

# Using Spinnaker



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# Overview

**Discuss application management & deployment concepts**

**Set up pipelines for “hello-world” application**

**Discuss**

- Deployment strategies
- Manual approval & rollback

**End-to-end build & deployment pipeline**





# Basic Concepts



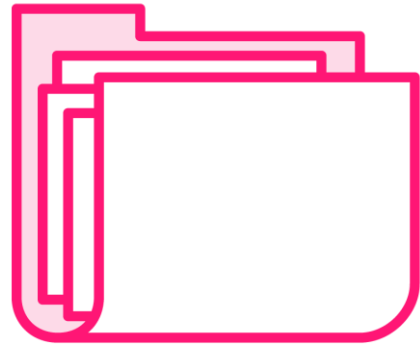
# Spinnaker Usage

**Application Management**

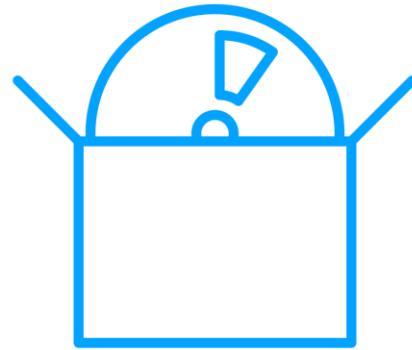
**Application Deployment**



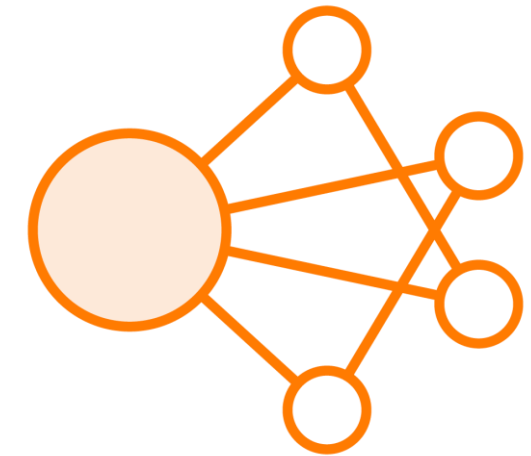
# Application Management



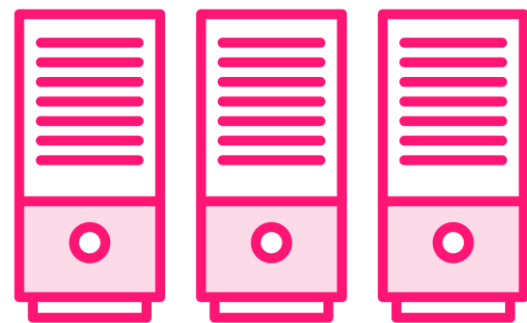
**Projects**



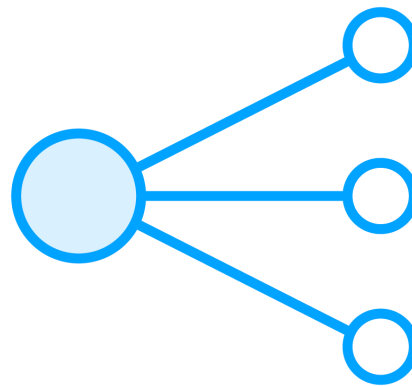
**Applications**



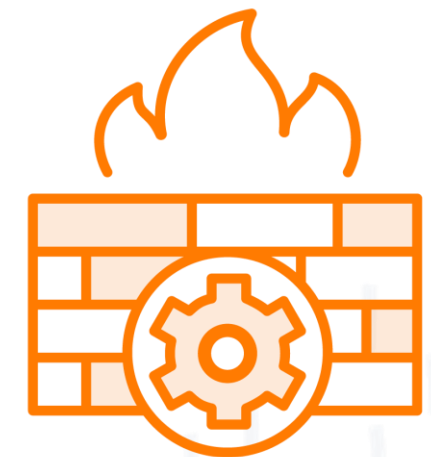
**Cluster**



**Server-group**

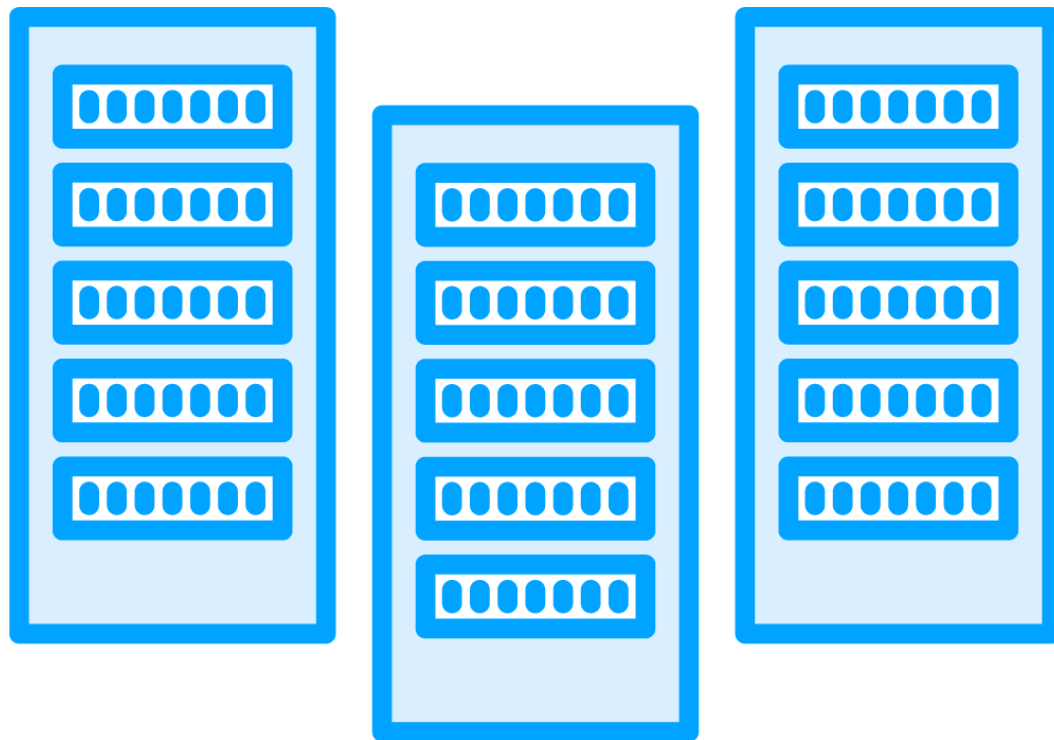


**Load-balancer**



**Firewall**

# Server Groups



## Represents:

- A deployable artifact
- Basic deployment configuration

## In Kubernetes:

- Group of pods
- Deployment object

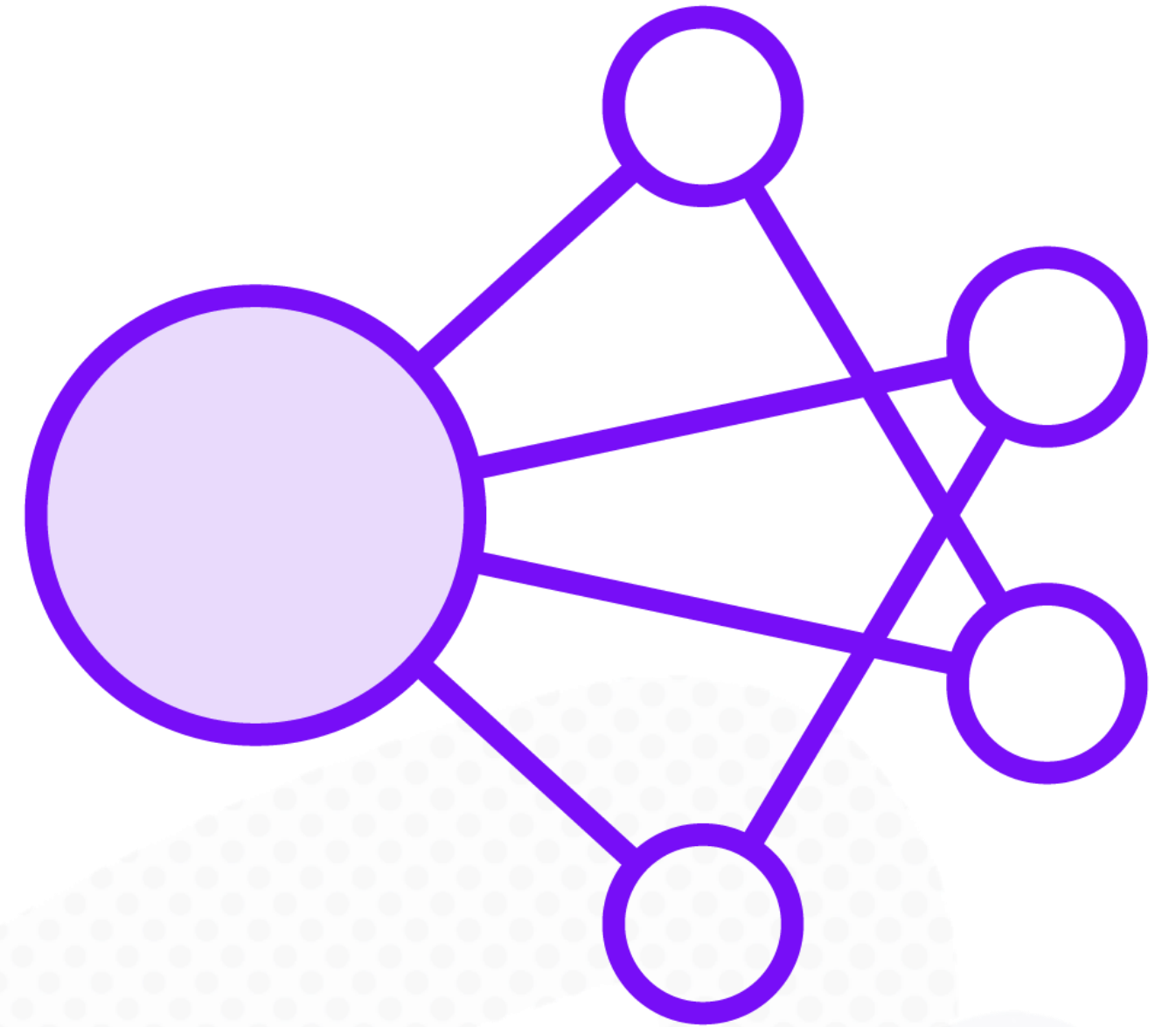


# Cluster

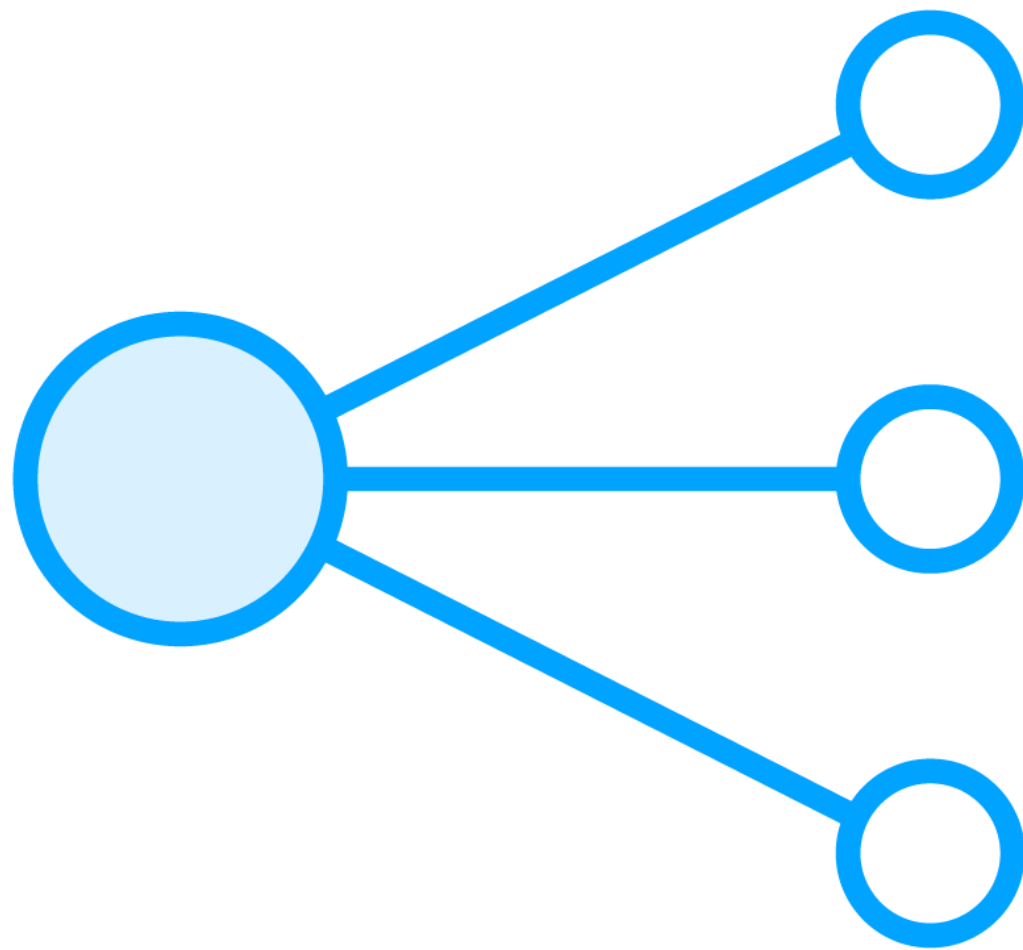
Different from Kubernetes cluster

Logical group of server-groups

Can reside in a single k8s cluster or spread across multiple k8s cluster



# Load Balancer



Like the ingress & service object in k8s

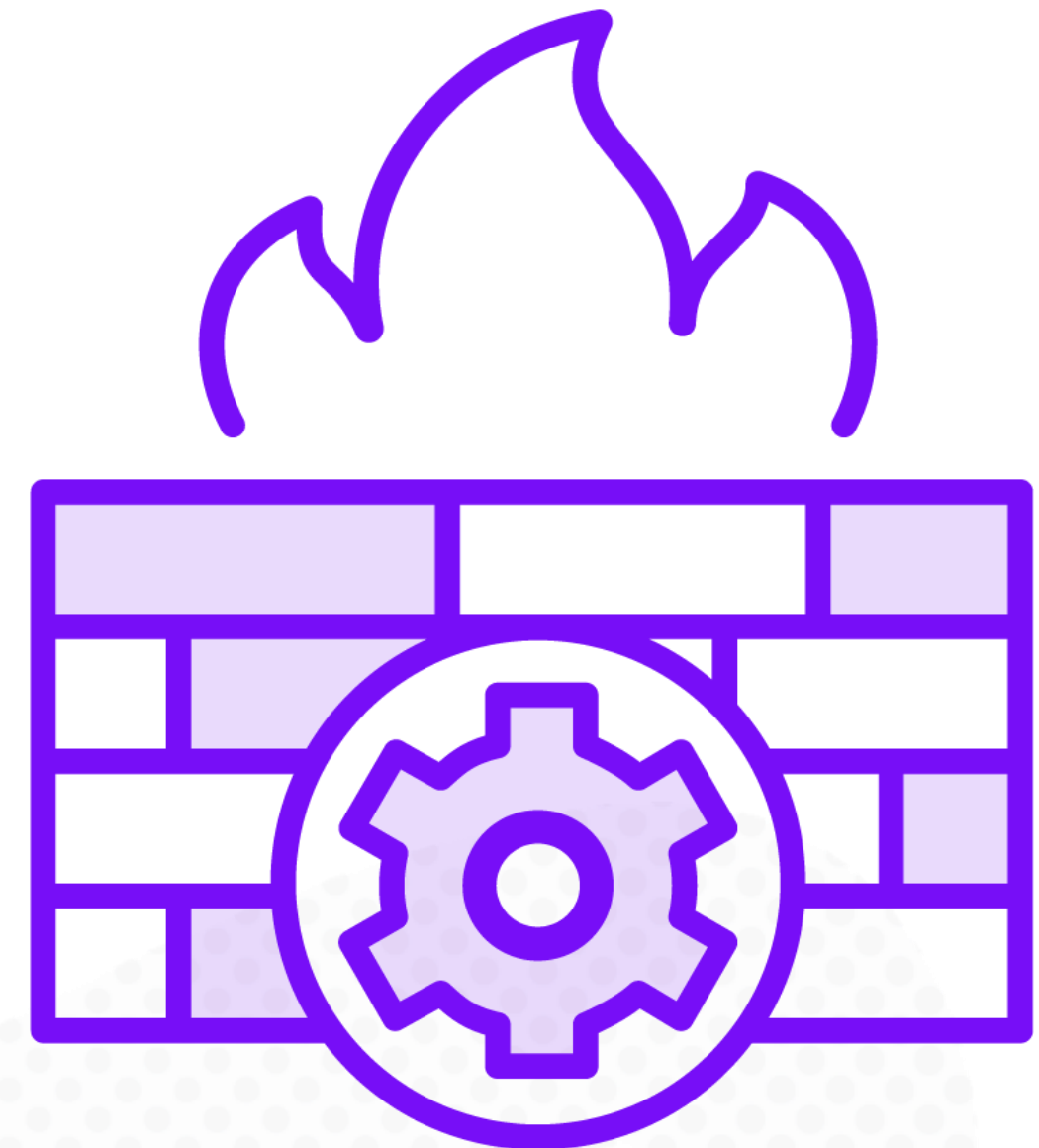
Balances traffic of server group



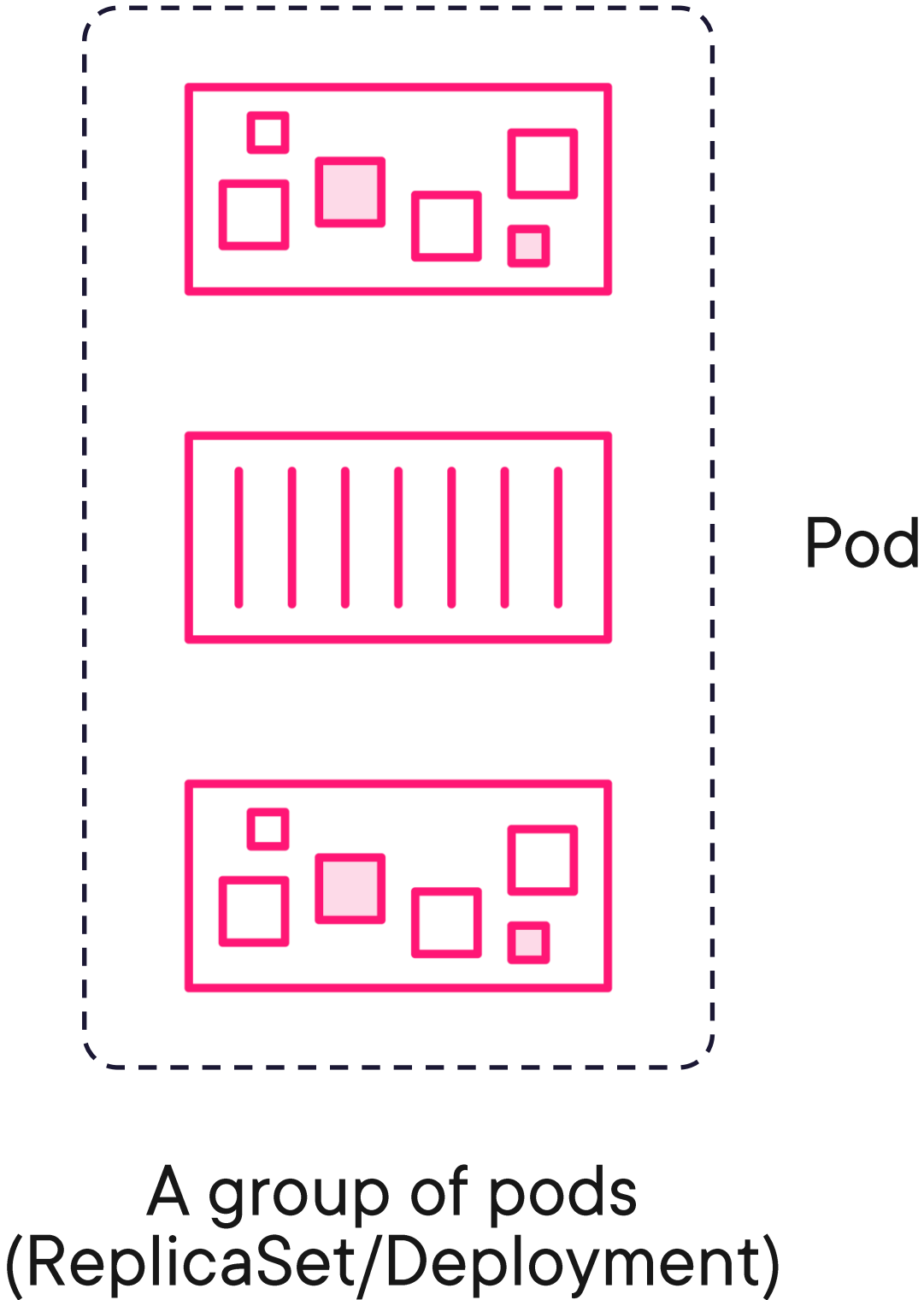


# Firewall

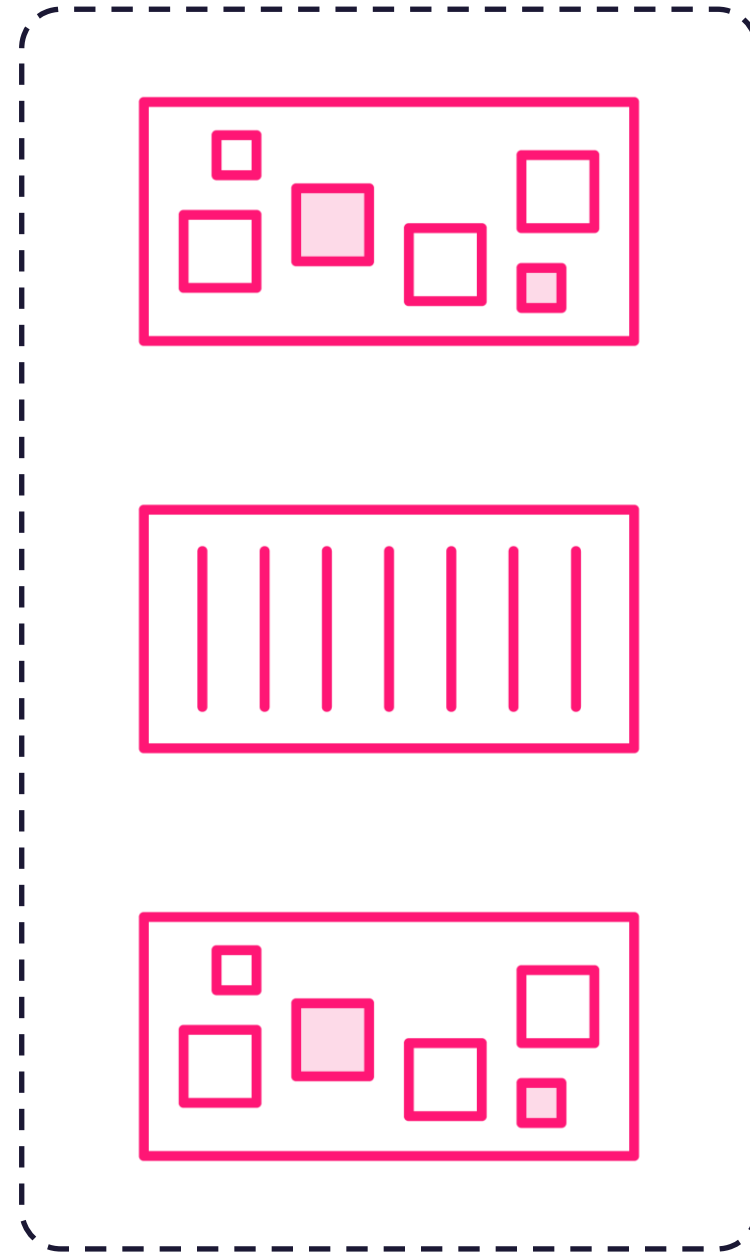
Filters incoming & outgoing traffic  
IP, port & network-protocol based rules



# Server Groups (SG)



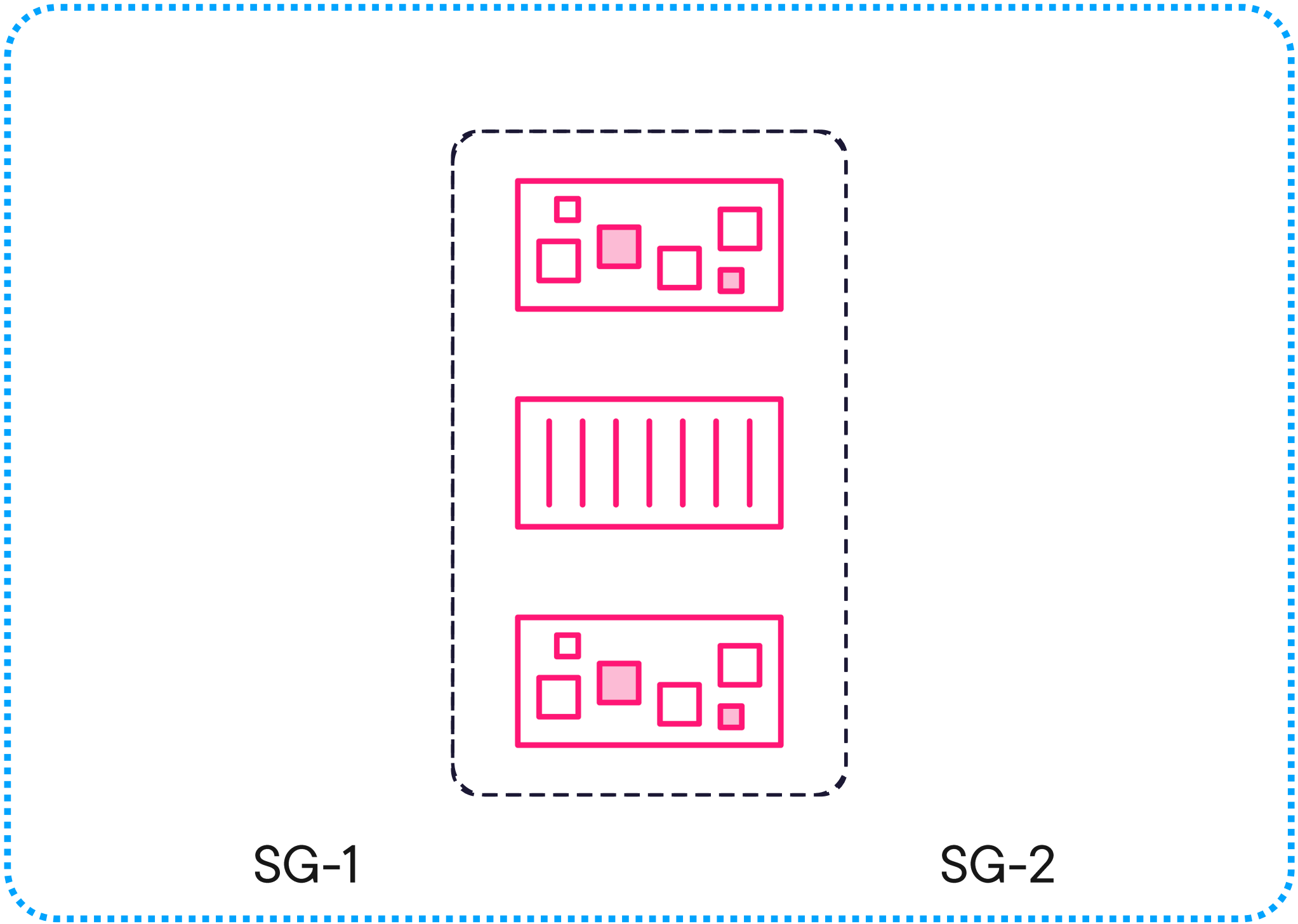
# Server Groups (SG)



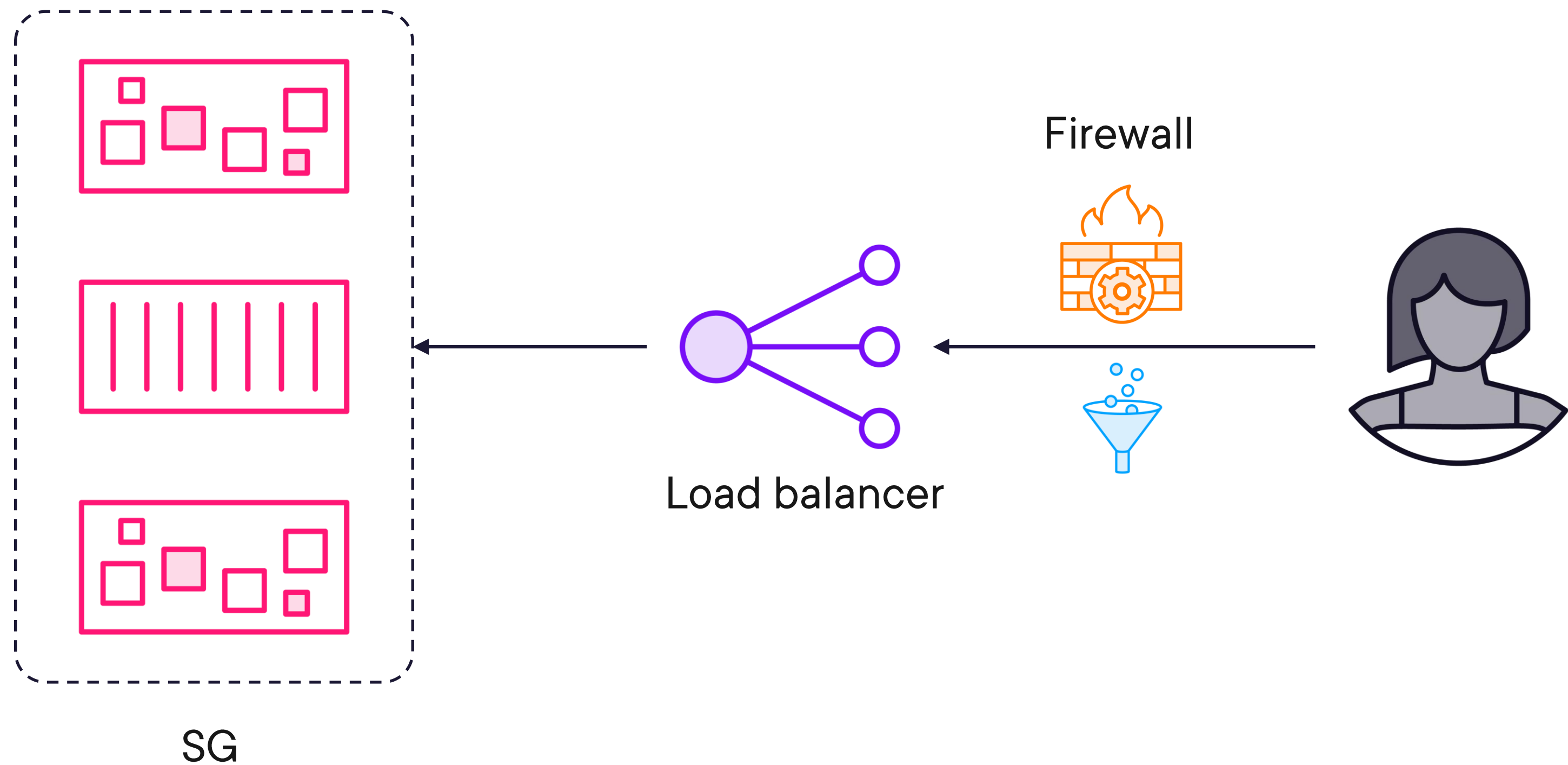
A group of pods  
(ReplicaSet/Deployment)



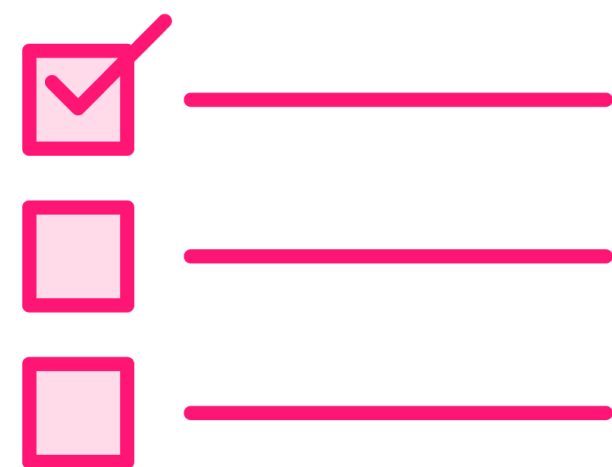
# Cluster



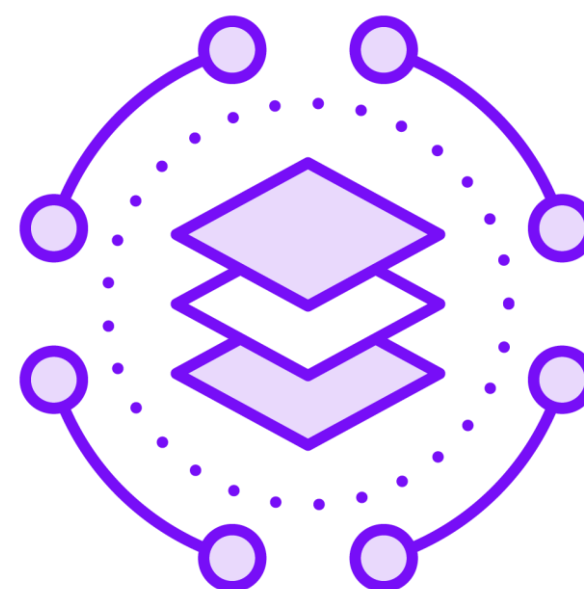
# Load Balancer & Firewall



# Application Deployment



Task



Stage



Pipeline



# Tasks

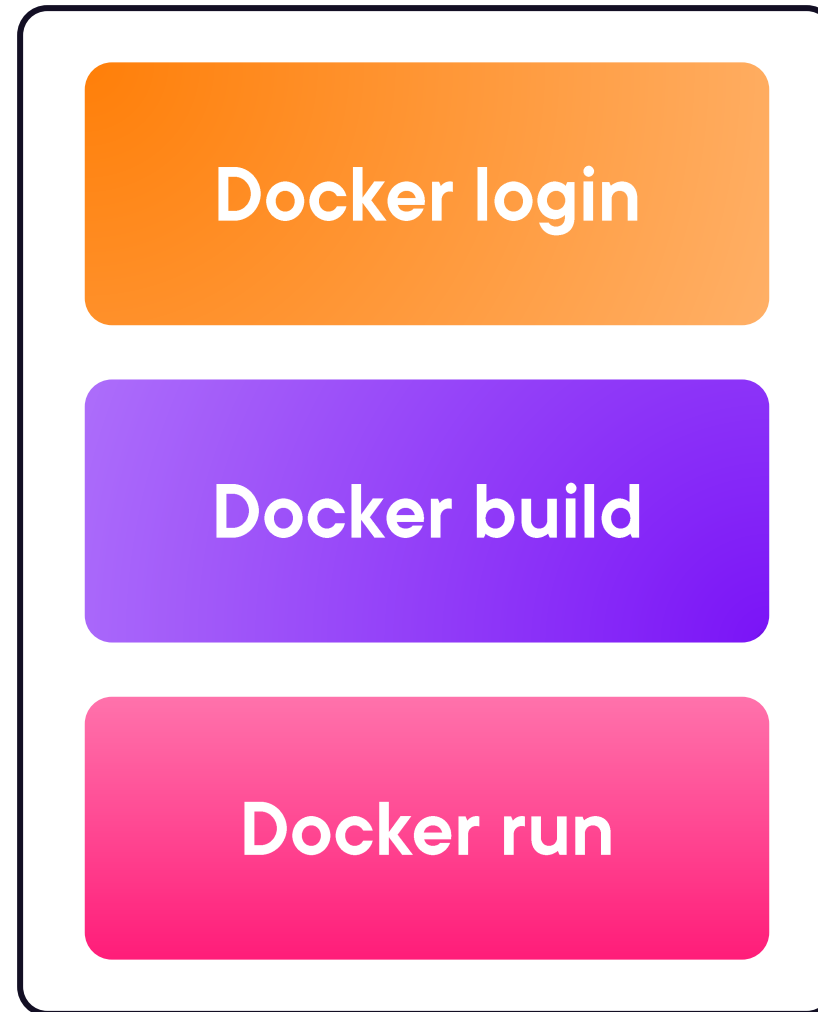
Docker run

Docker build

Docker login



# Stages

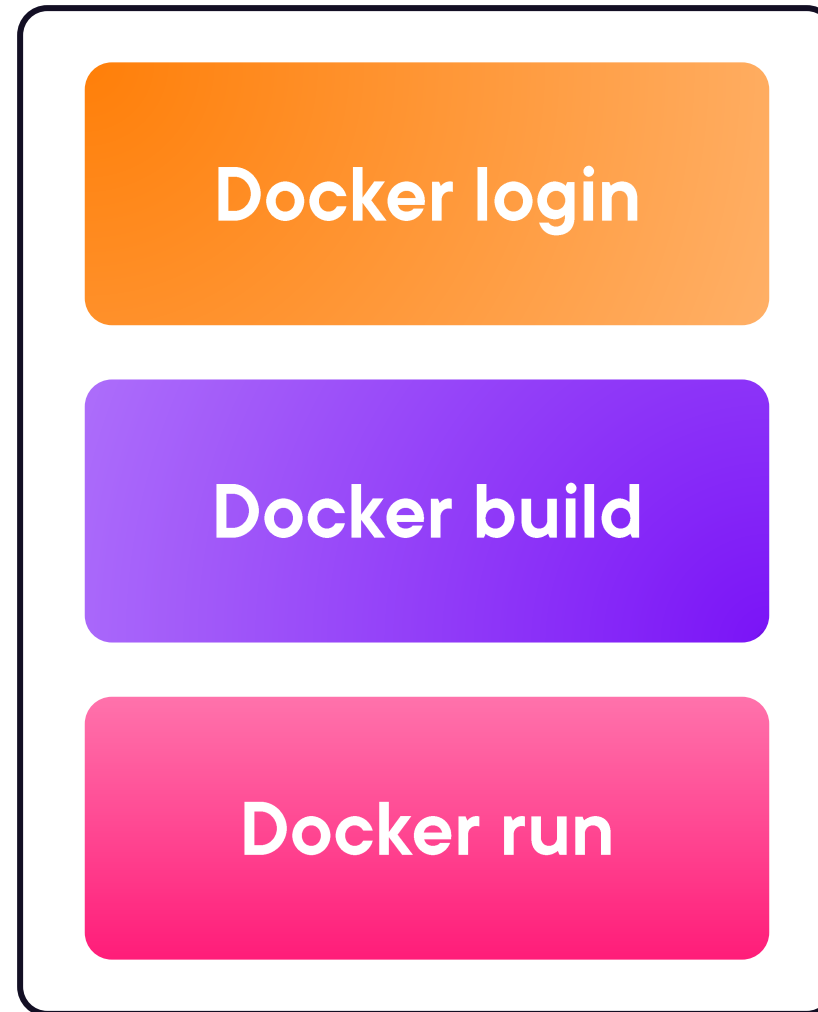


Build stage





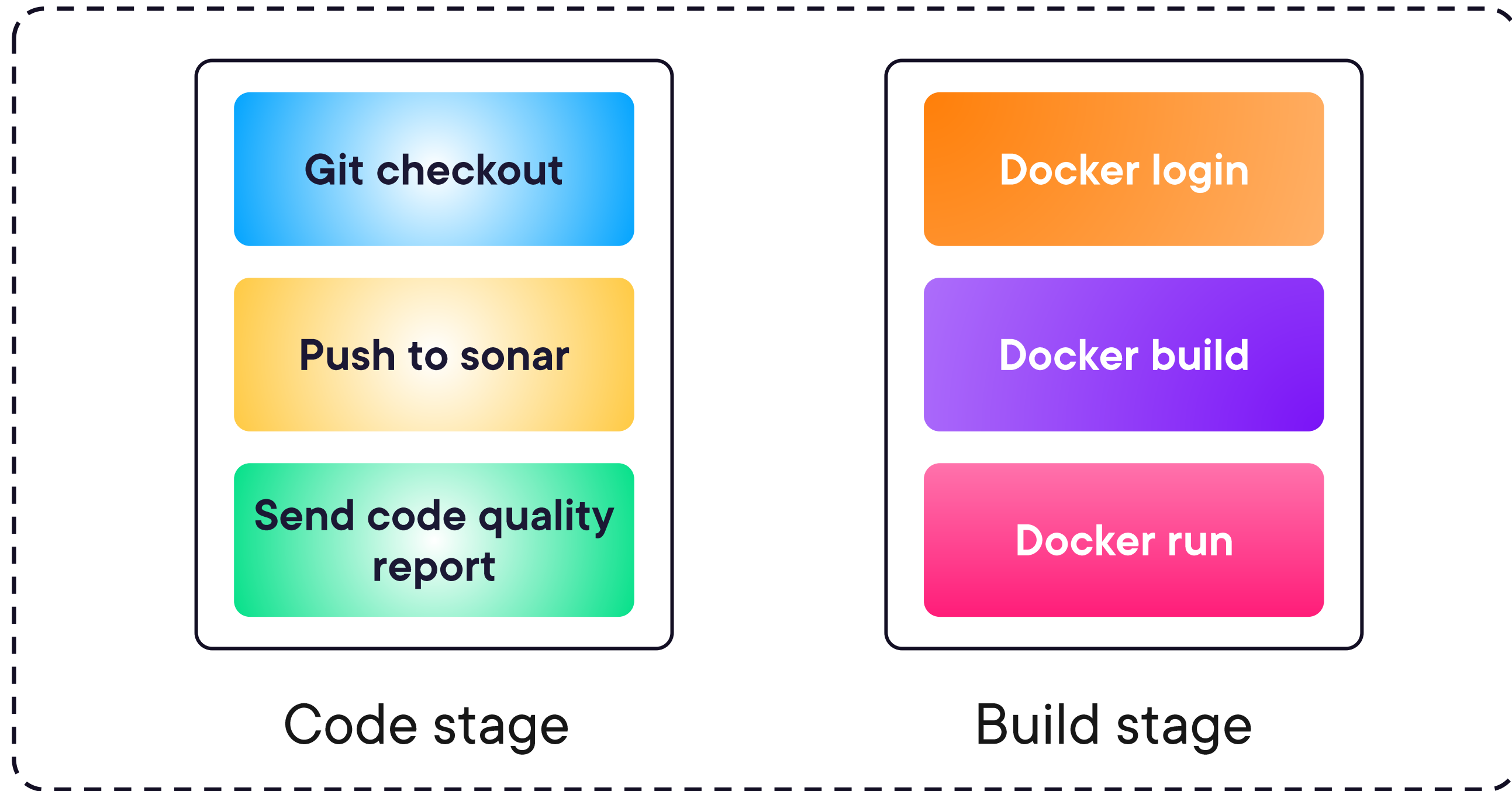
# Stages



Build stage



# Pipeline



Build pipeline



# Application



## Represents

- A microservice
- Its infrastructure & pipelines
- Deployment configs

**Group of applications equals a project**



# Demo

**Create a hello-world application**

**Set up build pipelines**

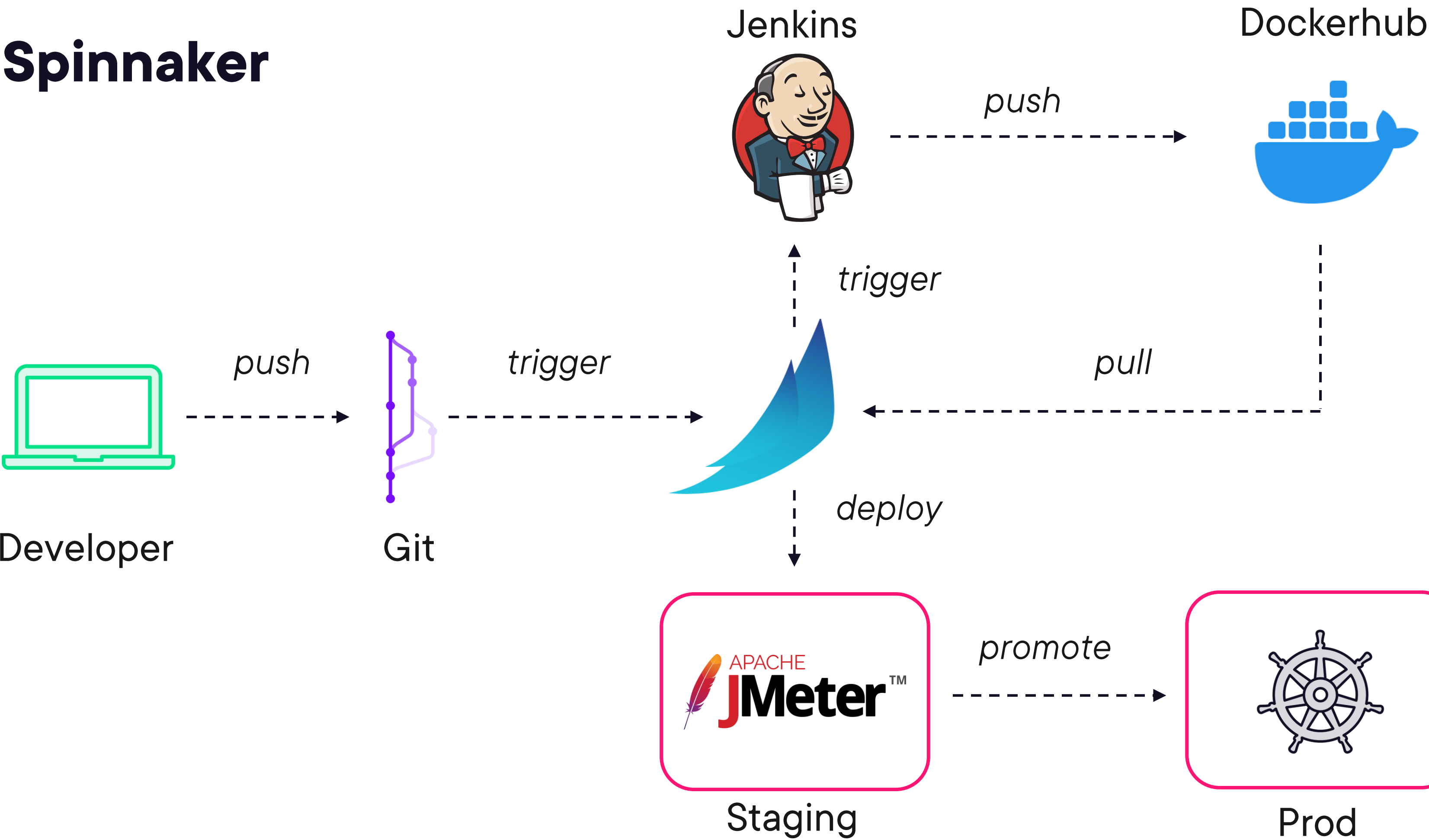


**Demo**

**Set up deployment pipelines**



# Spinnaker



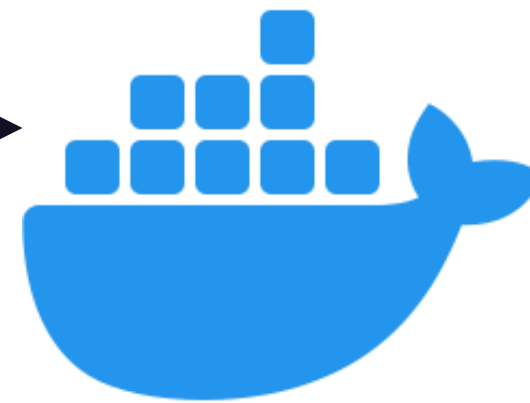
Jenkins



*push*



Dockerhub



# Demo

**Explore Spinnaker's UI**

**Set up production deployment pipeline**



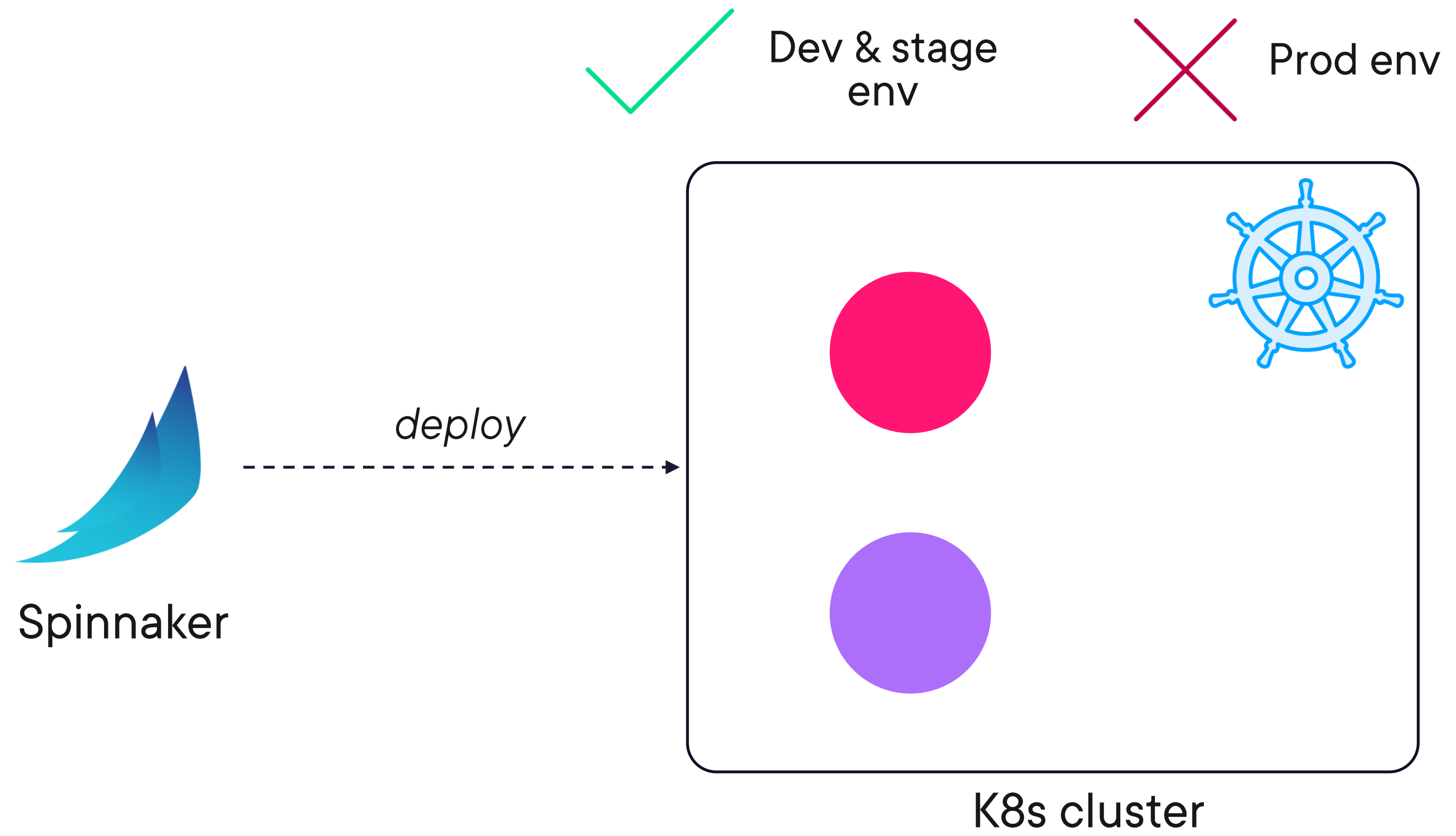




# Deployment Strategies



# Normal Rollout



# Normal Rollout

Broken  
feature



Buggy  
code



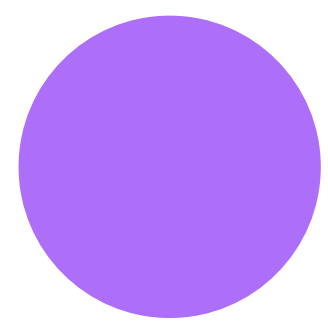
Rollback



Dev & stage  
env



Prod env



K8s cluster



# Deployment Strategies

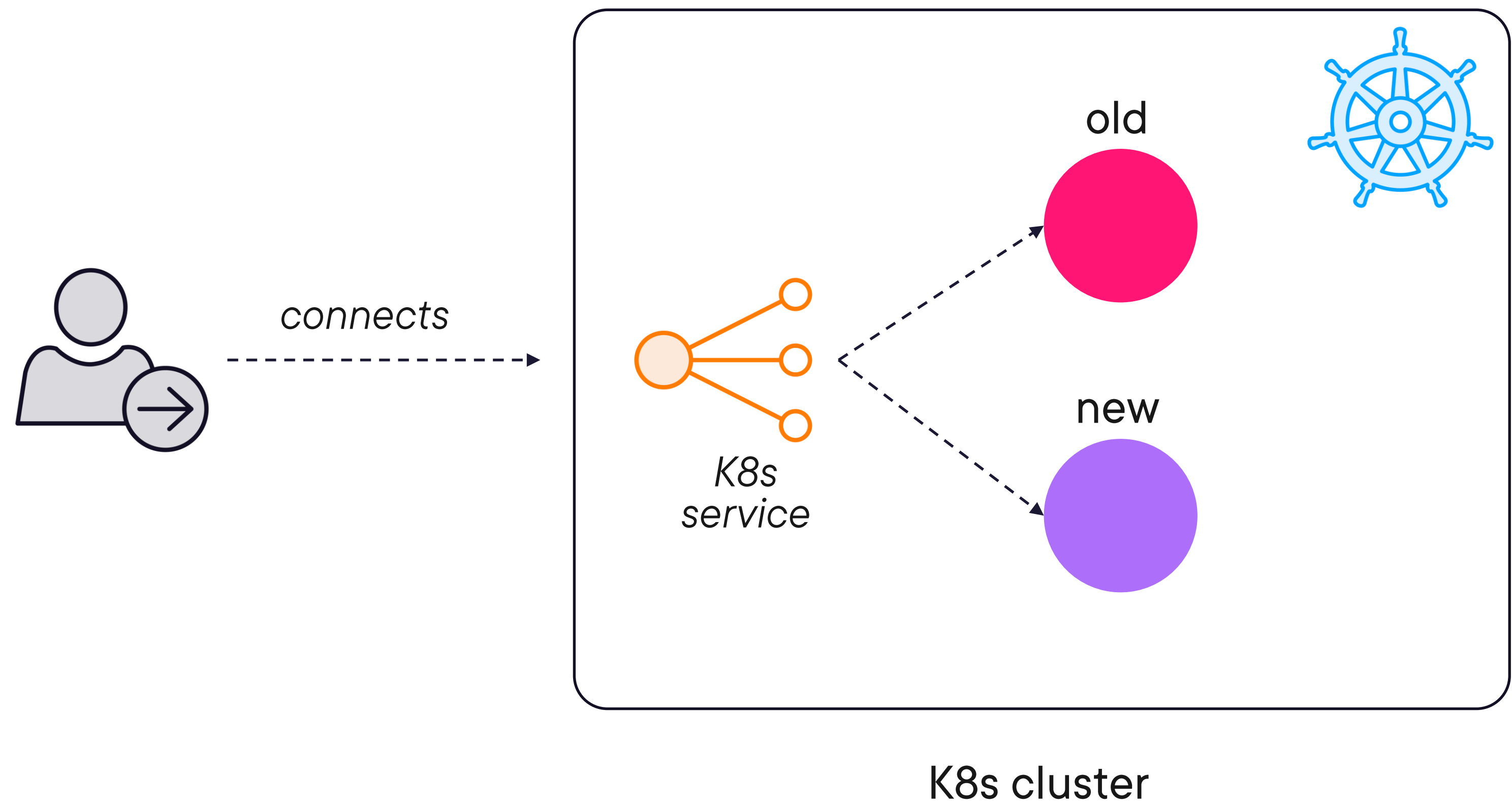
**Dark**

**Highlander**

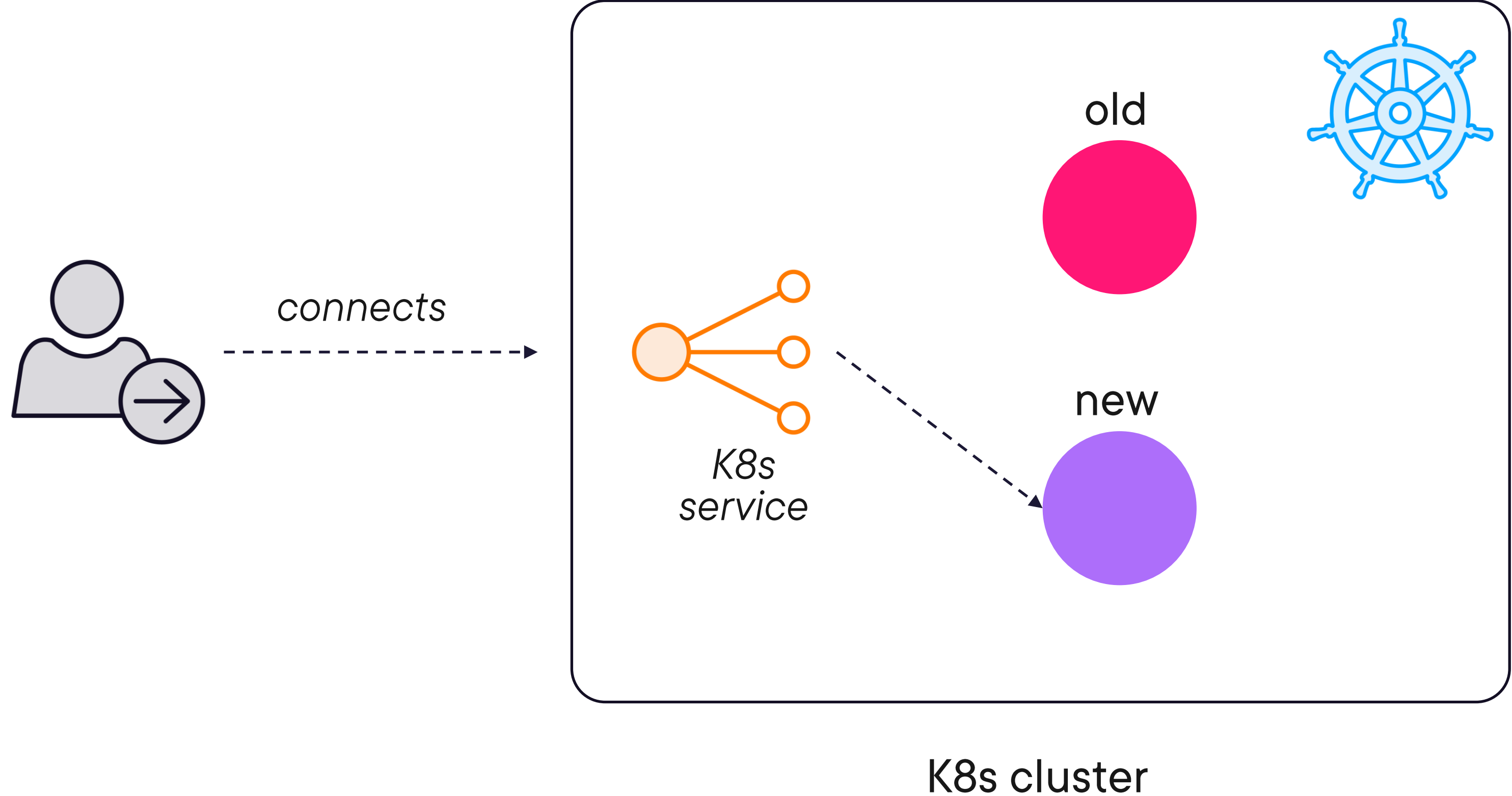
**Red/Black (a.k.a  
Blue/Green)**



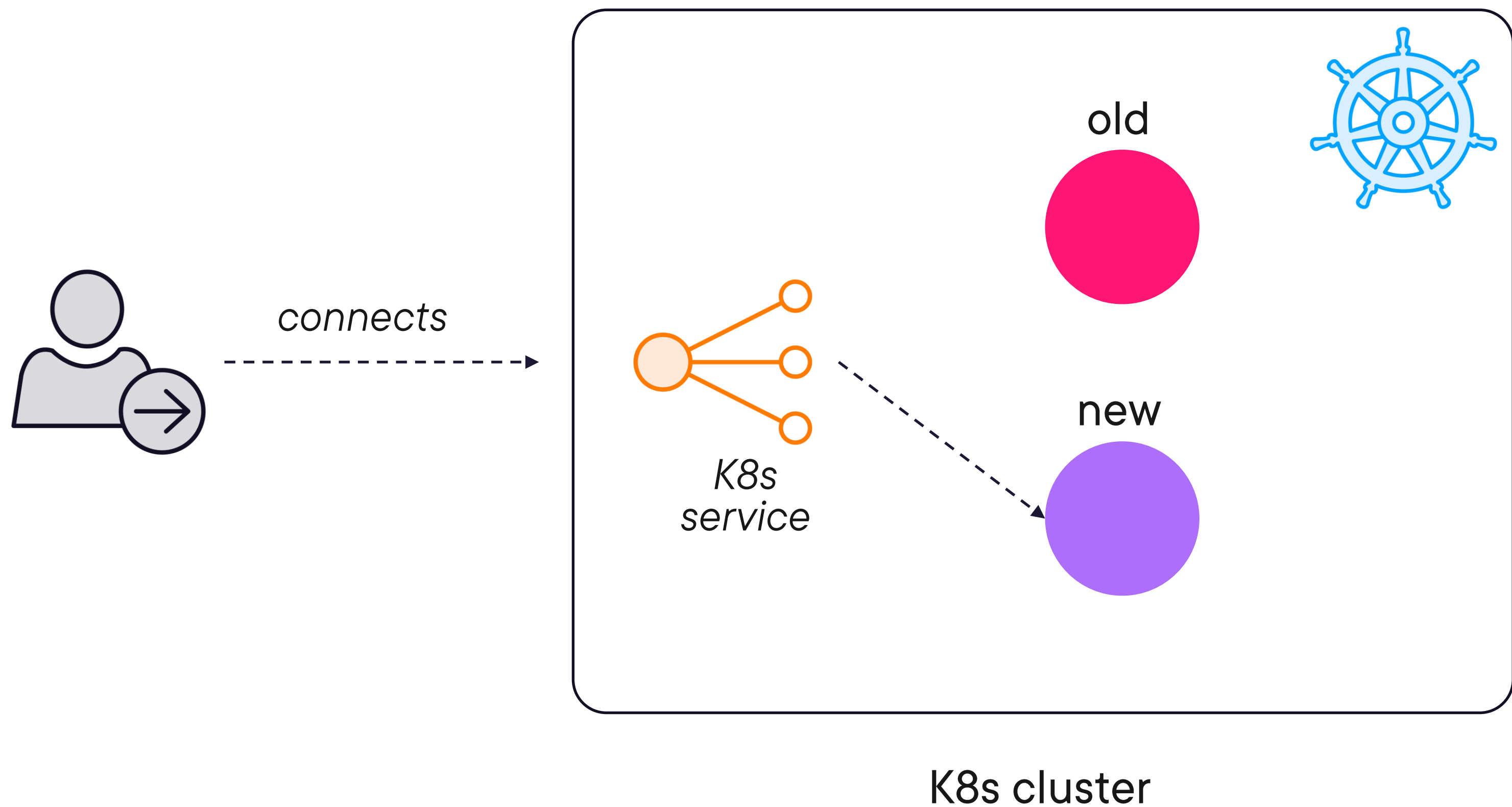
# Dark Rollout



# Highlander Rollout



# Red/Black Rollout



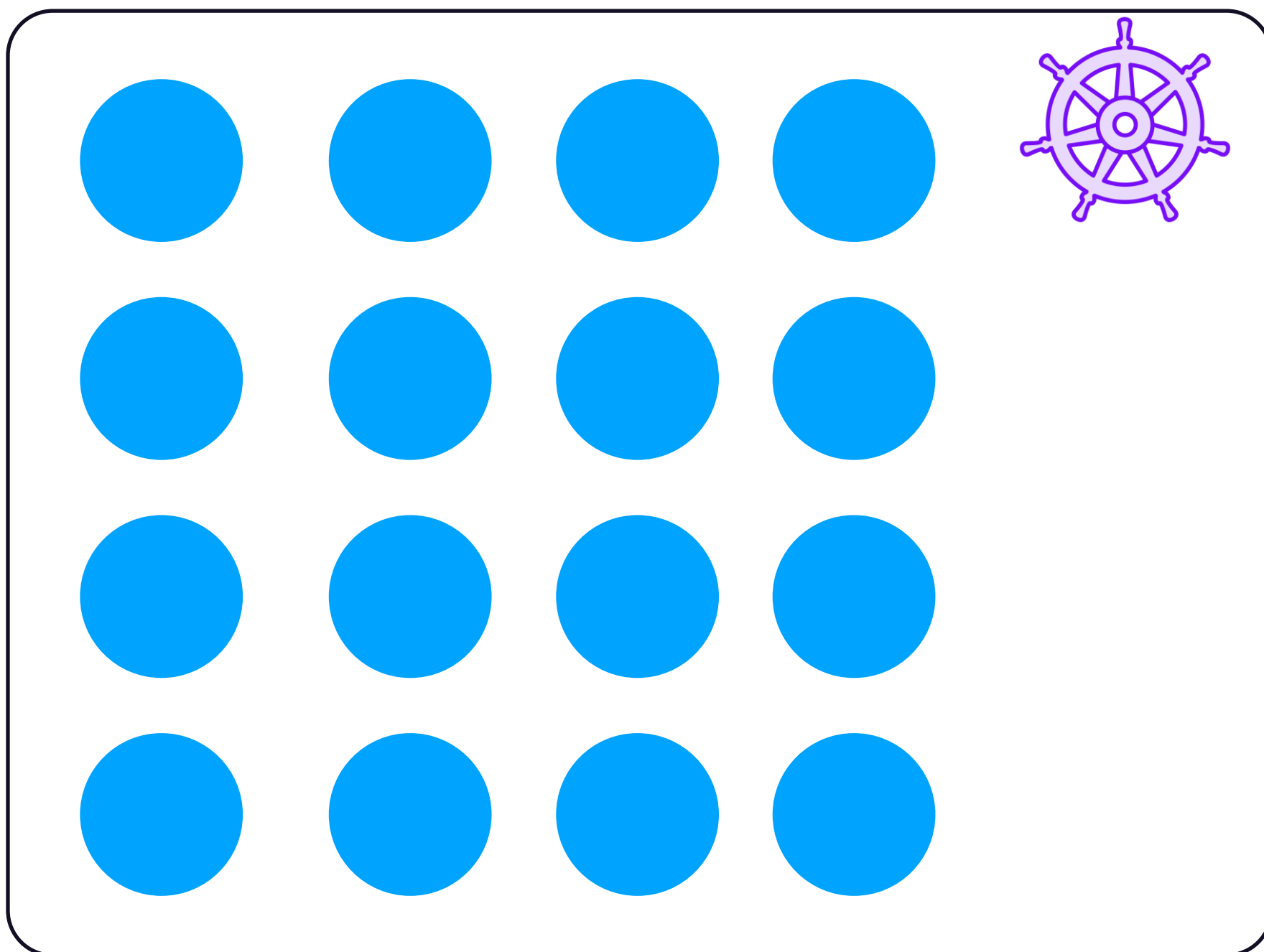
**Demo**

**Set up each deployment strategy**

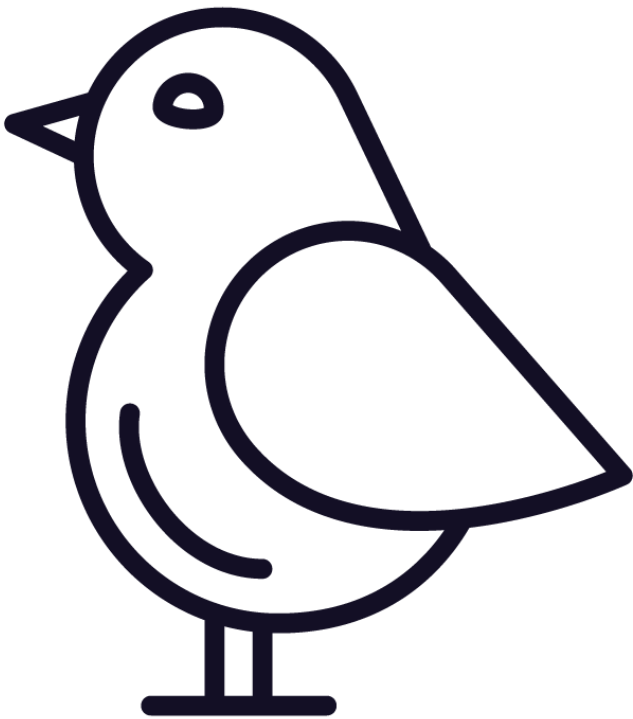




# Canary Deployment



K8s cluster



# Summary

## Set up build & deployment pipelines

### Configure:

- Jenkins stage
- Evaluate variable stage
- Deploy manifest stage

### Protect production by:

- Adding manual stage
- Using blue/green deployment



**Up Next:**

# **Operating Spinnaker**

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