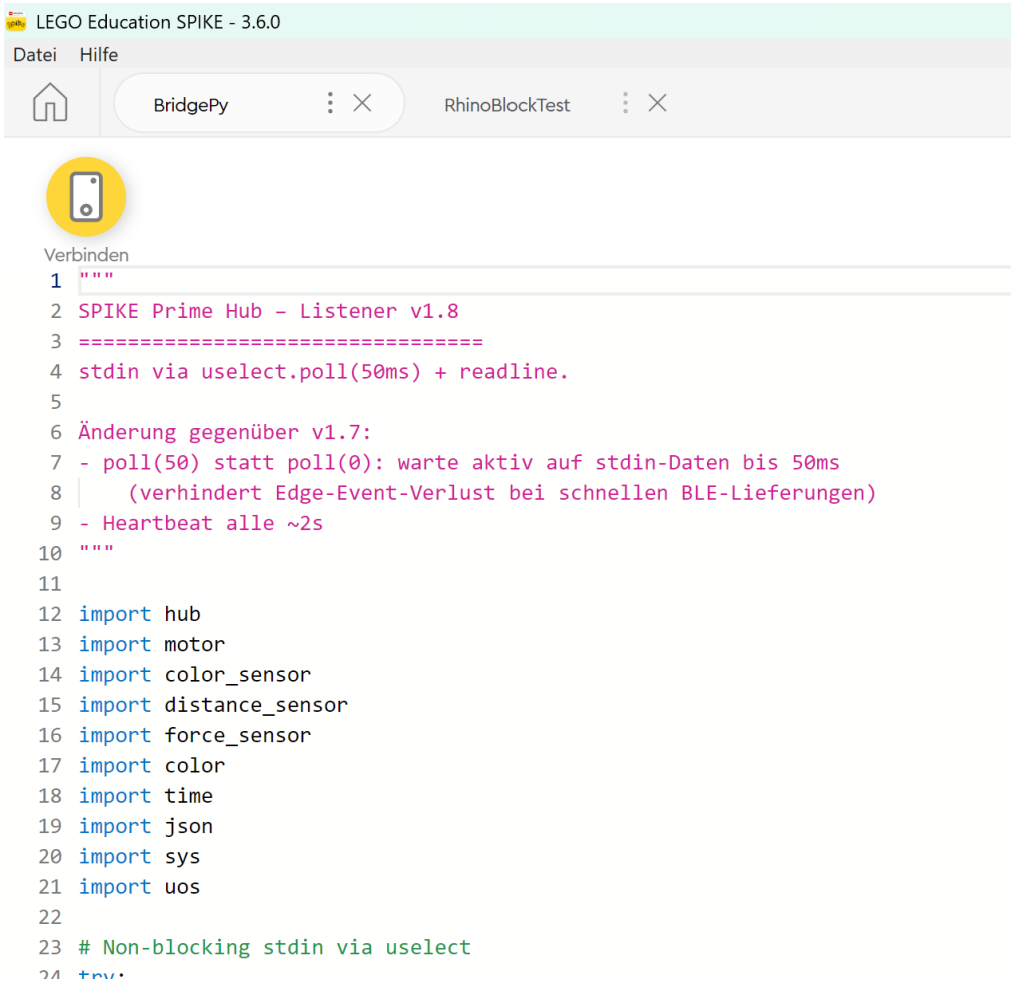


LEGO SPIKE APP



LEGO SPIKE APP






```
"""
SPIKE Prime Hub – Listener v1.8
================================
stdin via uselect.poll(50ms) + readline.

Änderung gegenüber v1.7:
- poll(50) statt poll(0): warte aktiv auf stdin-Daten bis 50ms
    (verhindert Edge-Event-Verlust bei schnellen BLE-Lieferungen)
- Heartbeat alle ~2s
"""

import hub
import motor
import color_sensor
import distance_sensor
import force_sensor
import color
import time
import json
import sys
import uos

# Non-blocking stdin via uselect
try:
```

LEGO SPIKE Python docs

Documentation » LEGO Spike Python API v3

Next topic

API

This Page

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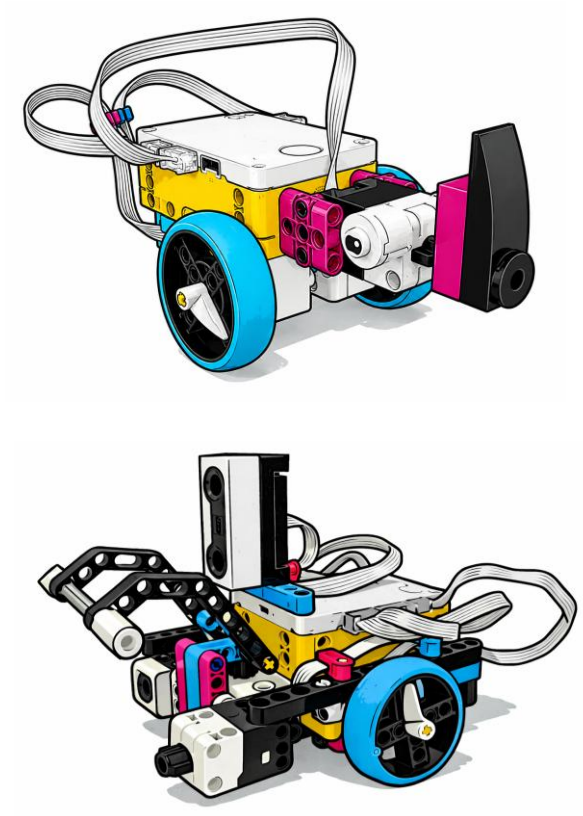
LEGO Spike Python API v3

This documentation of the LEGO Spike API (v3) for Python was autogenerated fro
selves generated from parsing of the official LEGO help documents at https://spik
python. Thus, while they should be generally correct and complete, some errors o
sues to the GitHub repository.

- API
  - color
  - color_sensor
  - color_matrix
  - device
  - distance_sensor
  - force_sensor
  - hub
  - hub.button
  - hub.light
  - hub.light_matrix
  - hub.motion_sensor
  - hub.port
  - hub.sound

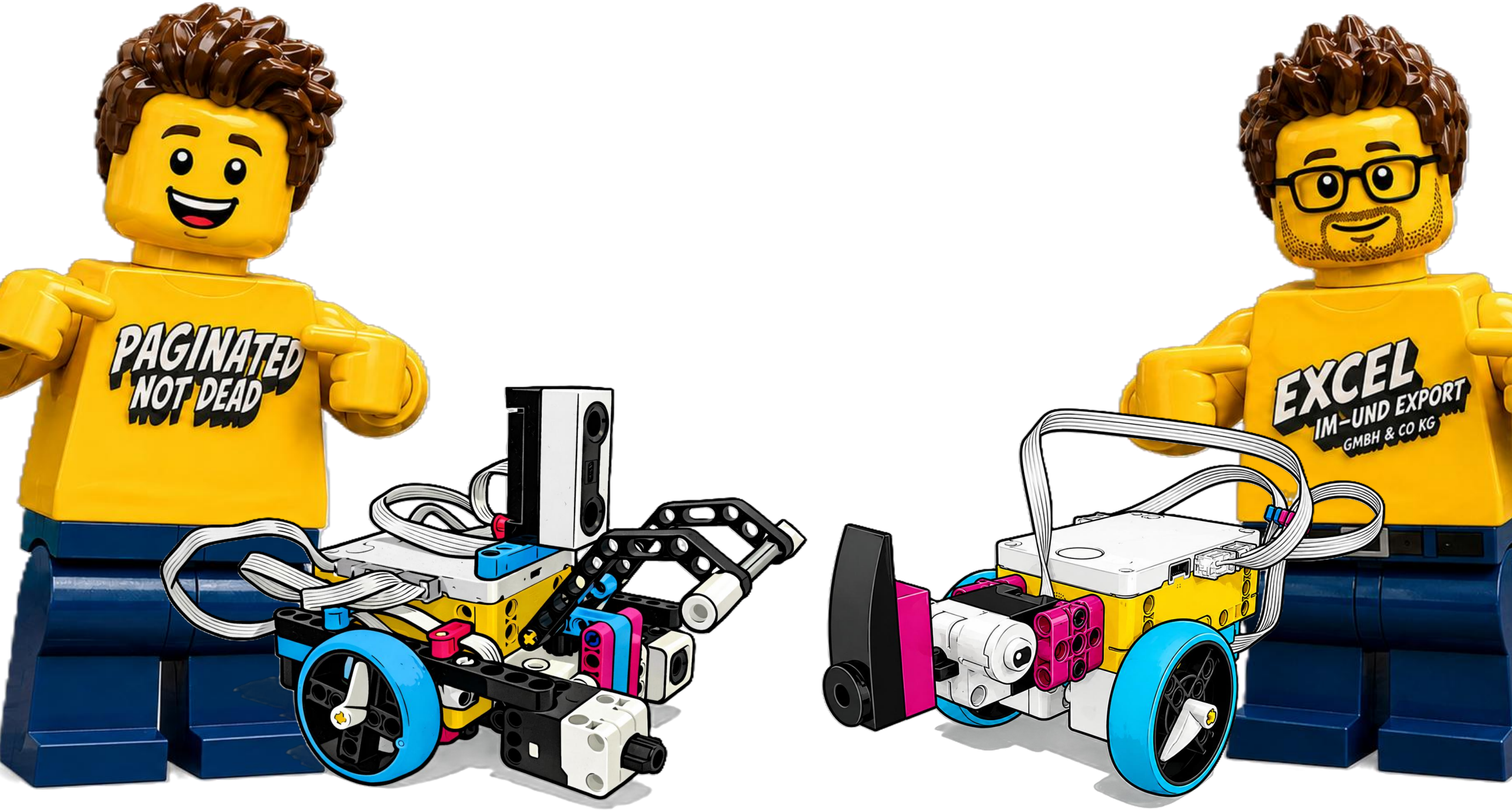
https://jvolkening.github.io/lego-spike-python-v3-docs/index.html

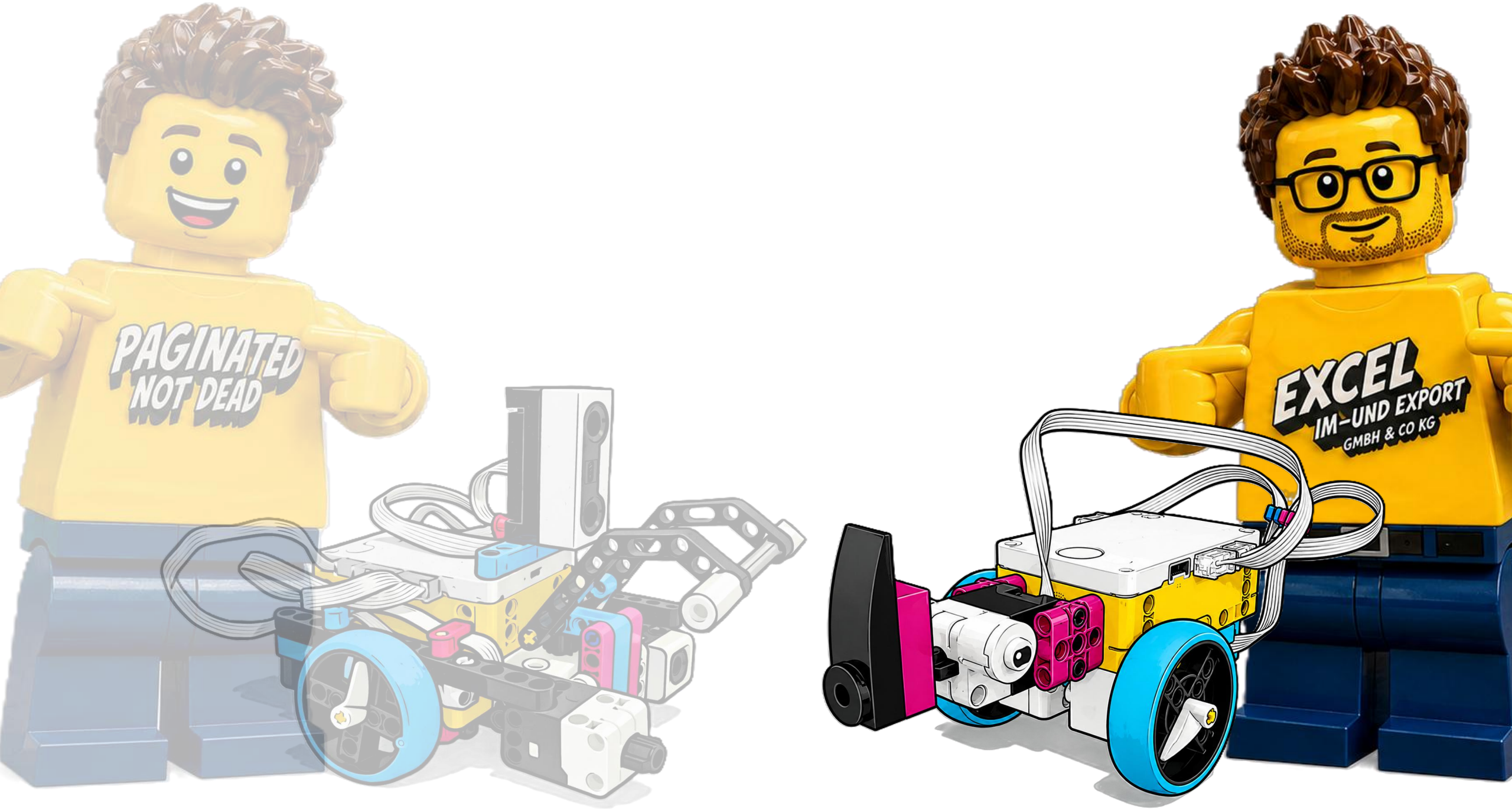
The Challenges: Trigger



Cloud to
On-Prem calls

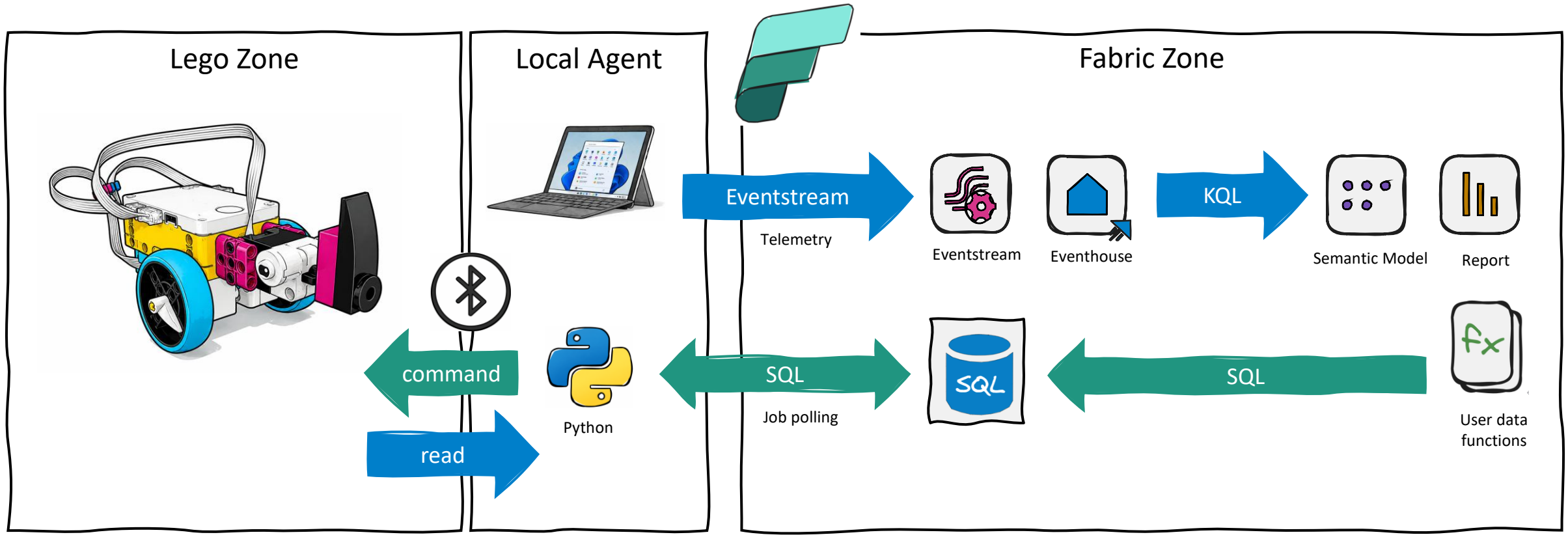
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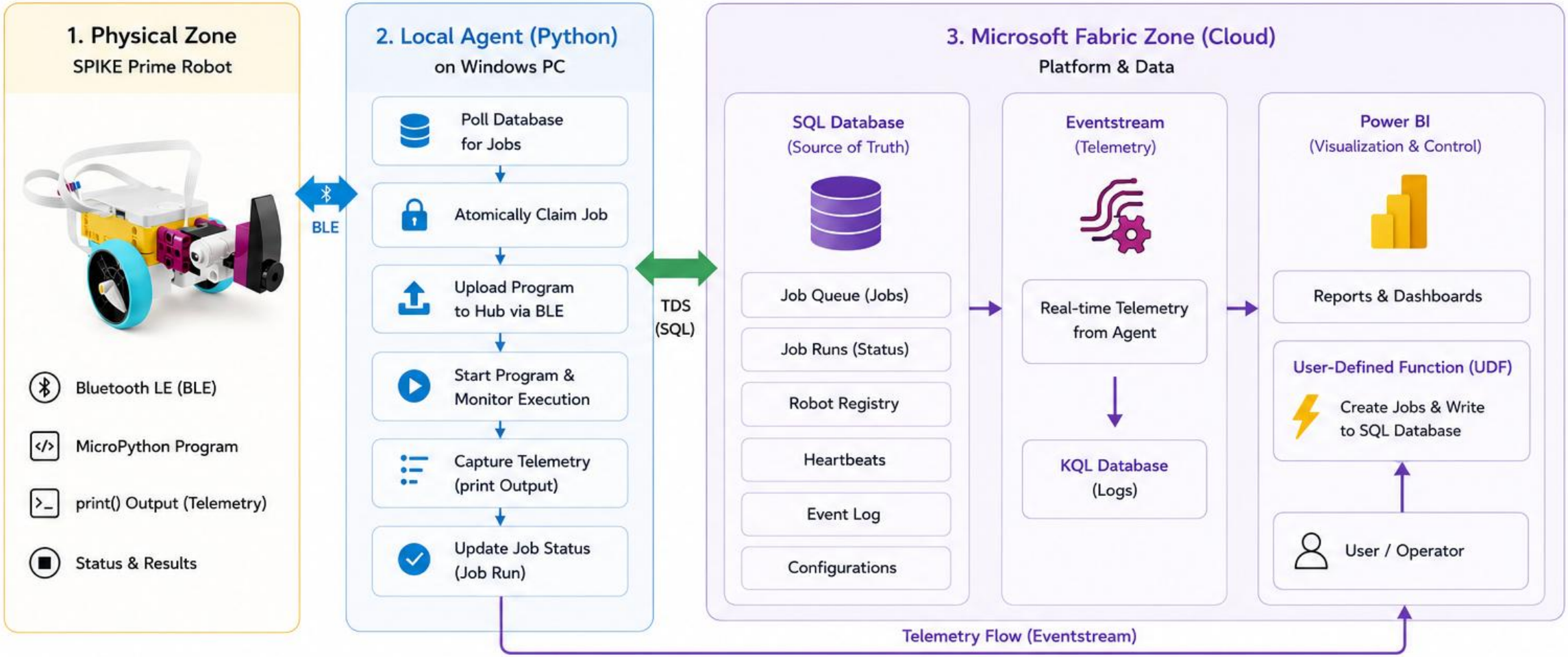
Power BI Triggered Robots

Translytical to the 3rd Dimension

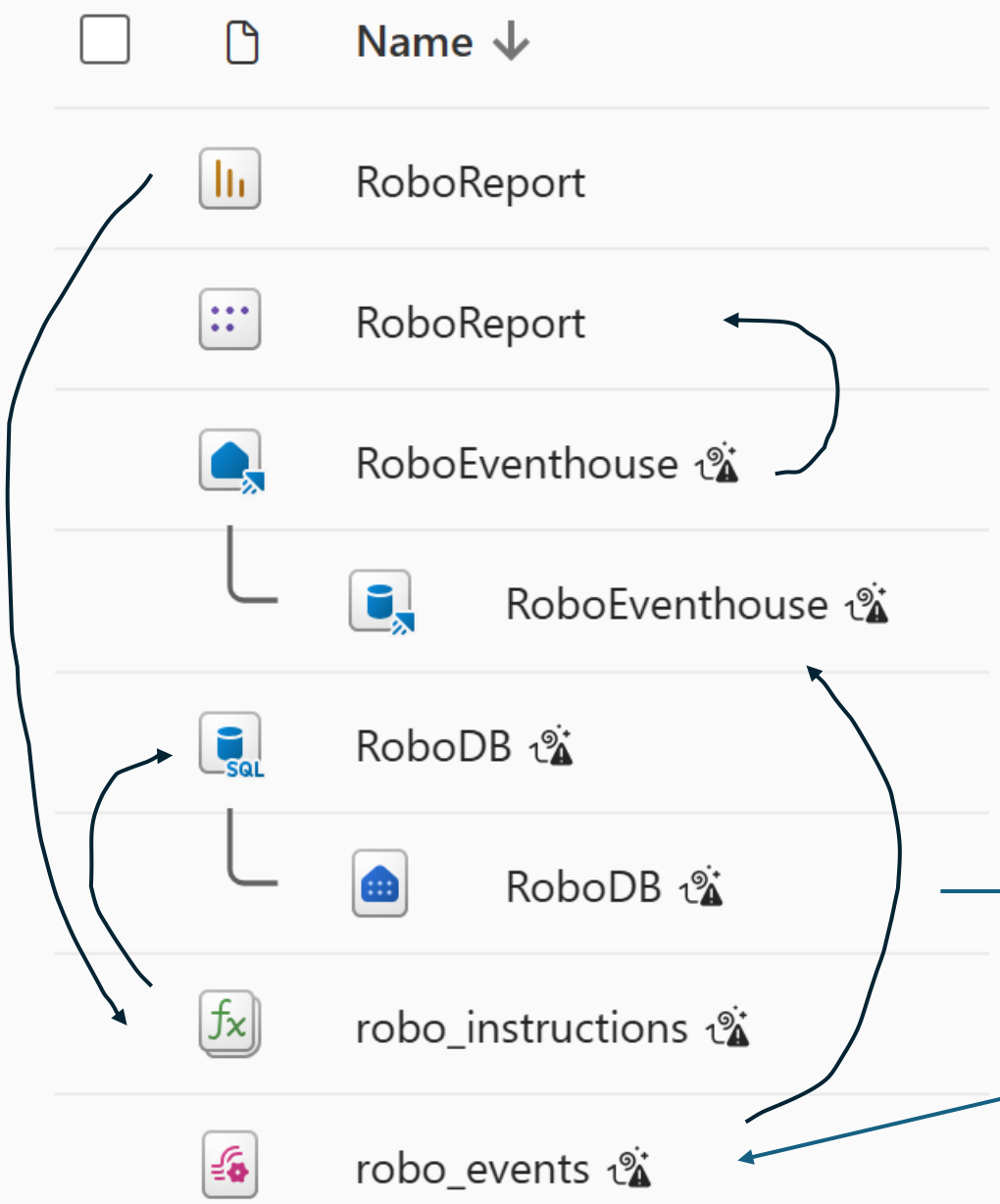


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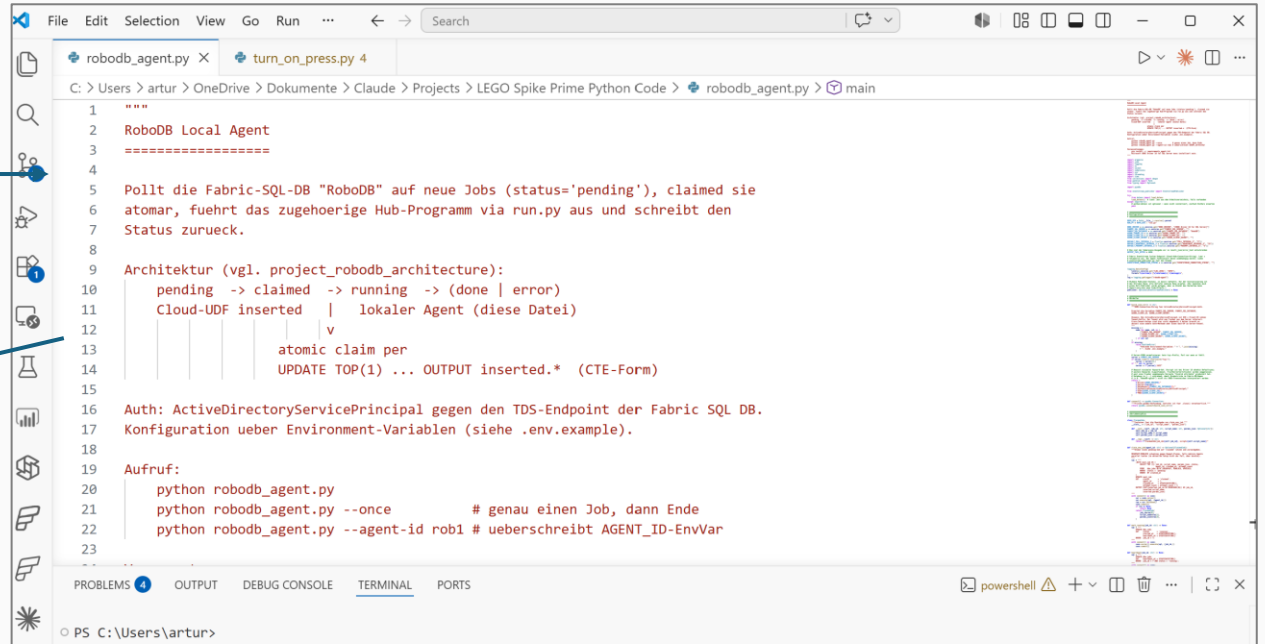
How it works

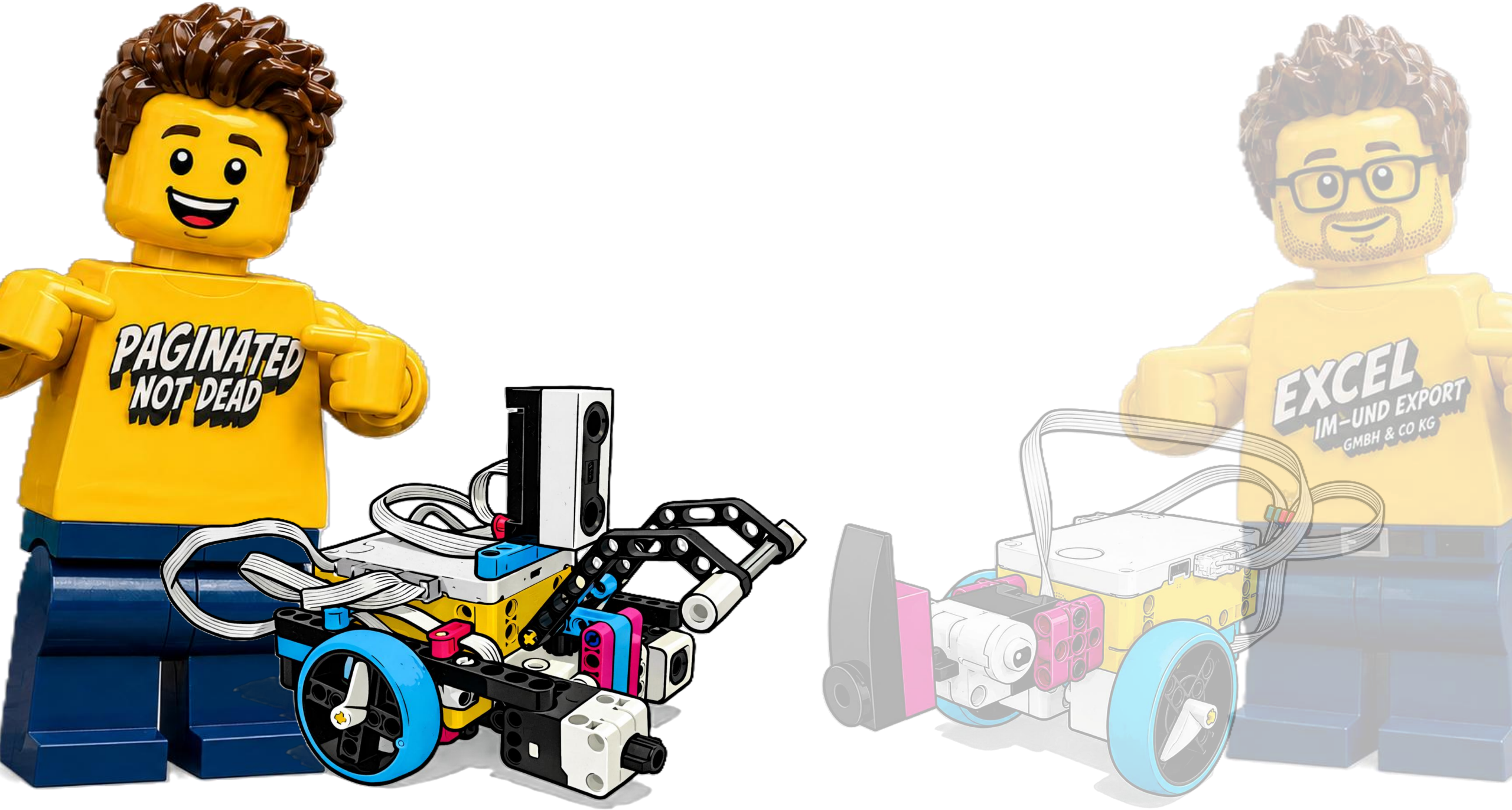


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Name
RoboReport
RoboReport
RoboEventhouse
RoboEventhouse
RoboDB
RoboDB
robo_instructions
robo_events

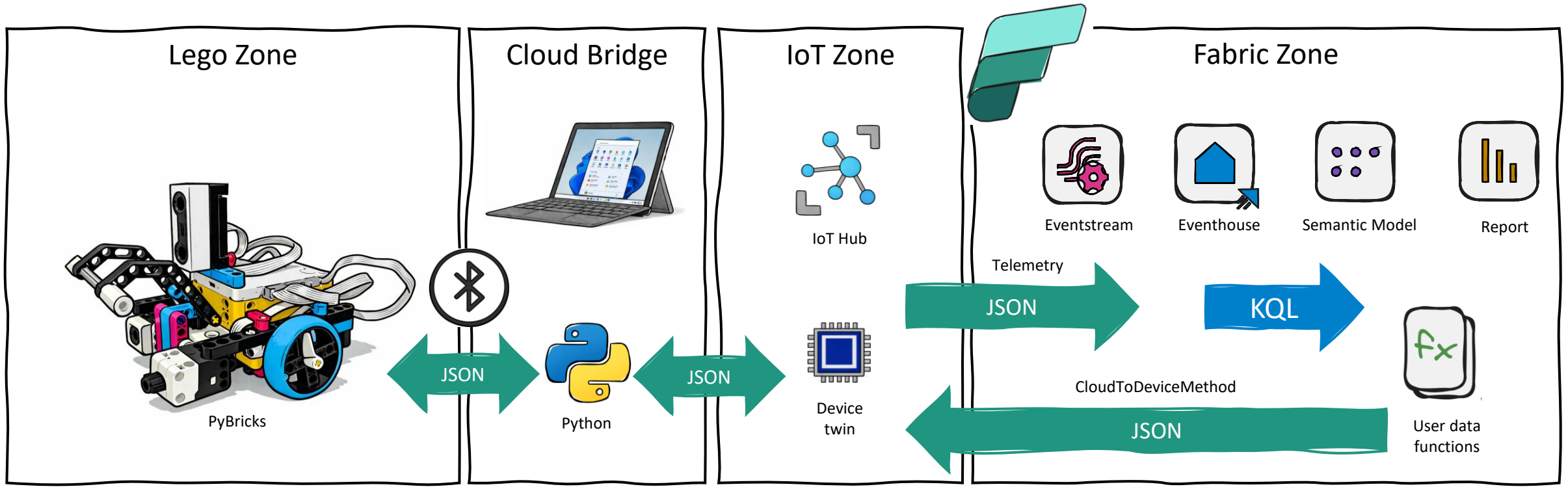

OPERATOR
timestamp_utc
combo_on_press
stop_on_press
turn_on_press
CHANGE PROGRAM
combo_on_press
stop_on_press
turn_on_press


robodb_agent.py
turn_on_press.py 4
RoboDB Local Agent
Pollt die Fabric-SQL-DB "RoboDB" auf neue Jobs (status='pending'), claimed sie
atomar, fuehrt das zugehoerige Hub-Programm via run.py aus und schreibt den
Status zurueck.
Architektur (vgl. project_robodb_architecture):
pending -> claimed -> running -> (done | error)
Cloud-UDF inserted | lokaler Agent (diese Datei)
atomic claim per
UPDATE TOP(1) ... OUTPUT inserted.* (CTE-Form)
Auth: ActiveDirectoryServicePrincipal gegen den TDS-Endpoint der Fabric SQL DB.
Konfiguration ueber Environment-Variablen (siehe .env.example).
Aufruf:
python robodb_agent.py
python robodb_agent.py --once # genau einen Job, dann Ende
python robodb_agent.py --agent-id rob1 # ueberschreibt AGENT_ID-EnvVar
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\artur>

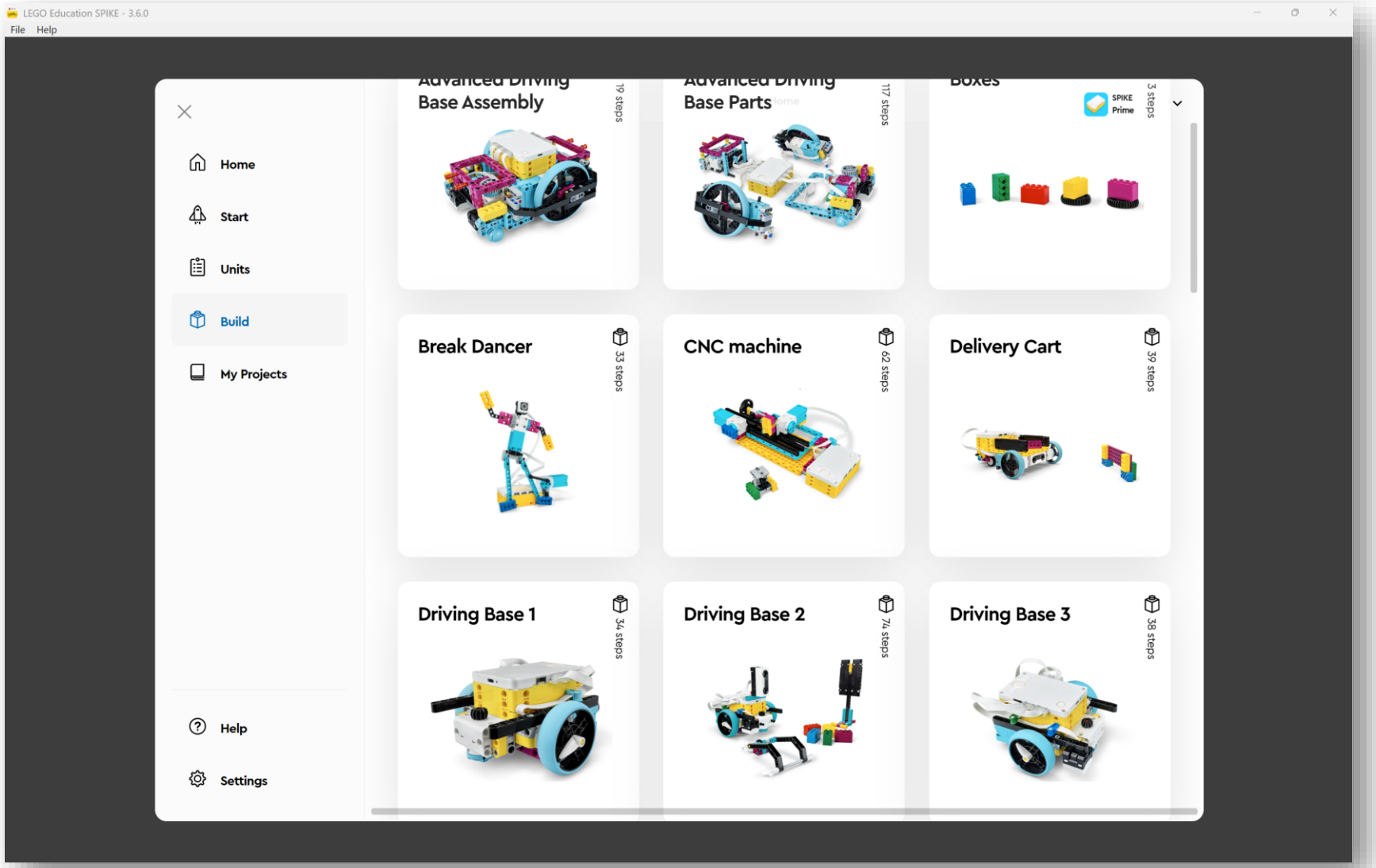

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Power BI Triggered Robots

Translytical to the 3rd Dimension

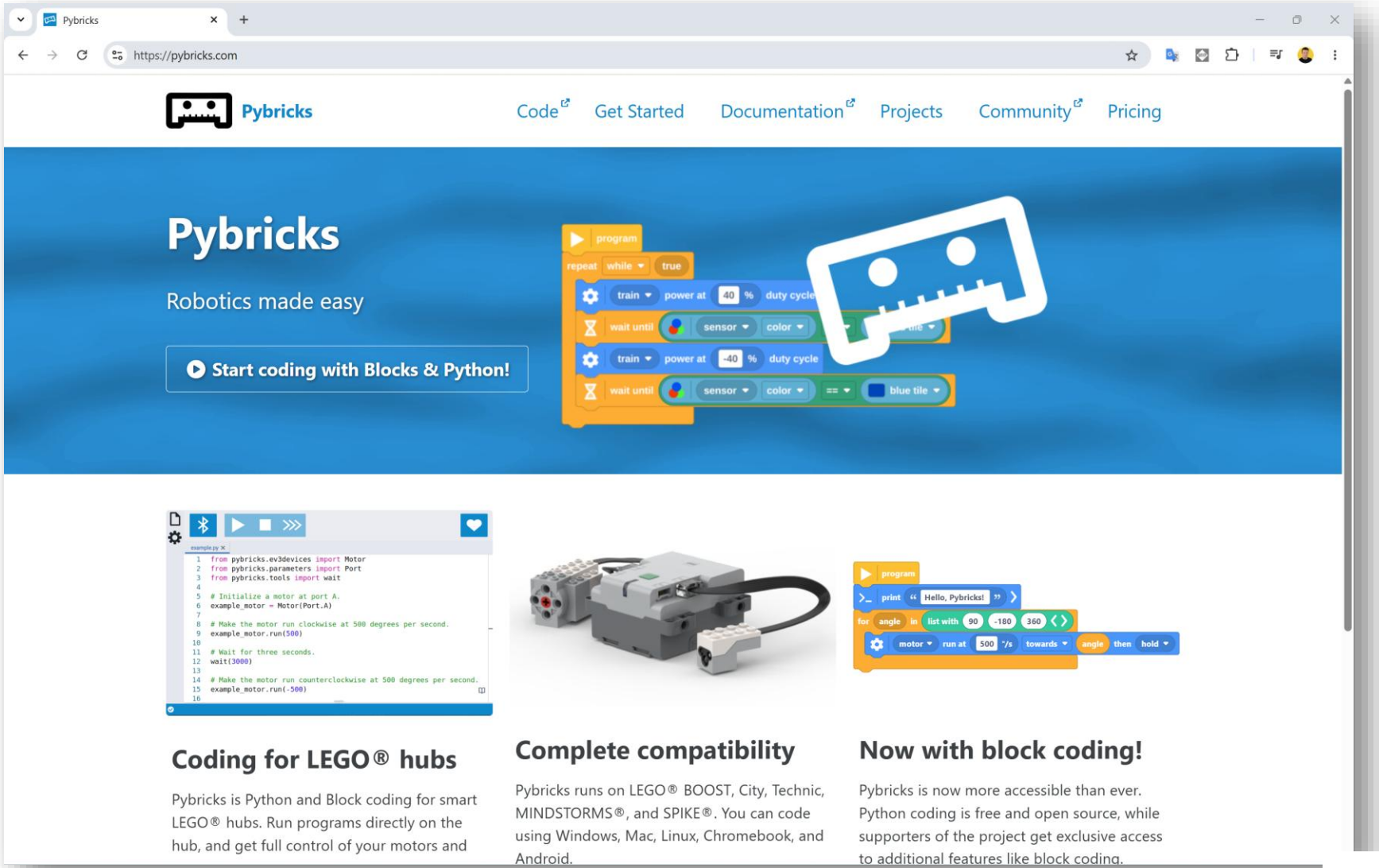


Build a LEGO Robot



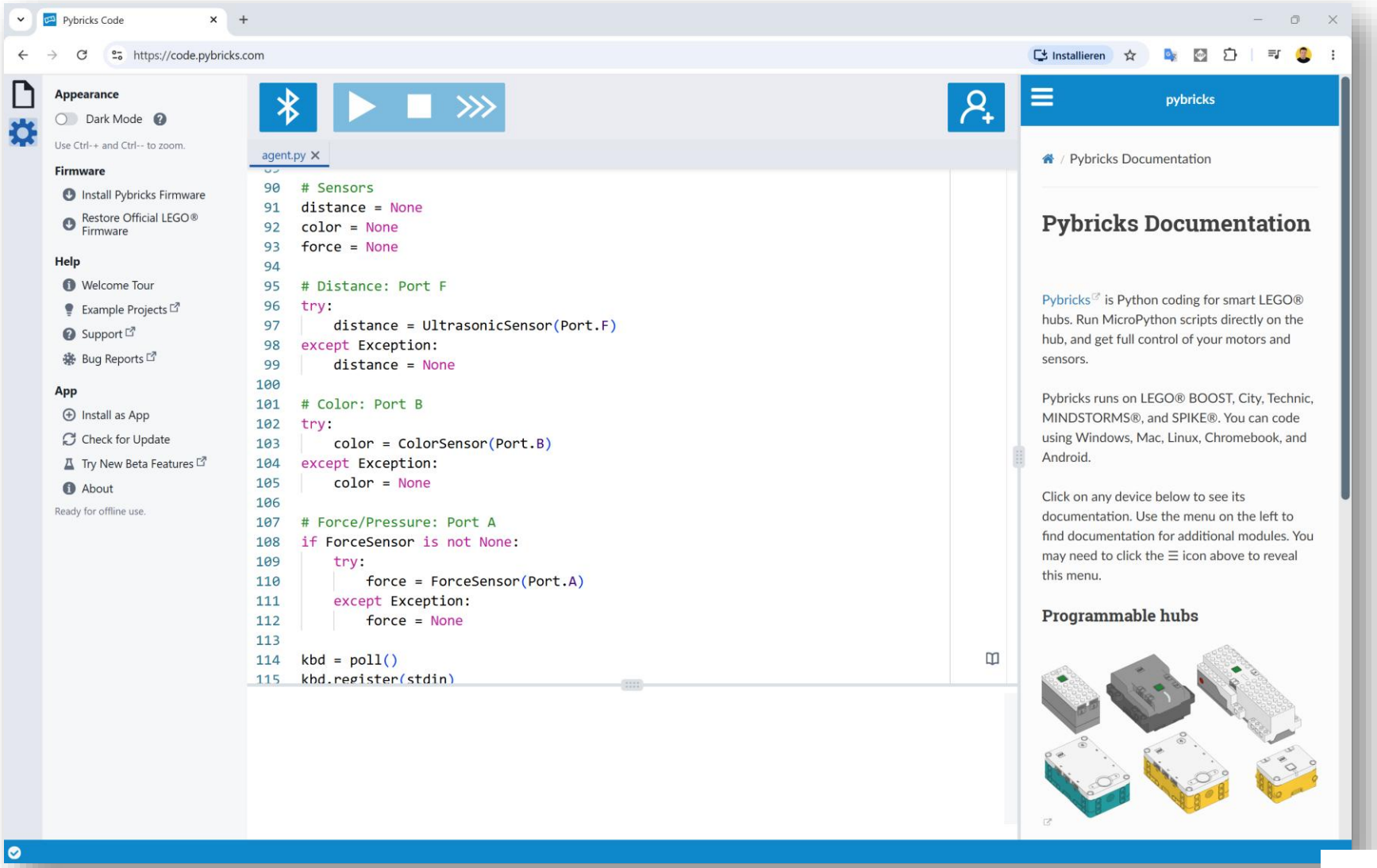
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Pybricks

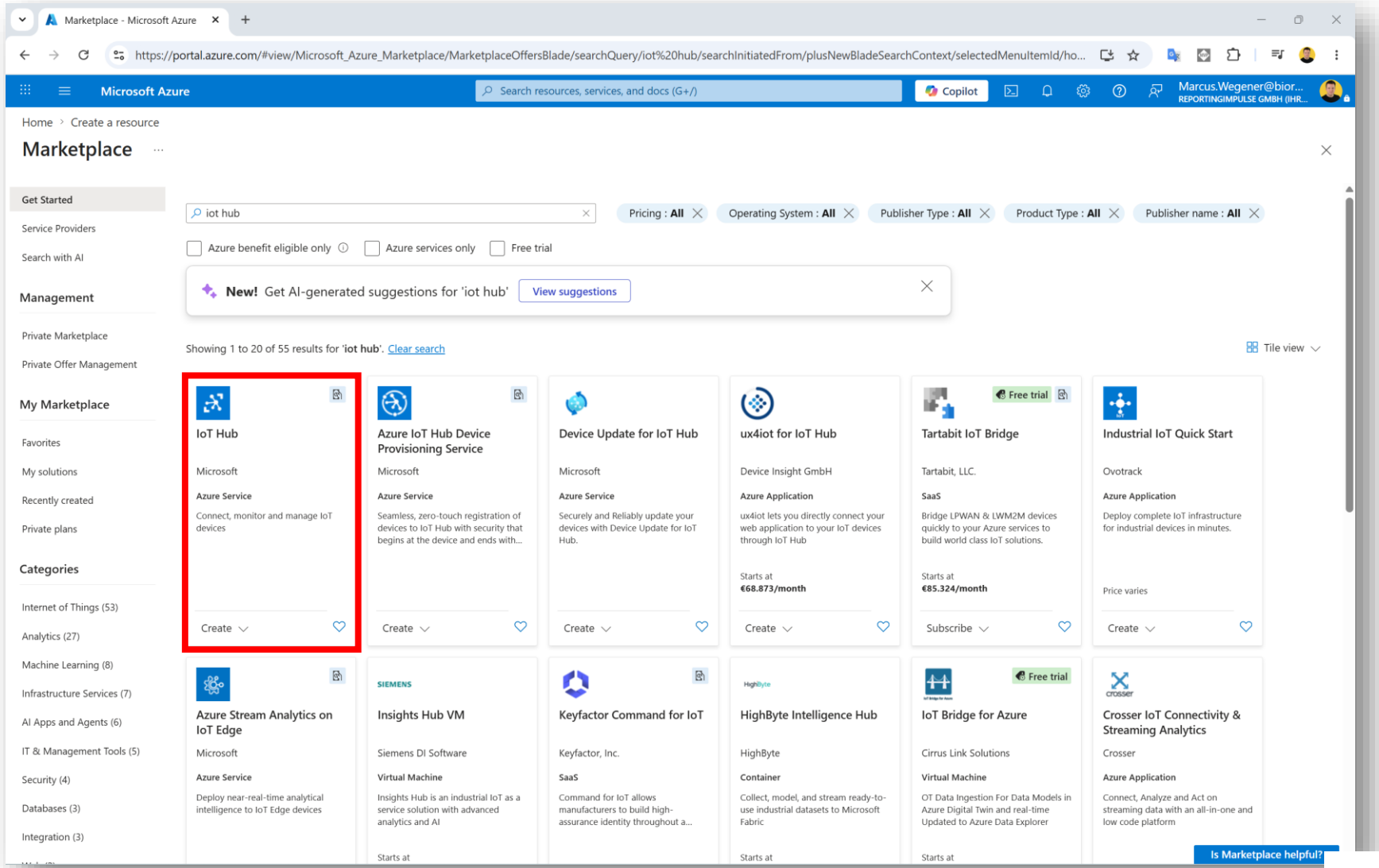


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Pybricks

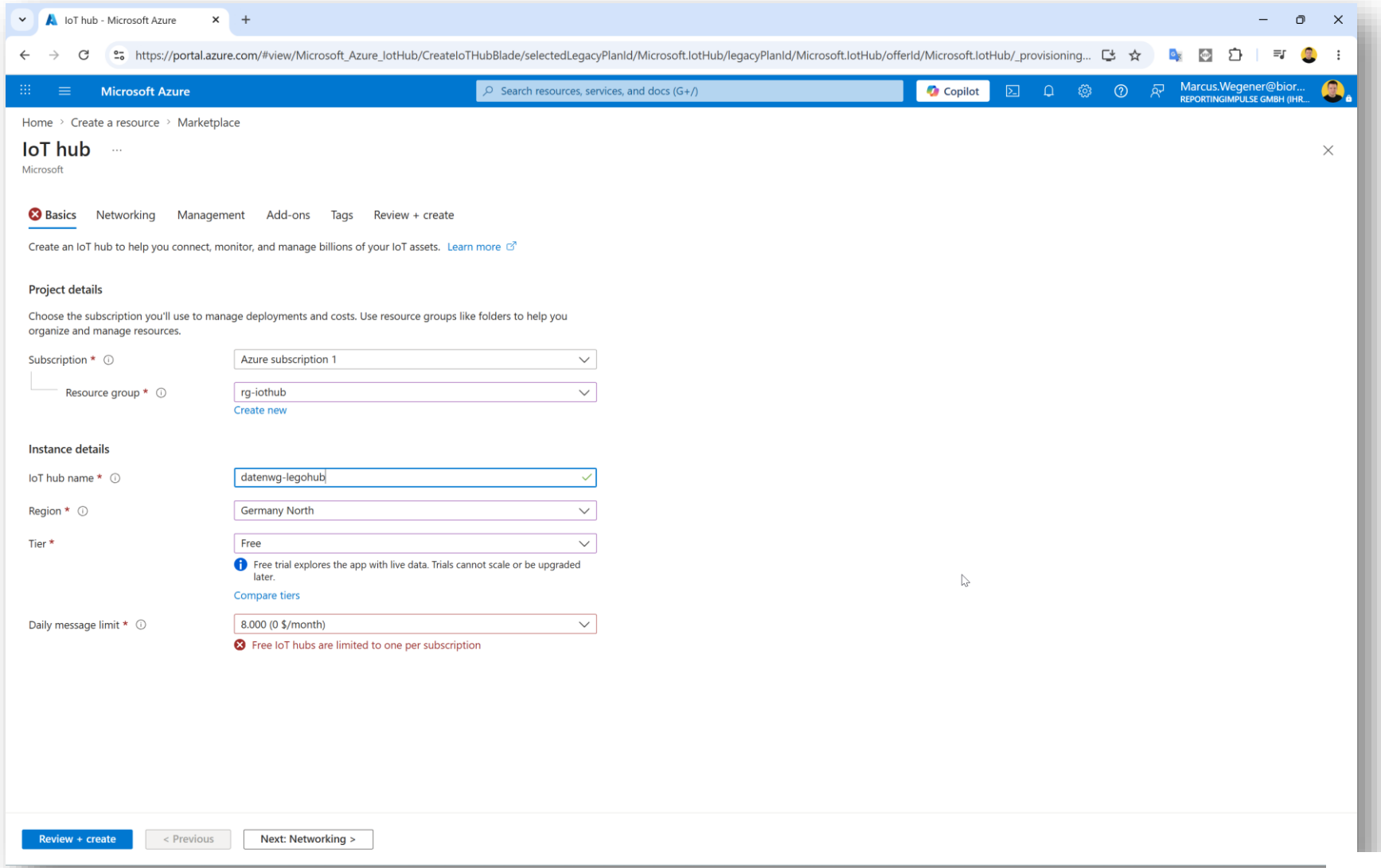

Pybricks Code
https://code.pybricks.com
Installieren
Appearance
Dark Mode
Use Ctrl-+ and Ctrl-- to zoom.
Firmware
Install Pybricks Firmware
Restore Official LEGO® Firmware
Help
Welcome Tour
Example Projects
Support
Bug Reports
App
Install as App
Check for Update
Try New Beta Features
About
Ready for offline use.
agent.py
90 # Sensors
91 distance = None
92 color = None
93 force = None
94
95 # Distance: Port F
96 try:
97 distance = UltrasonicSensor(Port.F)
98 except Exception:
99 distance = None
100
101 # Color: Port B
102 try:
103 color = ColorSensor(Port.B)
104 except Exception:
105 color = None
106
107 # Force/Pressure: Port A
108 if ForceSensor is not None:
109 try:
110 force = ForceSensor(Port.A)
111 except Exception:
112 force = None
113
114 kbd = poll()
115 kbd.register(stdin)
pybricks
Pybricks Documentation
Pybricks Documentation
Pybricks is Python coding for smart LEGO® hubs. Run MicroPython scripts directly on the hub, and get full control of your motors and sensors.
Pybricks runs on LEGO® BOOST, City, Technic, MINDSTORMS®, and SPIKE®. You can code using Windows, Mac, Linux, Chromebook, and Android.
Click on any device below to see its documentation. Use the menu on the left to find documentation for additional modules. You may need to click the ☰ icon above to reveal this menu.
Programmable hubs

IoT Hub



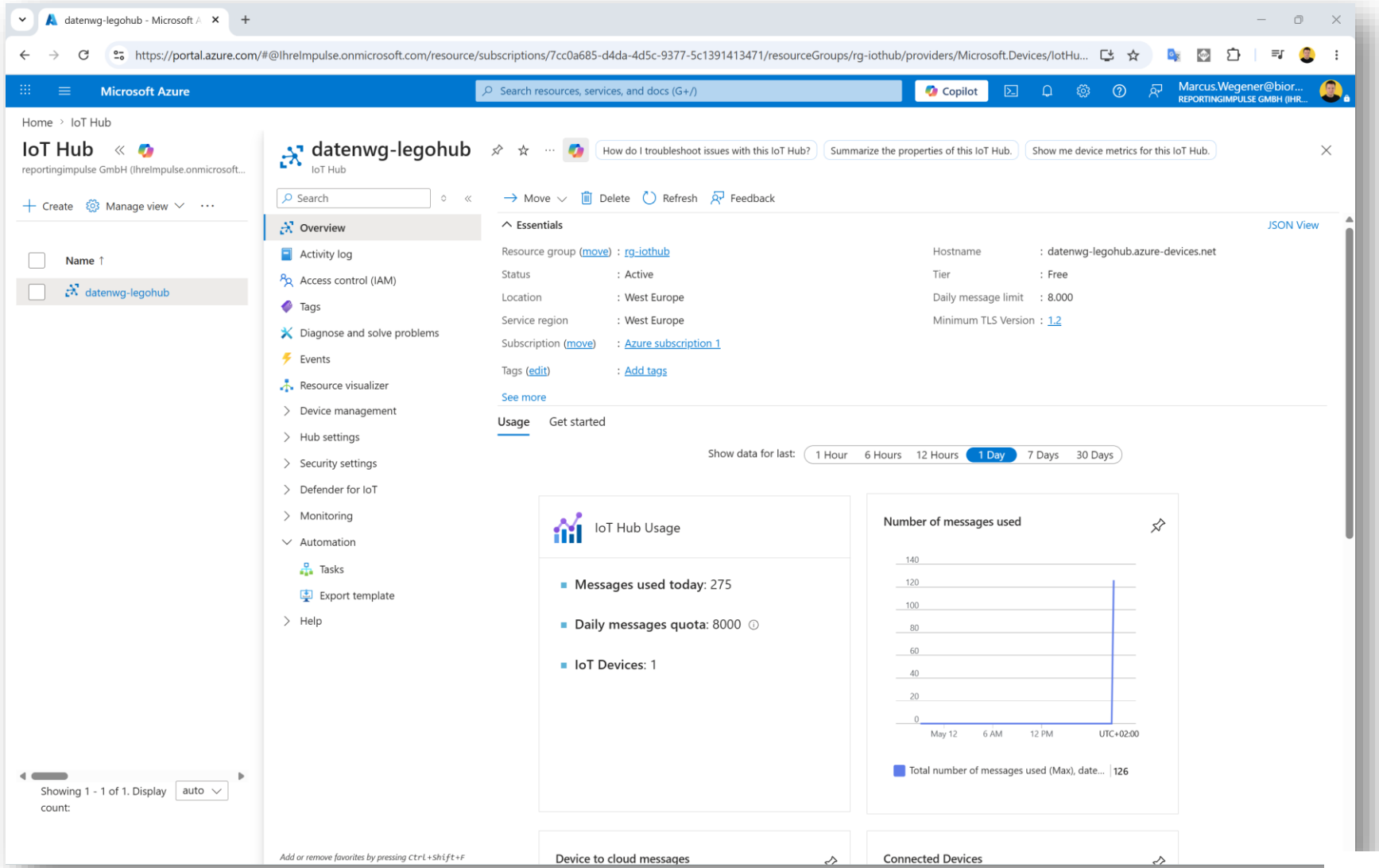
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IoT Hub



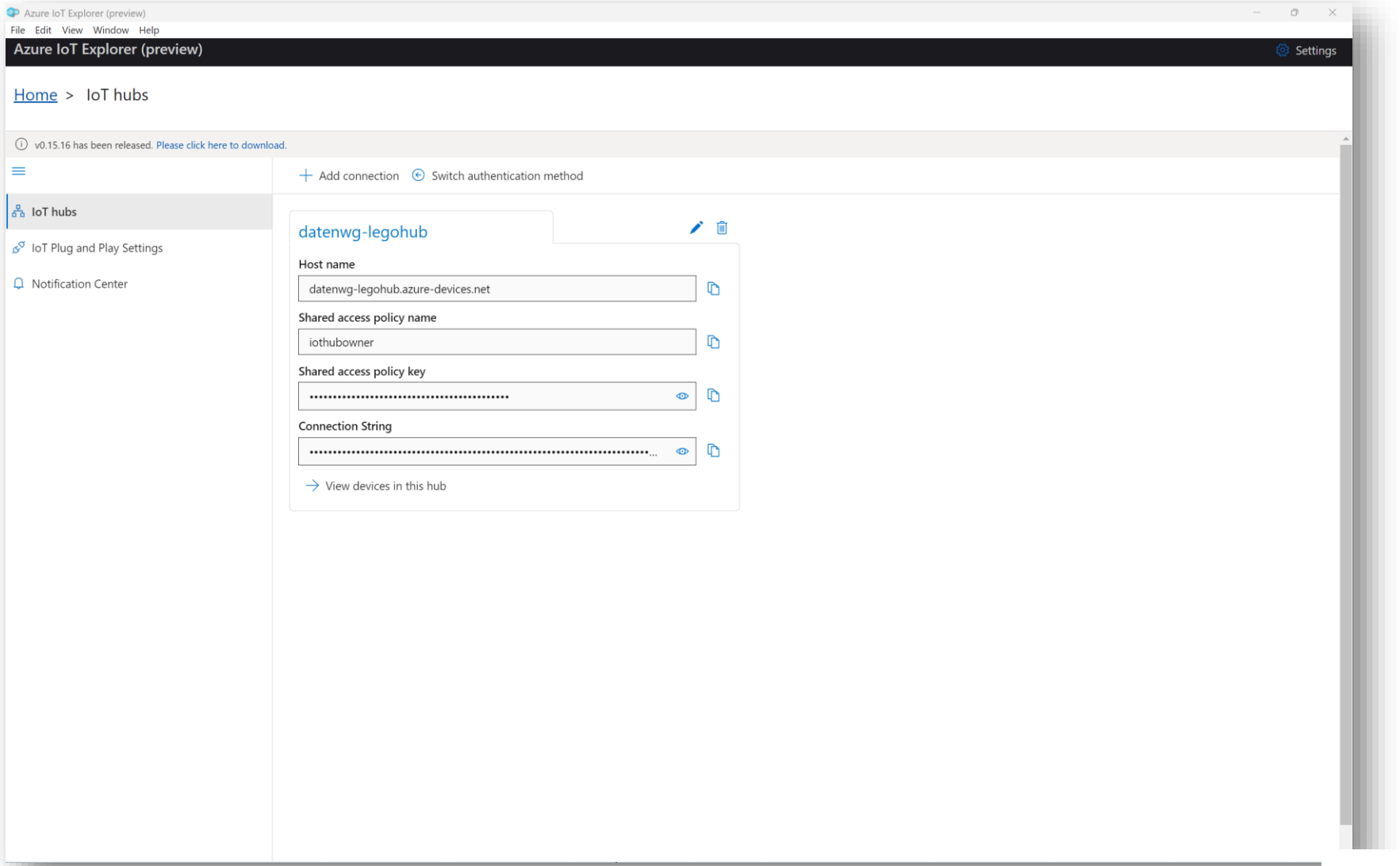
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IoT Hub



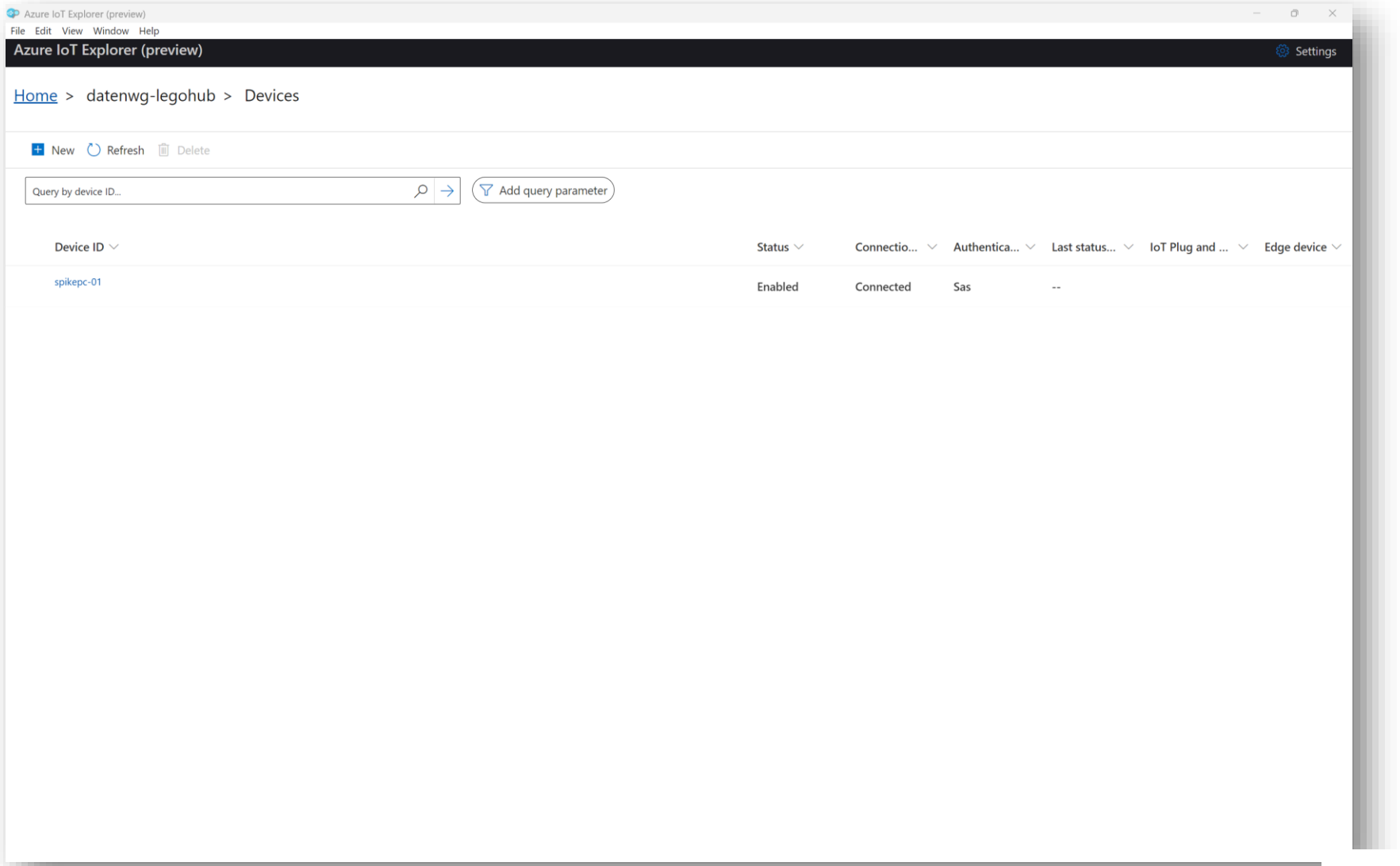
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Azure IoT Explorer

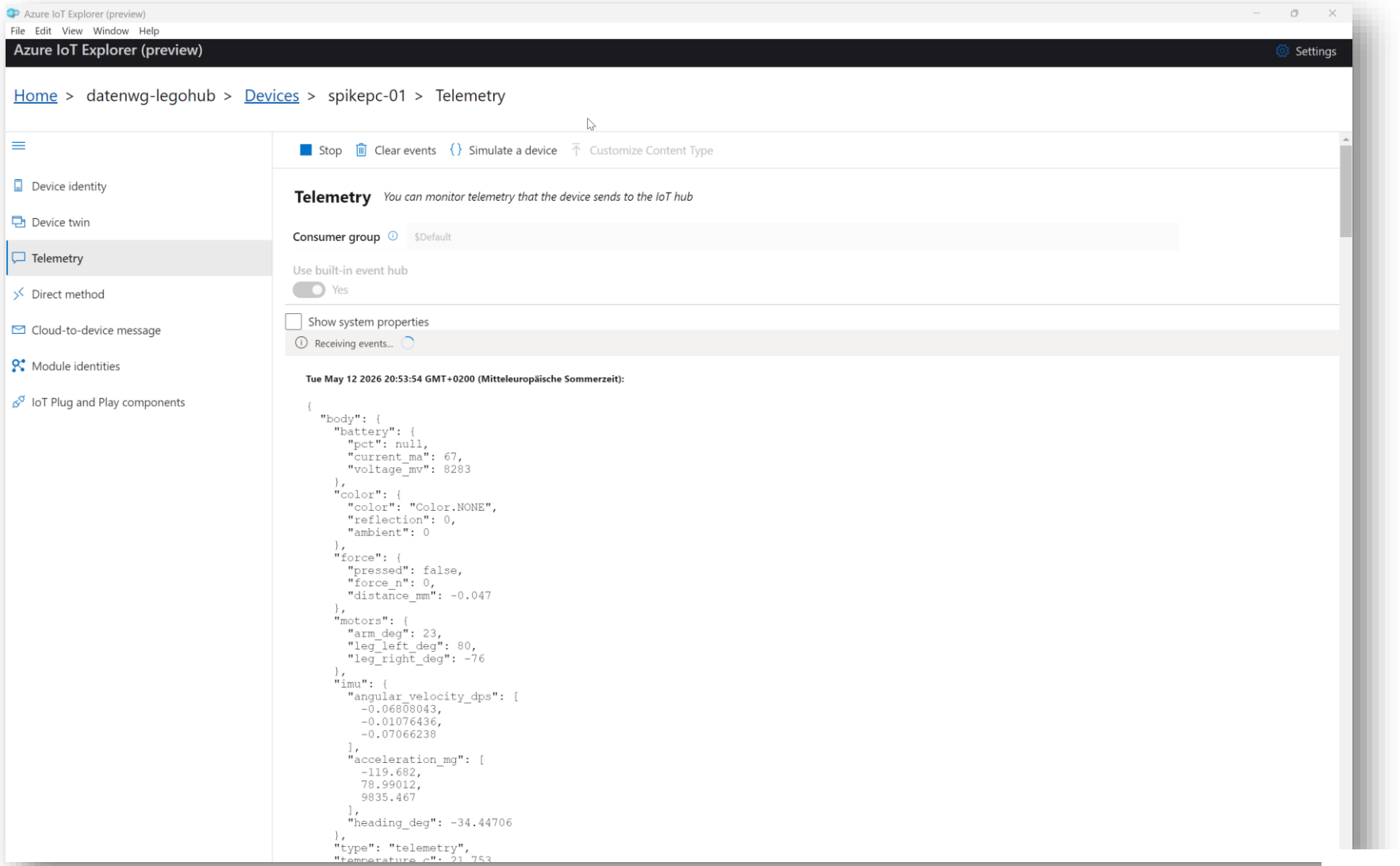


DATEN.WG | platform impulse

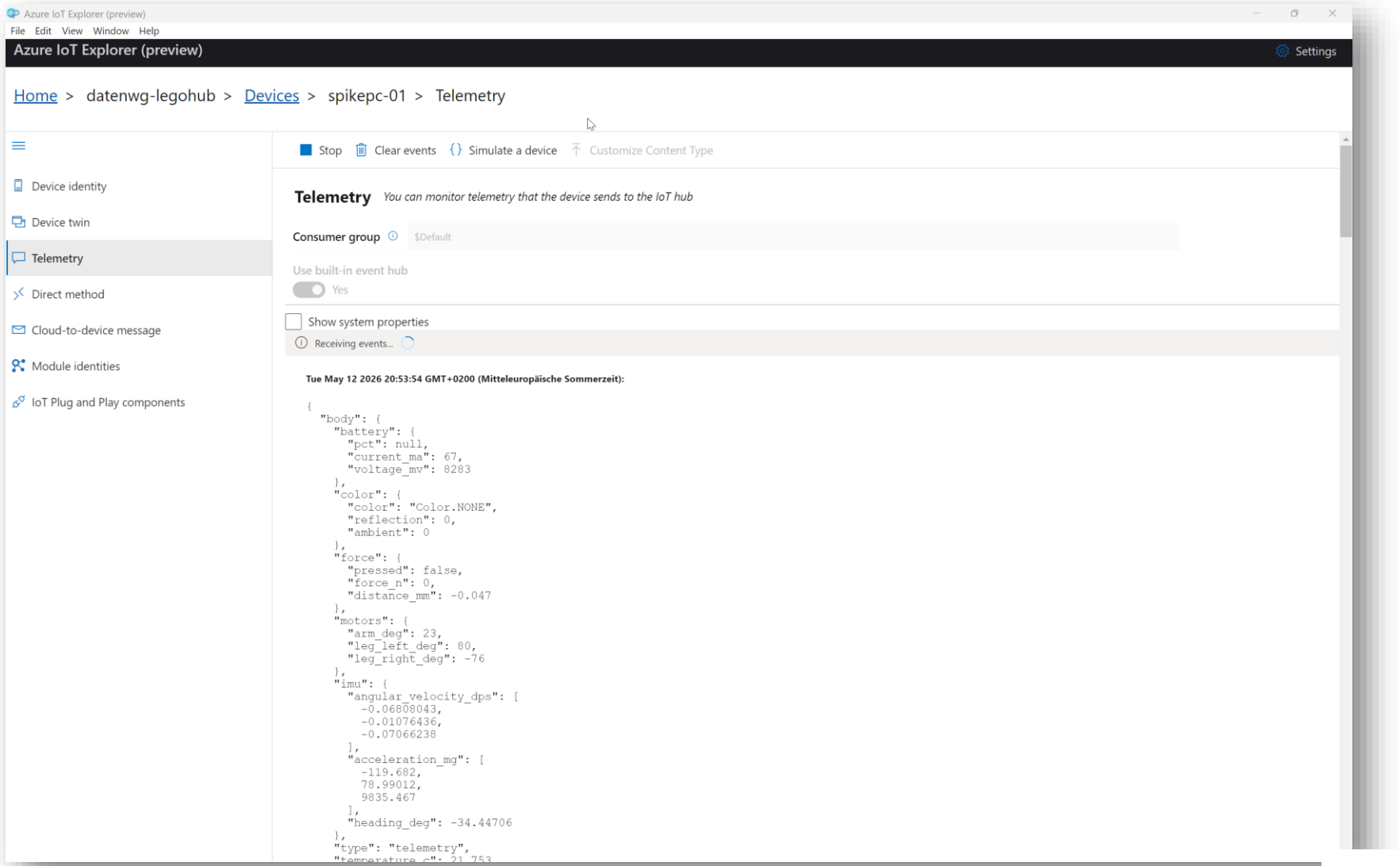
Azure IoT Explorer



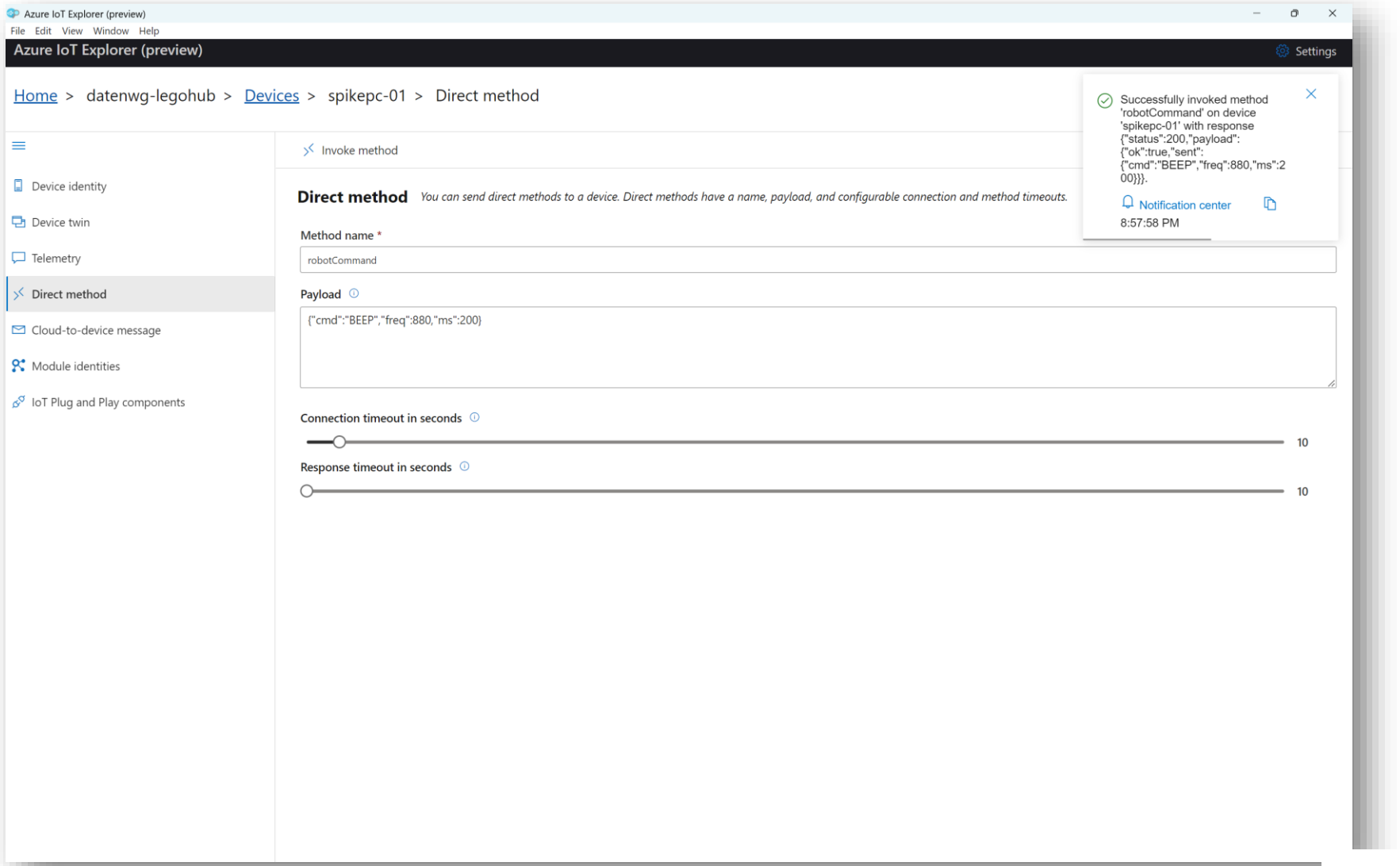
Azure IoT Explorer



Azure IoT Explorer

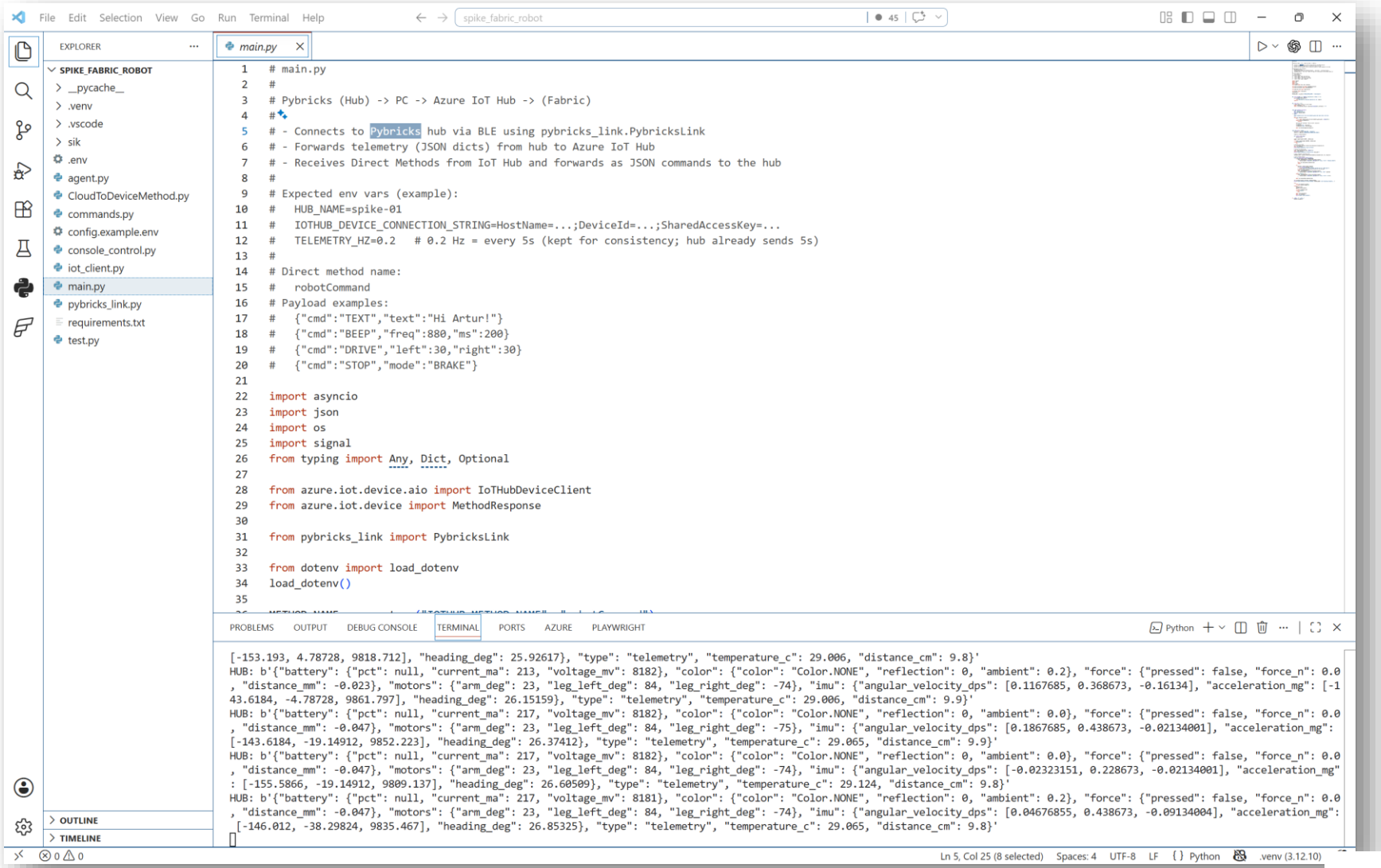


Azure IoT Explorer



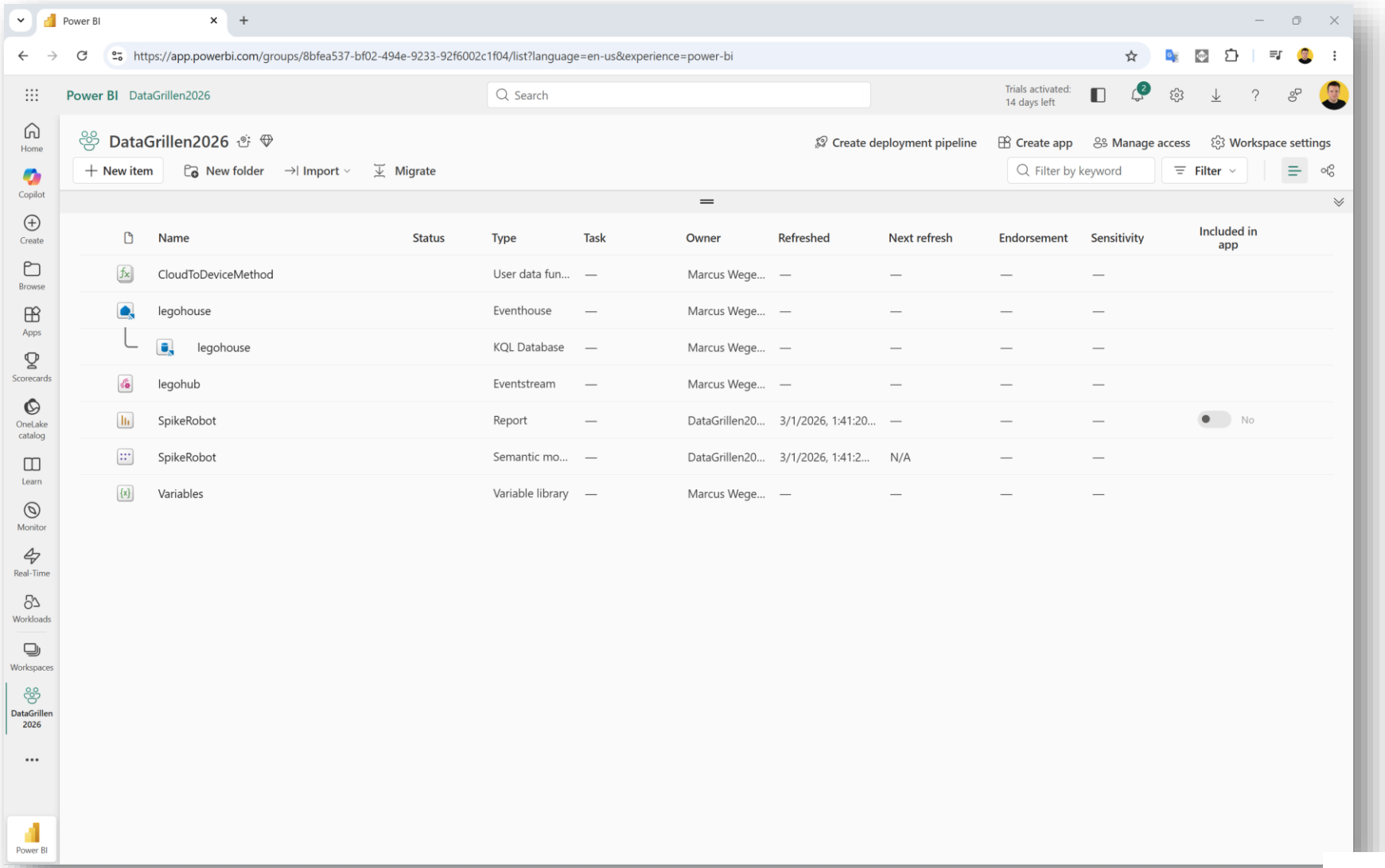
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Python Cloud Bridge



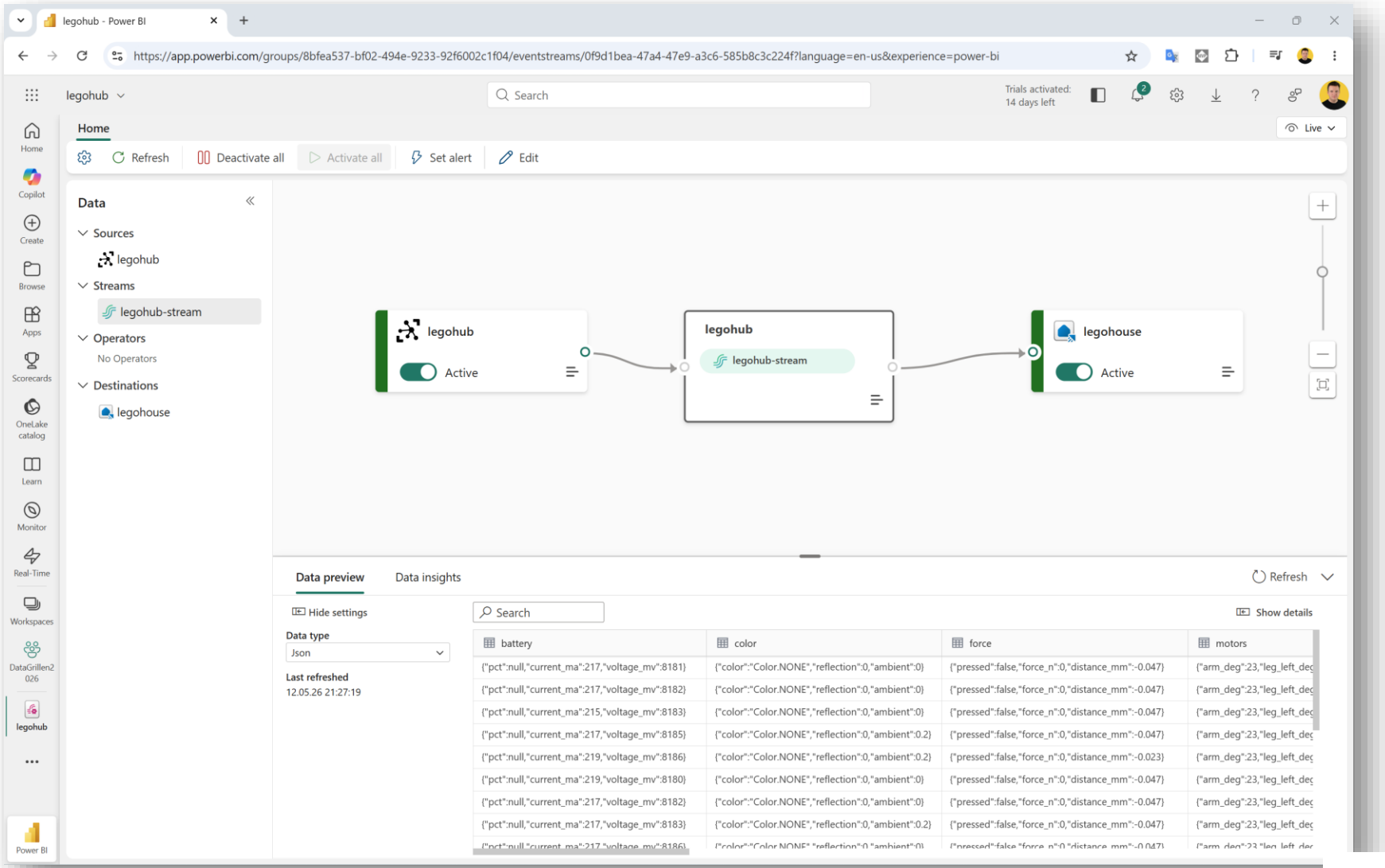
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Fabric



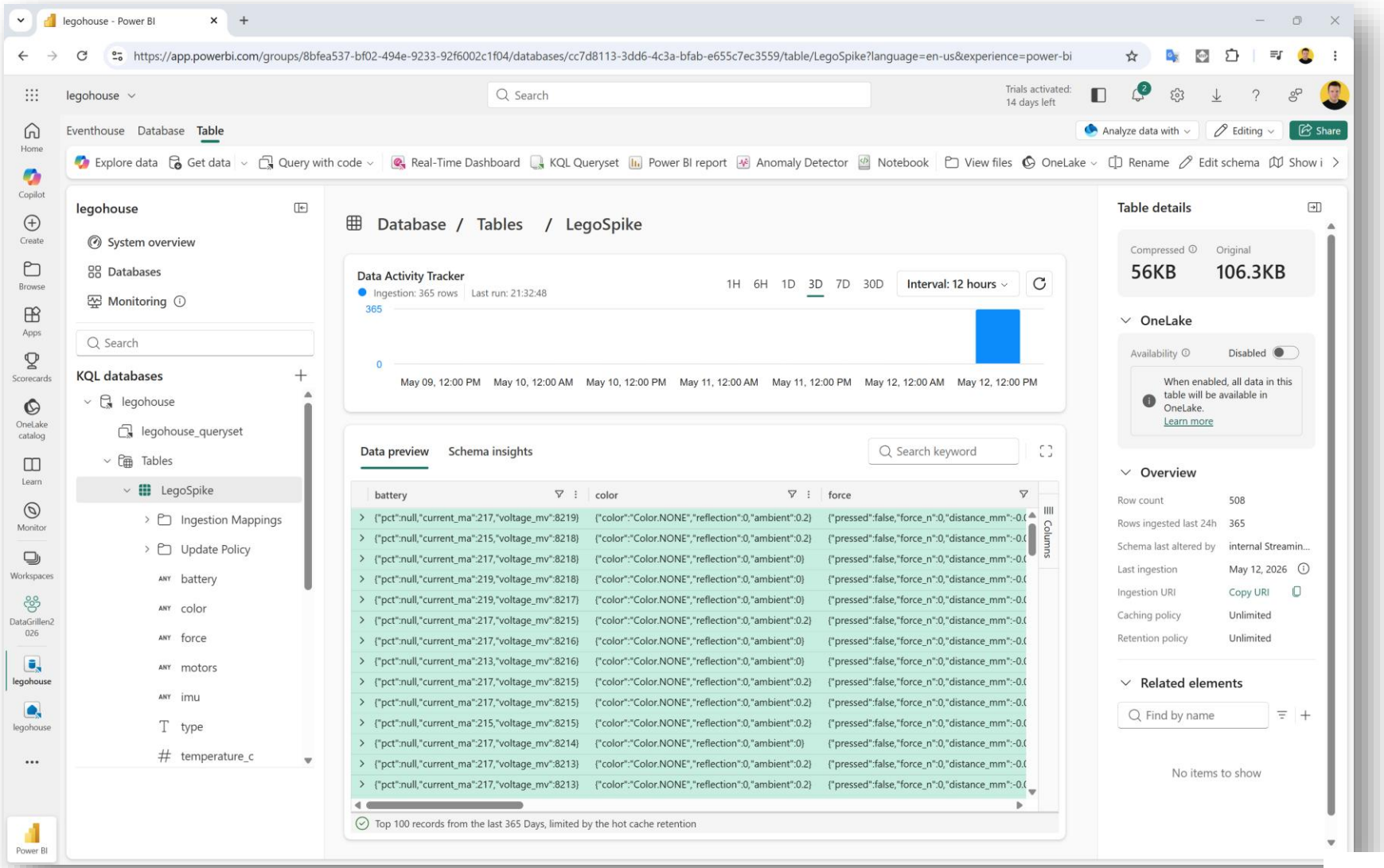
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Fabric - Eventstream

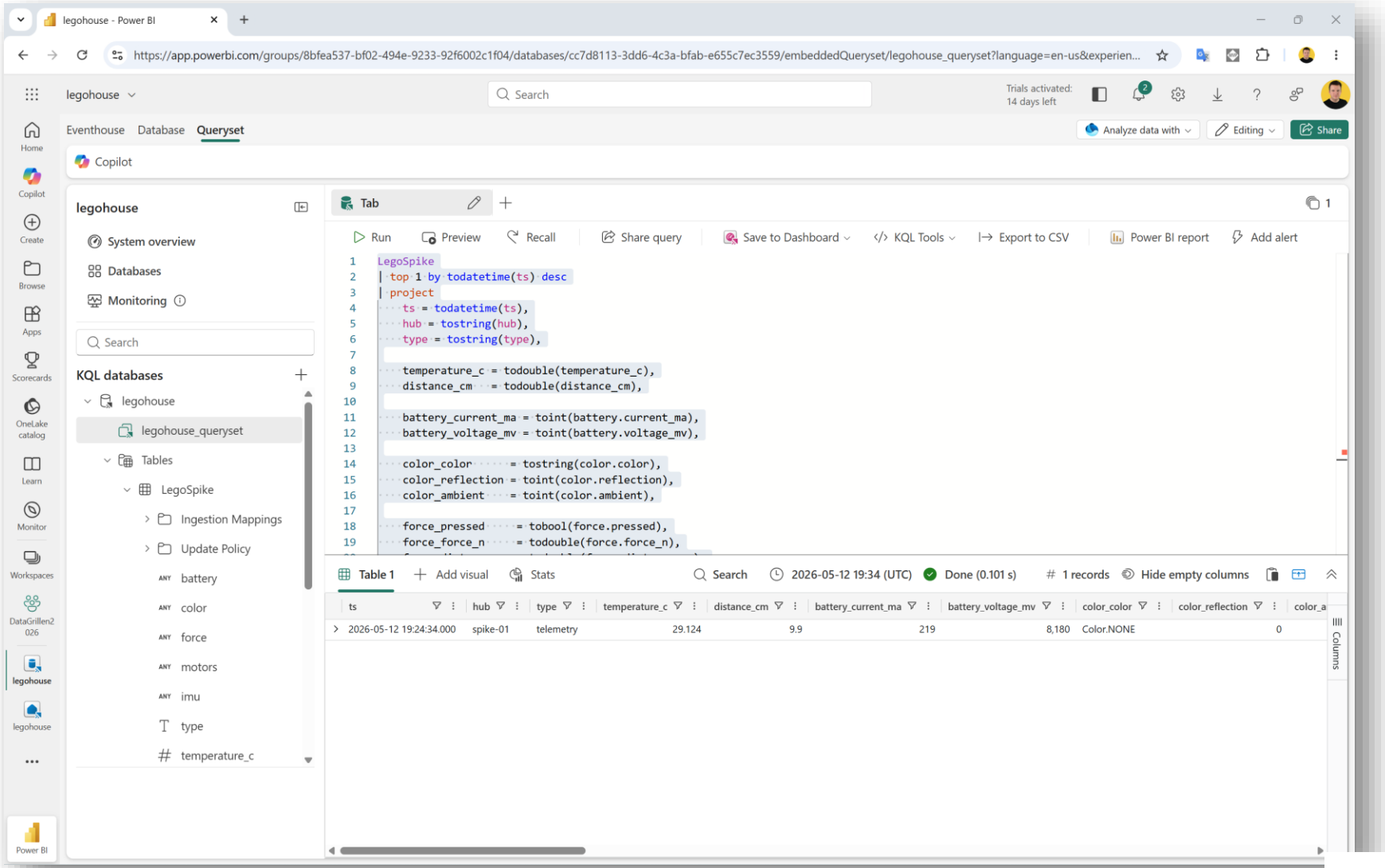


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Fabric - Eventhouse

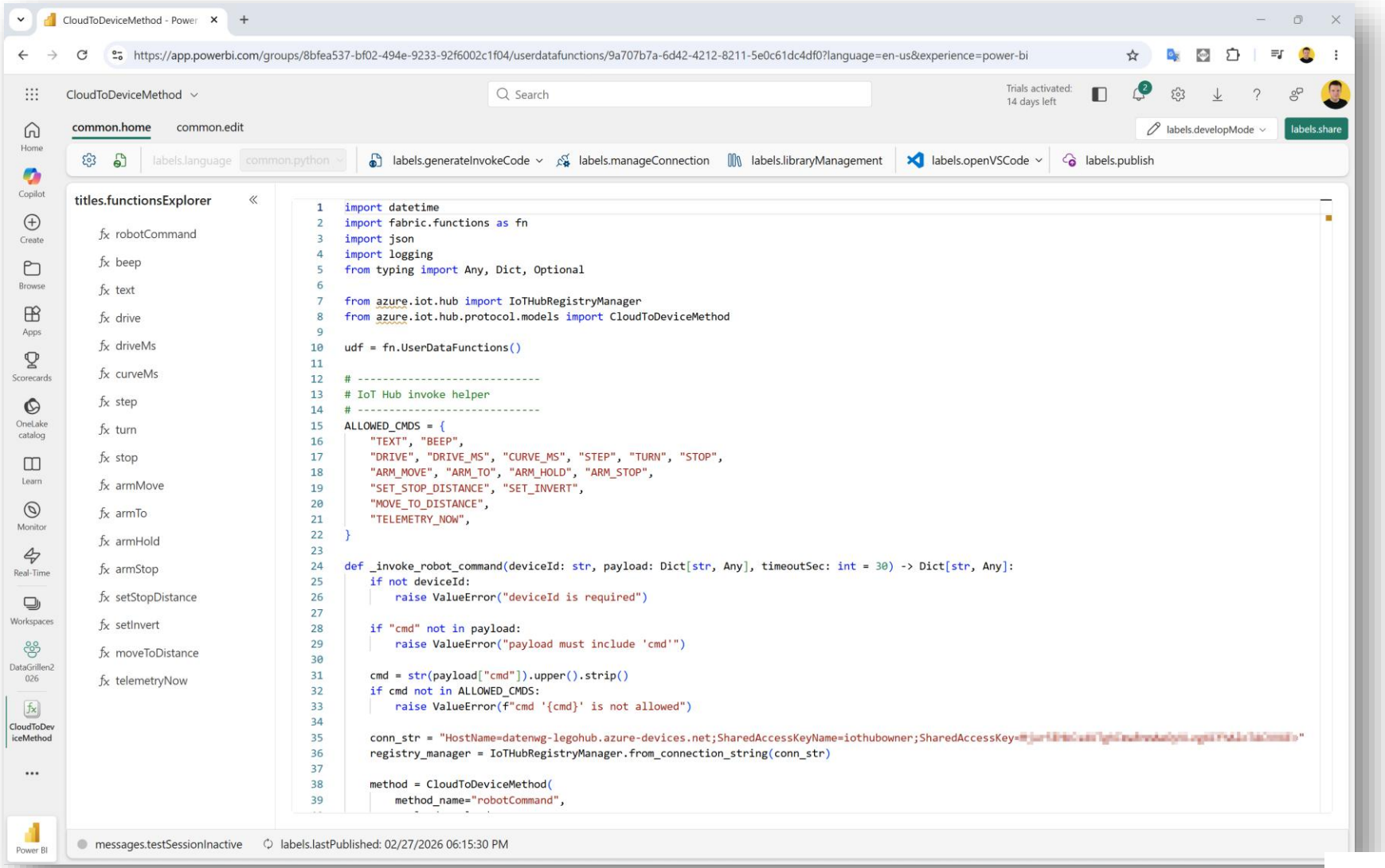


Fabric - KQL



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Fabric – User data function



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Feedback

Thanks for your attention



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