



# Using OpenTelemetry data in tests

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# Background

Michał Pilarski - Testing, GIS, Data, ETL, PyTest, Robot, Minecraft, Mini, Ski, QGis ...

Currently working at: GISKI

Mateusz Adamczak - Data, Python, Testing, Infra, Photography, Beer ...

Currently working at: Dynatrace



# Goal

Core ideas behind the workshop:

Use tools from software industry that are not that popular in testing but could greatly benefit the process of ensuring quality.

Mechanical industry monitors their machines - software is a form of machine

Different way to spot problems with software under test

Use Grafana to combine multiple monitoring functionalities



# Background

Stories from Dynatrace

Testing how much load of data particular kubernetes cluster can handle

No obvious pass/fail scenario

Simulation of cloud providers

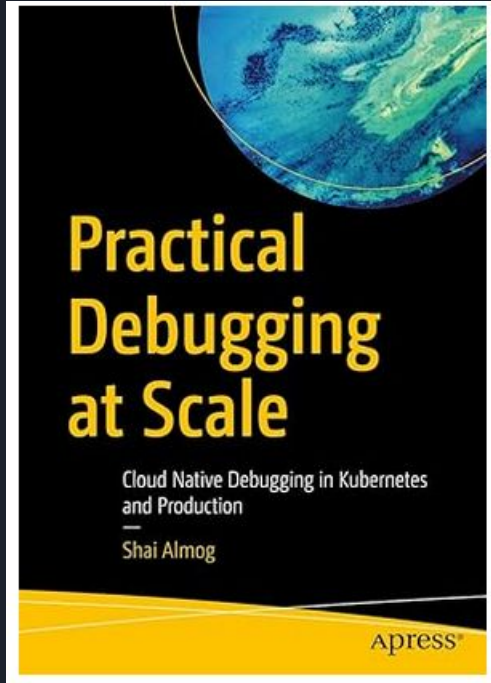
Converting that knowledge to the real life scenarios



# Background

Observability tools are new to development practice

What about testing?



# Background - the story

Postgraduate studies - Wind energy

Offshore wind turbines in Poland

Wind turbines produce data

Wind turbines data is hard to find

IEA Wind Task 43





# Background - the story

<https://iea-wind.org/task43/>



# WIND ENERGY DIGITALIZATION

IEA WIND TASK 43



# Background - the story

Searching for data:

<https://iea-wind.org/task43/task-43-open-data/>

Zenodo example: <https://zenodo.org/records/5946808>

Fingrid:

<https://data.fingrid.fi/en/datasets?search=wind>

# Background - the story

Web scrapping data center





# Monitoring

Grafana - LGTM - Looks Good To Me Stack

Loki - Logs

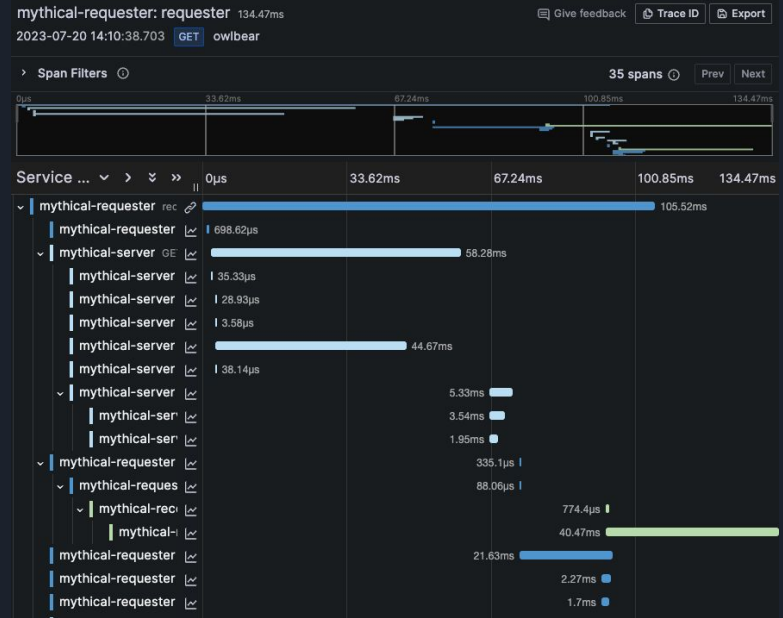
Mimir - Metrics

Tempo - Traces

<https://adamczakmateusz.grafana.net/d/apicrawler-machines-v1/api-crawler-e28094-machine-status?orgId=1&from=now-3h&to=now&timezone=browser&refresh=30s>

# Example of traces

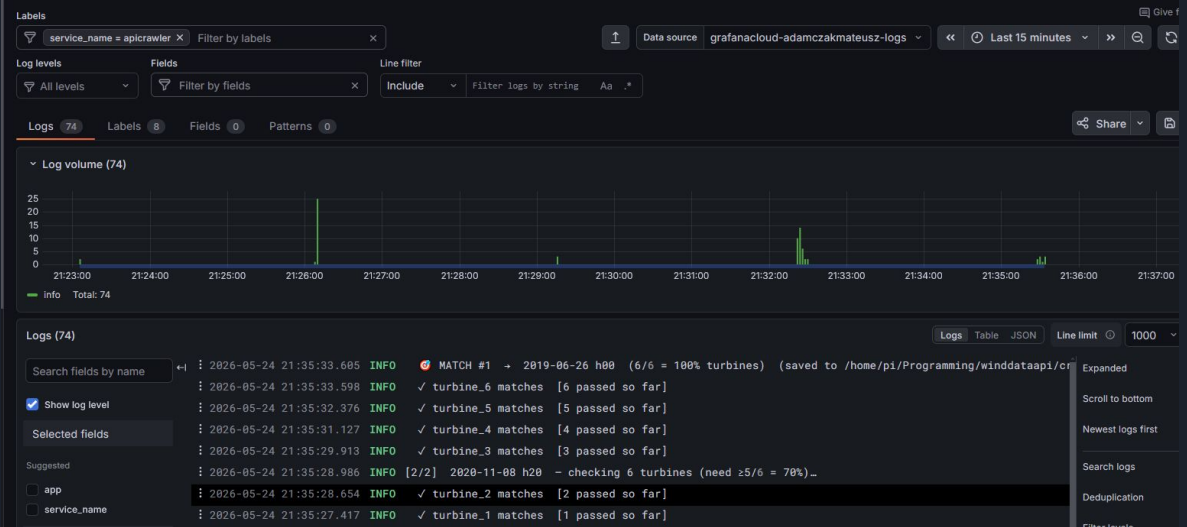
What is a trace?



# Logger and connecting logs to Grafana

Token

Loki app instance ID

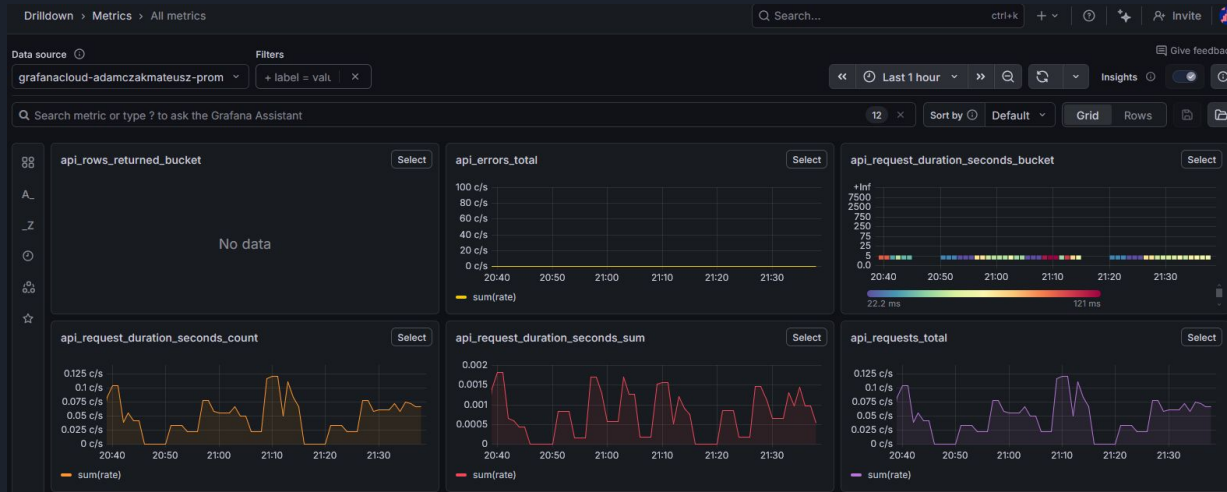


# Metrics collector and connecting it to Grafana

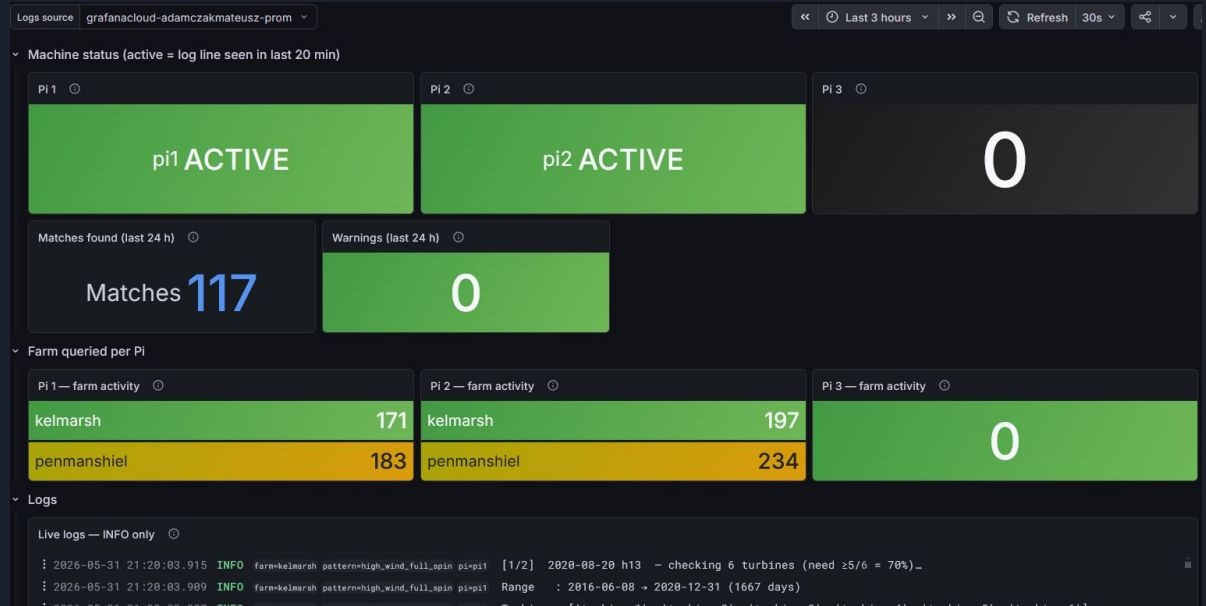
Token

Prometheus/Mimir

app instance ID



# Dashboards - see what you want





# Things to install

Python  $\geq$  3.14.0

PyCharm IDE

Playwright

Pytest

Repo: <https://github.com/madamczak/winddataapi>

Frontend: <https://winddataapi.onrender.com>

API: <https://winddataapi-backend.onrender.com/docs>

Grafana: <https://adamczakmateusz.grafana.net>



# DEMO

let's check examples in action