

Clustered Event Sourcing and CQRS with Akka and Java

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What is Event Sourcing
and

Command Query Responsibility Segregation?

Denormalized read store
Subscribes to events
On the write side



Query

Read side

Query

Service
Interface

Client

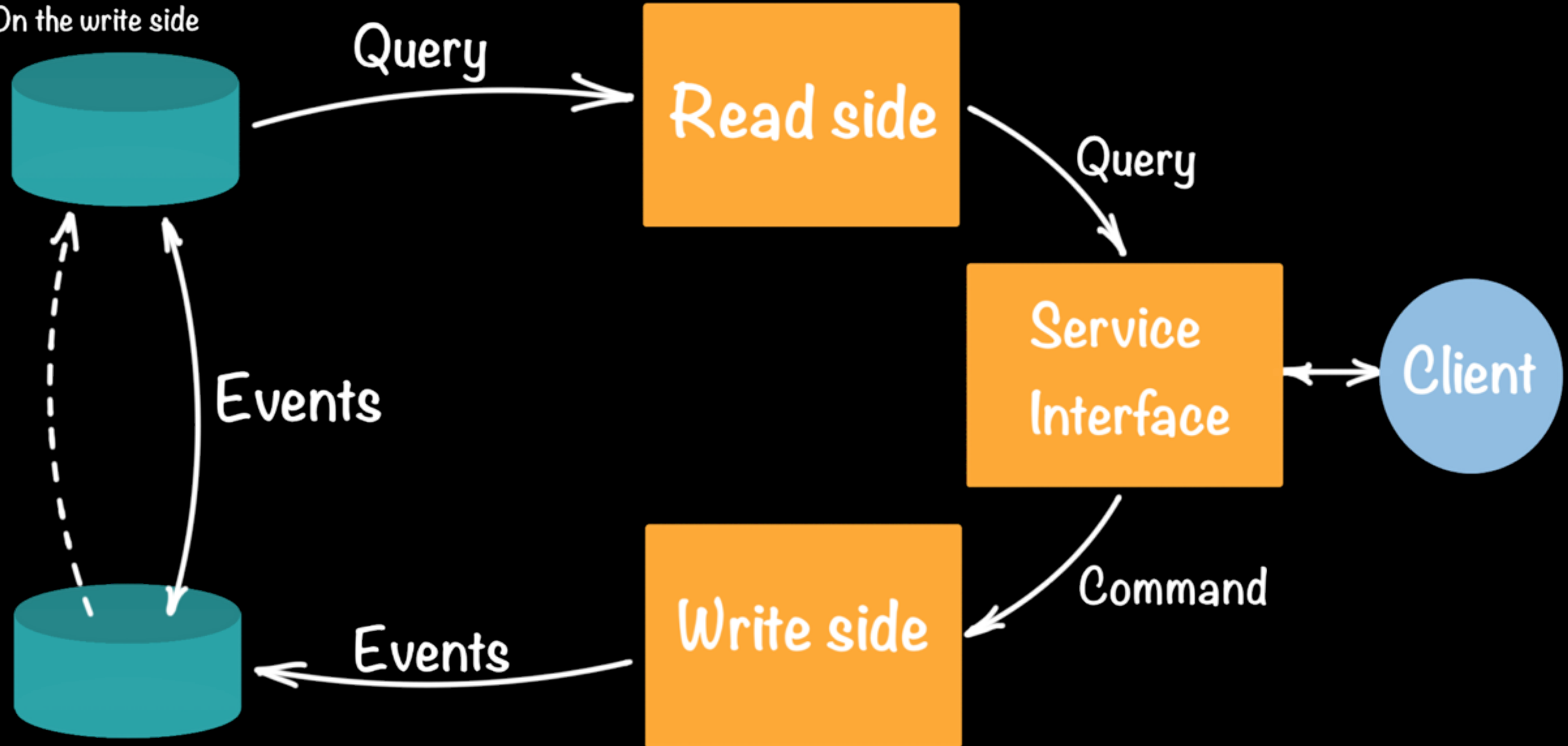
Events

Events

Write side

Command

Event store
Publishes events after
They have been saved



Entity (Aggregate) 123 Balance 75

Event store

123 50 Deposit

123 65 Withdrawal

123 90 Deposit



Clustered ES & CQRS

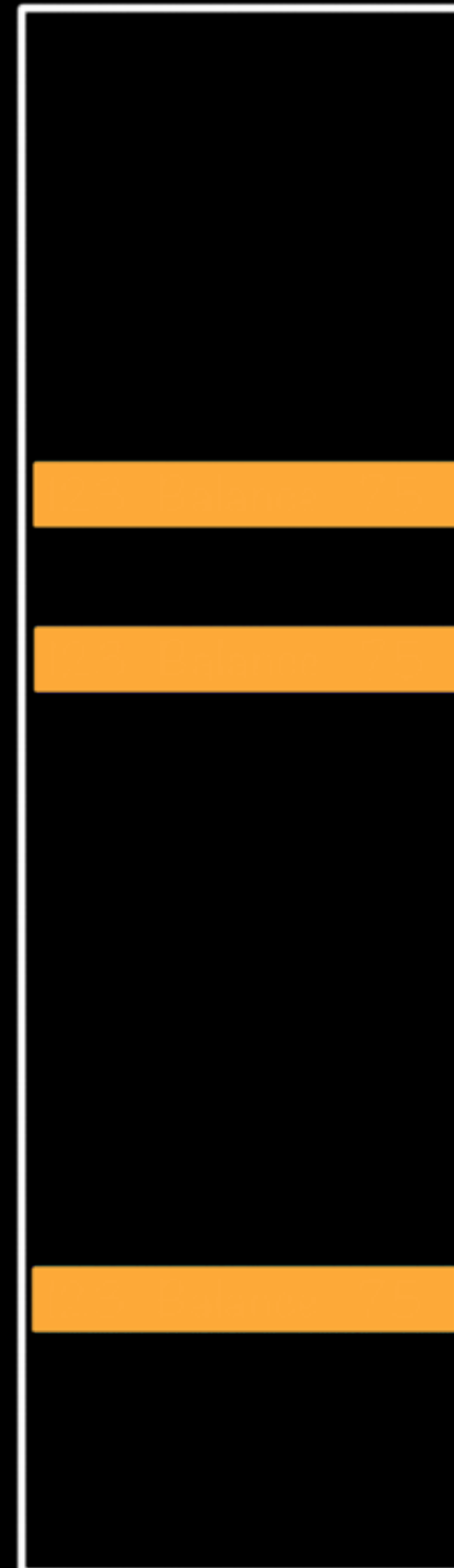
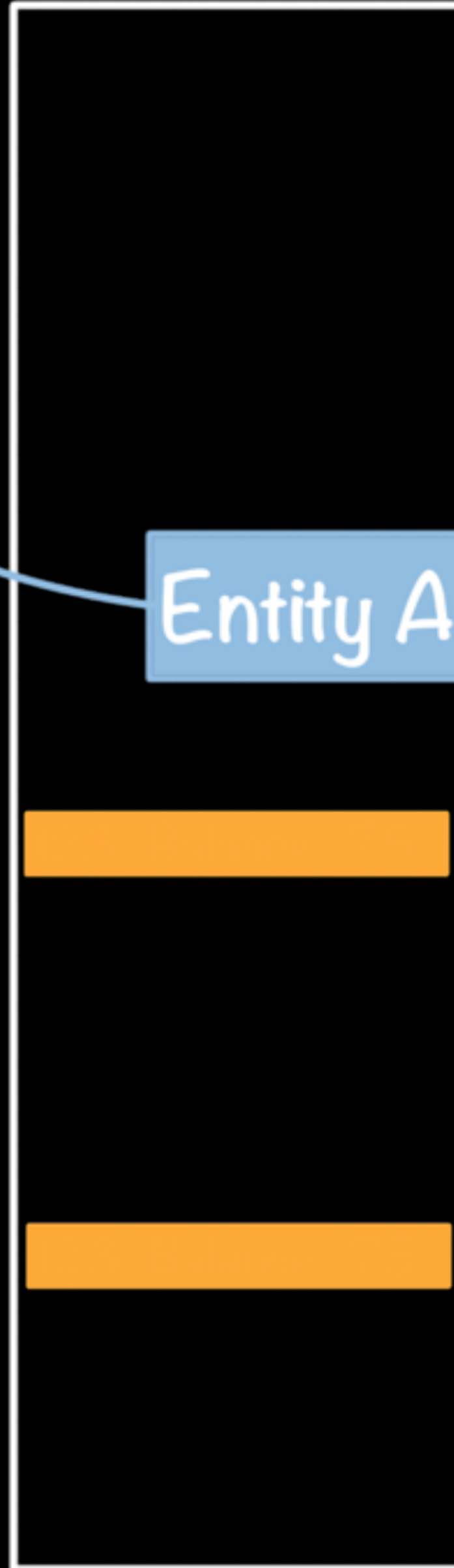
Akka Node

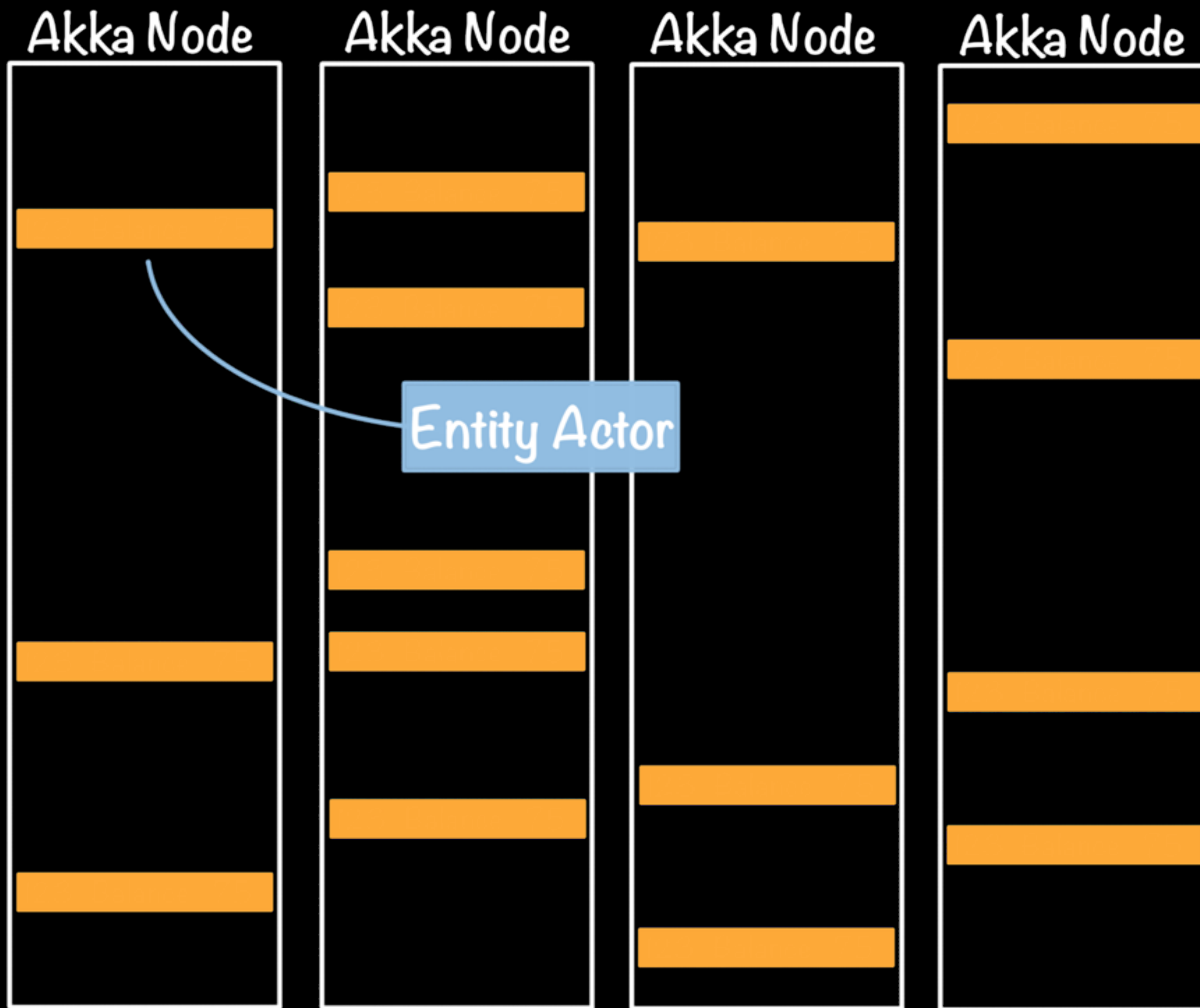
Akka Node

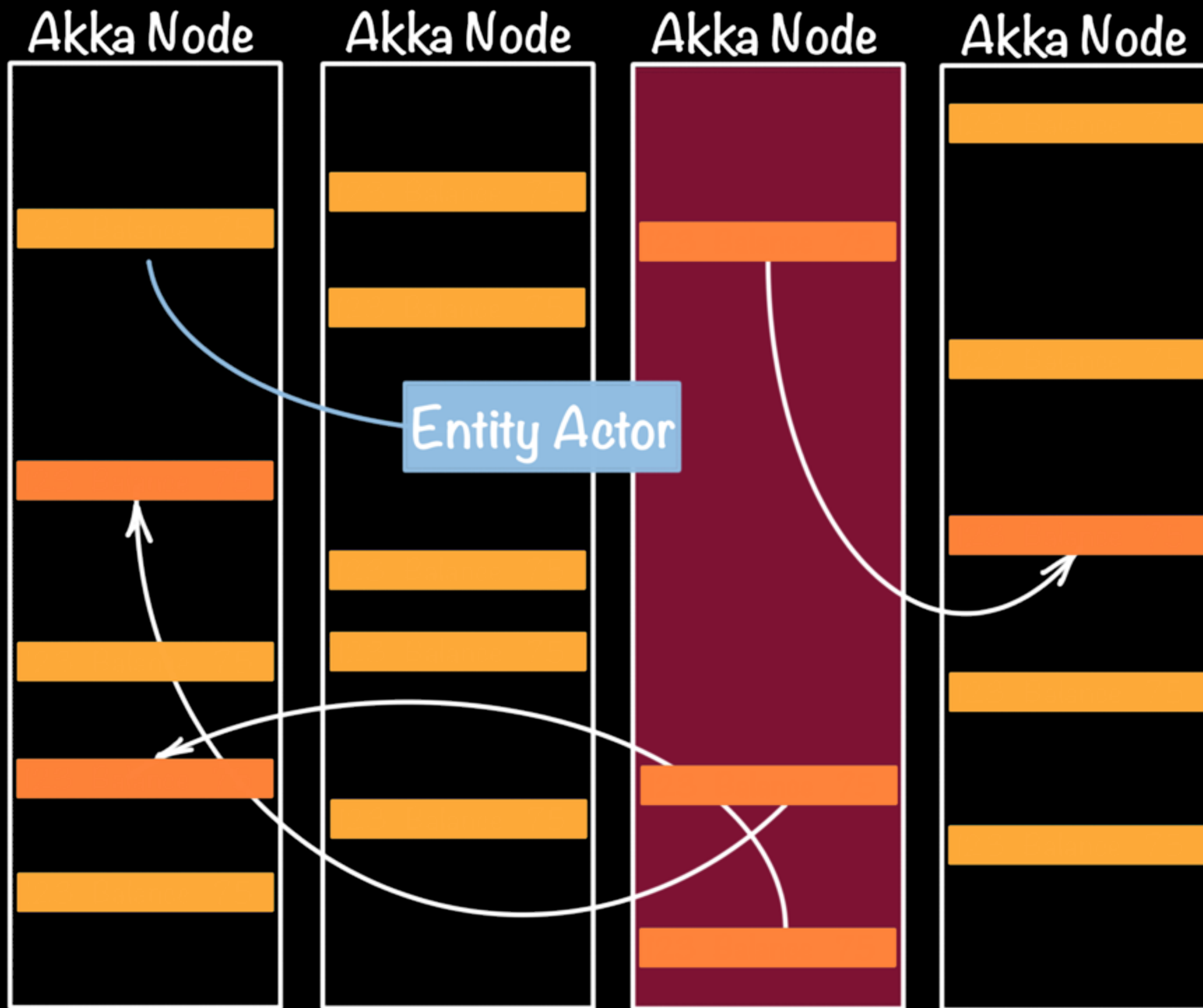
Akka Node

Akka Node

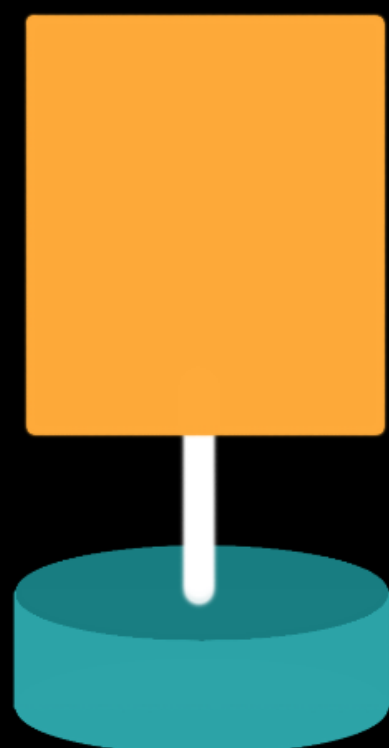
Entity Actor







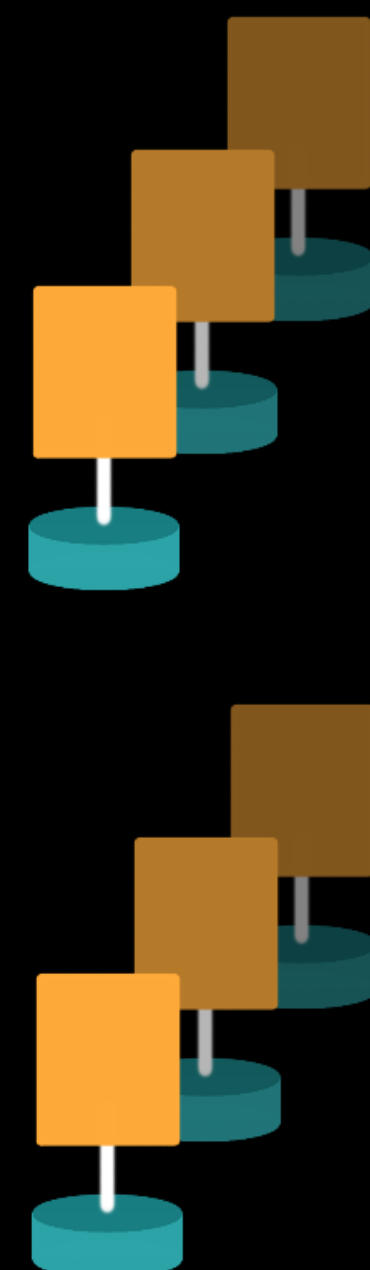
Evolution from Course Grained to Fine Grained Services



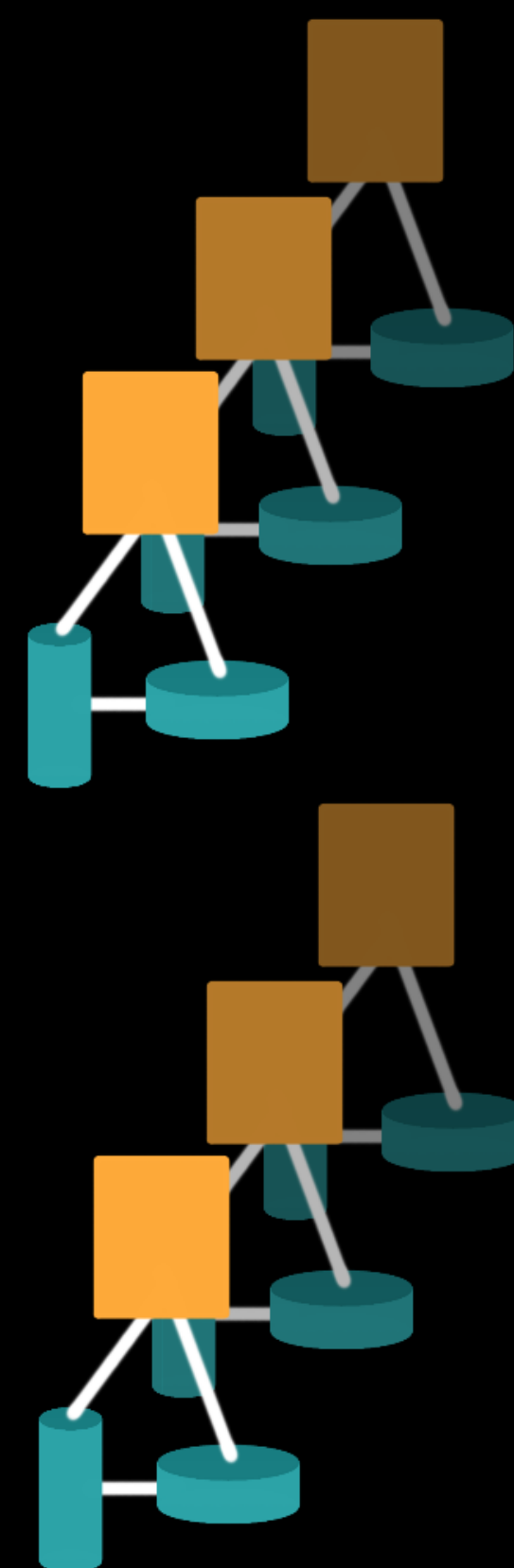
monolith



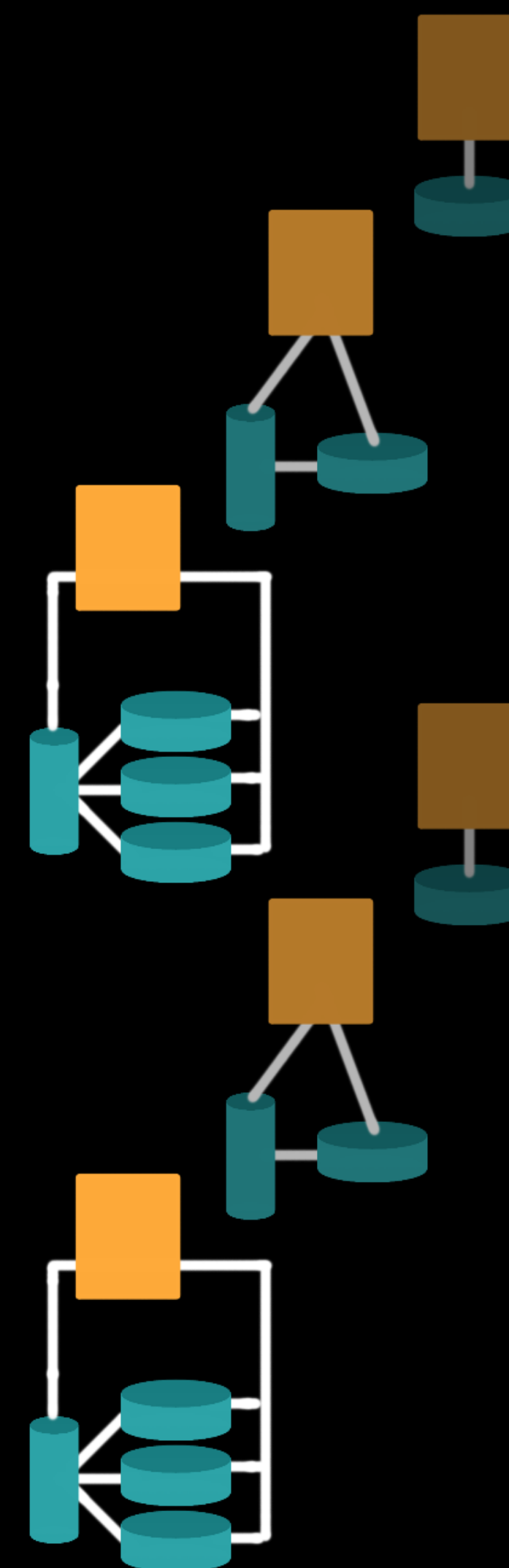
microliths



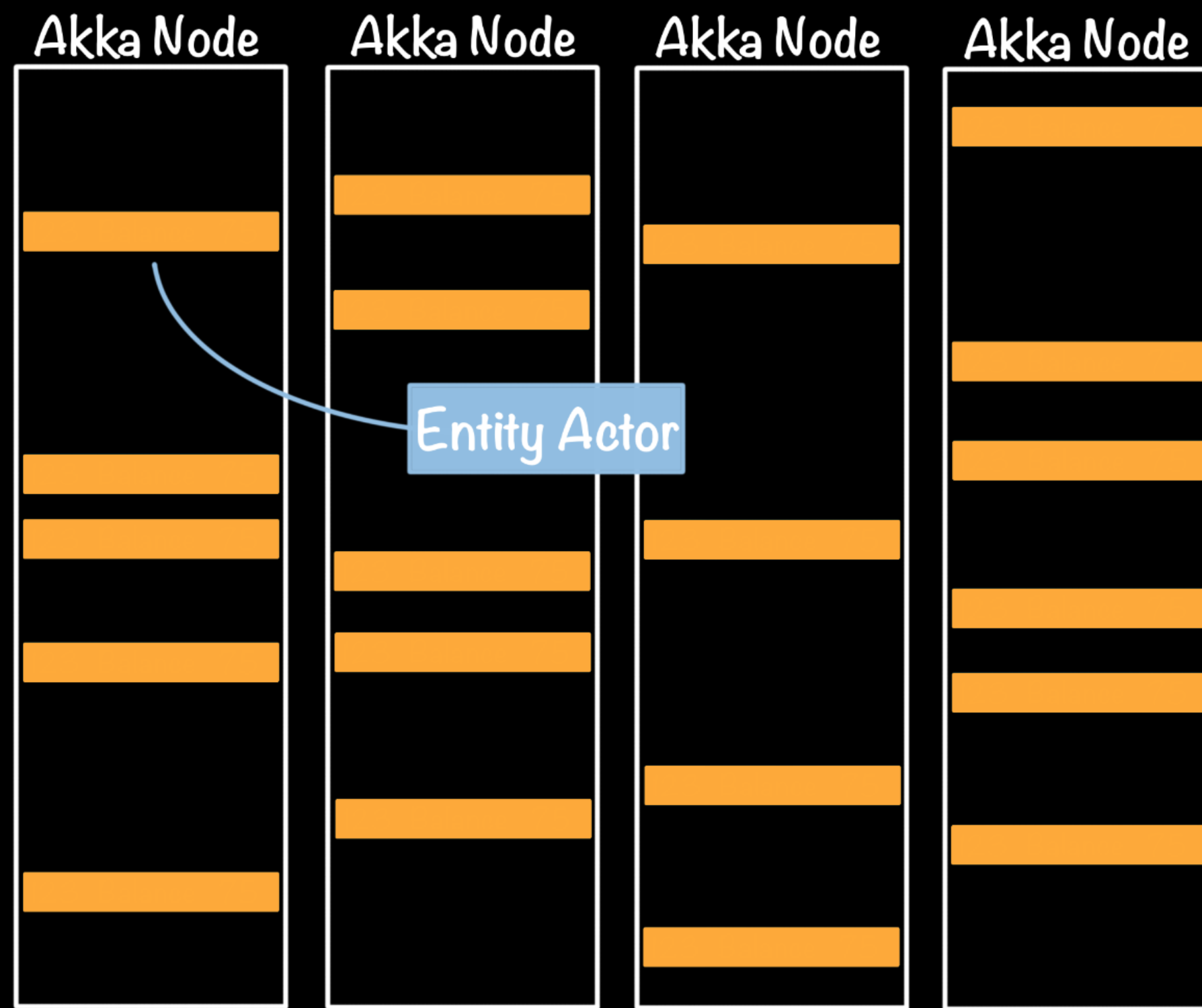
microservices
uni-DB



microservices
ES & CQRS



microservices
ES &
CQRS multi-DB



CQRS Read Side
Akka Persistence Query

Demo project 5

CQRS - Write side
Akka Persistence

Demo project 4

Entity distributed sharding
Akka Cluster Sharding

Demo project 3

Shard distribution
Akka Cluster Singleton

Demo project 2

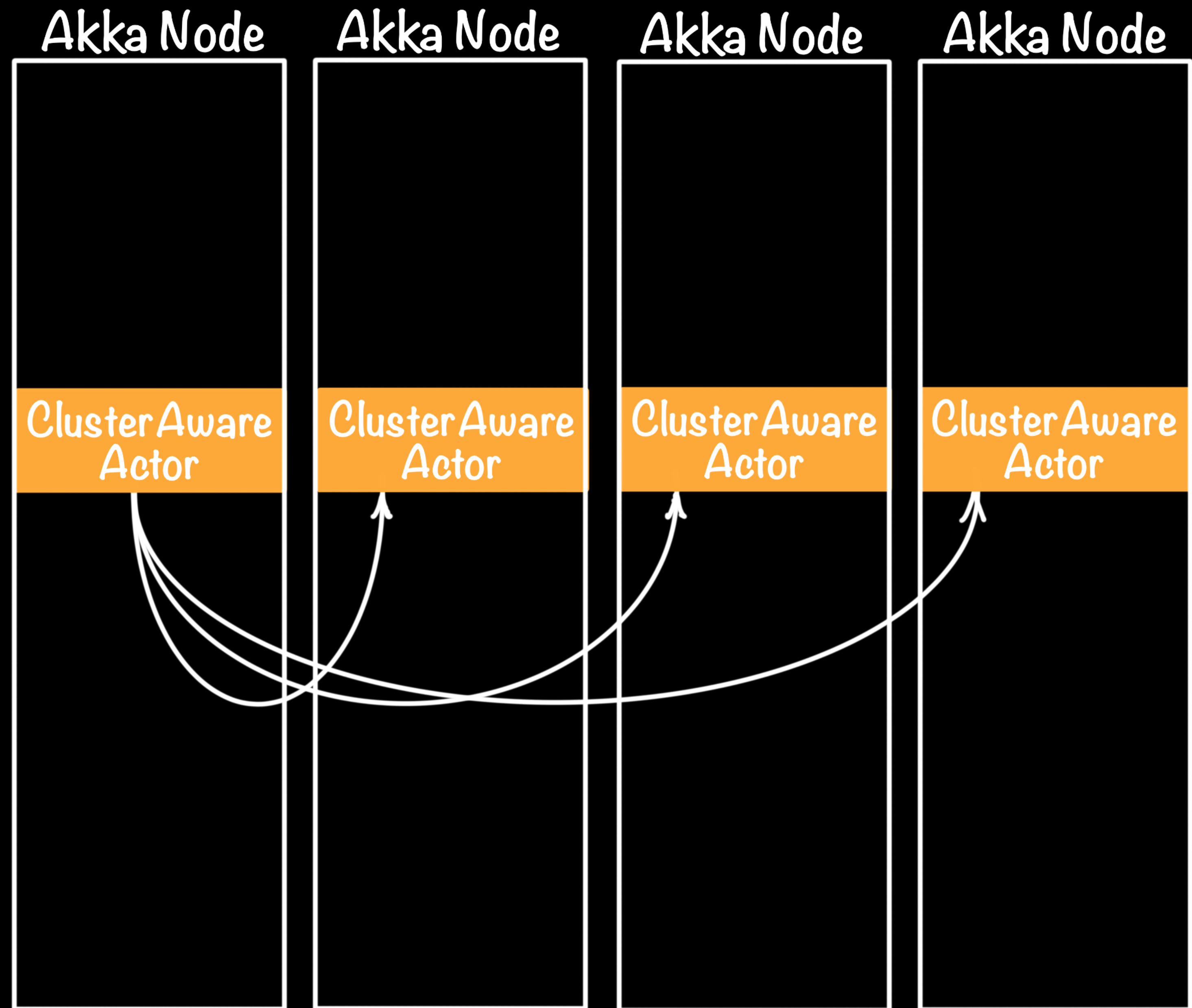
Distributed actors
Akka Clustering

Demo project 1

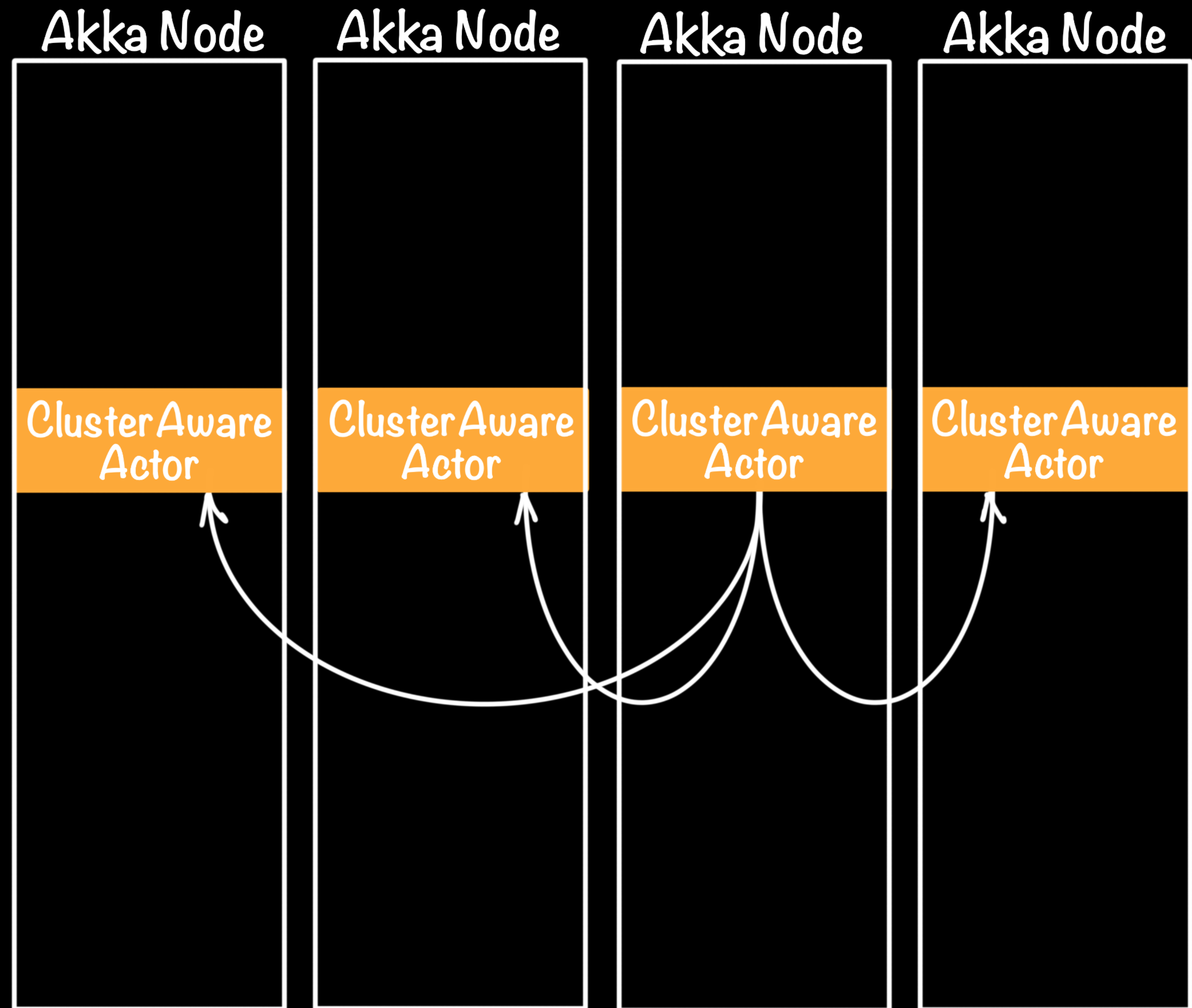
Distributed Actors

Akka Clustering

Distributed Actors Akka Clustering



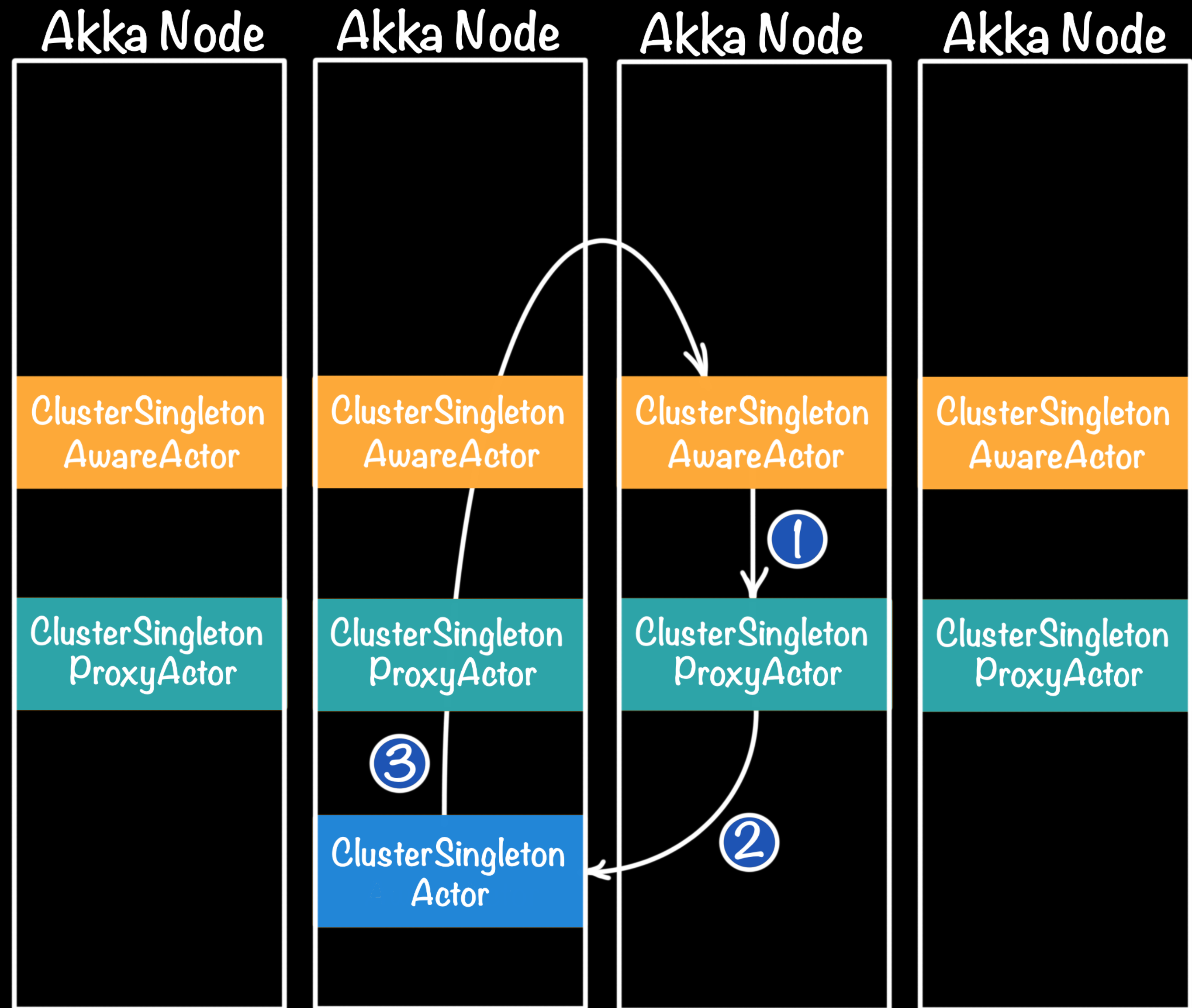
Distributed Actors Akka Clustering



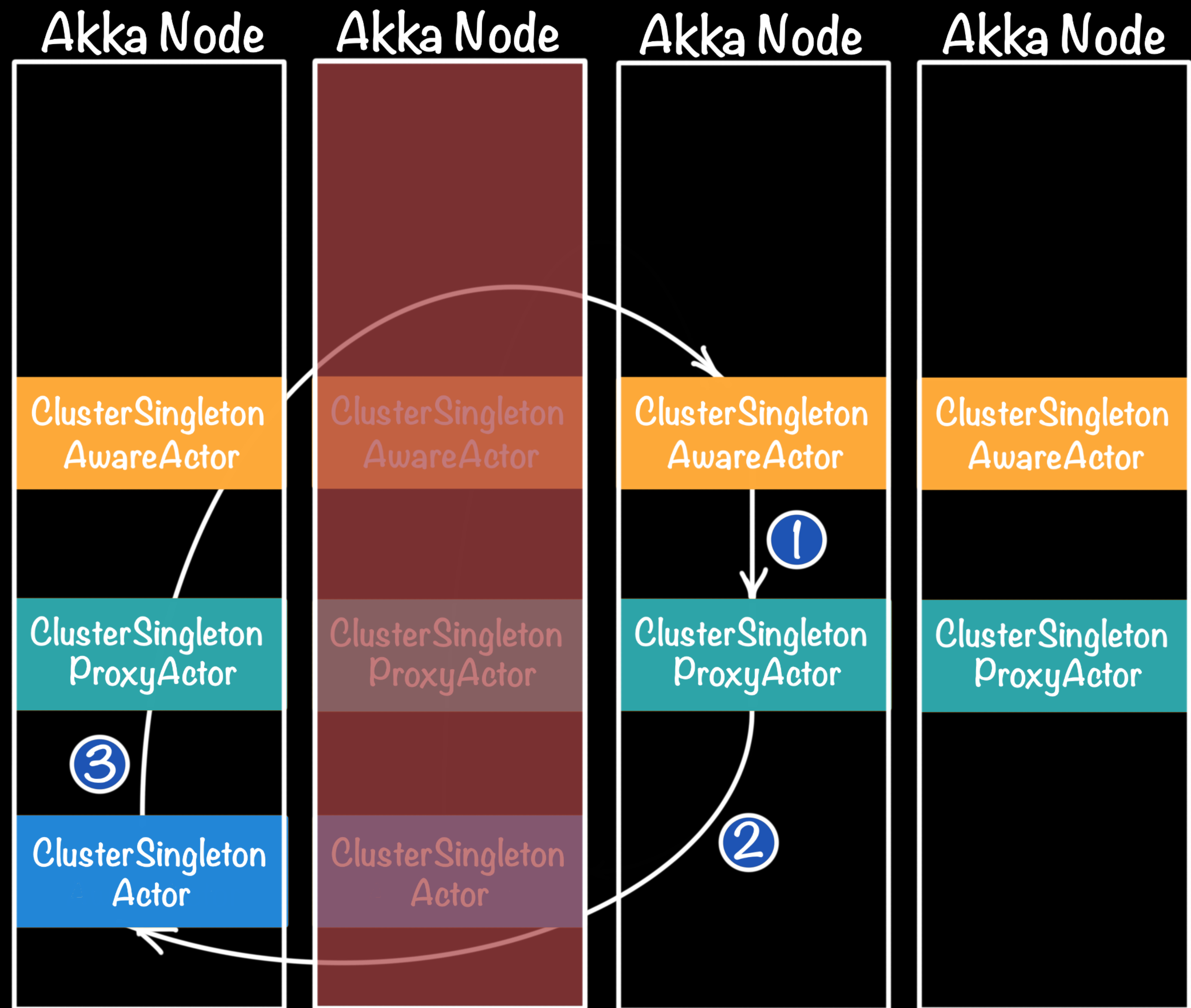
Shard Distribution

Akka Cluster Singleton

Shard Distribution Akka Cluster Singleton

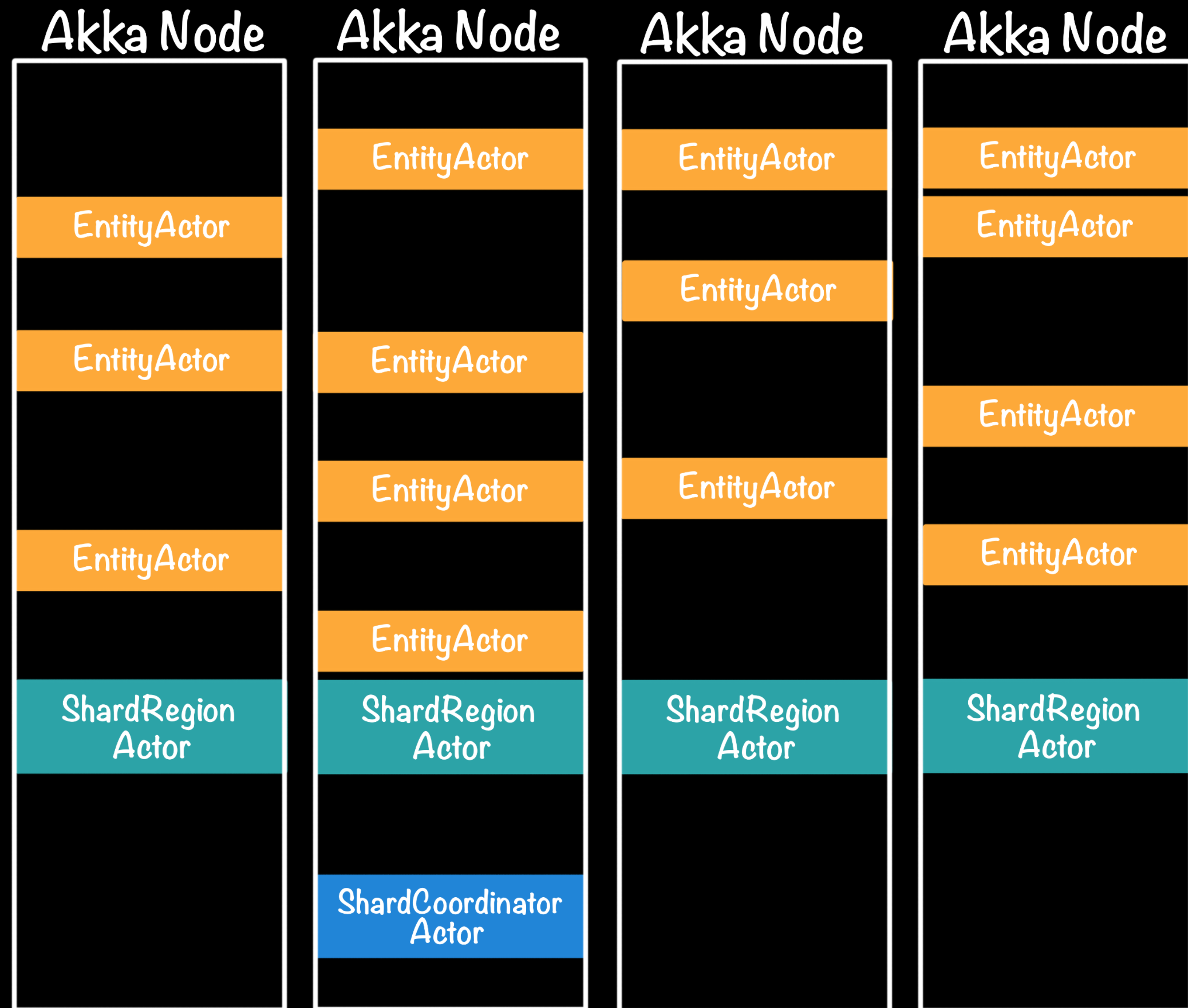


Shard Distribution Akka Cluster Singleton



Entity Distributed Sharding
Akka Cluster Sharding

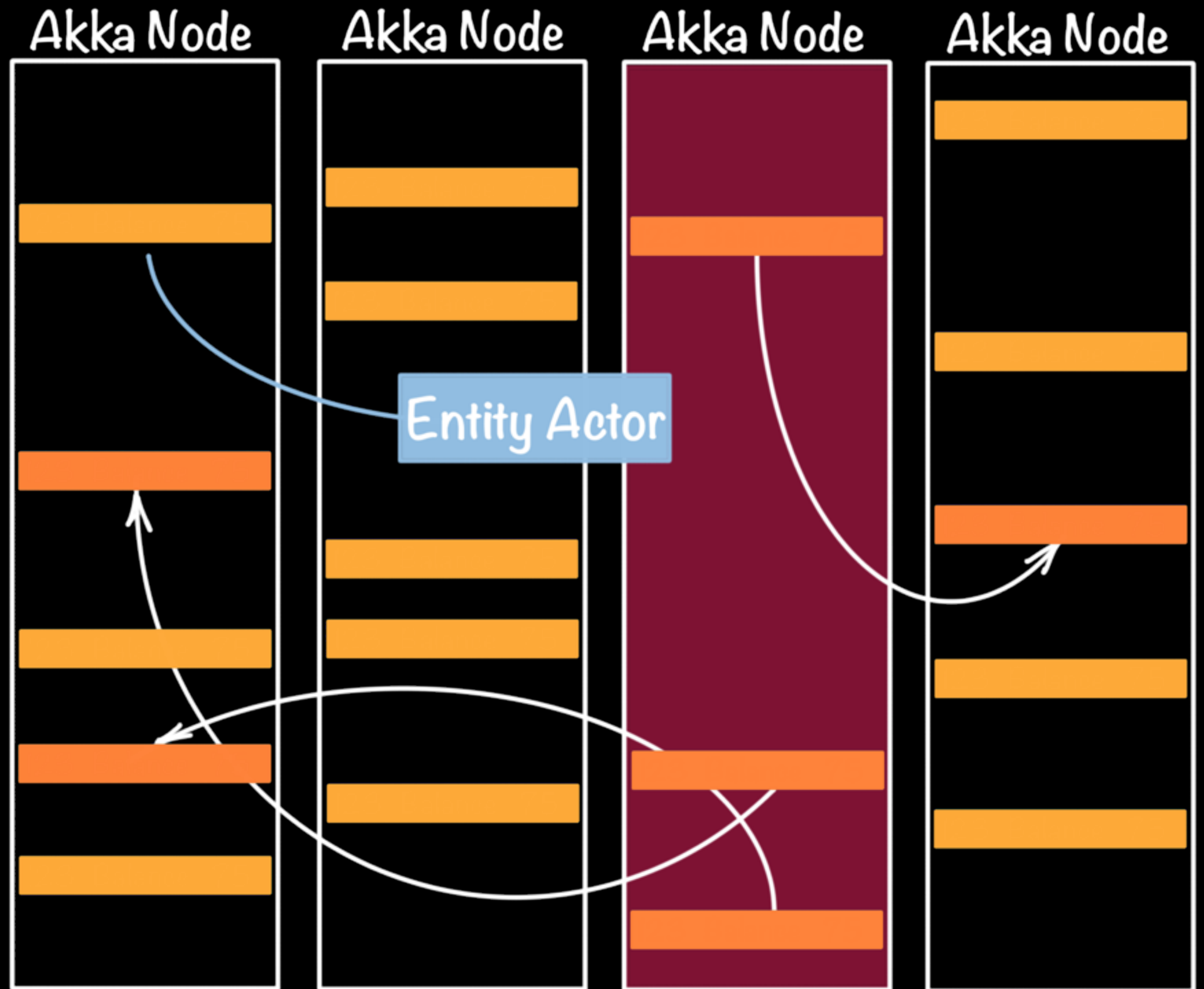
Entity Distributed Sharding Akka Cluster Sharding



Event Sourcing & CQRS

Akka Persistence & Persistence Query

Event Sourcing & CQRS Akka Persistence & Persistence Query



<https://github.com/mckeeh3...>

[/akka-java-cluster.git](#)

[/akka-java-cluster-singleton.git](#)

[/akka-java-cluster-sharding.git](#)

[/akka-java-cluster-persistence.git](#)

[/akka-java-cluster-persistence-query.git](#)

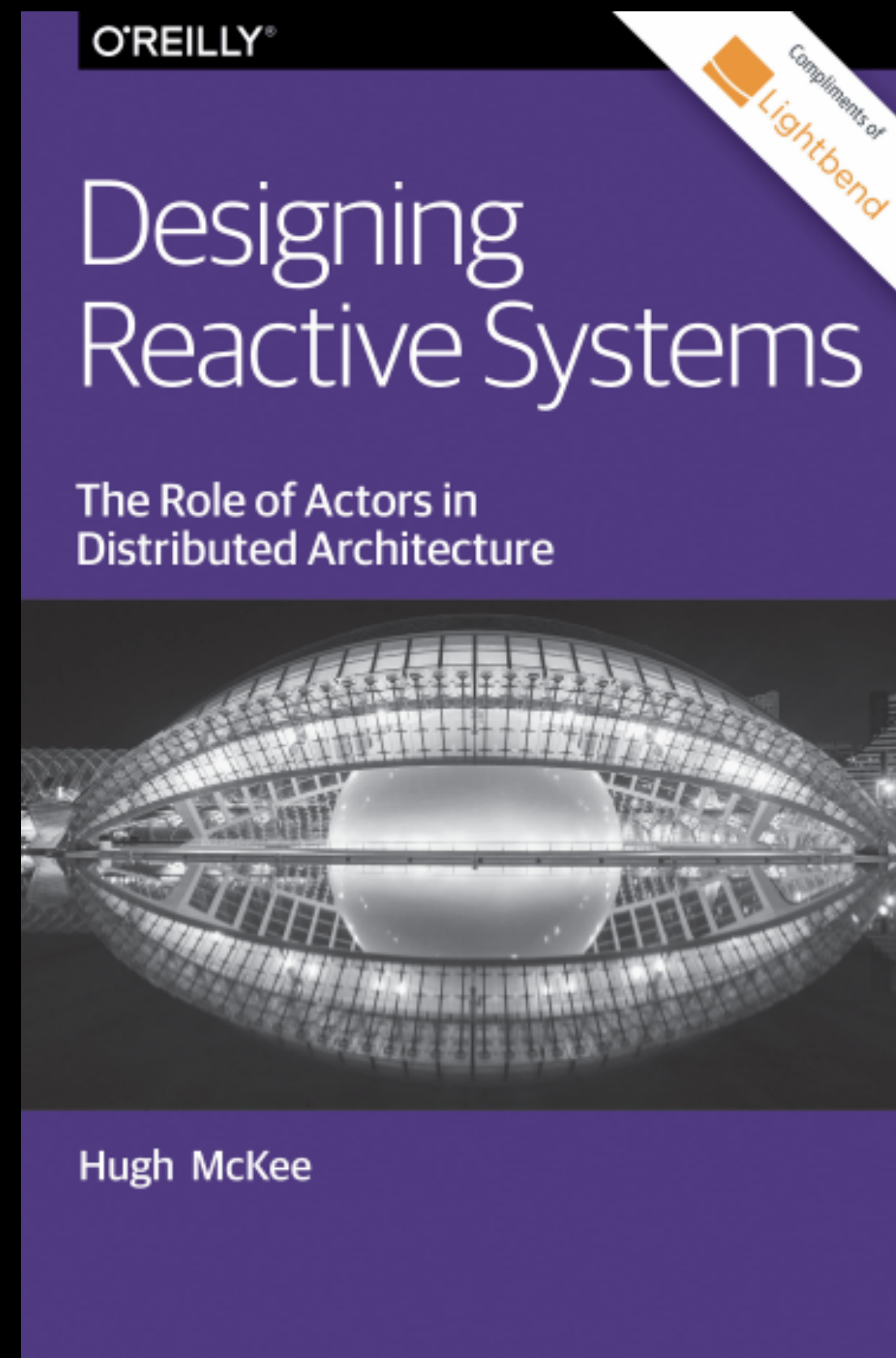
Thank You!

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