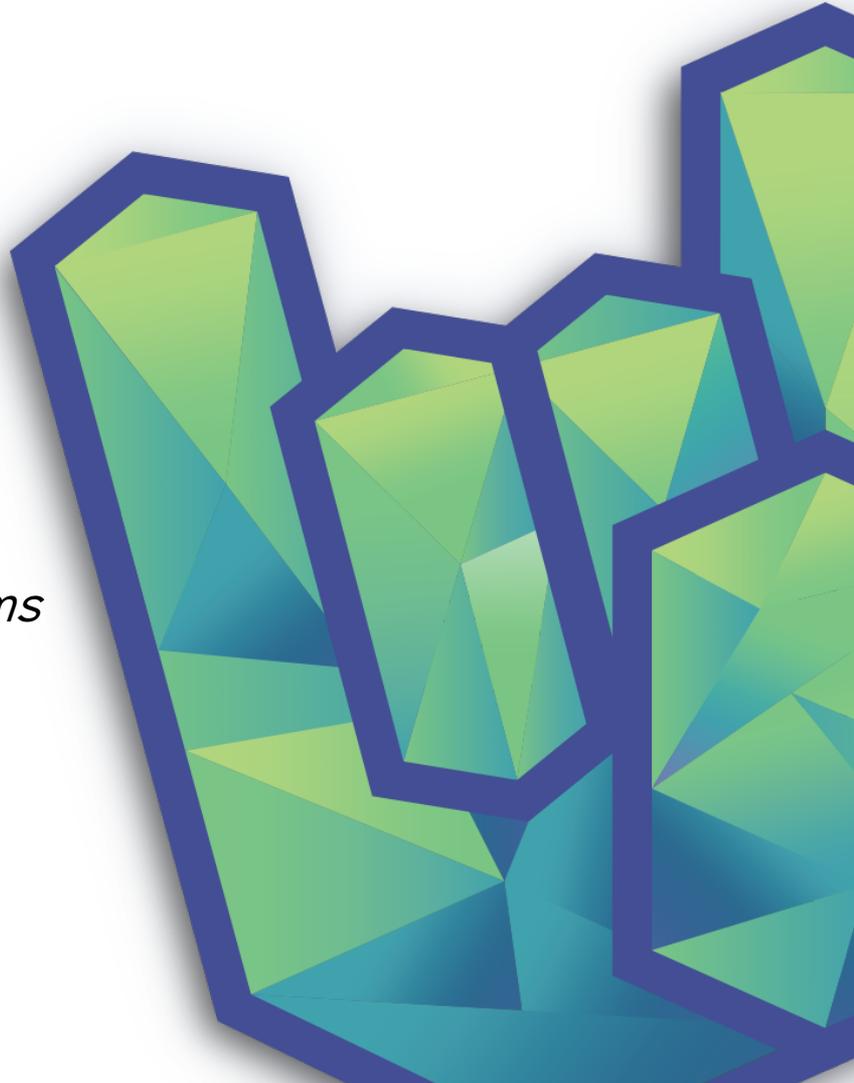


First Principles



Goal

asynchronous,
backpressured,
incremental,
potentially infinite *data processing systems*



Reactive Streams

<http://www.reactive-streams.org/>

Specification of async, backpressured streams

Concepts:

- publisher = emits elements (asynchronously)
- subscriber = receives elements
- processor = transforms elements along the way
- async
- *backpressure*

Reactive Streams is an SPI (service provider interface), not an API

Our focus: the Akka Streams API

Akka Streams

Source = "publisher"

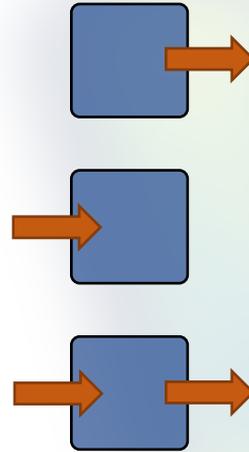
- emits elements asynchronously
- may or may not terminate

Sink = "subscriber"

- receives elements
- terminates only when the publisher terminates

Flow = "processor"

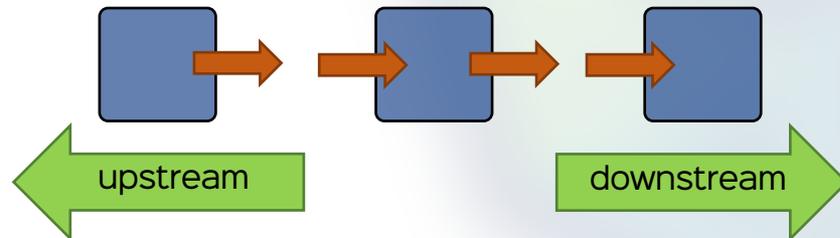
- transforms elements



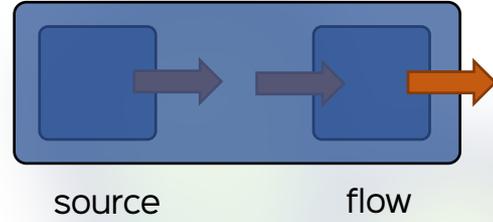
We build streams by connecting components

Directions

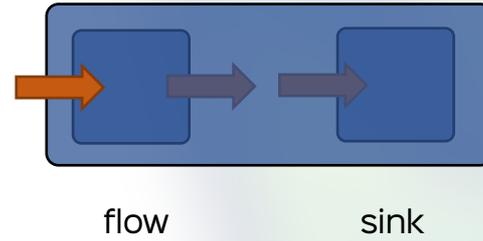
- upstream = to the source
- downstream = to the sink



sourceWithFlow



flowWithSink



Akka rocks

