Microservice Observability

with Jaeger, ELK and Prometheus

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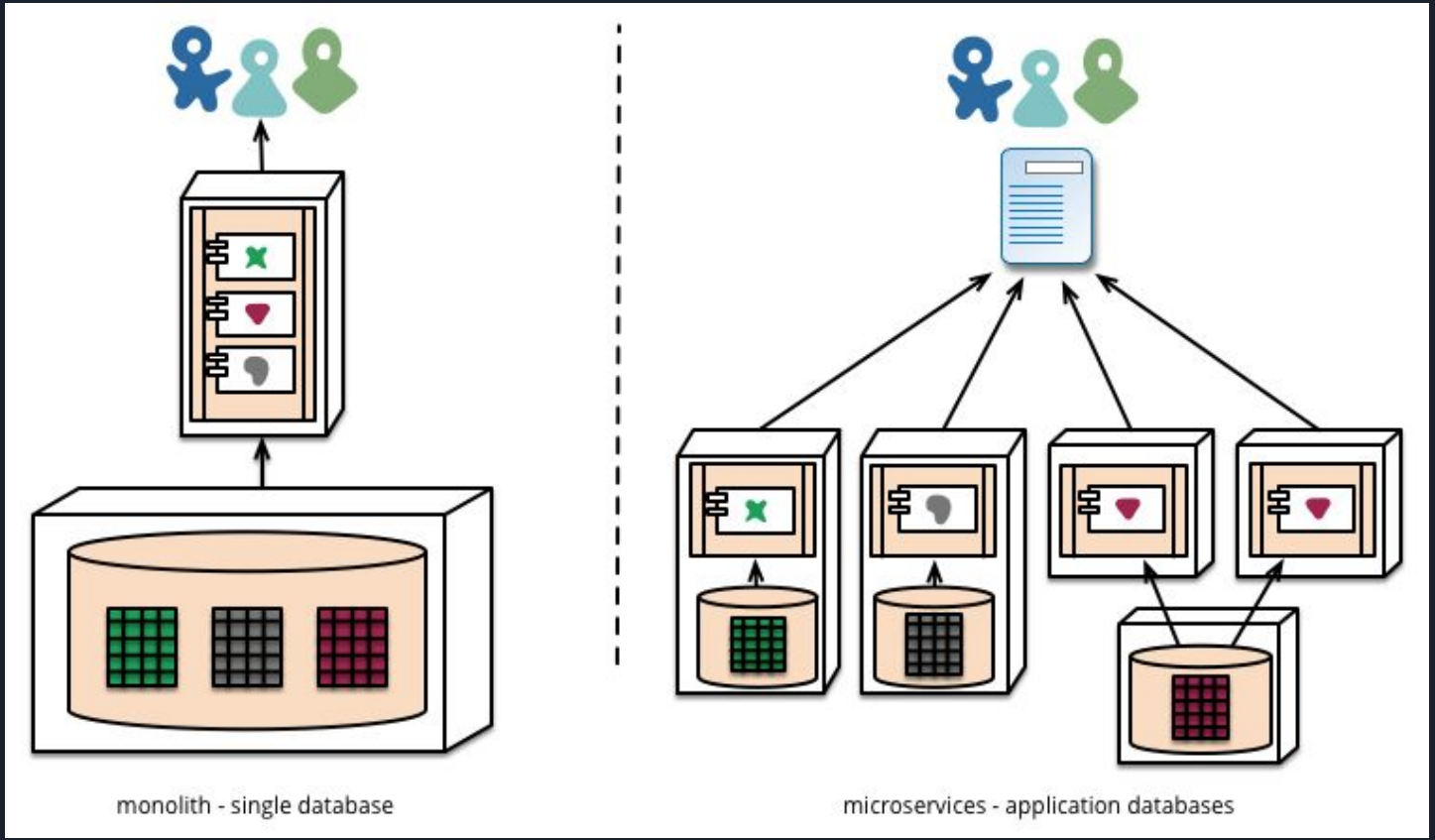
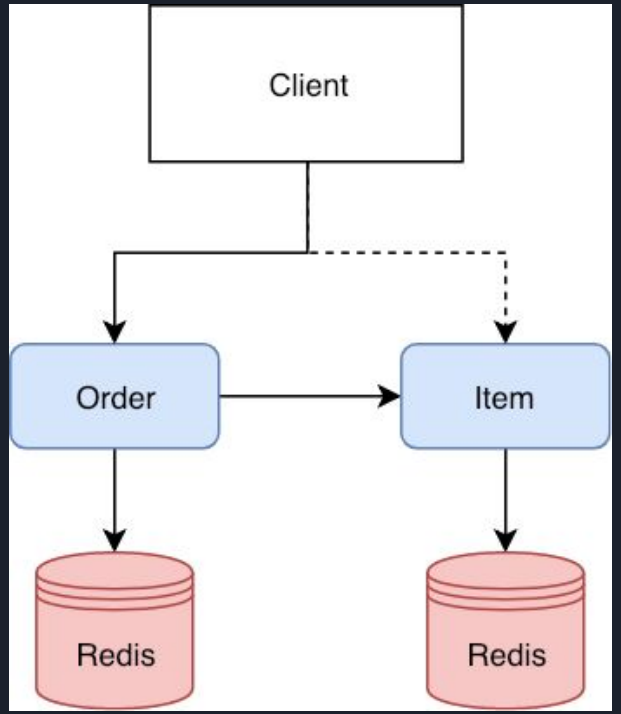


https://www.martinfowler.com/articles/microservices.html

Demo Microservice Application

https://github.com/obitech/micro-obs

- Written in Go
- Two services, REST APIs
- User → Item
- User → Order → Item → Order
- Instrumented directly (no sidecar)



Observability

What is, or has been, going on in my system?

Monitoring

Resource utilization, error rate, latency, etc.

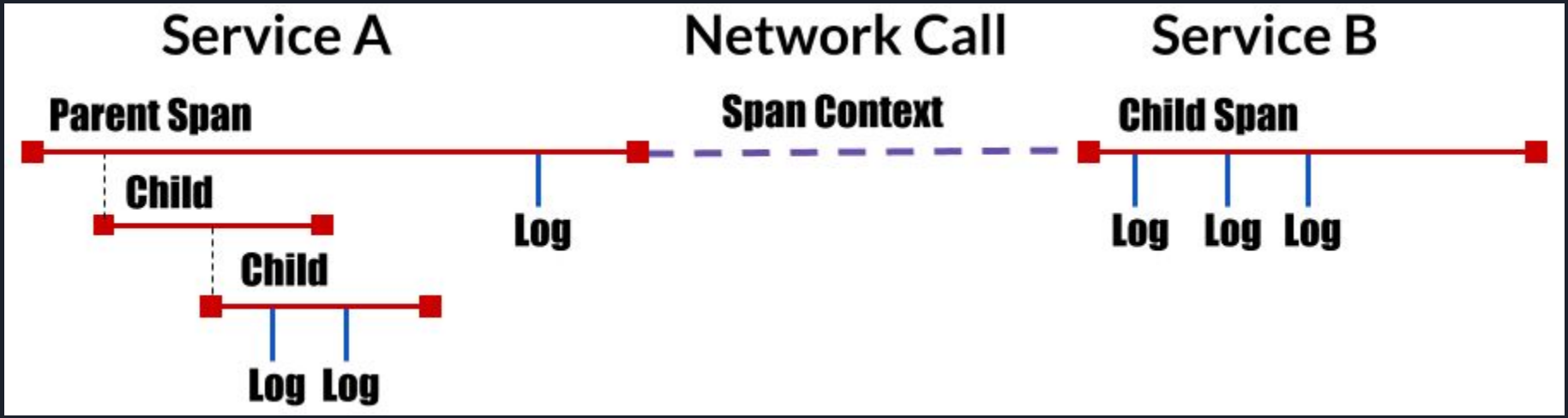
Centralised Logging

Gather & query service logs

Distributed Tracing

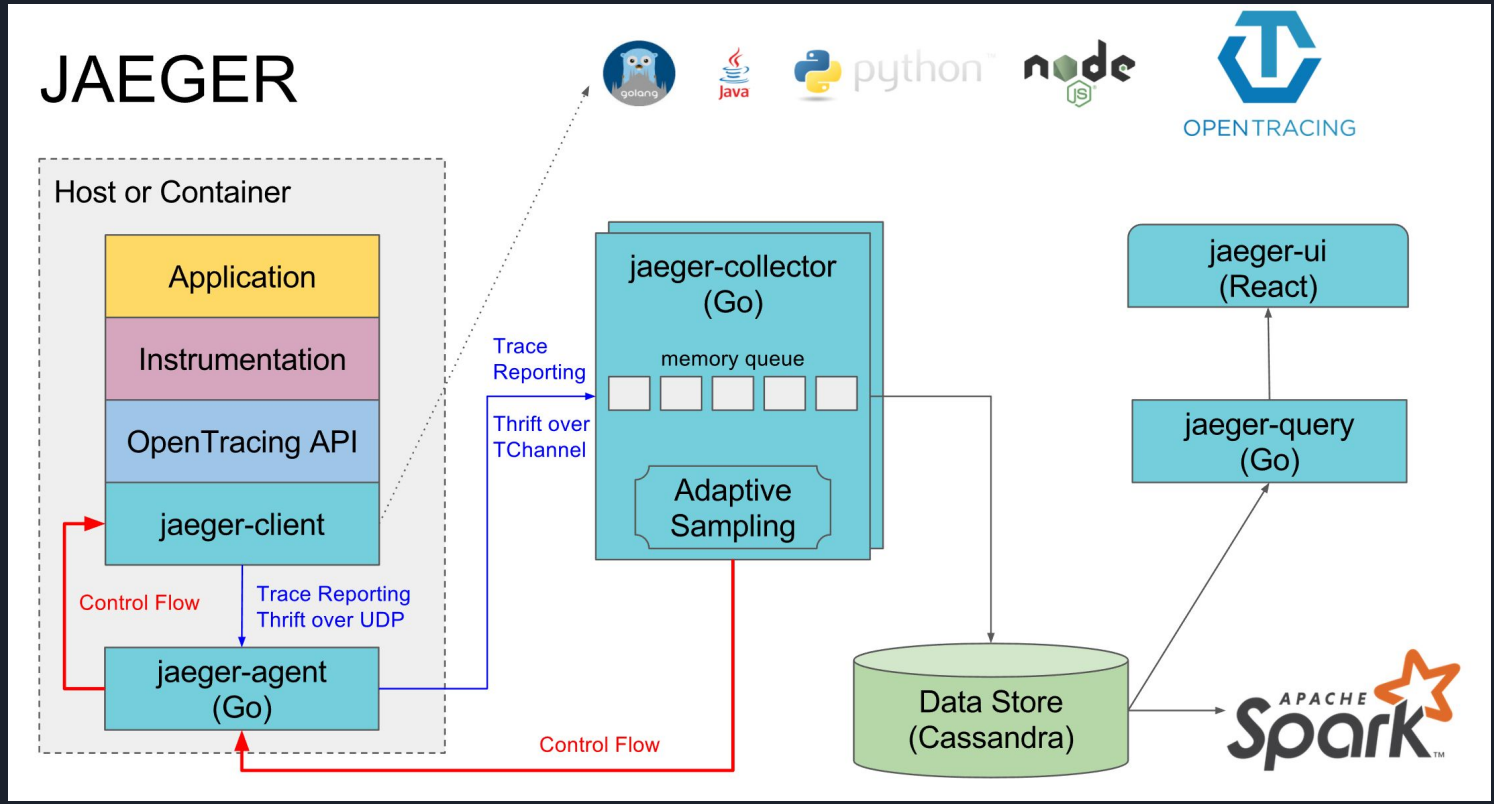
Visualize service communication

OpenTracing



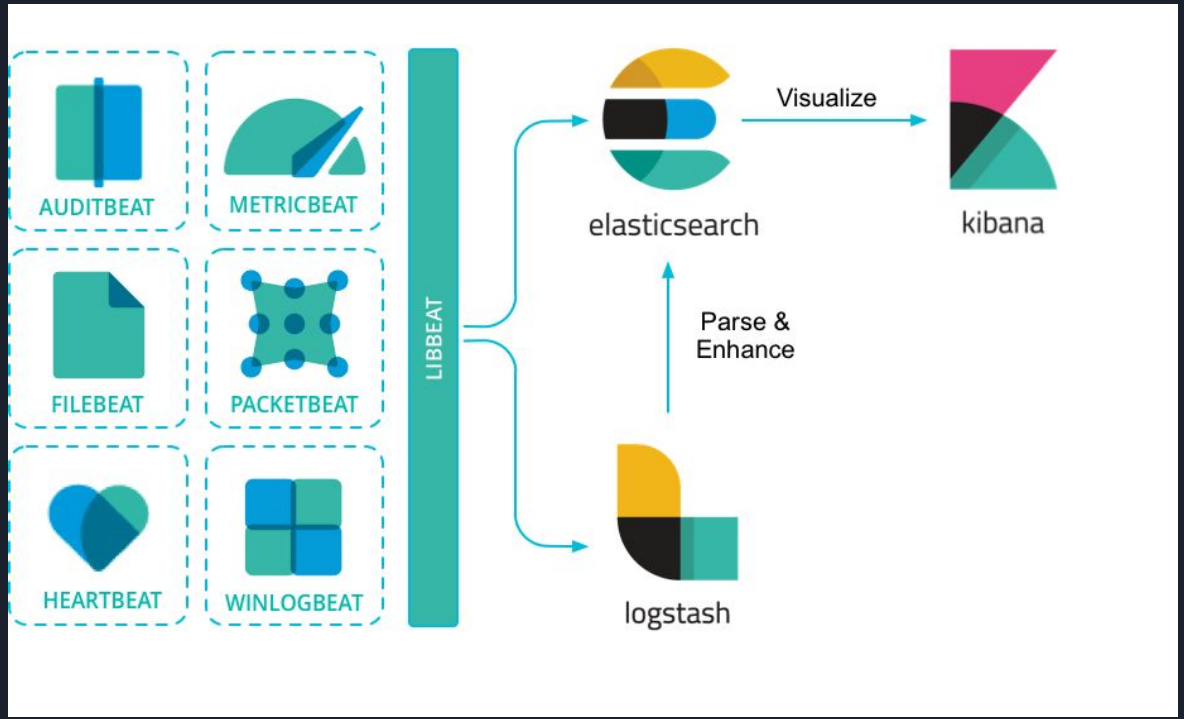
https://opentracing.io/docs/overview/

JAEGER



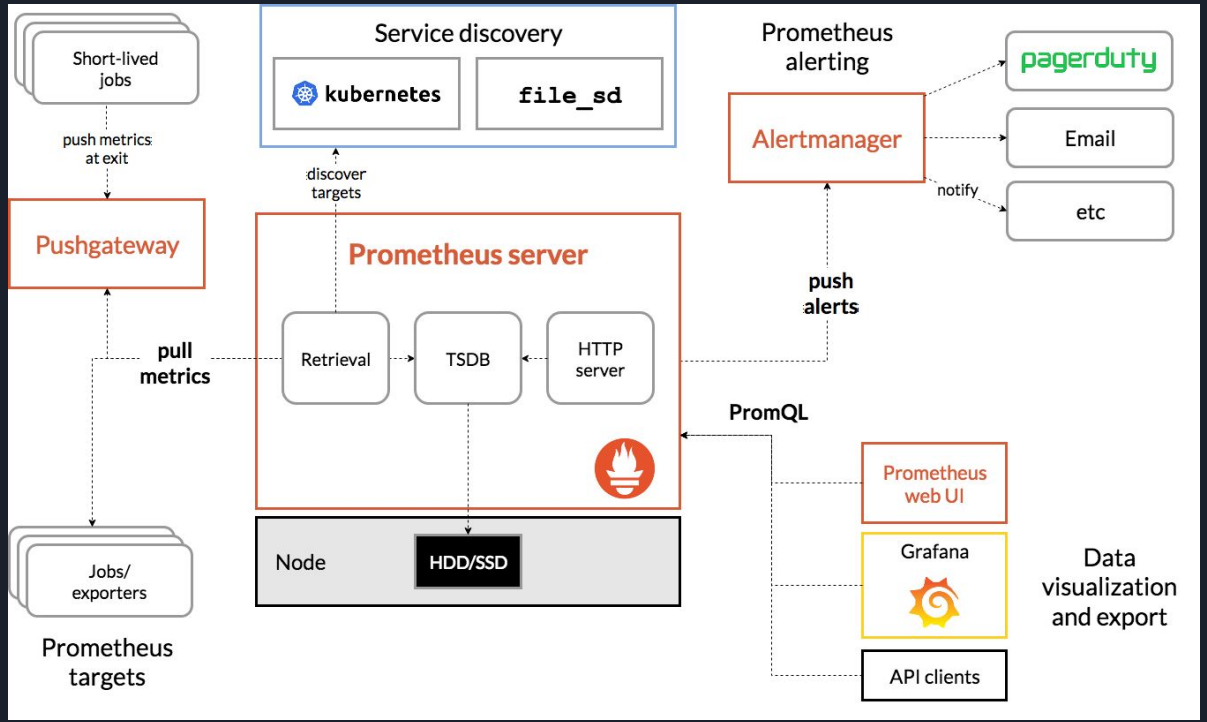
https://www.jaegertracing.io/docs/1.8/architecture/

Elastic Stack



https://www.elastic.co/guide/en/beats/libbeat/current/beats-reference.html

Prometheus



https://prometheus.io/docs/introduction/overview/

Final thoughts

- Instrumentation simple
- No overhead for application
- But: complex observability stack
- Logstash & ElasticSearch = memory hungry (~50%, 1GB)

Thank you!