Performance testing and why even the imperfect one is important

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Why?

Why to take the time and do the **performance testing**

1. Why not?
2. Interesting work
3. Performance gain for product
4. Deeper understanding of product core
5. Obtained numbers can be used as some base information about product expected throughputs

Testing vs Measurements

Numbers are just a **side product**

No need for an absolutely **isolated** environment

The goal is to find the **bottlenecks** of the product

Monitoring and Tracing are necessary

Exact numbers that you can rely on

Completely **isolated** environment

The goal is to **find the numbers** not optimize the product

Monitoring of the whole behaviour is **not necessary**

Goals

Observe, Stress, Scrape

- Find bottlenecks
- **Optimize** implementation
- **Compare** different runtimes
- Find **baseline** performance figures
- **Stress** system with various load types

Obstacles

Pre-test steps

- **Know your environment!**
  - Latency, memory, simply everything
- Prepare **metrics** scraping
  - Speed problems
- **Tune up** all systems that you depend on
  - Databases, ...
- The generated load must be **reproducible**
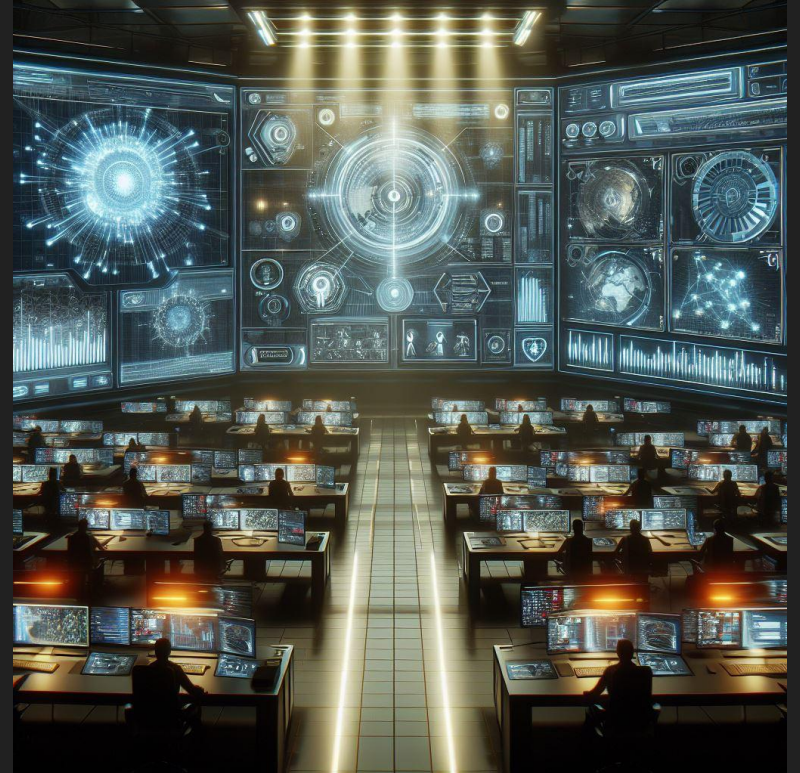
Knowledge is power.

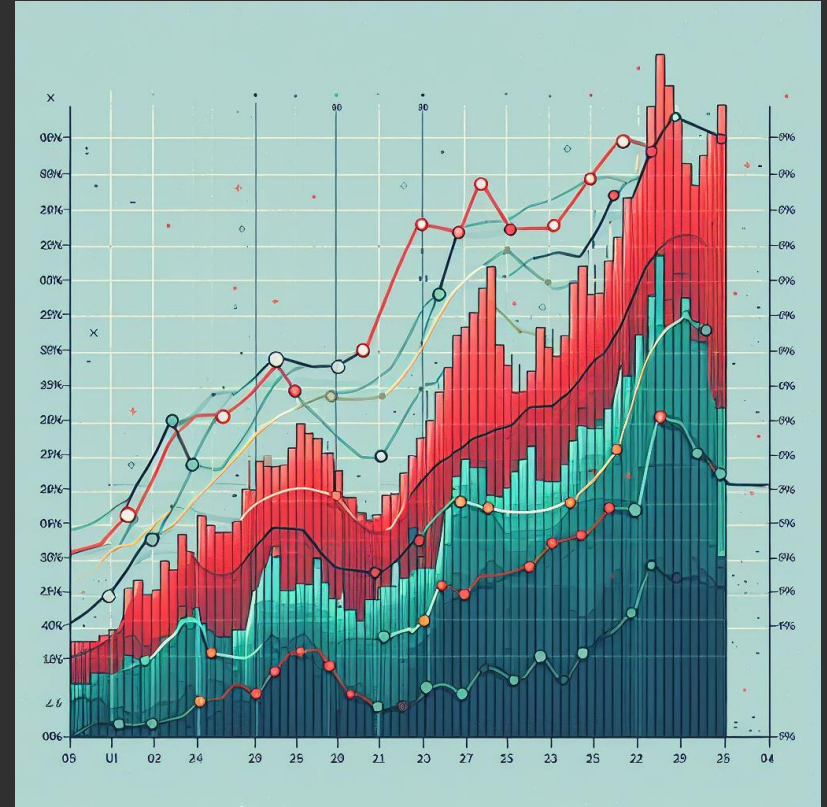Francis Bacon

Monitoring and tracing

Key to success

- **Slow scraping** can be a big problem
- As many metrics as possible
  - Hardware
  - Software metrics
- Raw data to graph = **no problem**
- A graph without data = **impossible**
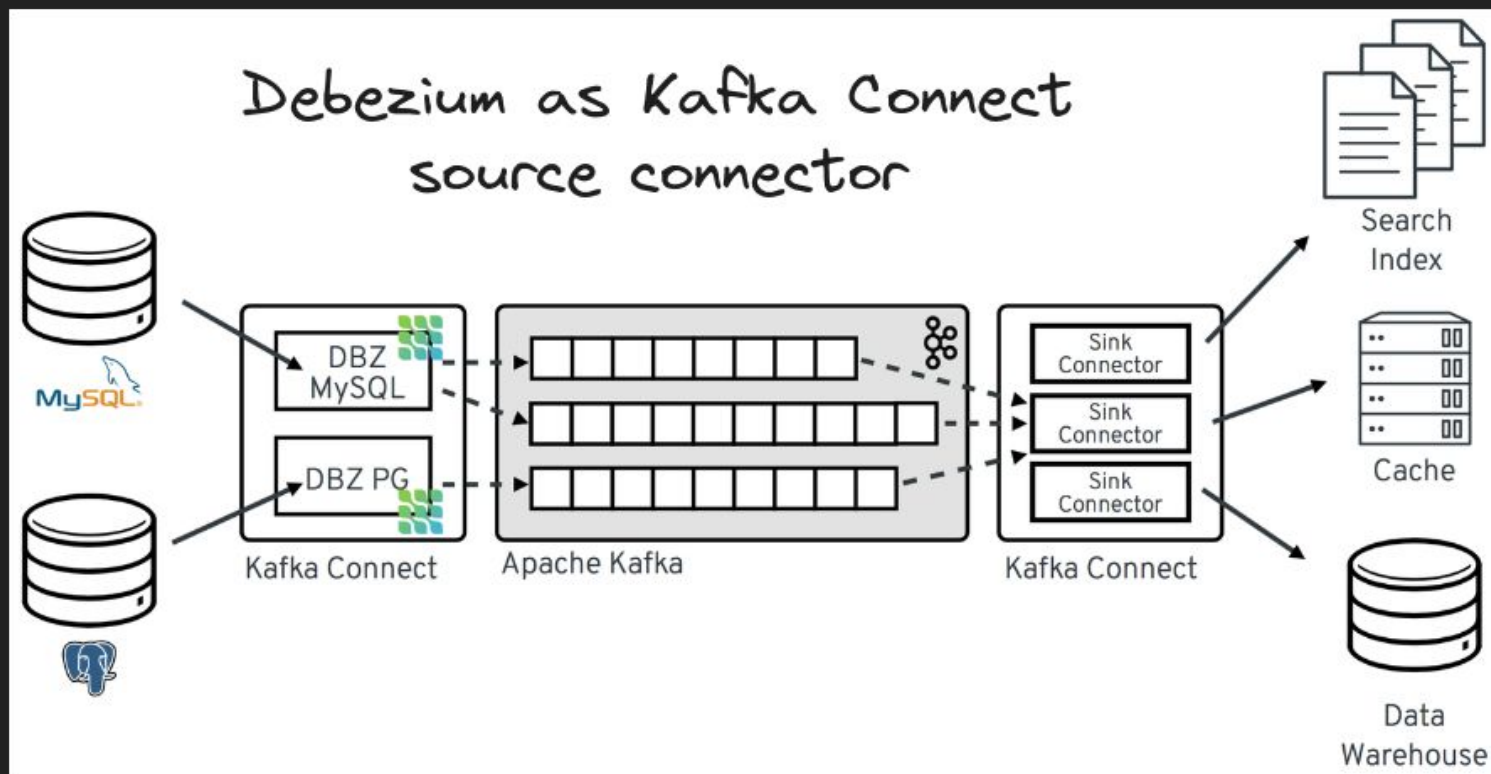- Use as **few tools** as possible

Patterns and trends!

All you need to look for

SuT - Debezium

Debezium as Kafka Connect source connector

Real life example

Process duration

300			
200			
100			
0			
	13:50:45	13:50:50	13:50:55

— Debezium process speed   — sum

Queue size

1200			
1000			
800			
600			
400			
200			
0			
	13:50:45	13:50:50	13:50:55

— {__name__="debezium_metrics_QueueRemainingCapacity", context="streaming", hostname="10.1.8.111", instance="10.1.8.111:5083", job="kafka-connect", name="perf", plugin="postgres"}

Real life example

Tips & Tricks

- **DMT** - Database Manipulation Tool
- **Load** generator
- Ansible **automation**
  - MySQL auto tune
- **Netdata** to **Prometheus** scraper

Summary

Let's find the **bottlenecks together**!

- Don't be **scared**
- Gather as many metrics as you can
- Look for trends, not concrete numbers
- Tune everything around your app!
- **See our blog and repo for new tooling!**

Thank you!

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