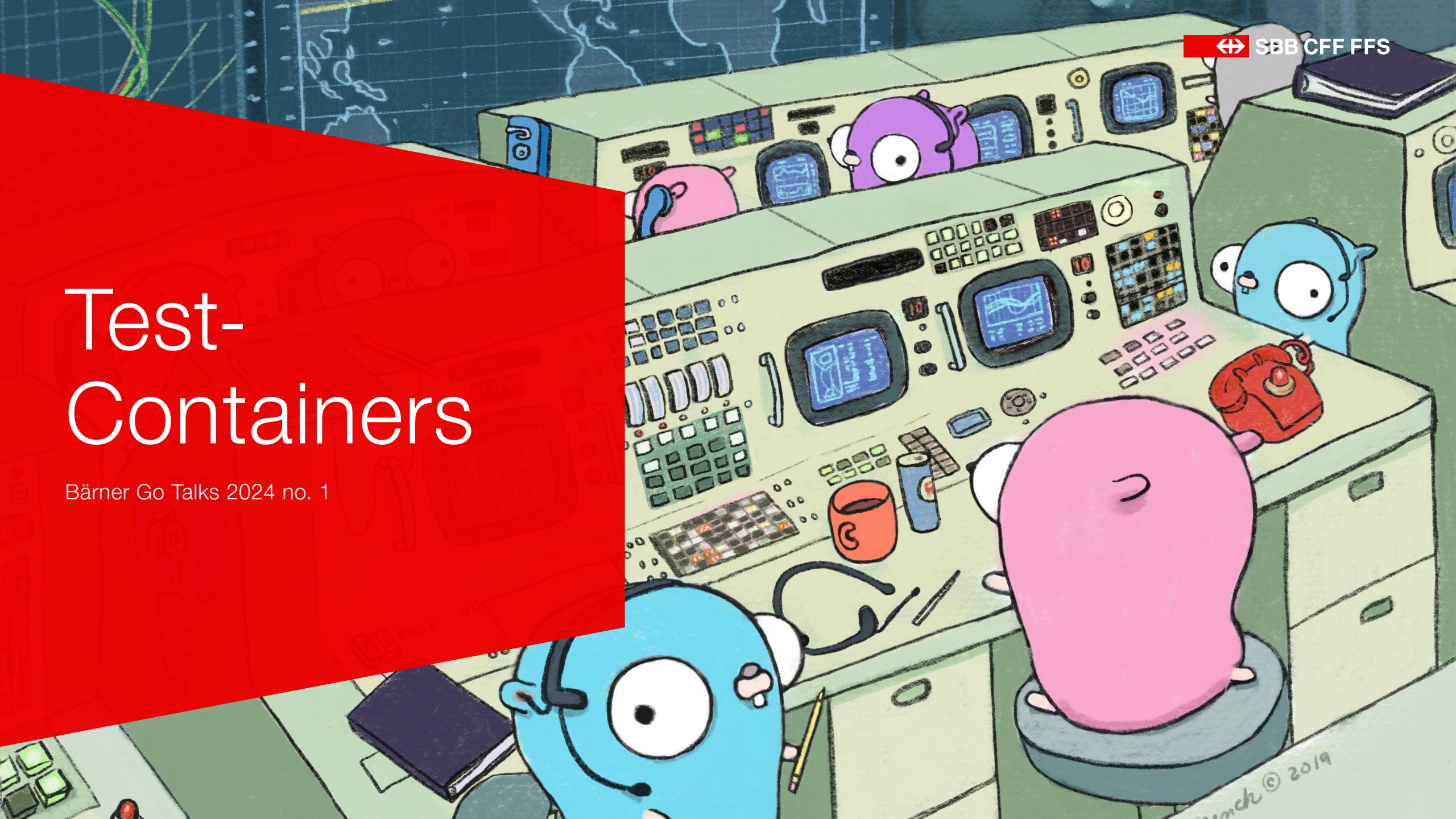
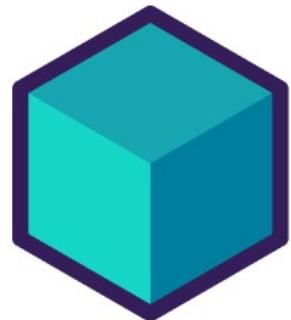


Test- Containers

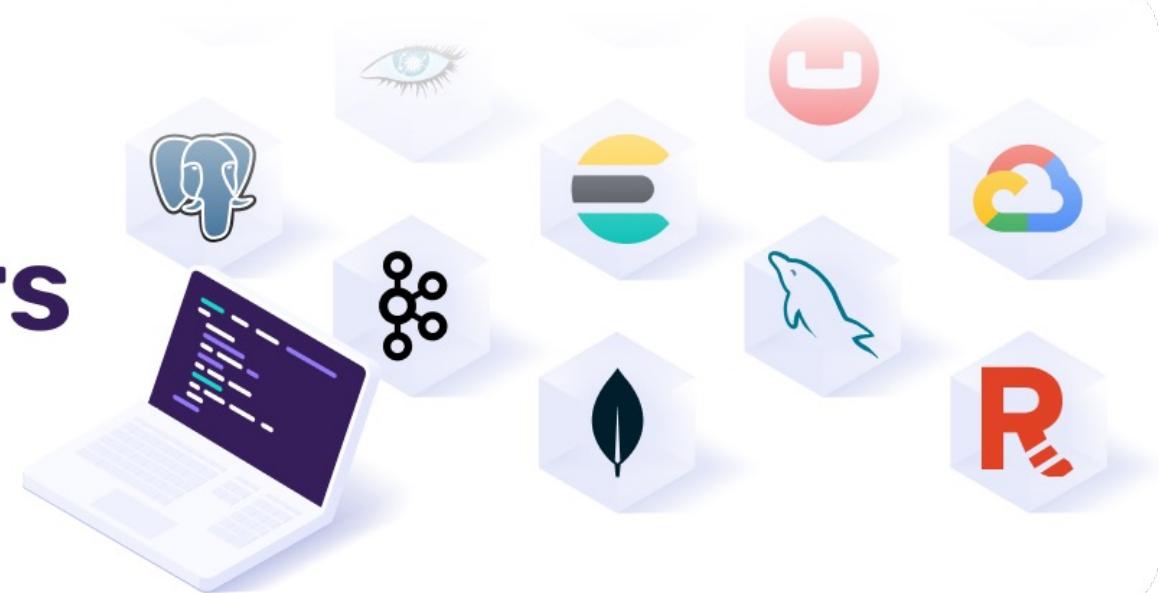
Bärner Go Talks 2024 no. 1



```
person := Me{  
    Name:  "Michael Herren",  
    Work:   "DevOps Engineer Kafka Platform @ SBB",  
    Gopher: 8 * 365 * 24 * time.Hour, // 8+ years  
    Hobbies: []string{"tech", "long distance hiking", "running"},  
}
```



Testcontainers





Testcontainers

Unit tests with real dependencies!

Pellentesque diam volutpat com modo sed egestas egestas fringil la phasellus faucibus. Sit amet fac ilisis magna etiam tempor orci eu lobortis. A erat nam at lectus ur namauris cursus

— Dacotta Black

Mauris cursus mattis molestie a iaculis. At erat pellentesque adipisci commodo. Eu tincidunt tortor aliquam nulla facilisi cras fermentum odio. Nunc scelerisque viverra mauris in aliquam sem fringilla.

RADIATION & ECOLOGY

**Strontium-90.
Purity 99.99%**

Eget nulla facilisi etiam dignissim. In est ante in nibh mauris cursus mattis molestie a. In metus vulputate eu scelerisque felis. Proin libero nunc consequat interdum.

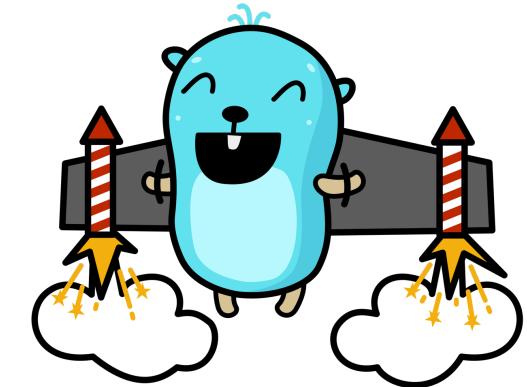
Praesent semper feugiat nibh sed. Venenatis a condimentum vites.

AGRICULTURAL INDUSTRY

**Fertilizers and
radioactivity.**

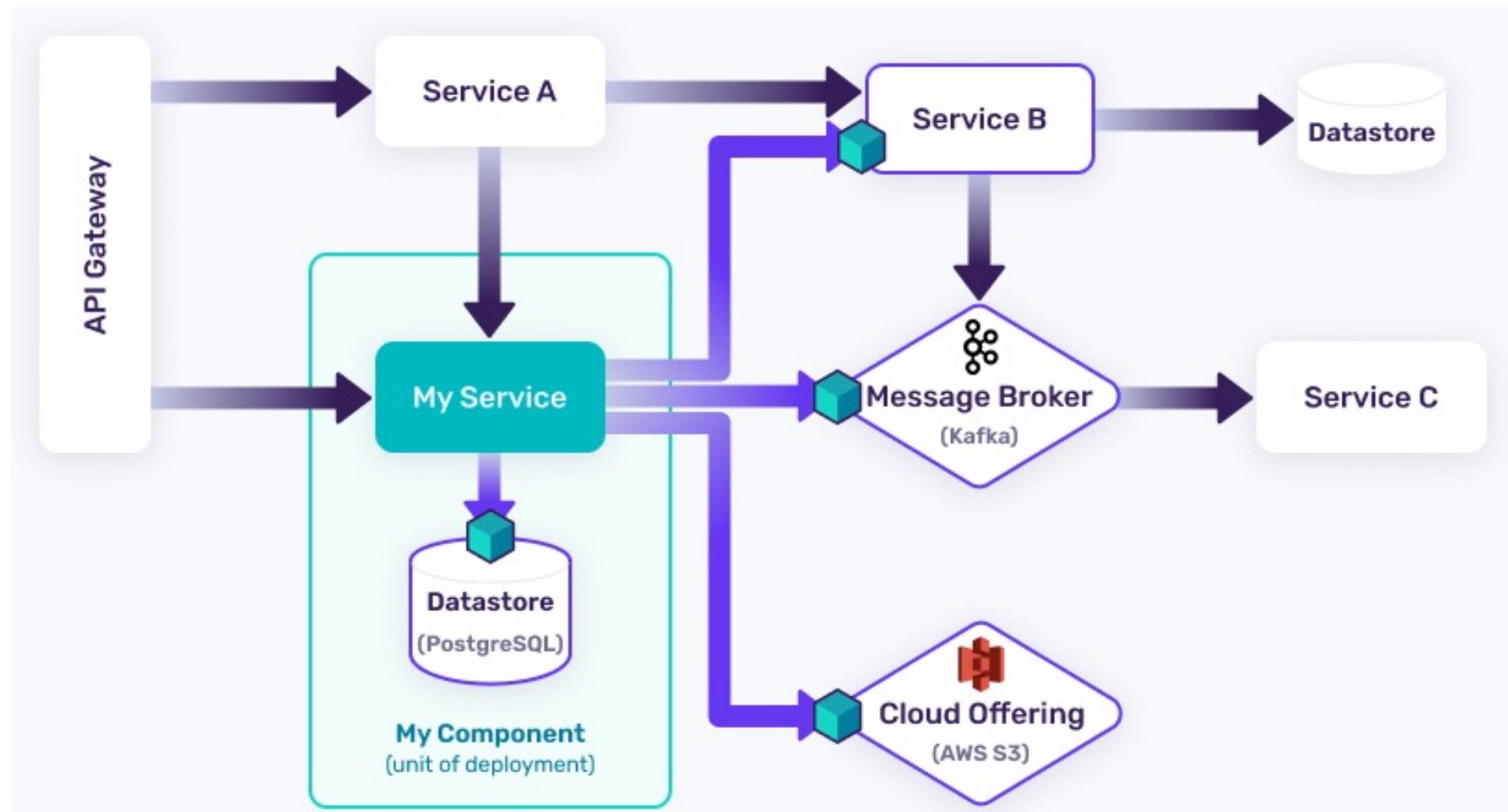
CONTINUE

Why



- Distributed systems need more integration tests
- Mocks often provide false sense of security
- Independent infrastructure per test execution

Why



Stuff to do with it



Supported languages



Java



Go



.NET



Node.js



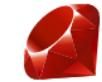
Python



Rust



Haskell



Ruby



Clojure



Elixir



Testcontainers vs. Docker Compose

Pro Testcontainers:

- Easier for startup/readiness scenarios
- “Standardized” integration into frameworks
- Easy CI/CD integration

Contra Testcontainers:

- Technical requirements (container creates containers)
- Reusing containers still experimental

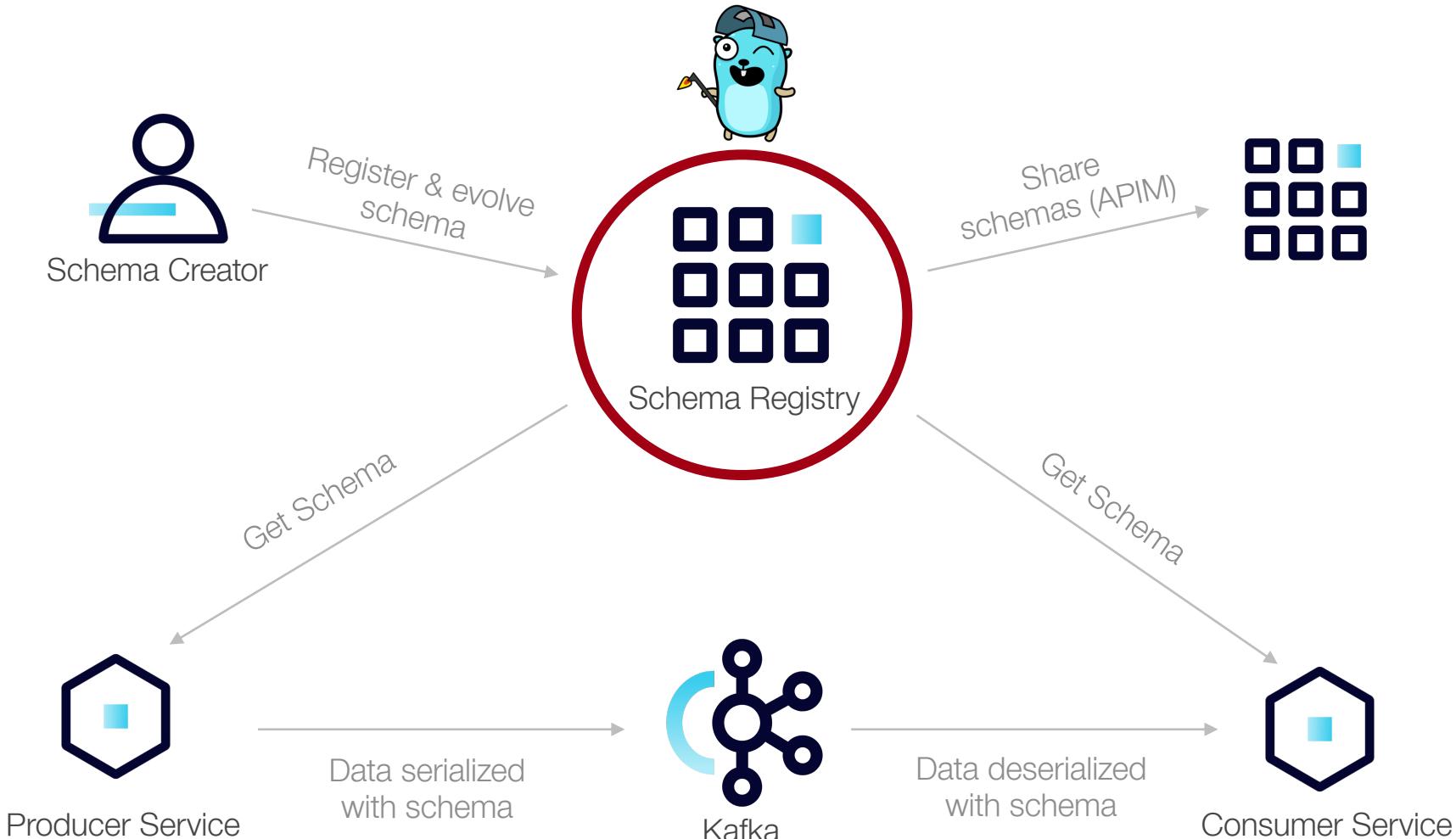
Hands on

Docker-Engine starting ... waiting ...

Testcontainers – Local Setup

- Docker Environment
 - **Docker-Desktop**
<https://www.docker.com/products/docker-desktop/>
 - Testcontainers cloud
<https://testcontainers.com/cloud/>
 - Podman
<https://github.com/abiosoft/colima>
 - Colima (mac only)
<https://github.com/abiosoft/colima>
- Testcontainers library
go get github.com/testcontainers/testcontainers-go

Use-Case @ Kafka-Team



Tips/Learnings

- Docker-Desktop is the only real local solution
- Use a dependency management automation
(dependabot, renovate, ...)
- Pipeline integration needs to be addressed from the start

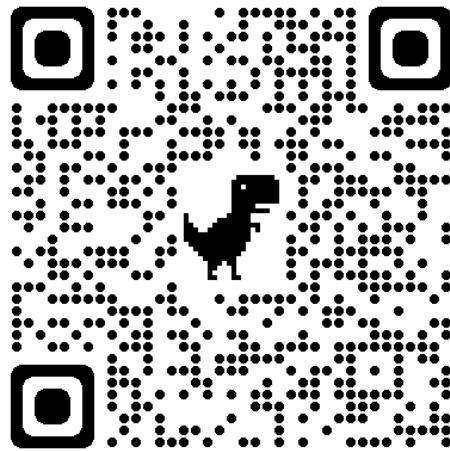


Thanks for your attention!



SBB CFF FFS

Links



Example code

github.com/michherren/go-testcontainers-examples

Images:

title-image: <https://opensource.googleblog.com/2019/11/hey-ho-ten-years-of-go.html>

testcontainers: <https://testcontainers.com/getting-started/images/cn-arch-tc.png>, <https://raw.githubusercontent.com/testcontainers/testcontainers/main/profile/banner.png>

gophers: <https://github.com/MariaLetta/free-gophers-pack>

confluent icons: https://assets.confluent.io/web/361c83f3f8557809/collection--confluent-icons-2020/?_ga=2.10948465.492631419.1709561121-242442066.1709561121&viewType=list

end-slide: <https://giphy.com/gifs/sbbcffffs-fnSMrNsmGun5ldmEQ>