Kubernetes: Orchestrated

A last minute presentation by Felix

UWCS

Docker refresher

- Isolated process

  - UID, PID, FS, Network isolation

- **Image**: FS + Entrypoint

- **Container**: Running image

- **Dockerfile**: Instructions to build image

- Let's build a container!

Kubernetes
Intro

- Container orchestration

- Abstraction of complex concepts: Objects represent deployments, networking, etc.

- Declarative state - Kubernetes achieves the desired state

- **Cluster**: Group of servers, able to deploy stuff, with internal networking

- **Manifest**: YAML file with instructions for Kubernetes

- **Object**: Thing created from manifest by Kubernetes
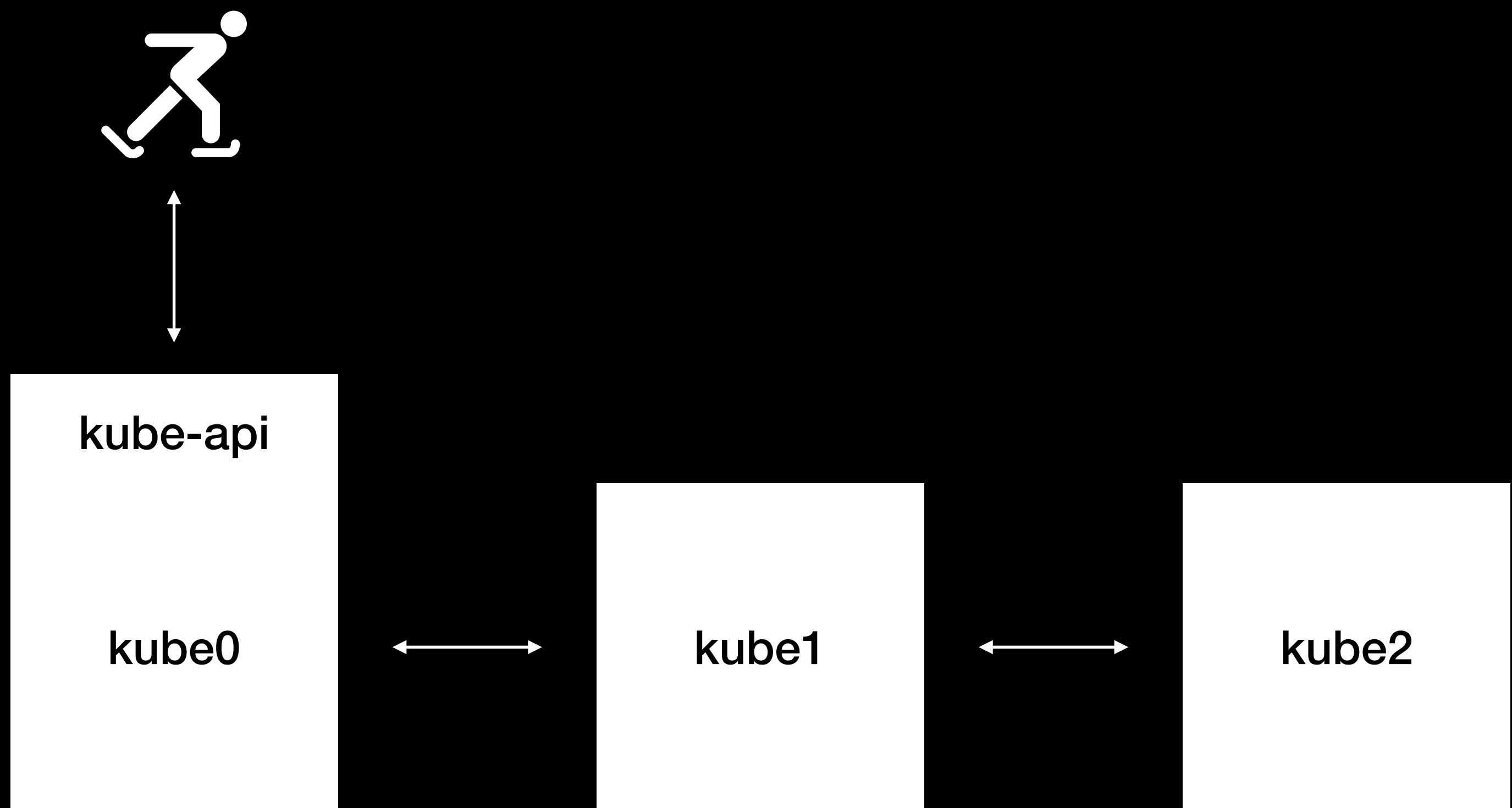
Kubernetes
Objects

- **Pod**: Smallest unit. 1+ containers with shared network space

- **Deployment**: Manages 1+ pods' lifecycle

- **Namespace**: Most objects must exist in one

- **Service**: Network config which exposes networked applications on (default) a Cluster-local IP

- **Ingress**: Proxy config which exposes service outside of cluster

- Your turn!