


Building Reactive Microservices With Eclipse *MicroProfile*



whoami

- Martin Štefanko
- Software engineer, Red Hat
- MicroProfile committer
- Microservices enthusiast
-  @xstefank

The reactive story



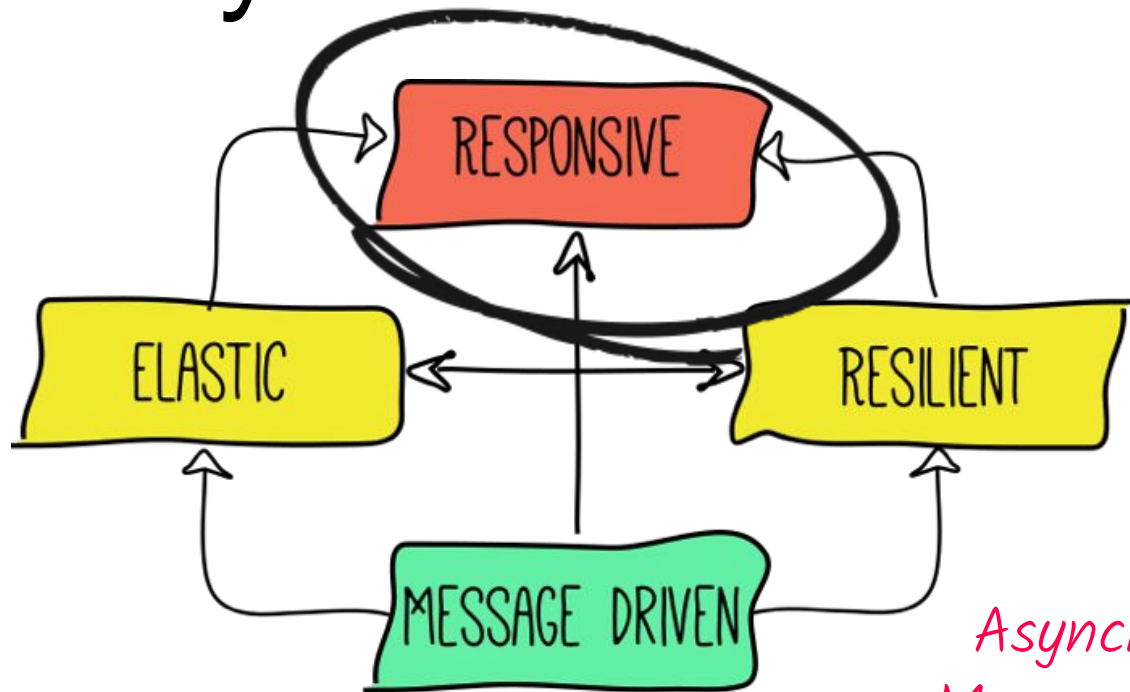
Reactive all the thing

Manifesto → *System*

<https://www.reactivemanifesto.org>

@xstefank @RedHat

Reactive Systems



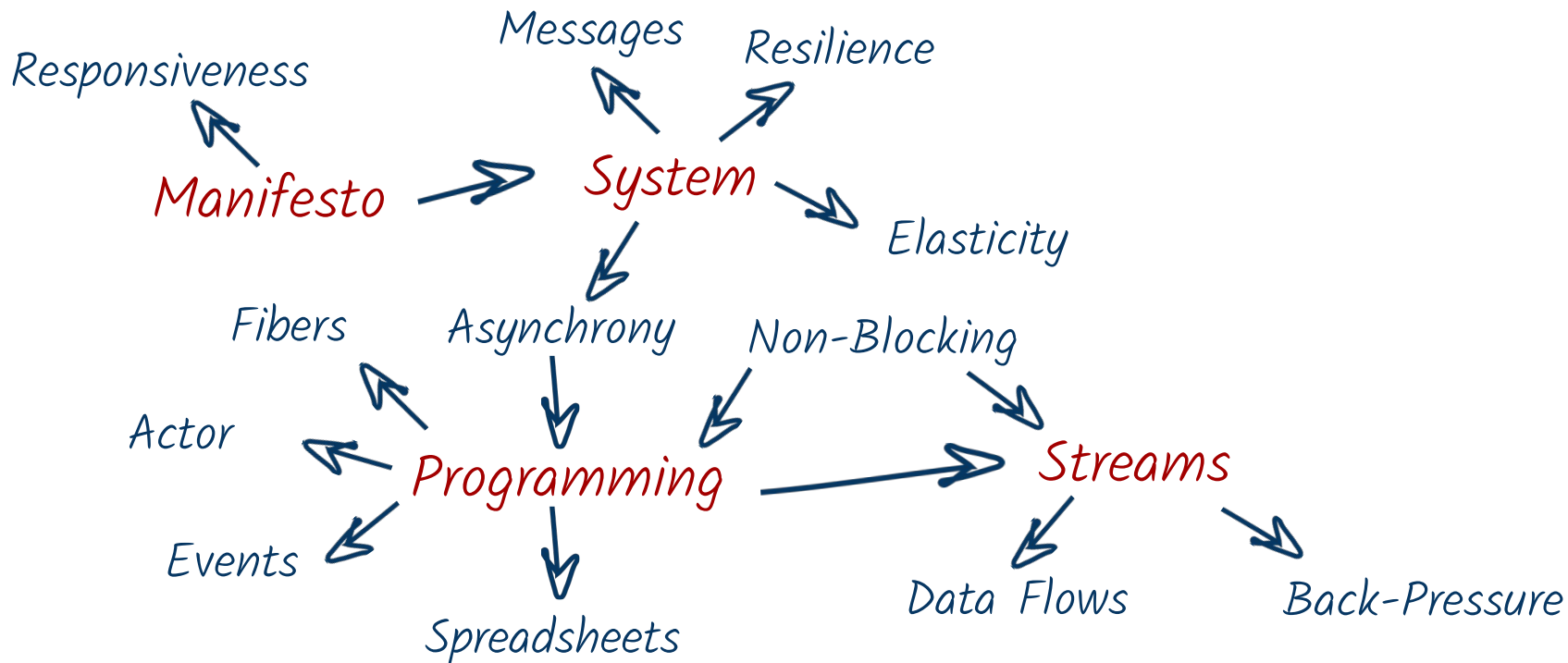
*Asynchronous
Message Passing*



neverending
The ~~reactive~~ story

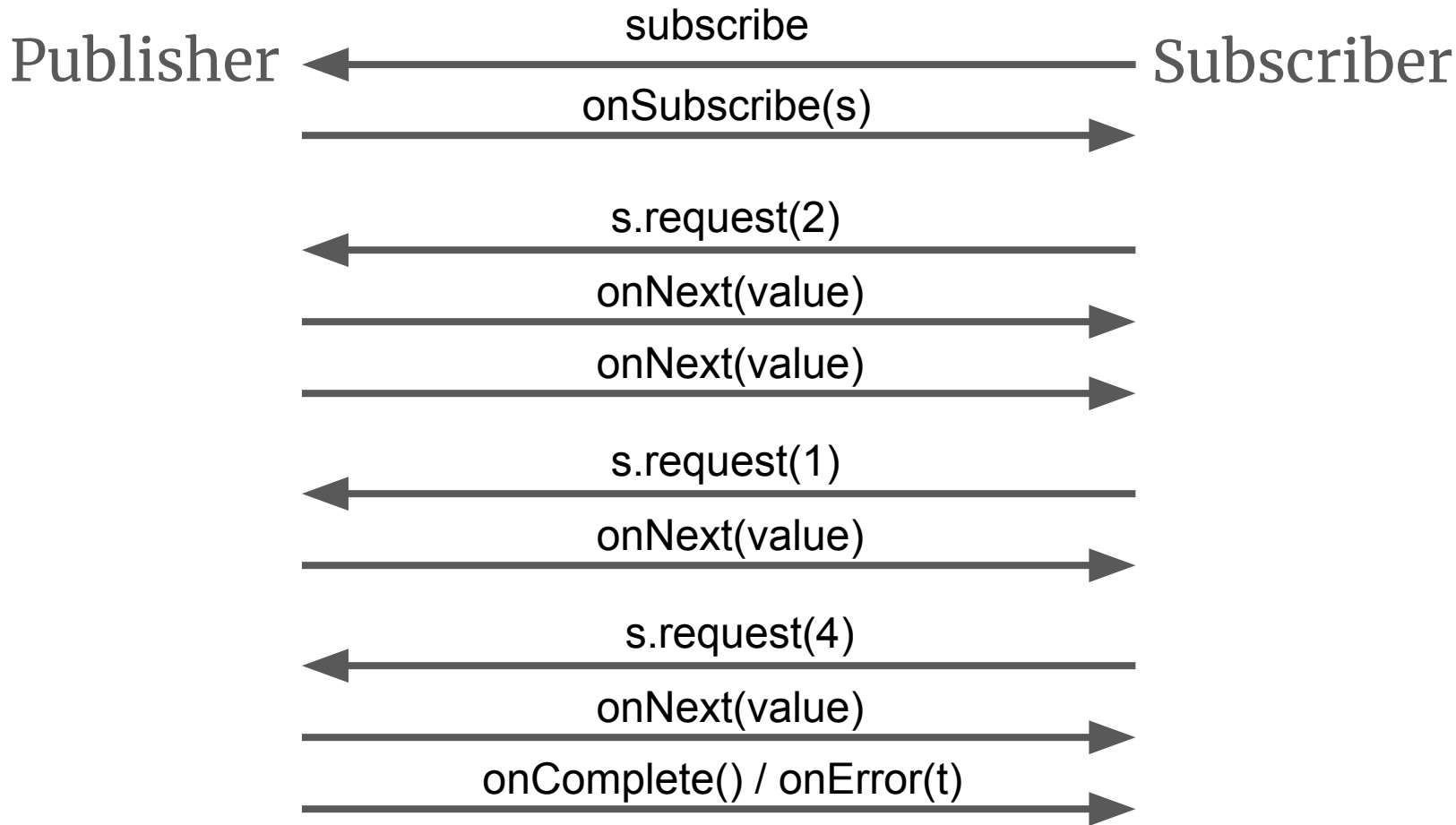


Reactive all the thing



Reactive Streams

- Publisher
- Subscriber
- Processor
- Subscription
- `java.util.concurrent.Flow`





*There is an API!!!
I can implement that!!*

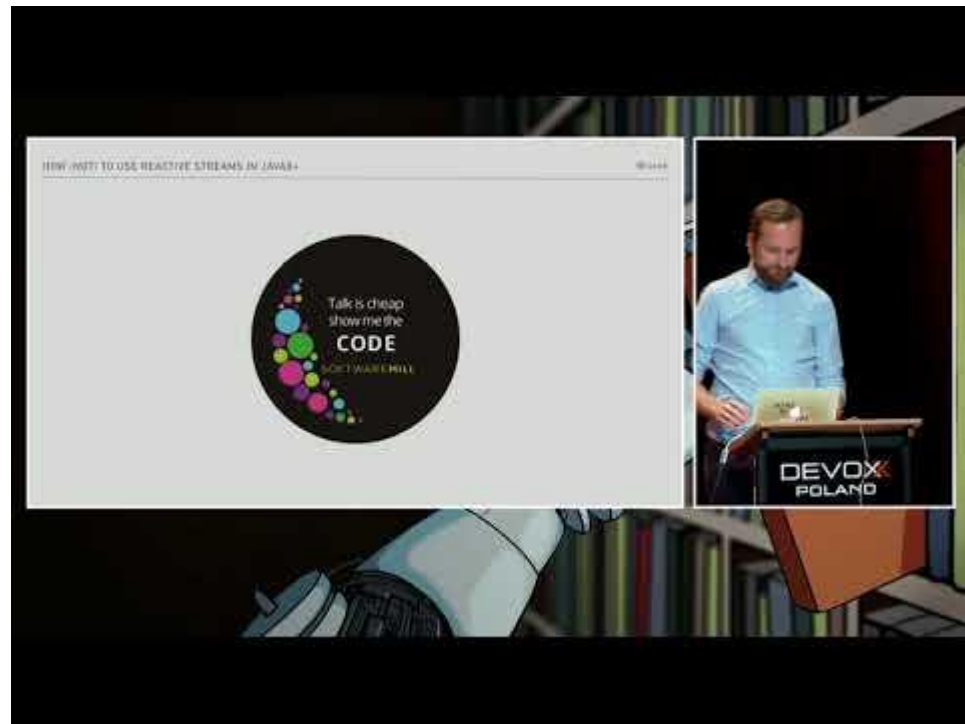


DON'T TRY THIS AT HOME!

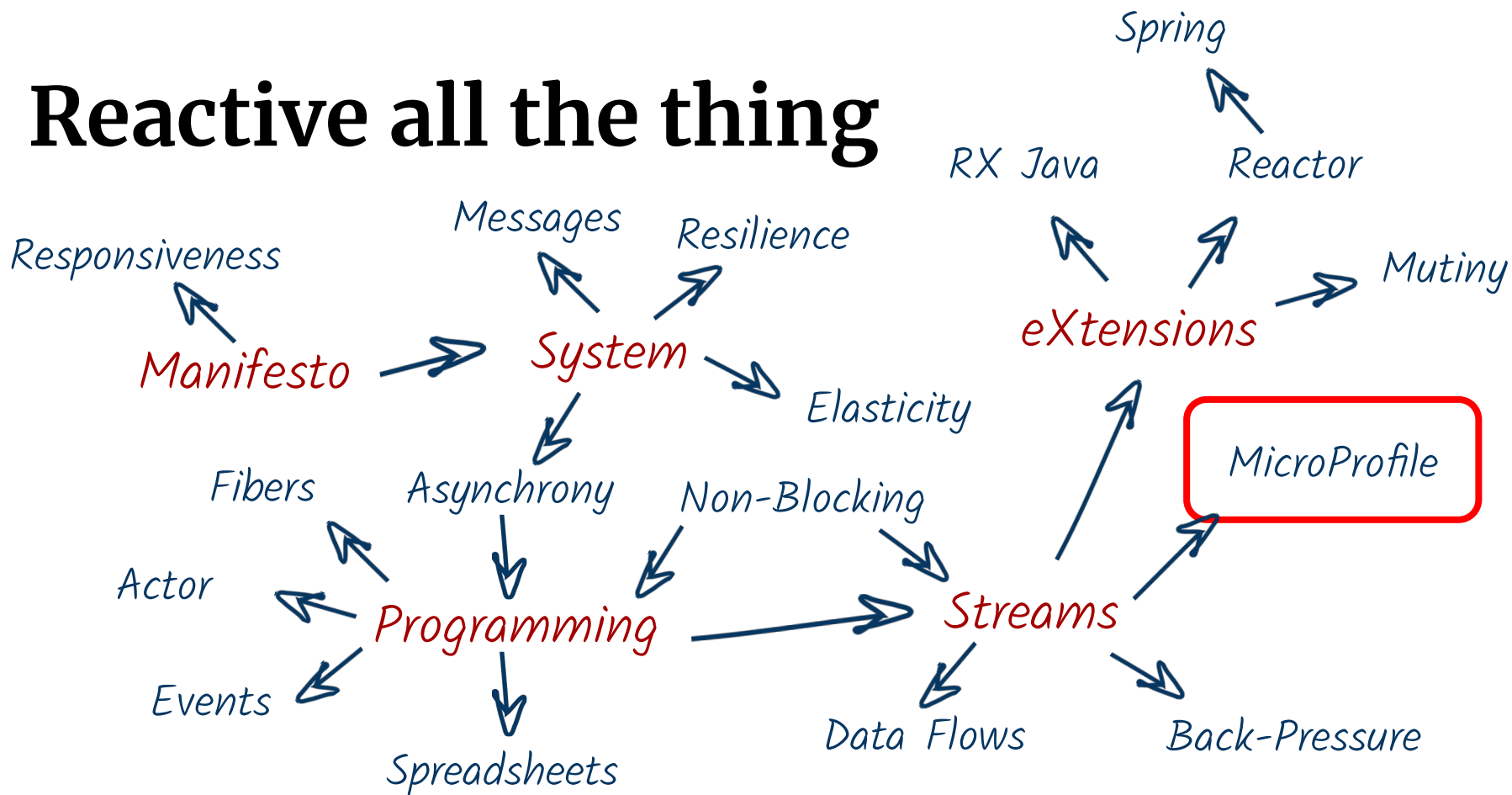


TCK

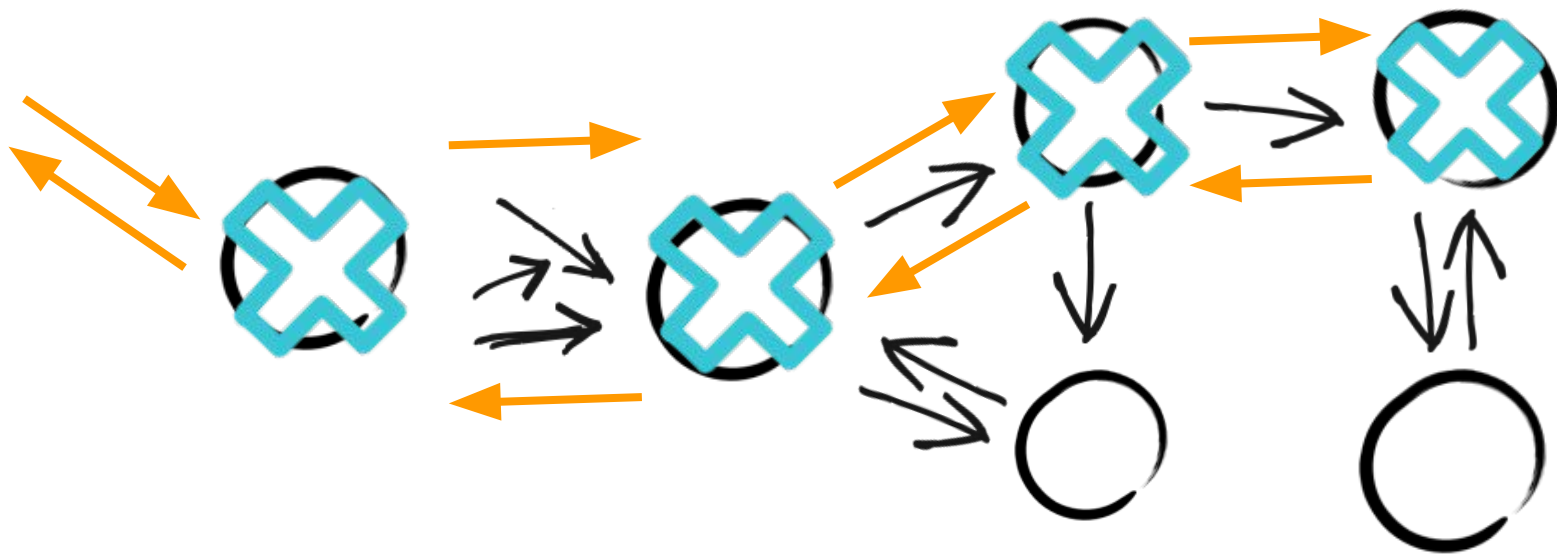
Don't use Reactive Streams in Java 9+ - Jacek Kunicki



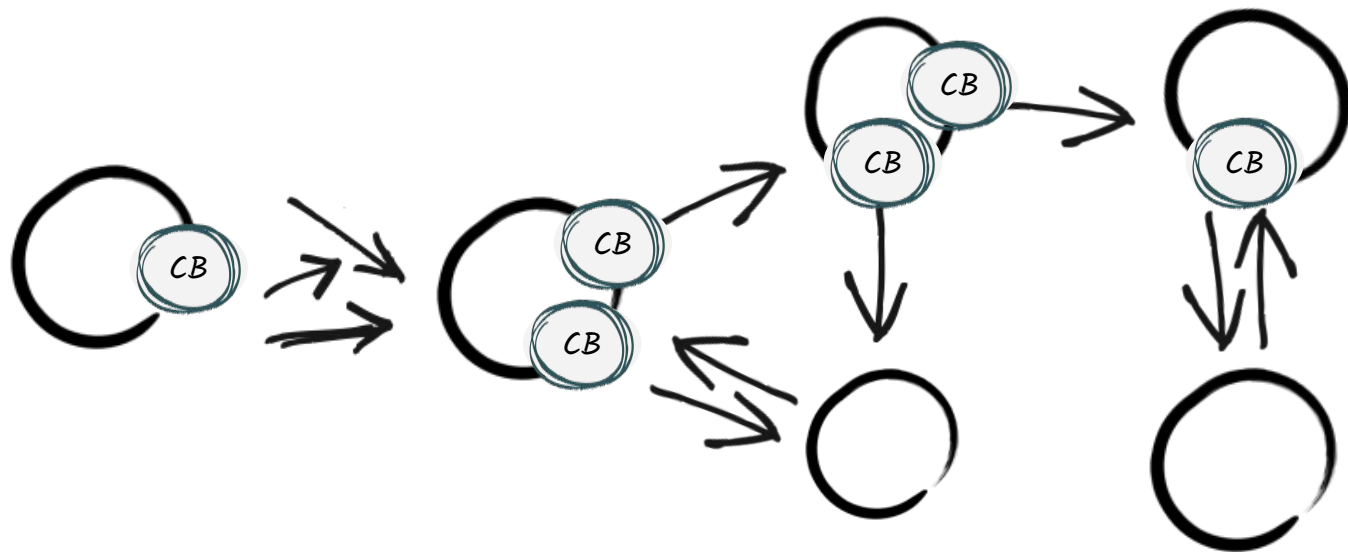
Reactive all the thing



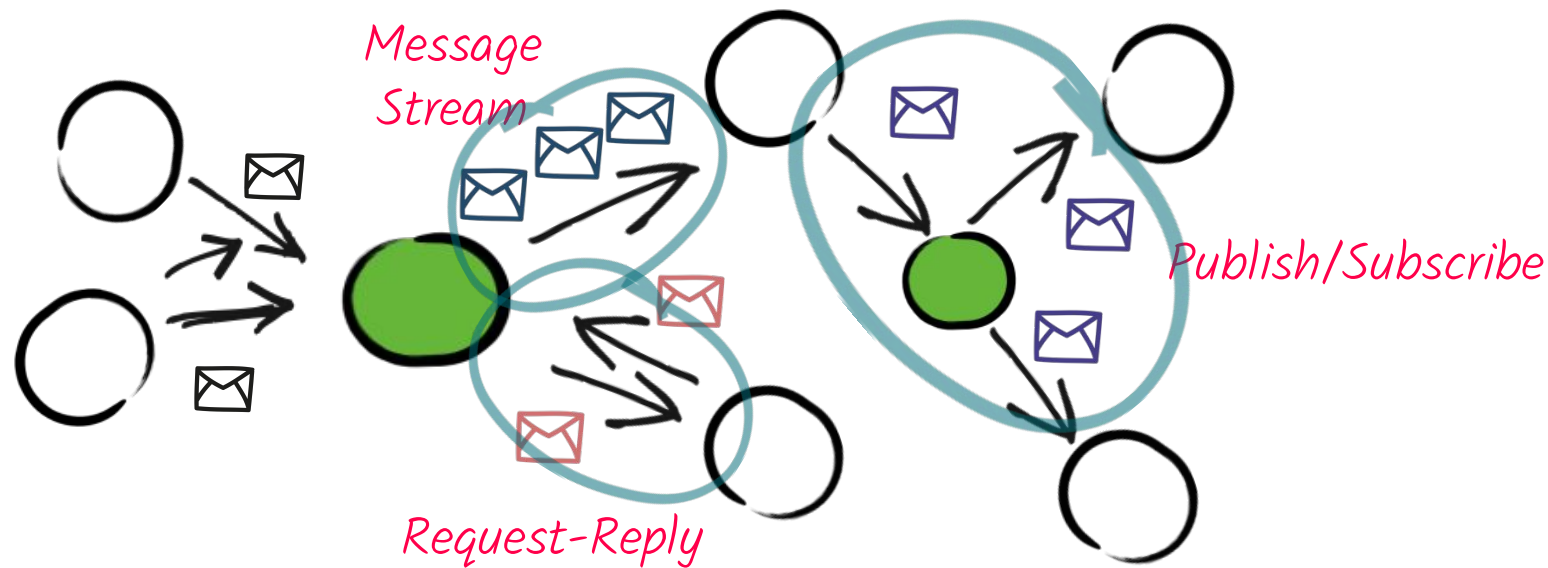
Microservices - HTTP/REST



Microservices - Circuit Breakers



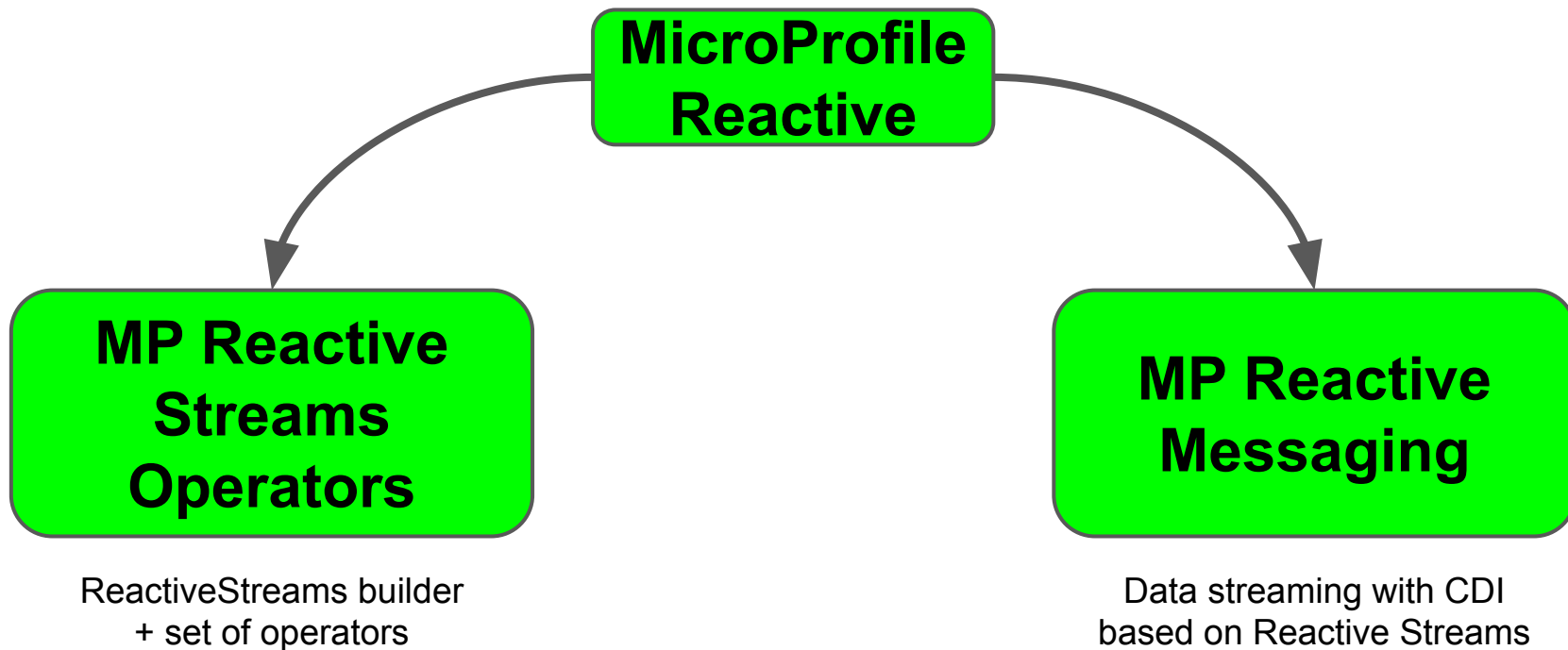
Microservices - messaging



MicroProfile



MicroProfile Reactive *



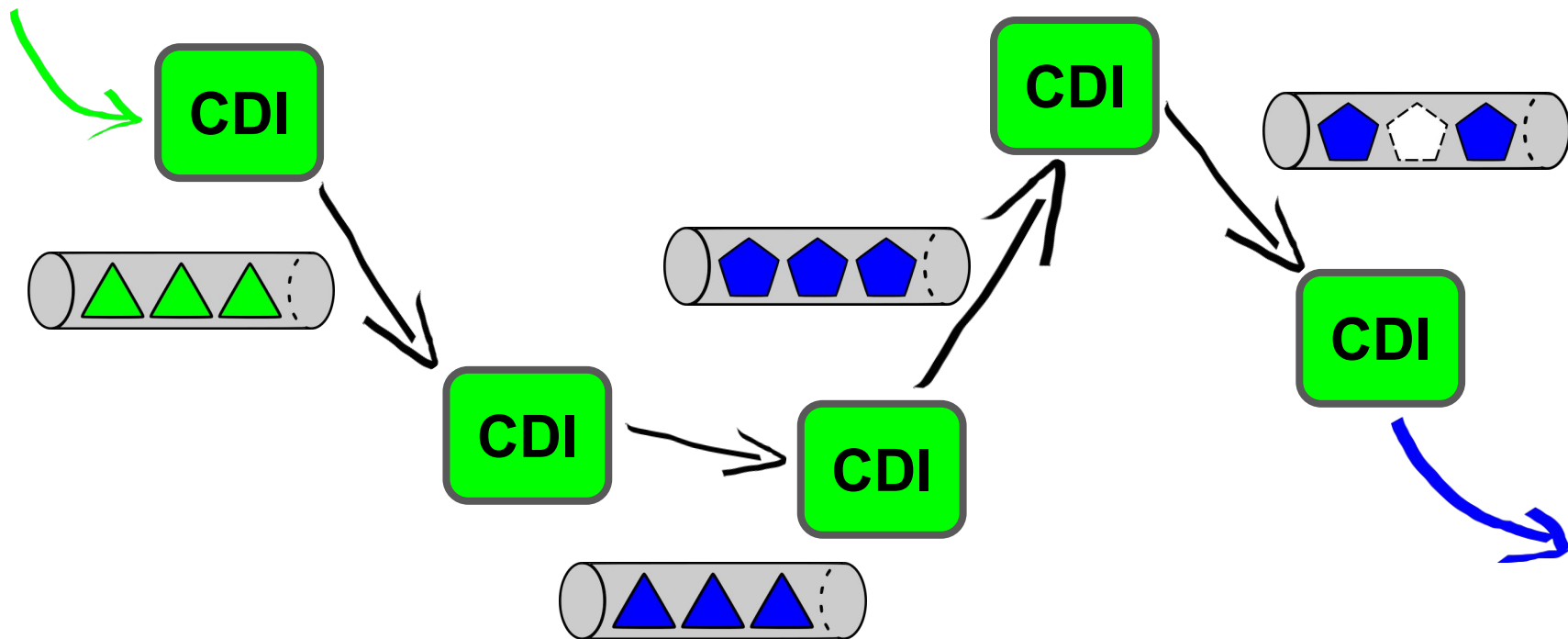
MicroProfile Reactive Streams Operators



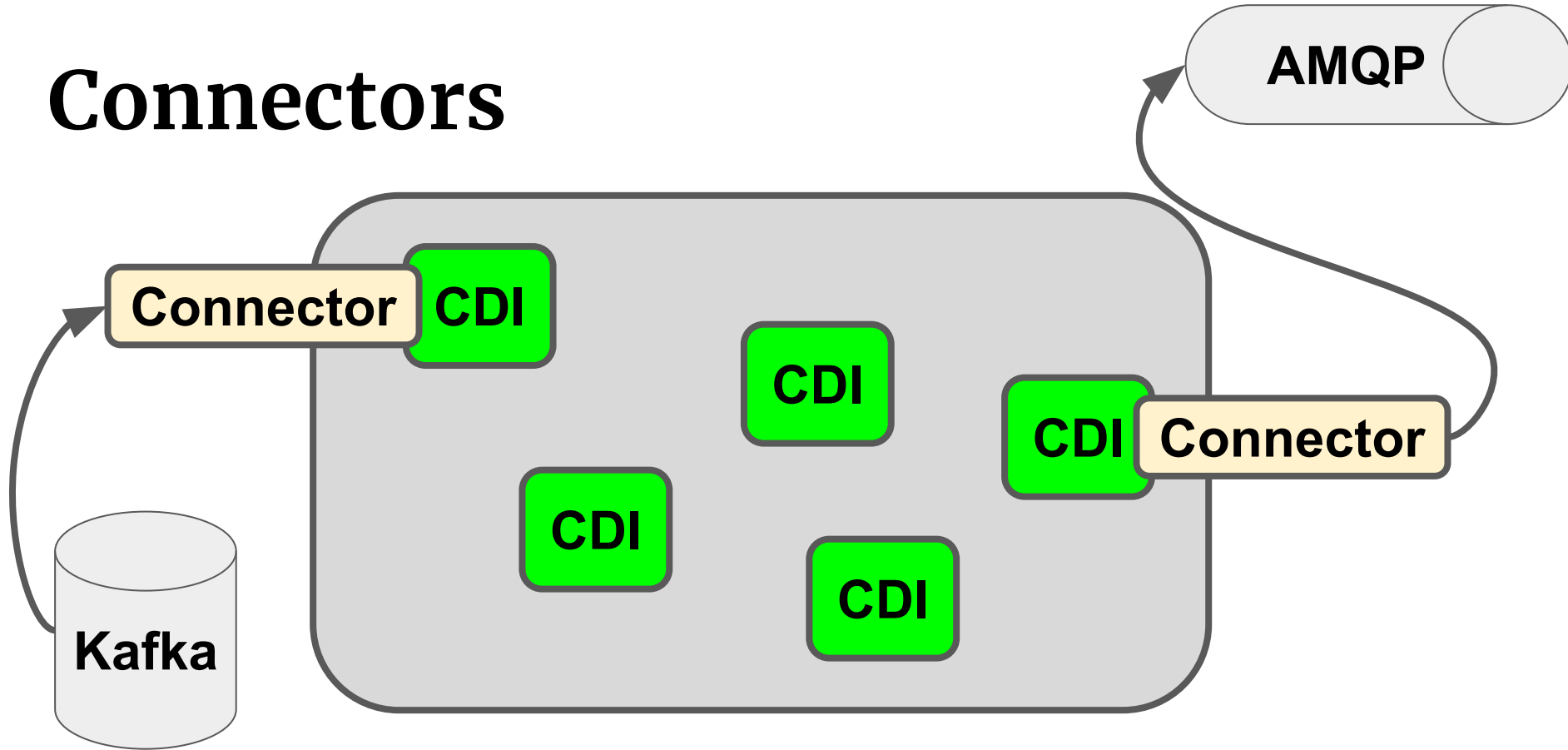
MicroProfile Reactive Messaging



MP Reactive Messaging



Connectors



Producing messages

```
@Outgoing("my-channel")  
public Message<String> publish() {  
    return Message.of("hello");  
}
```


Consuming messages

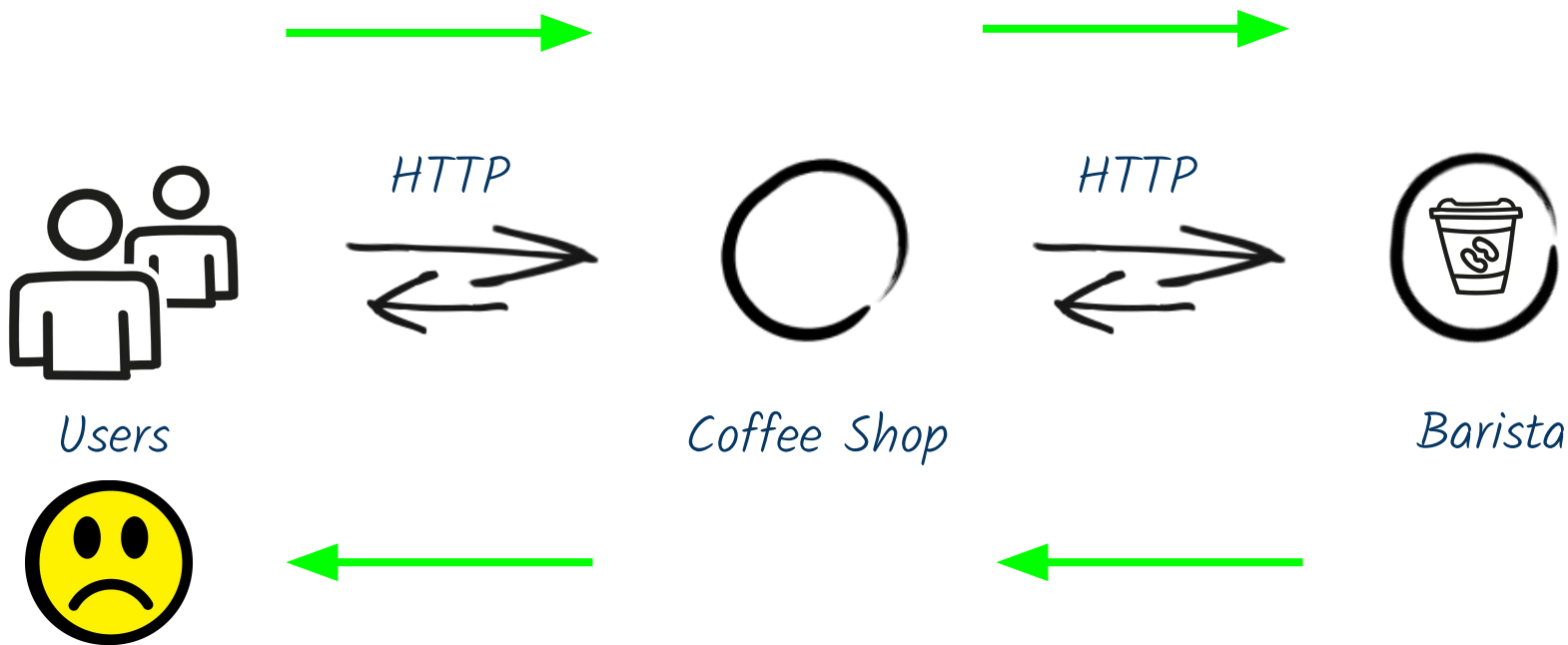
```
@Incoming("my-channel")  
public CompletionStage<Void> consume(Message<String> message) {  
    return message.ack();  
}
```

Processing messages

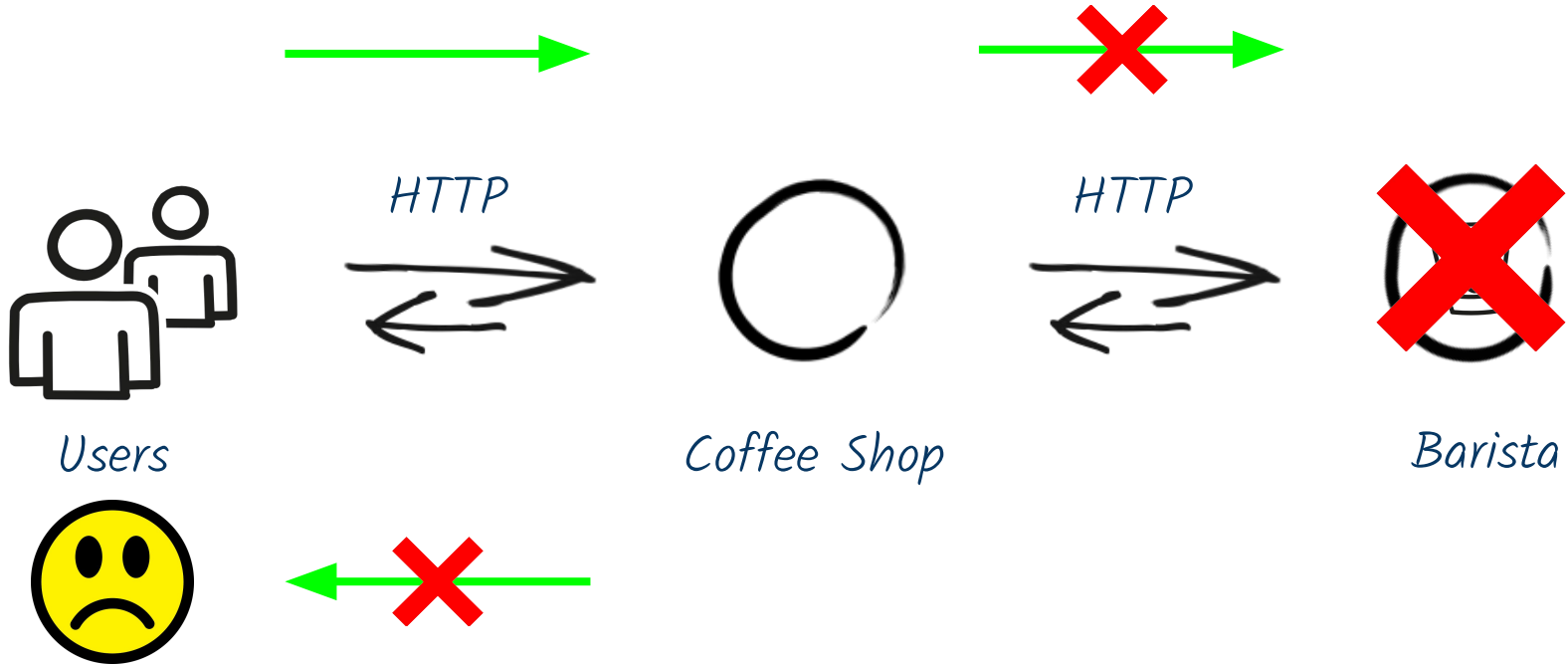
```
@Incoming("my-incoming-channel")
@Outgoing("my-outgoing-channel")
public Message<String> process(Message<String> message) {
    return Message.of(message.getPayload().toUpperCase());
}
```

Coffee shop

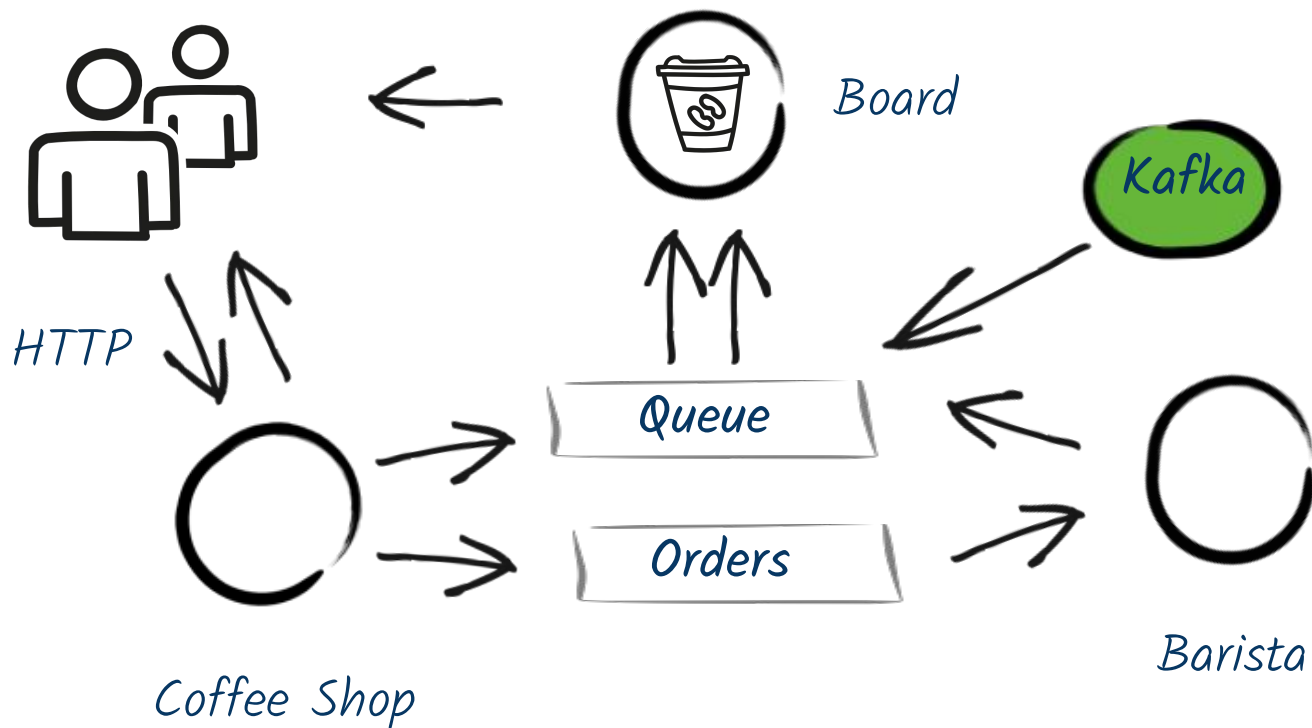
Coffee shop - HTTP



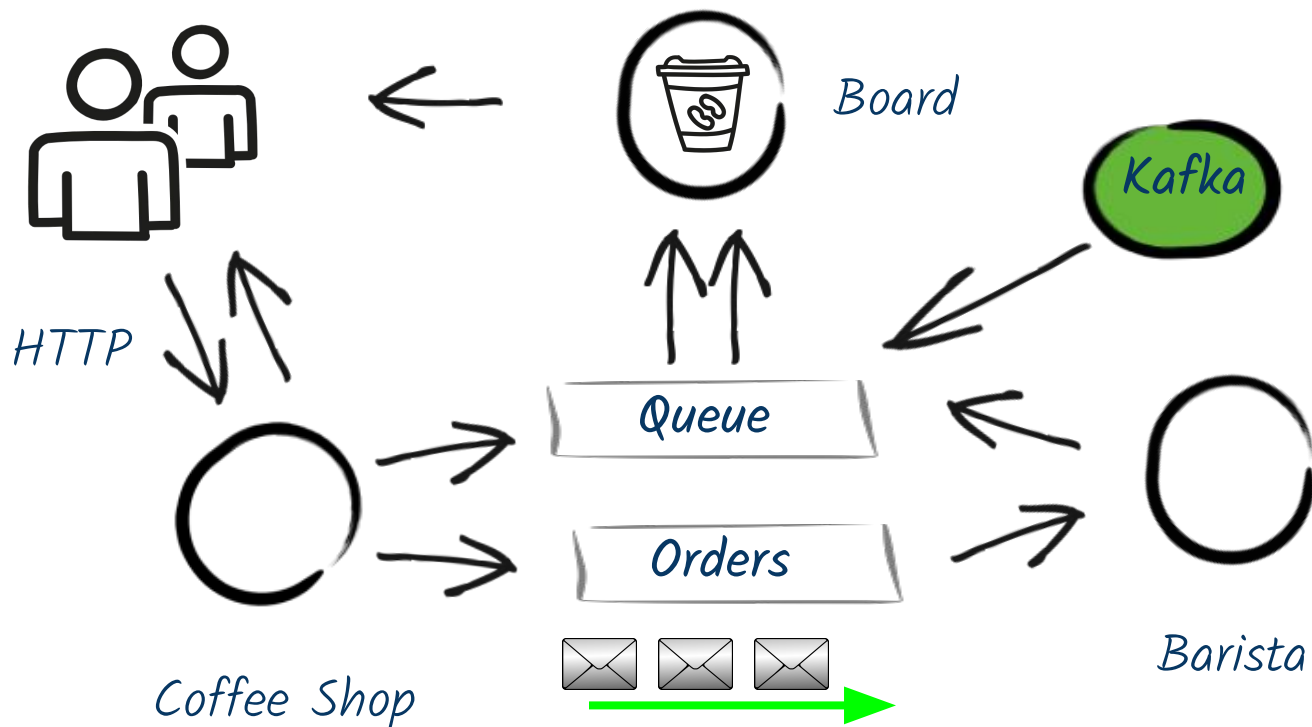
Coffee shop - HTTP



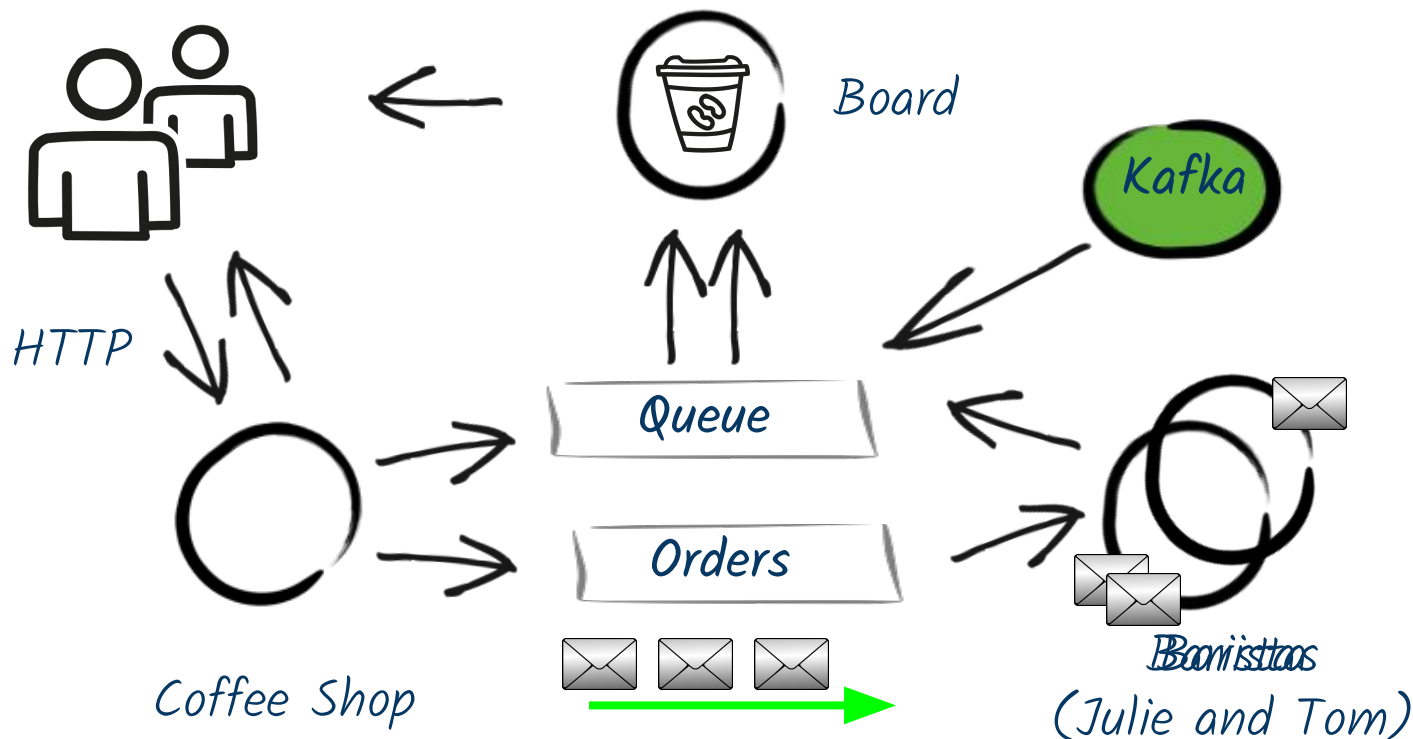
Coffee shop - Messaging



Coffee shop - Messaging



Coffee shop - Messaging





<https://github.com/eclipse/microprofile-reactive-streams-operators>

<https://github.com/eclipse/microprofile-reactive-messaging>

<https://github.com/smallrye/smallrye-reactive-messaging>

<https://github.com/smallrye/smallrye-mutiny>

Thank you

-  @xstefank
-  xstefank
- mstefank@redhat.com

Book



Slides



Code



Resources

- <https://giphy.com/gifs/NjPEDD7S9Jssw>
- <https://giphy.com/gifs/Rd5l69fsp3w5i>
- <https://giphy.com/gifs/page-someone-front-DIxVcUm7sSUqA>
- https://pixabay.com/users/StartupStockPhotos-690514/?utm_source=link-attribution&utm_medium=referral&utm_campaign=image&utm_content=59333
from https://pixabay.com/?utm_source=link-attribution&utm_medium=referral&utm_campaign=image&utm_content=593313
- <https://giphy.com/gifs/80s-1980s-the-neverending-story-mVsMUSRwFgBgY>