

Creating Our First Project



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INDEPENDENT

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Overview

Anatomy of a Jenkins X project

Creating a quickstart project

How our project is built and deployed

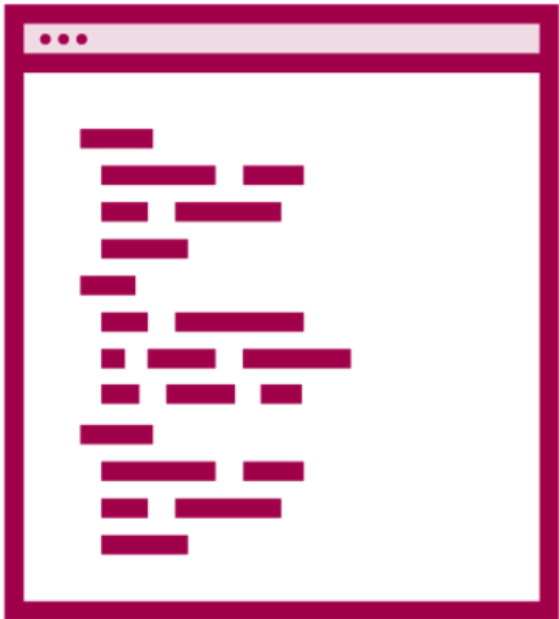
Importing an existing project



Anatomy of a Jenkins X Project



Key Project Components

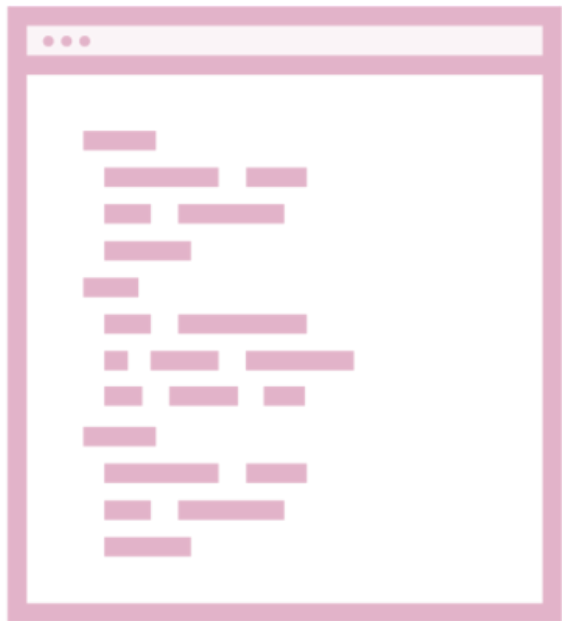


Project source

Application source
code



Key Project Components



Project source

Application source
code



Docker file

All services stored
in Docker images



Docker Overview



Docker is a container platform

What is a container?

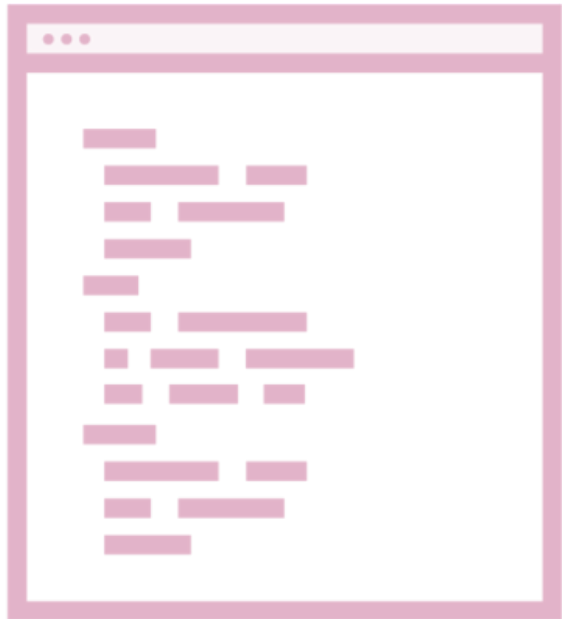
- Portable standardized unit of software
- Contains a whole runtime environment
- Lightweight alternative to a VM

Kubernetes is a container orchestrator

Check out a Docker Pluralsight course!



Key Project Components



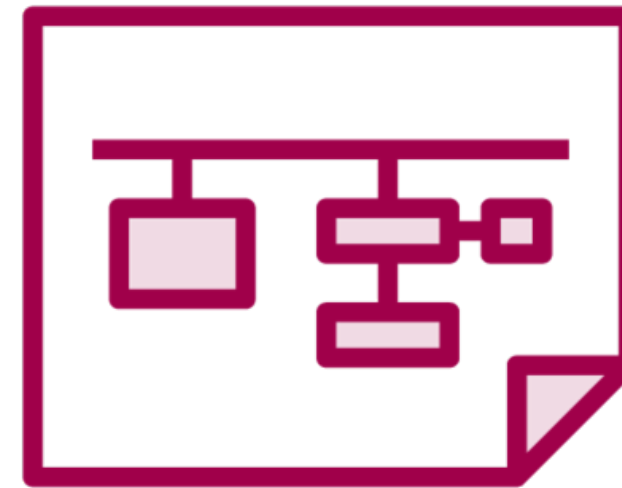
Project source

Application source
code



Docker file

All services stored
in Docker images

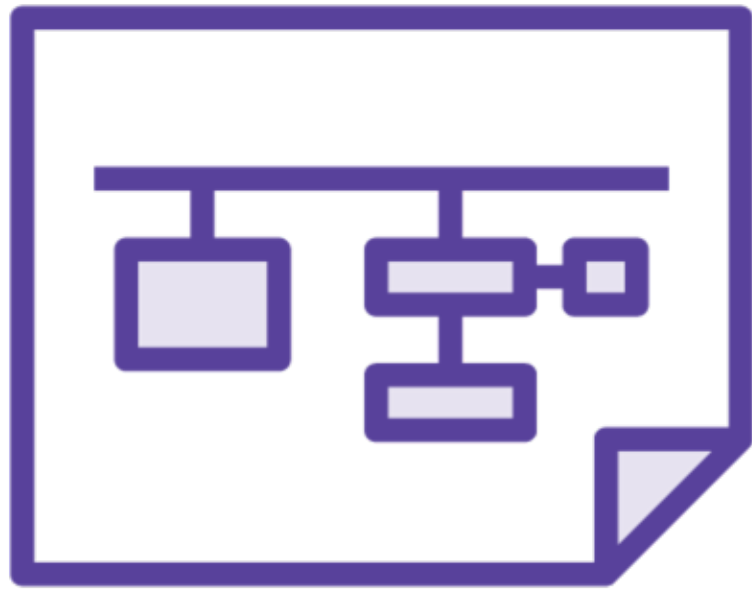


Helm chart

All Docker images
wrapped in Helm
packages



Helm Overview



Kubernetes package manager

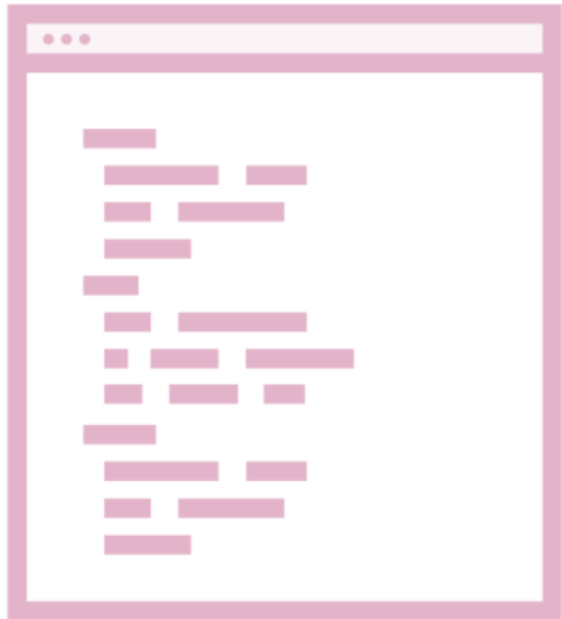
Deploys charts

- Collection of Kubernetes resources
- Templating
- Centralized package repository

Check out a Helm Pluralsight course!



Key Project Components



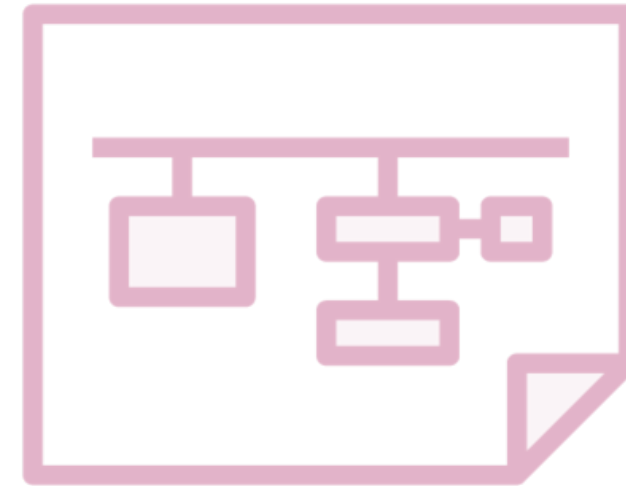
Project source

Application source
code



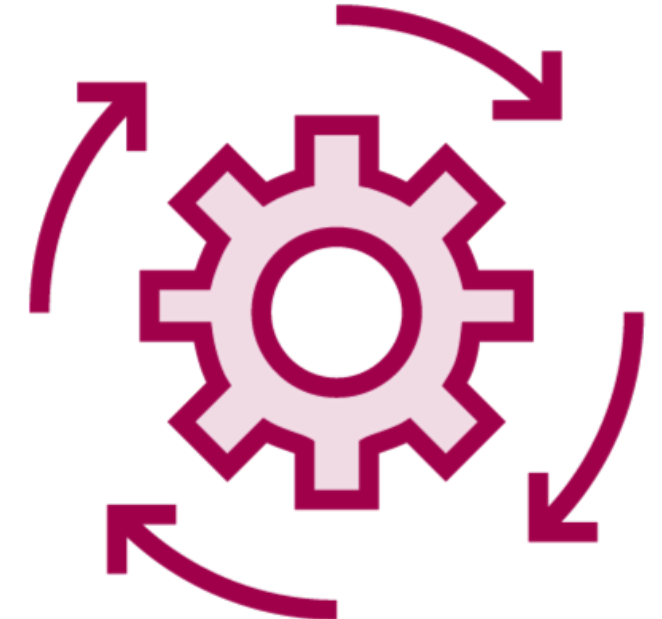
Docker file

All services stored
in Docker images



Helm chart

All Docker images
wrapped in Helm
packages

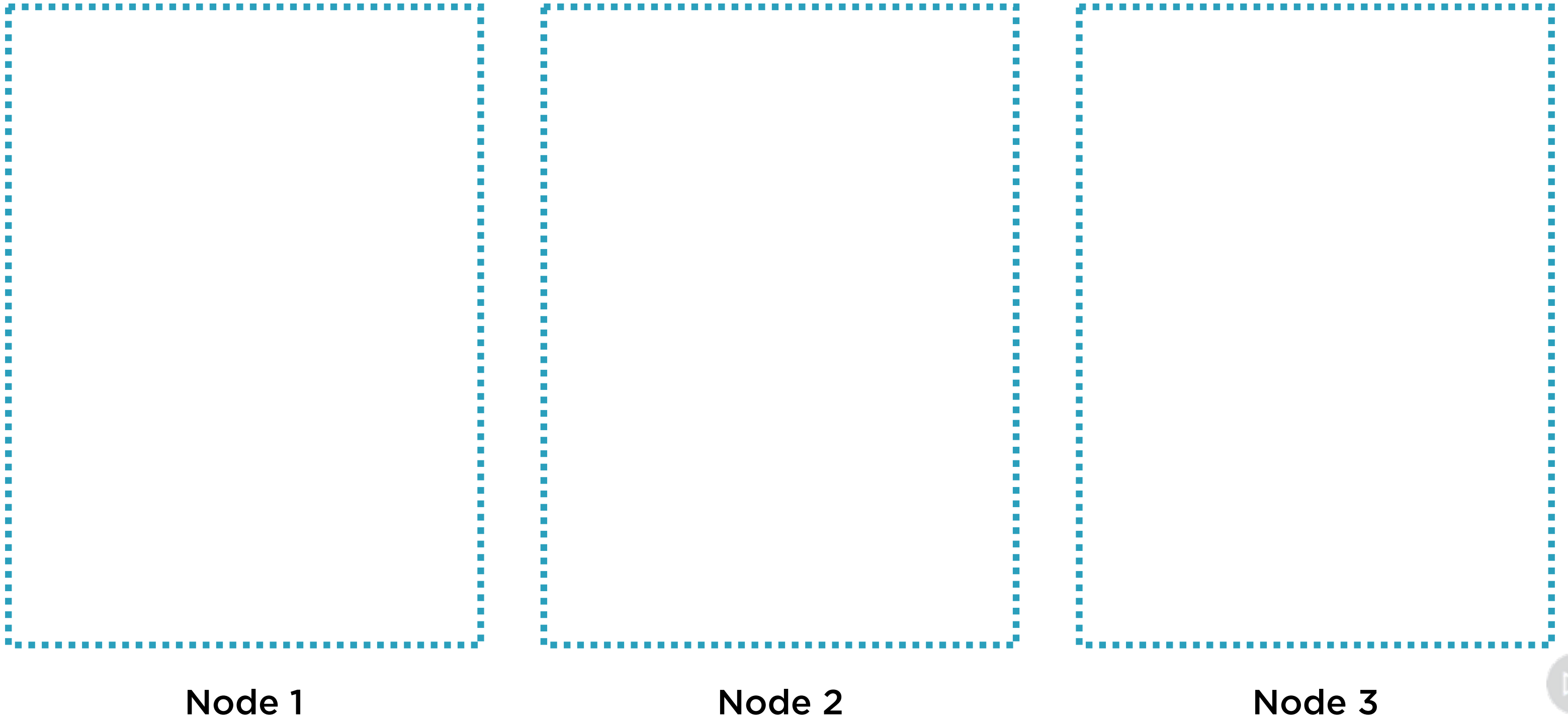


Jenkins X file

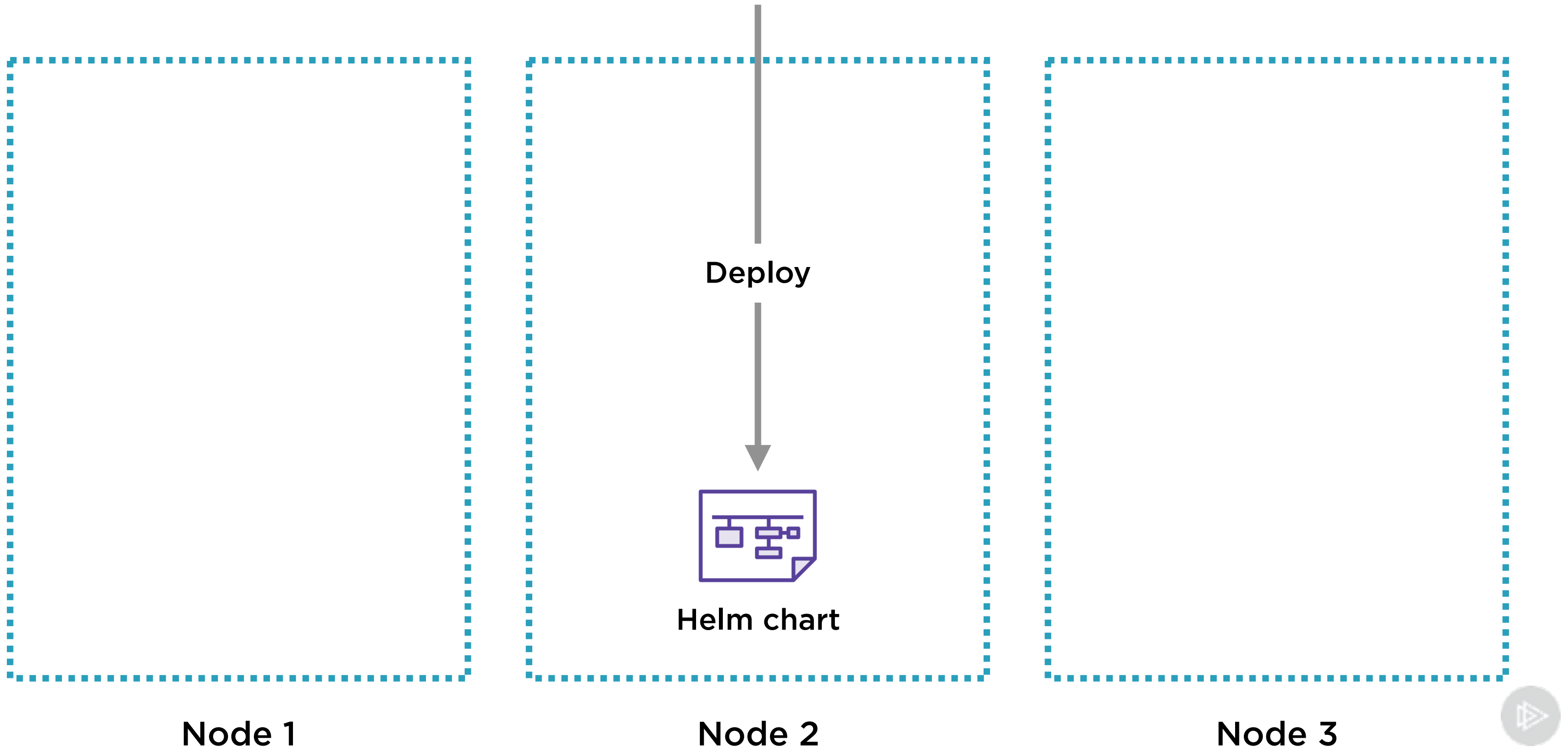
**Defines the build
pipeline**



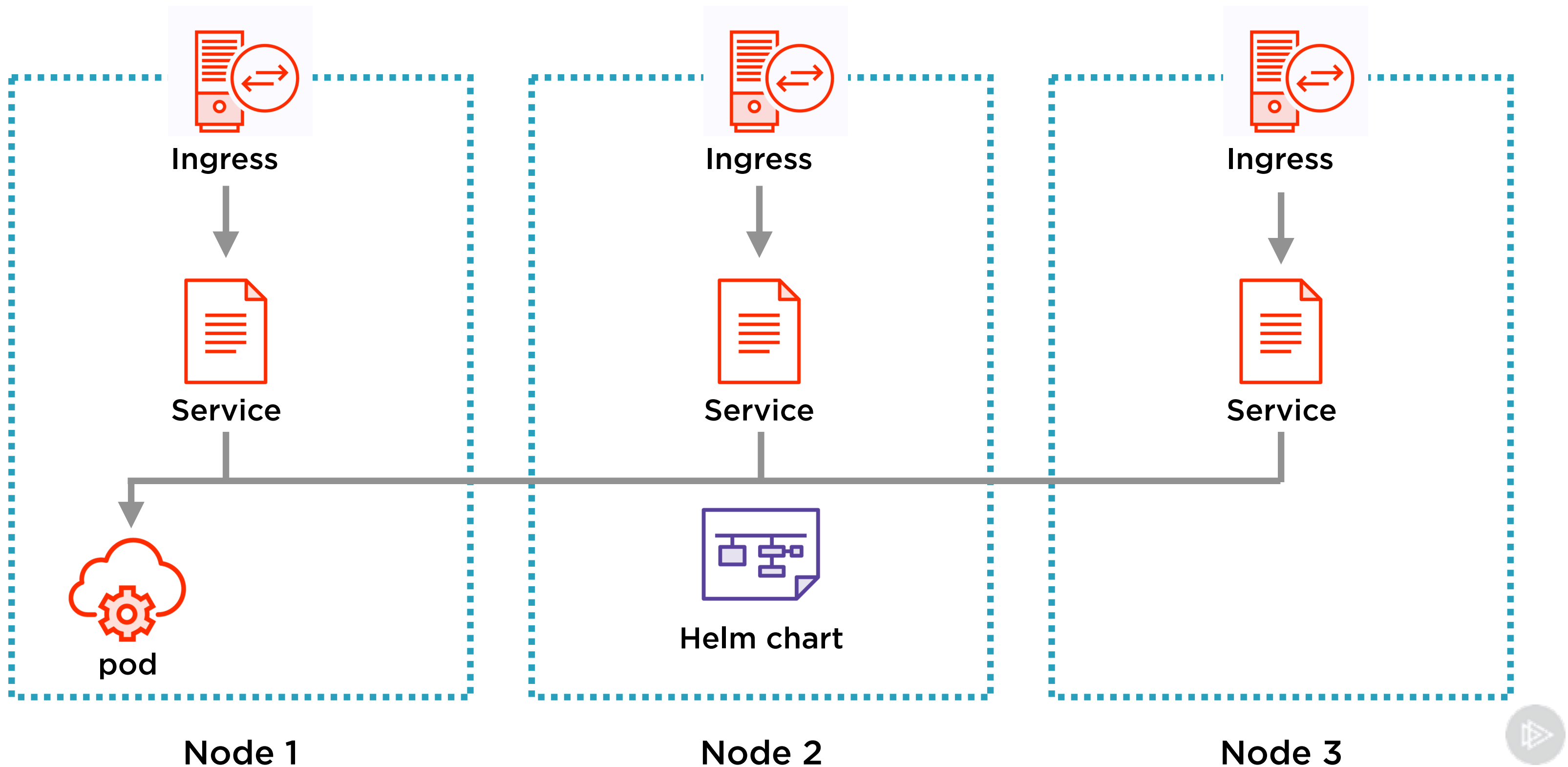
Deploying to Kubernetes



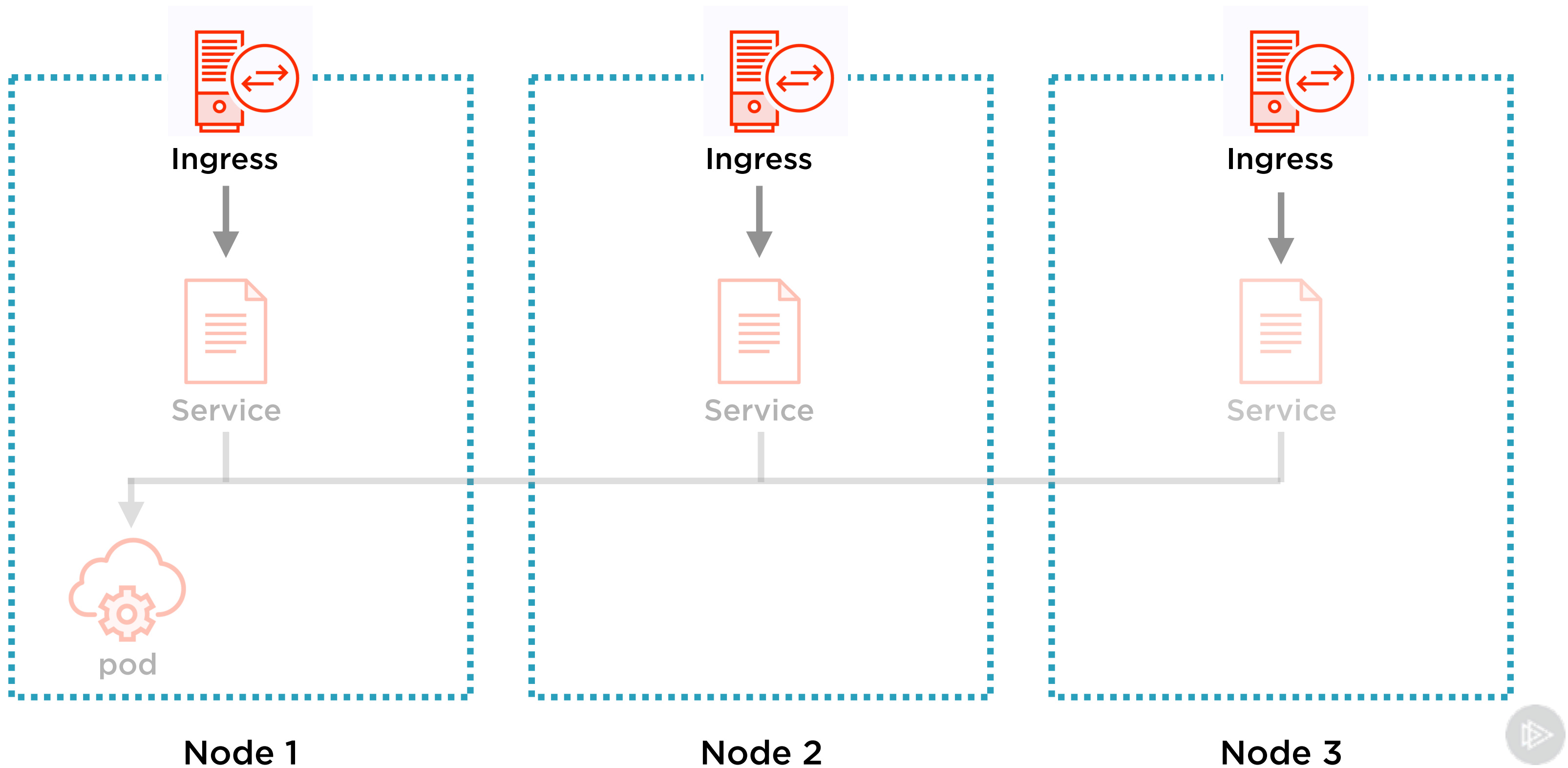
Deploying to Kubernetes



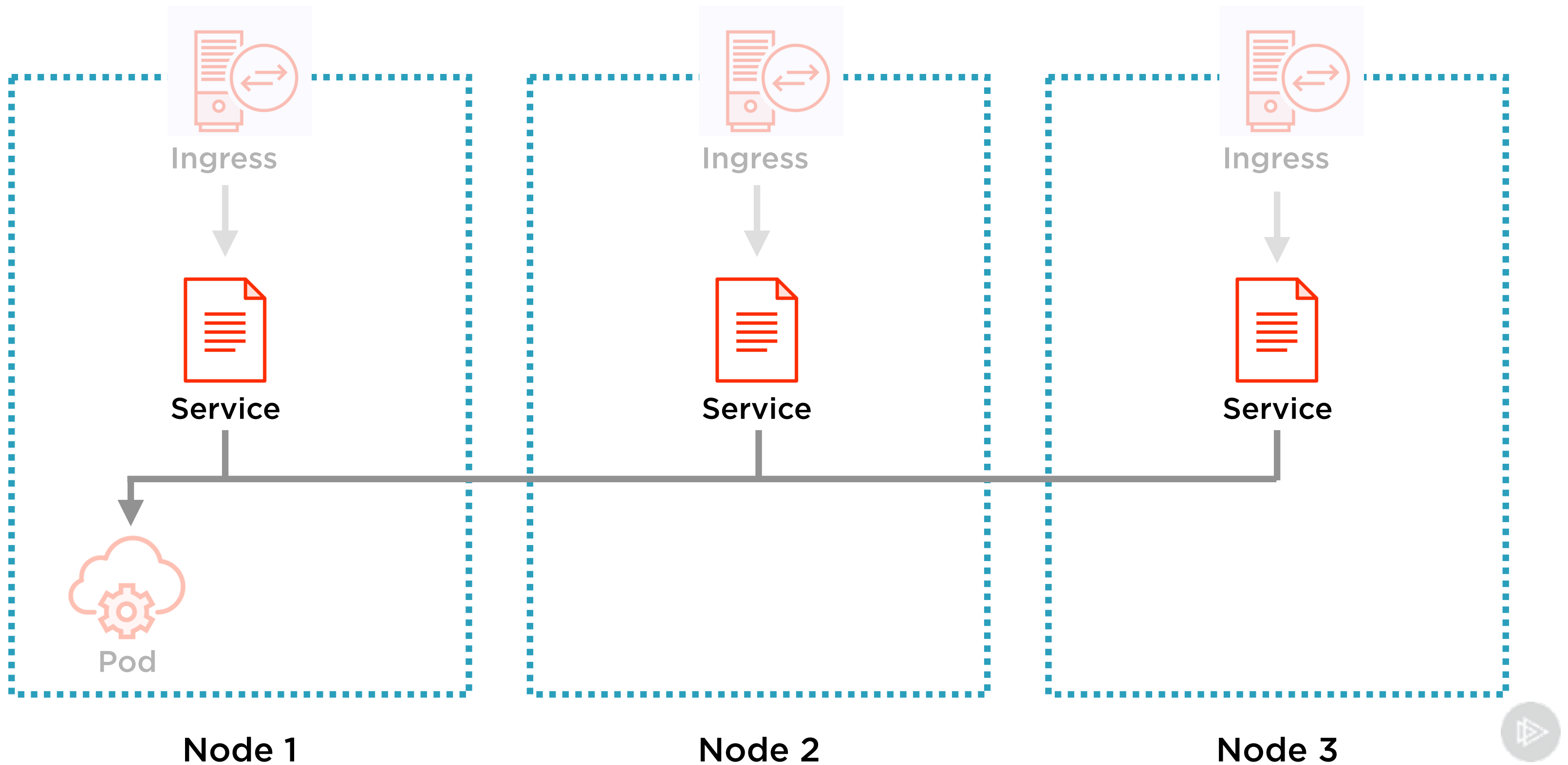
Deploying to Kubernetes



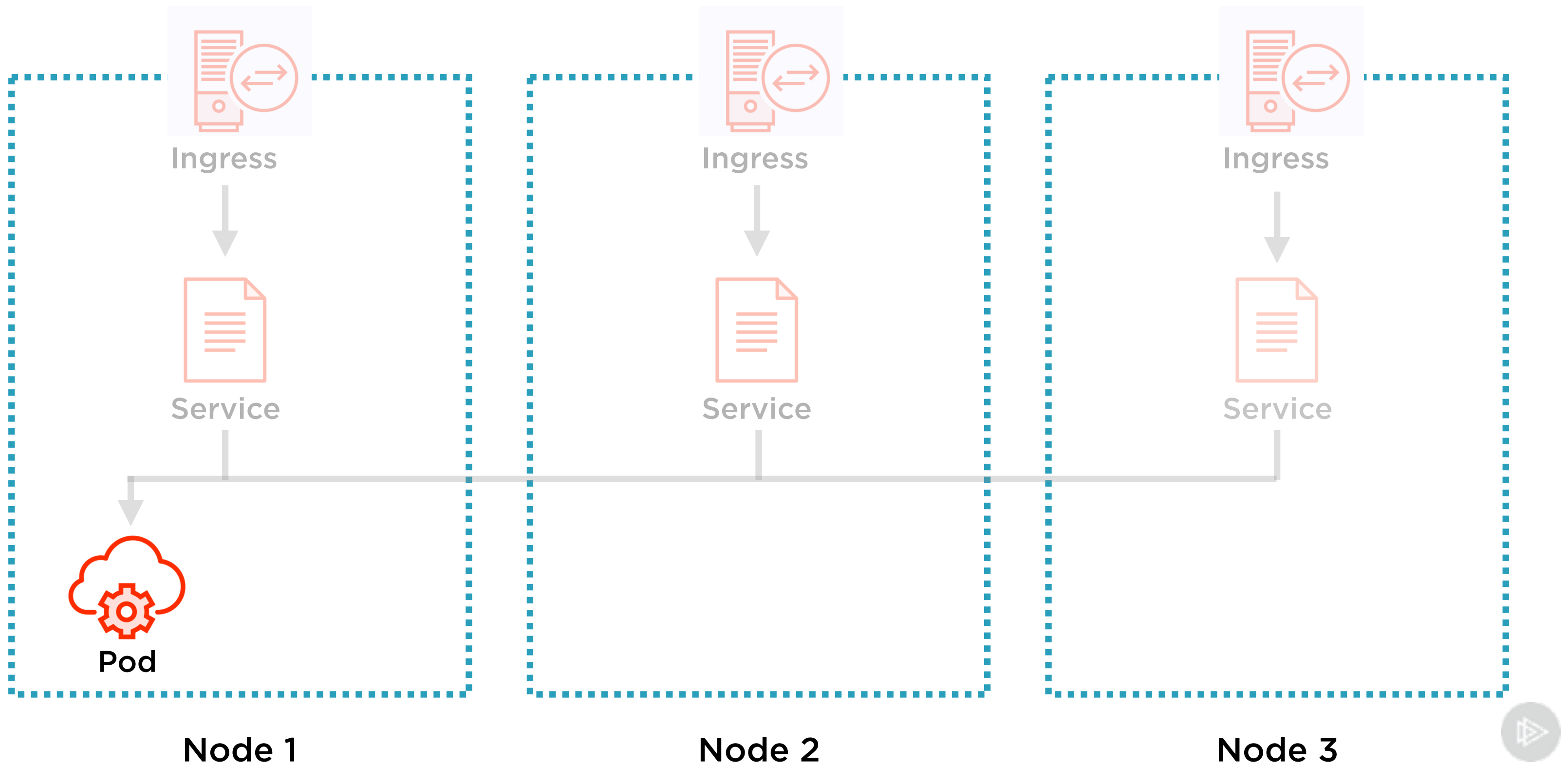
Deploying to Kubernetes



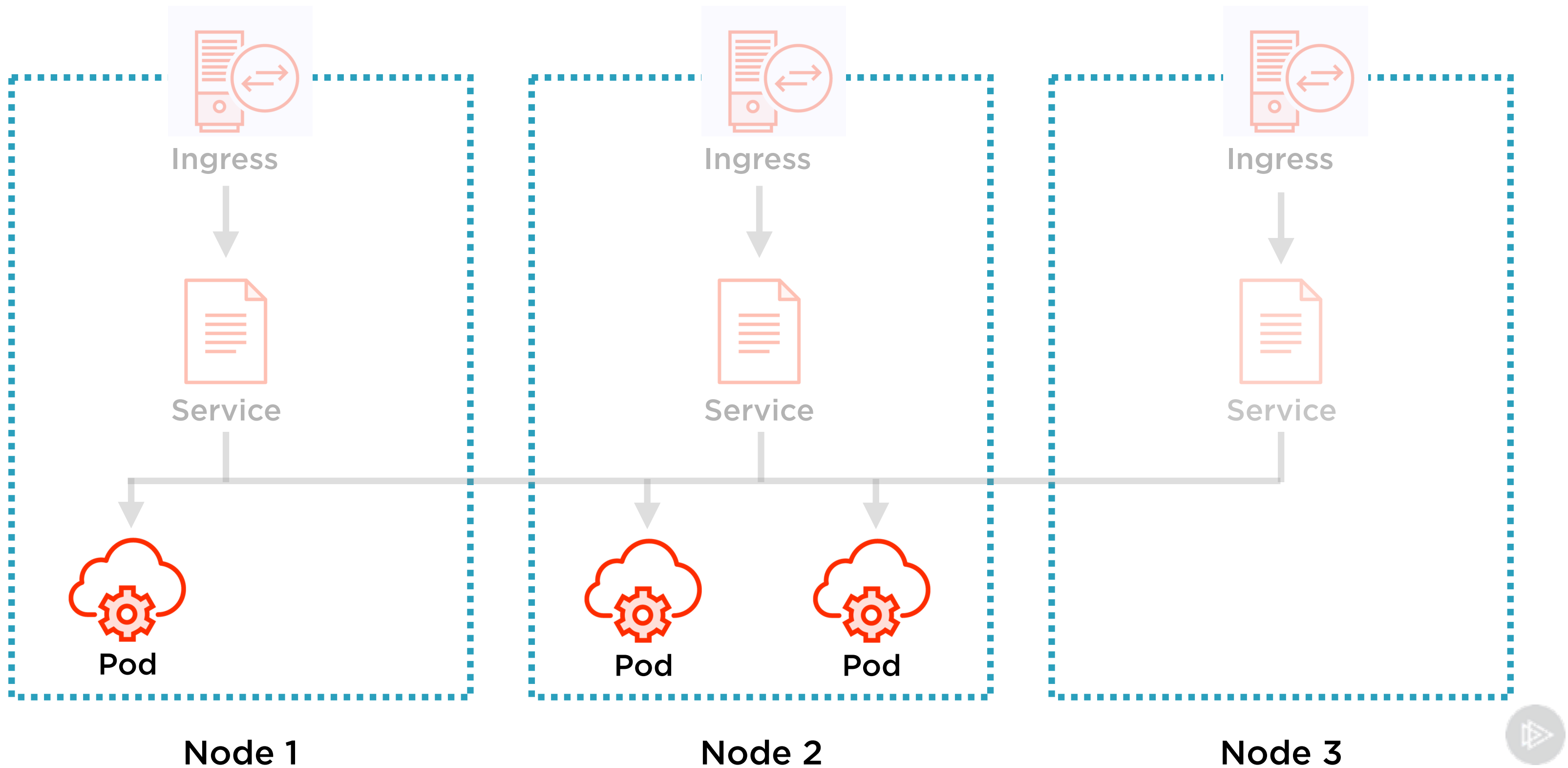
Deploying to Kubernetes



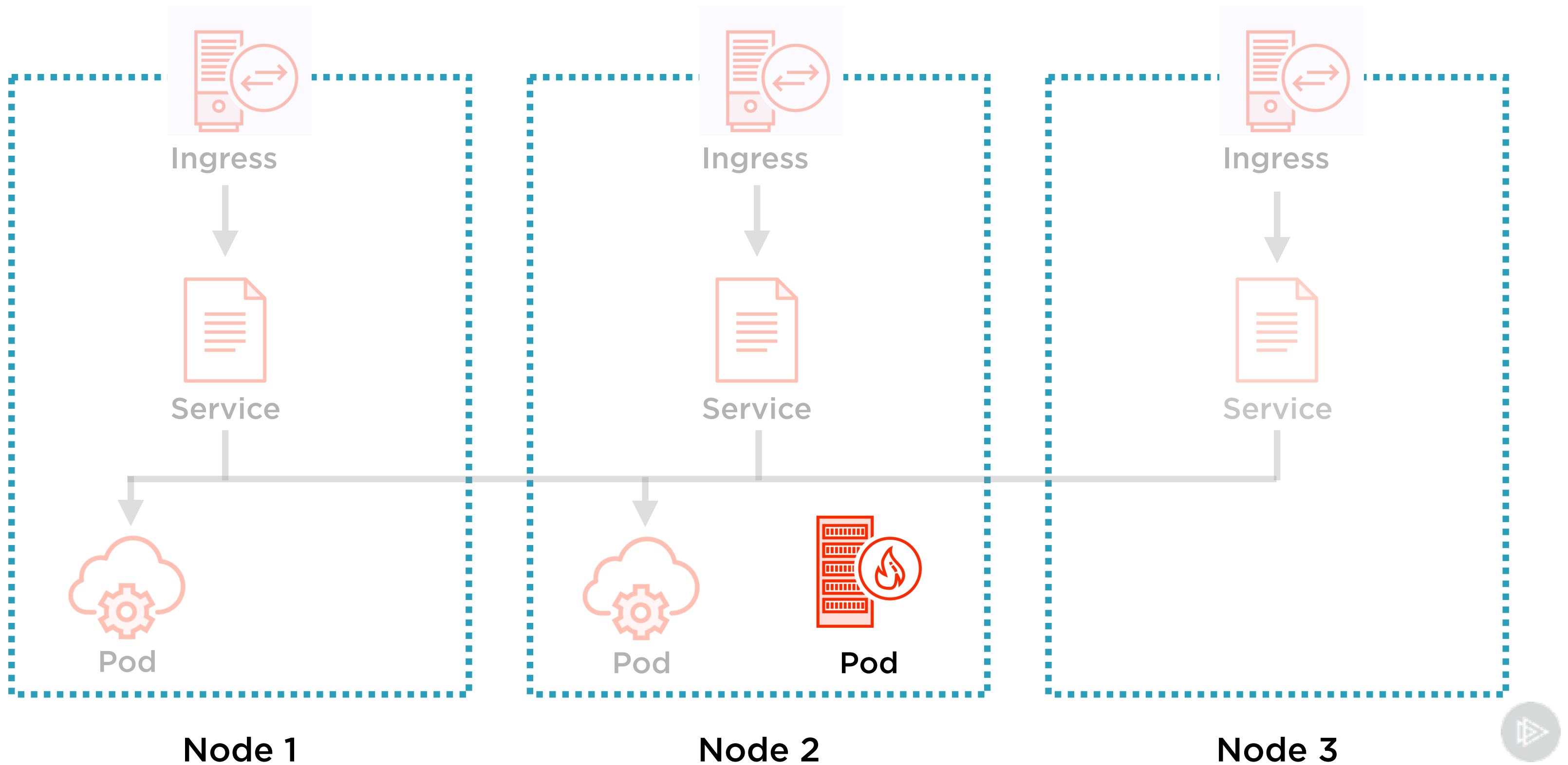
Deploying to Kubernetes



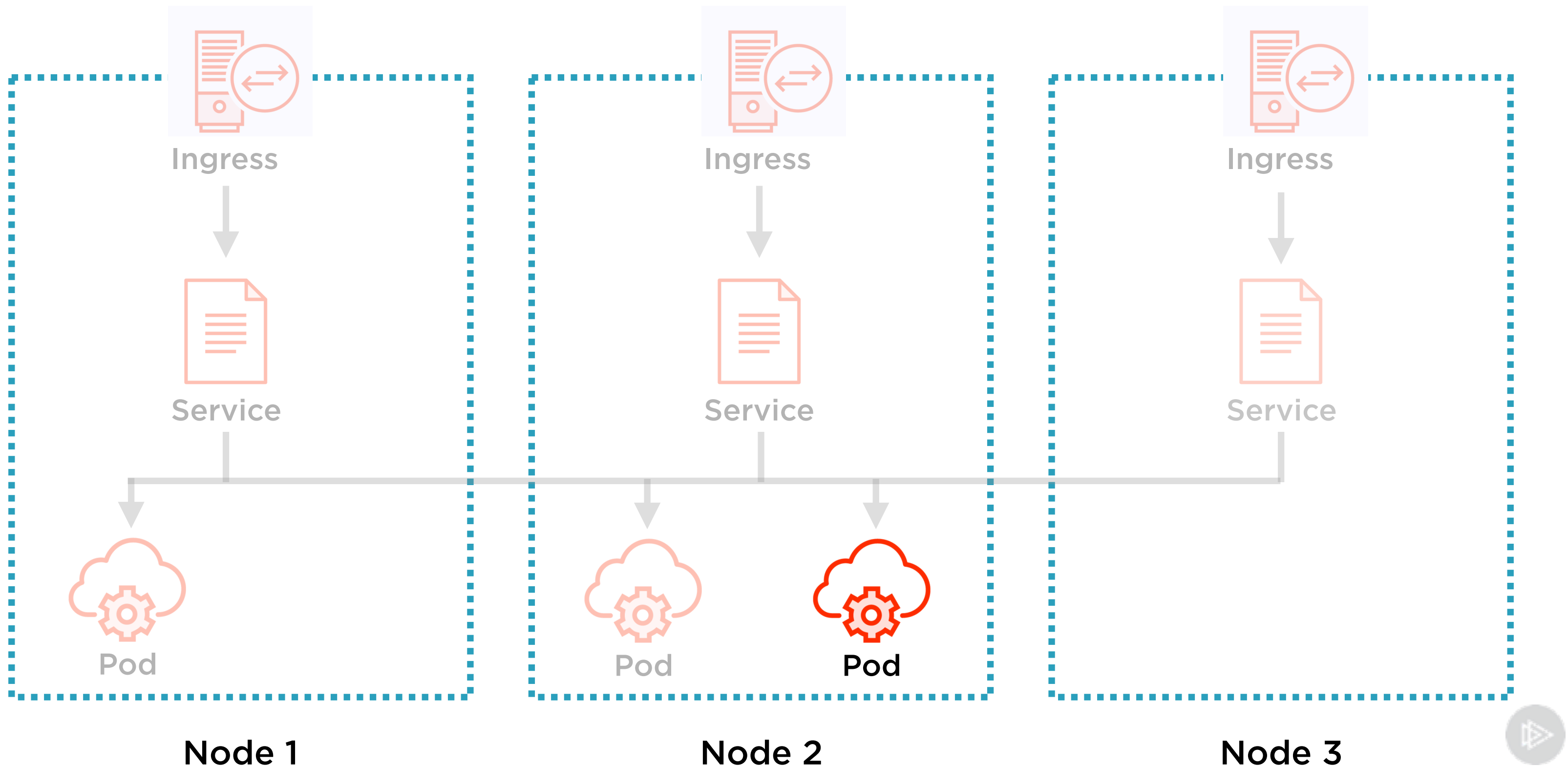
Deploying to Kubernetes



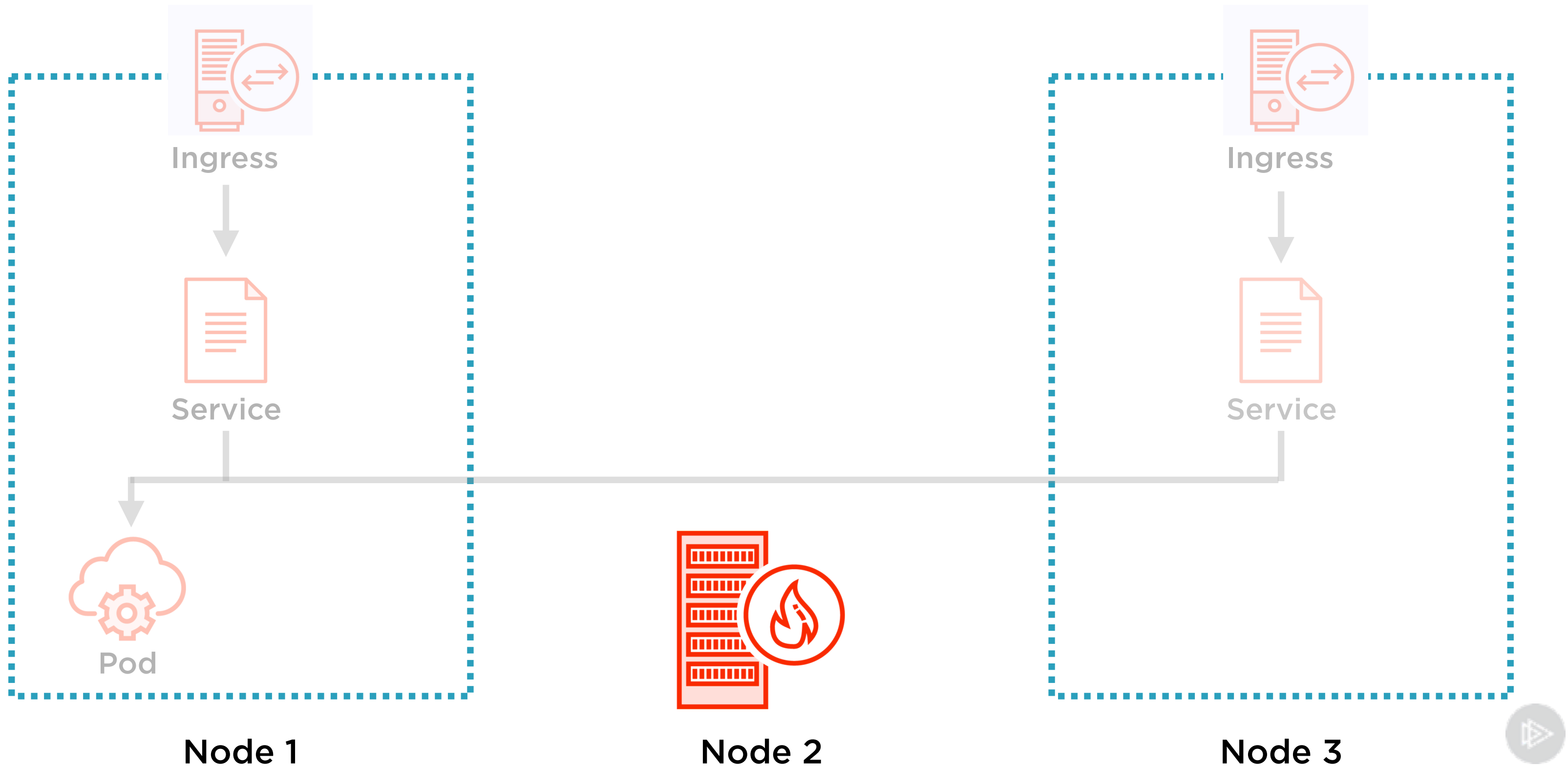
Deploying to Kubernetes



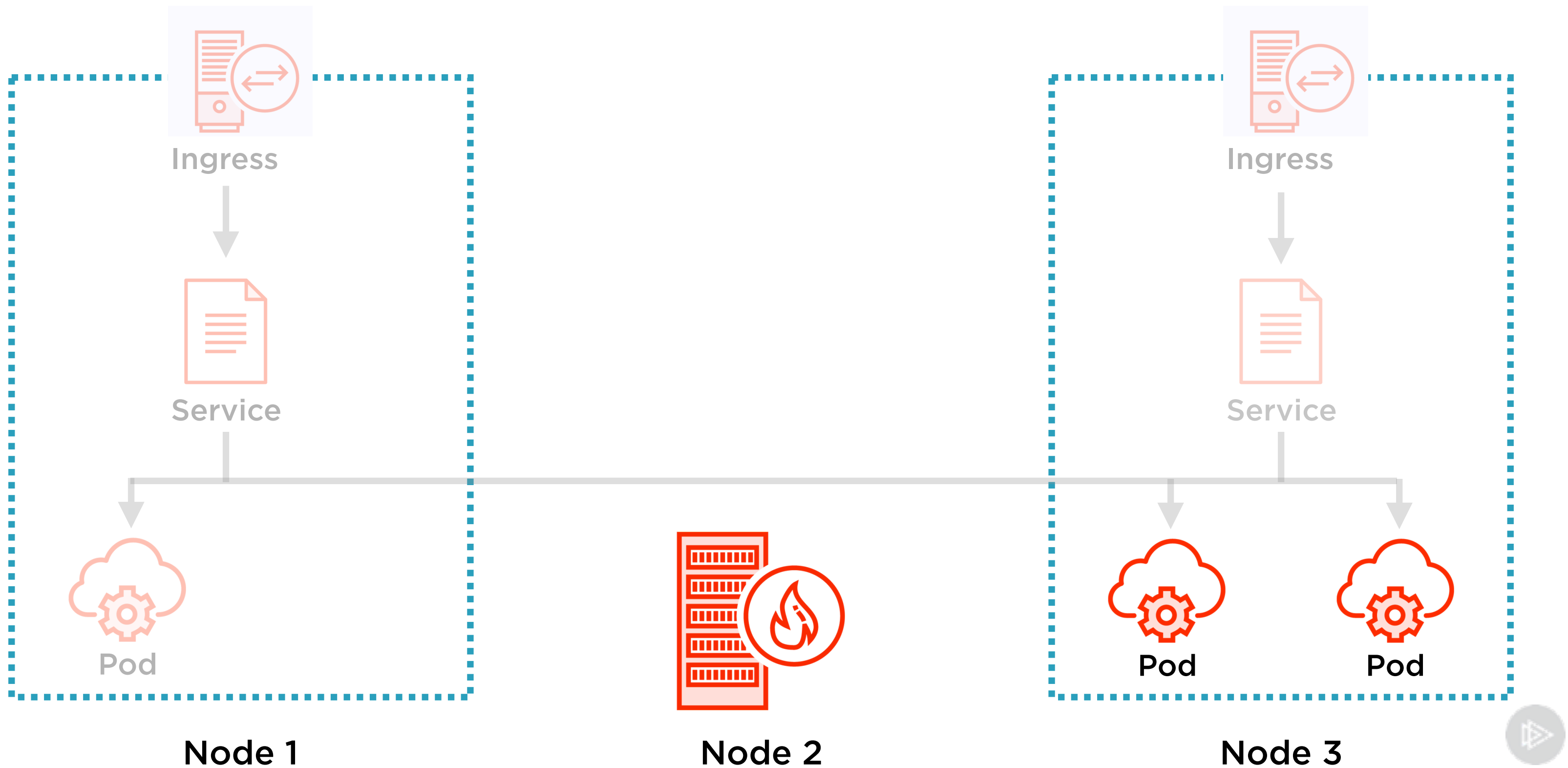
Deploying to Kubernetes



Deploying to Kubernetes



Deploying to Kubernetes



Advantages of Kubernetes Deployment Architecture

**Networking and load balancing
out of the box**



Advantages of Kubernetes Deployment Architecture

**Networking and load balancing
out of the box**

Self-healing



Advantages of Kubernetes Deployment Architecture

**Networking and load balancing
out of the box**

Self-healing

Scalable



Advantages of Kubernetes Deployment Architecture

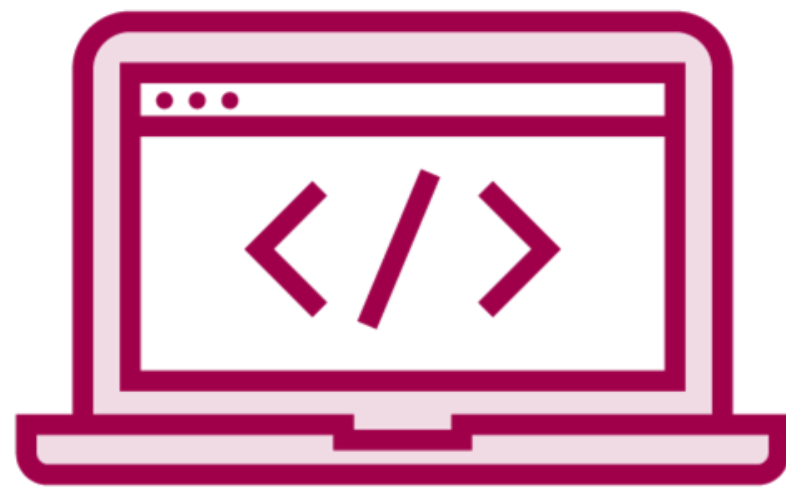
**Networking and load balancing
out of the box**

Self-healing

Scalable

Cloud-native





jx create quickstart

Automatically generated Jenkins X projects

Implementations for multiple languages

Buildable and deployable by default



Demo

Creating a quickstart project

Analysis of project structure

Using jx to view our pipelines

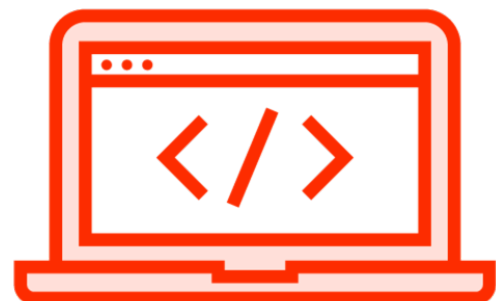
Visiting our deployed service



How Our Project Is Built

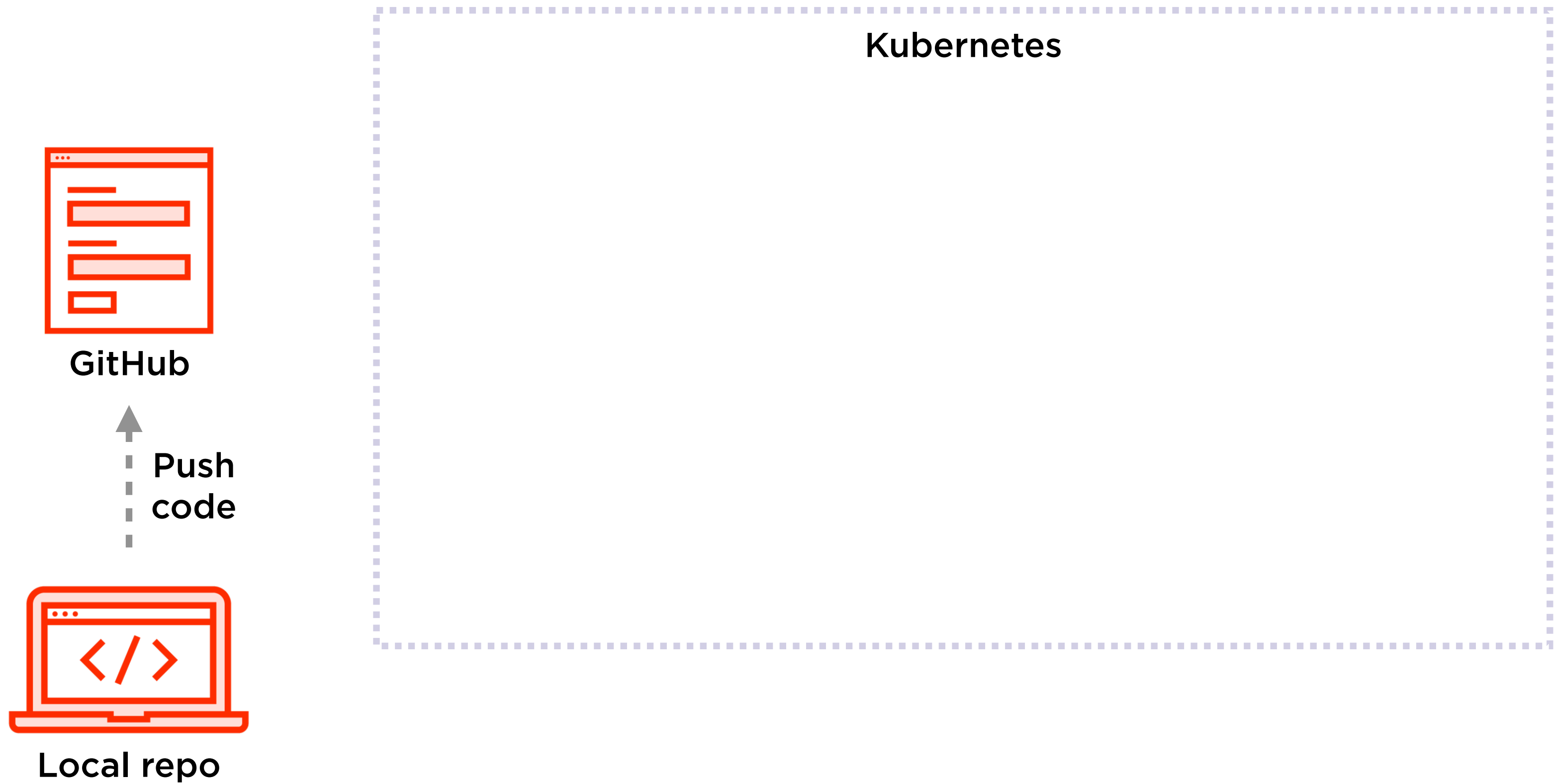


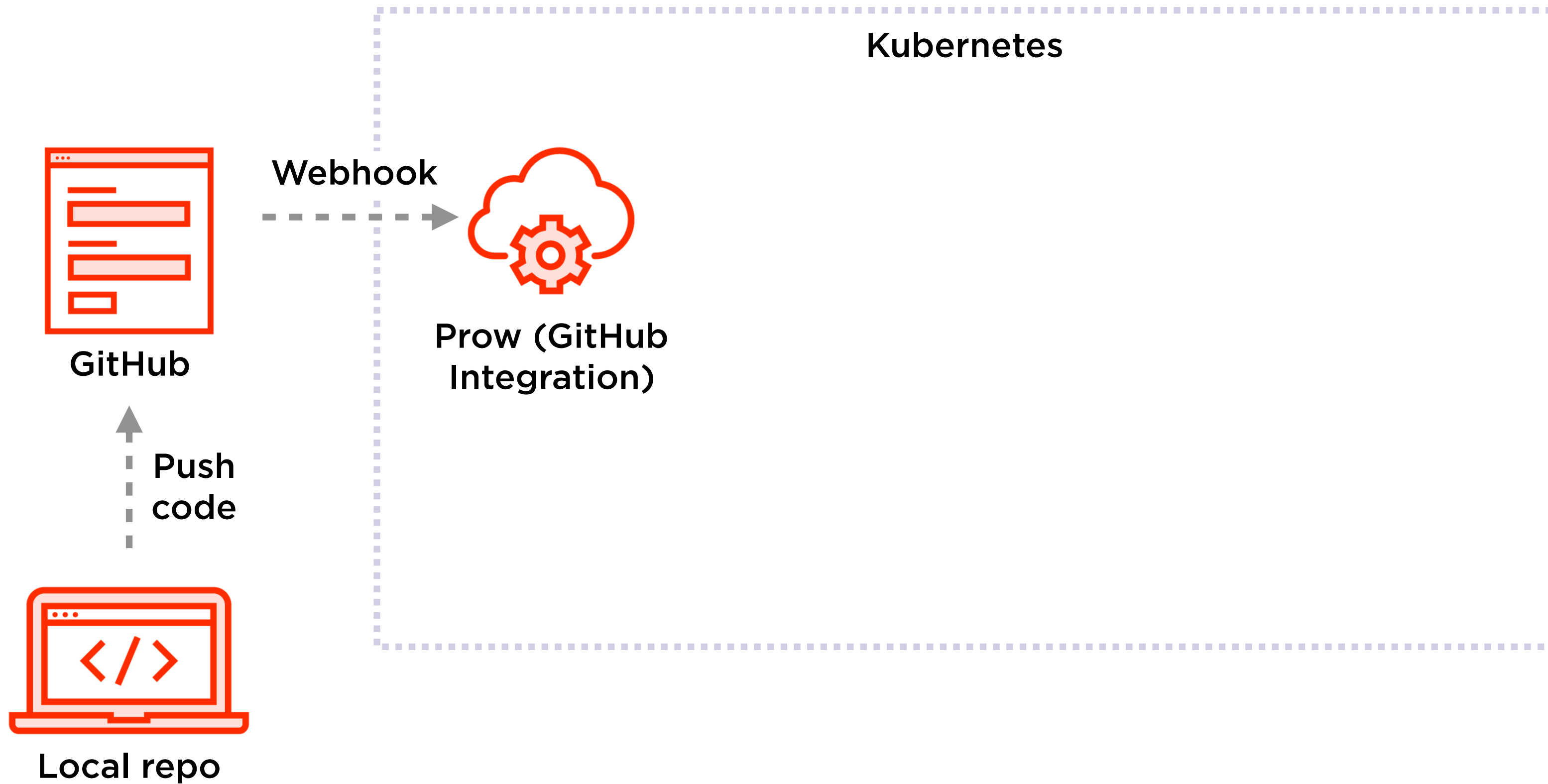
Kubernetes

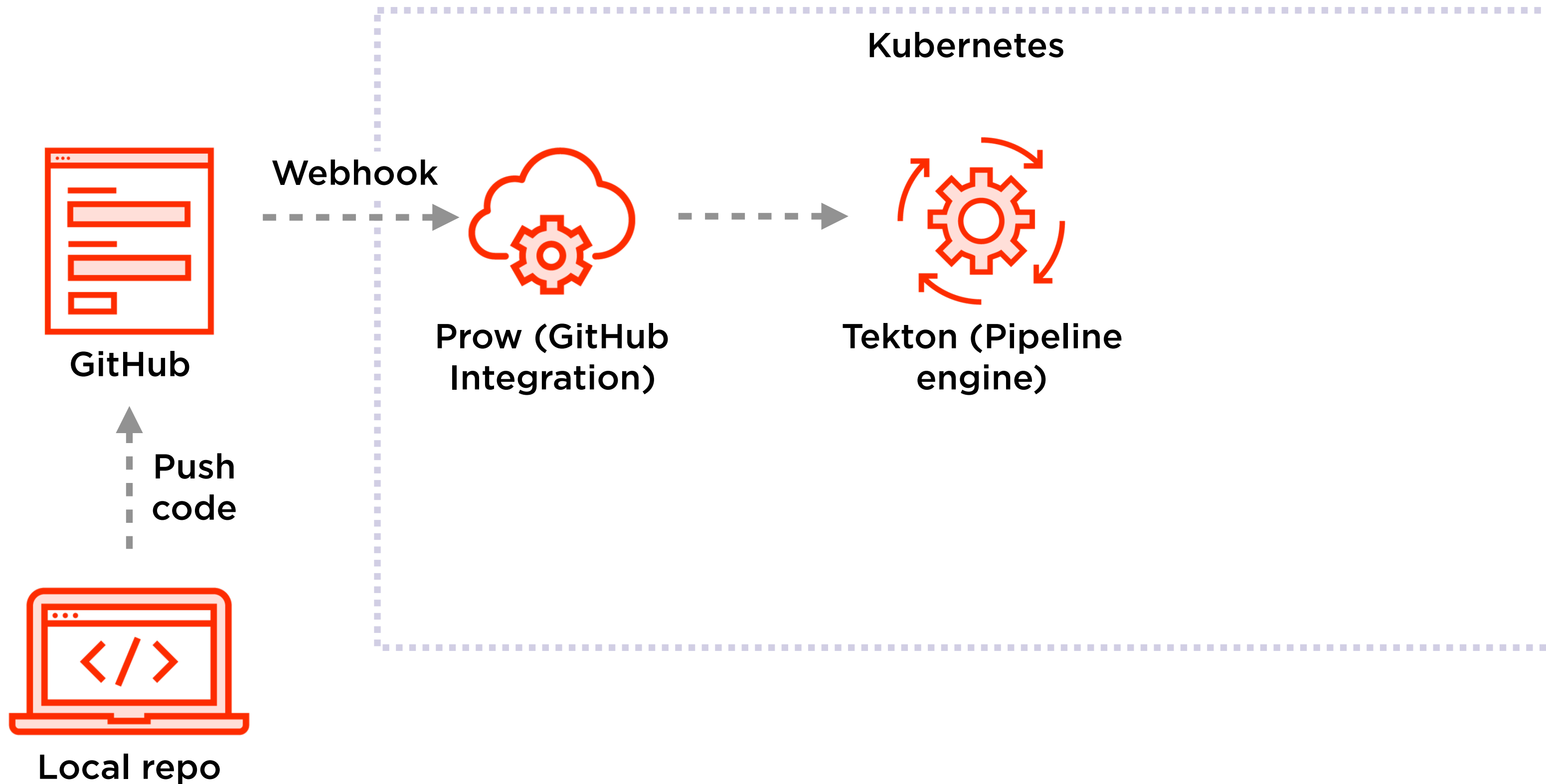


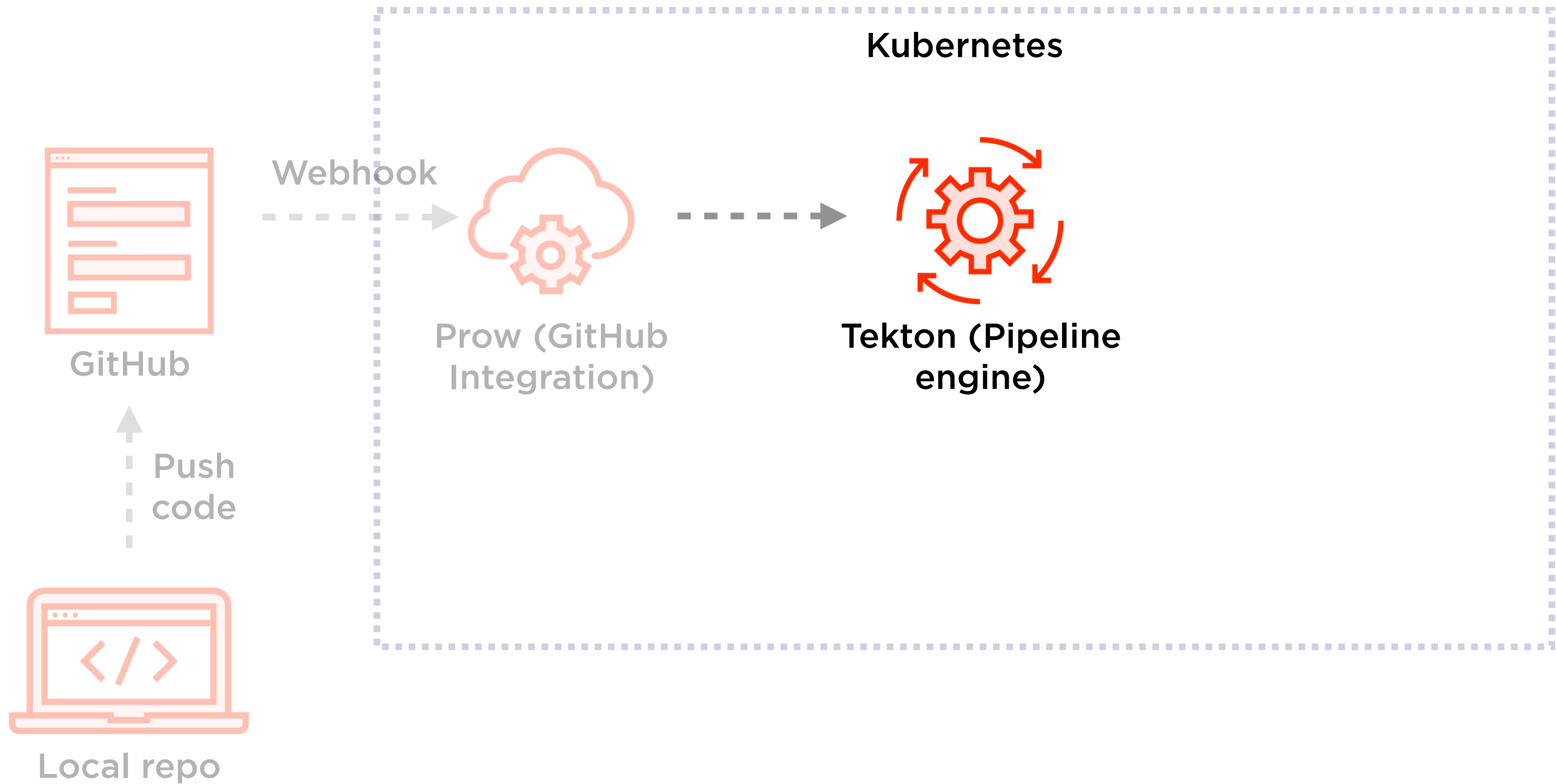
Local repo











High-level Pipeline Steps

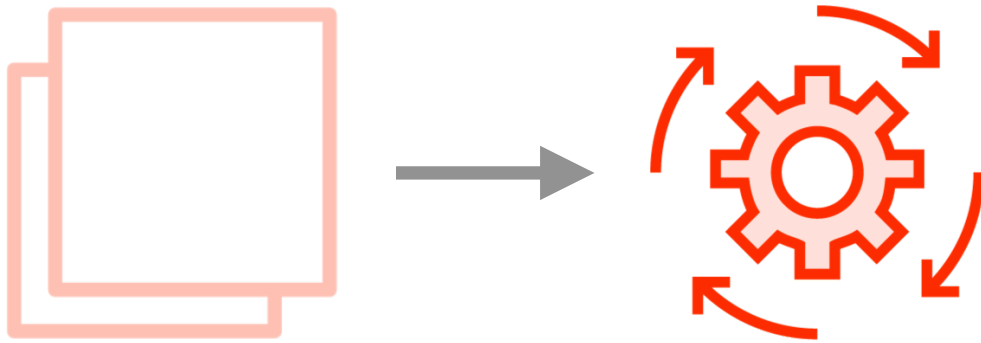
Clone



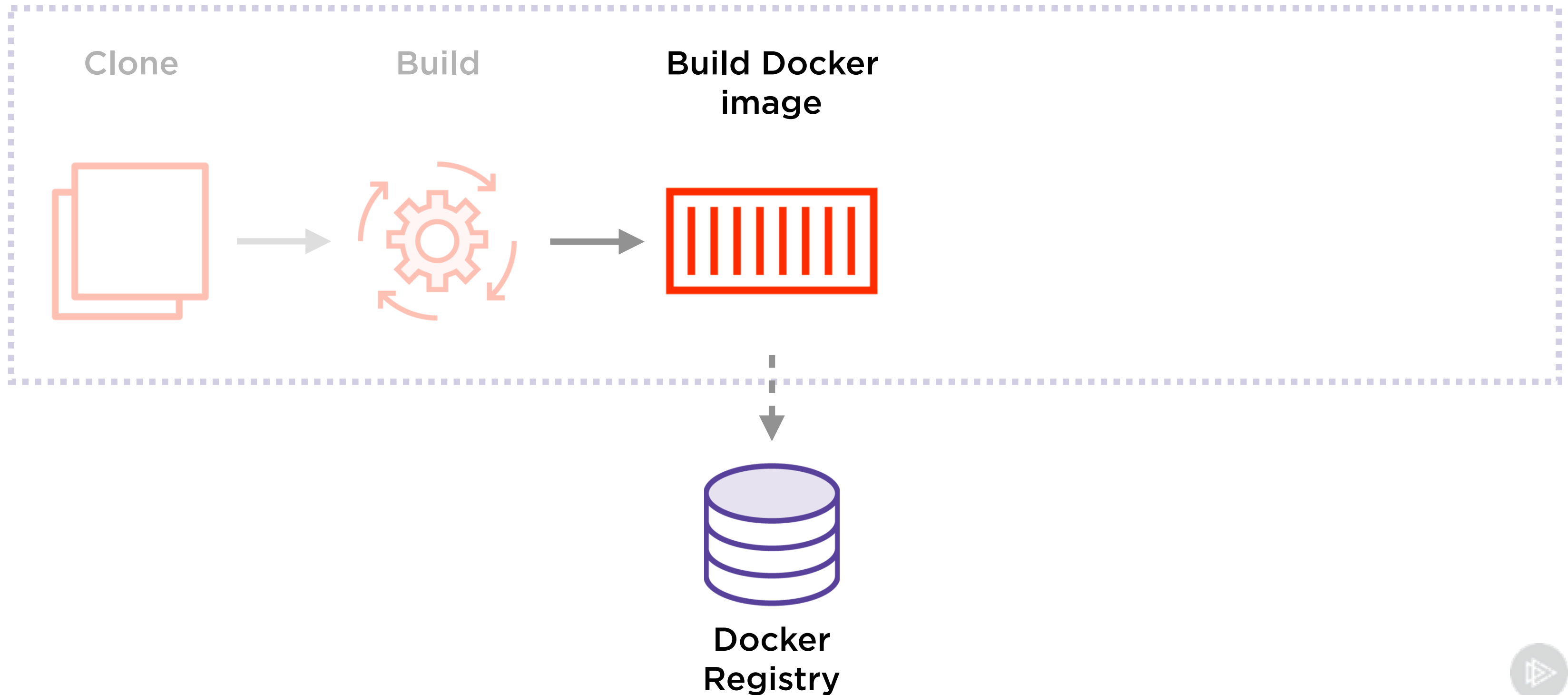
High-level Pipeline Steps

Clone

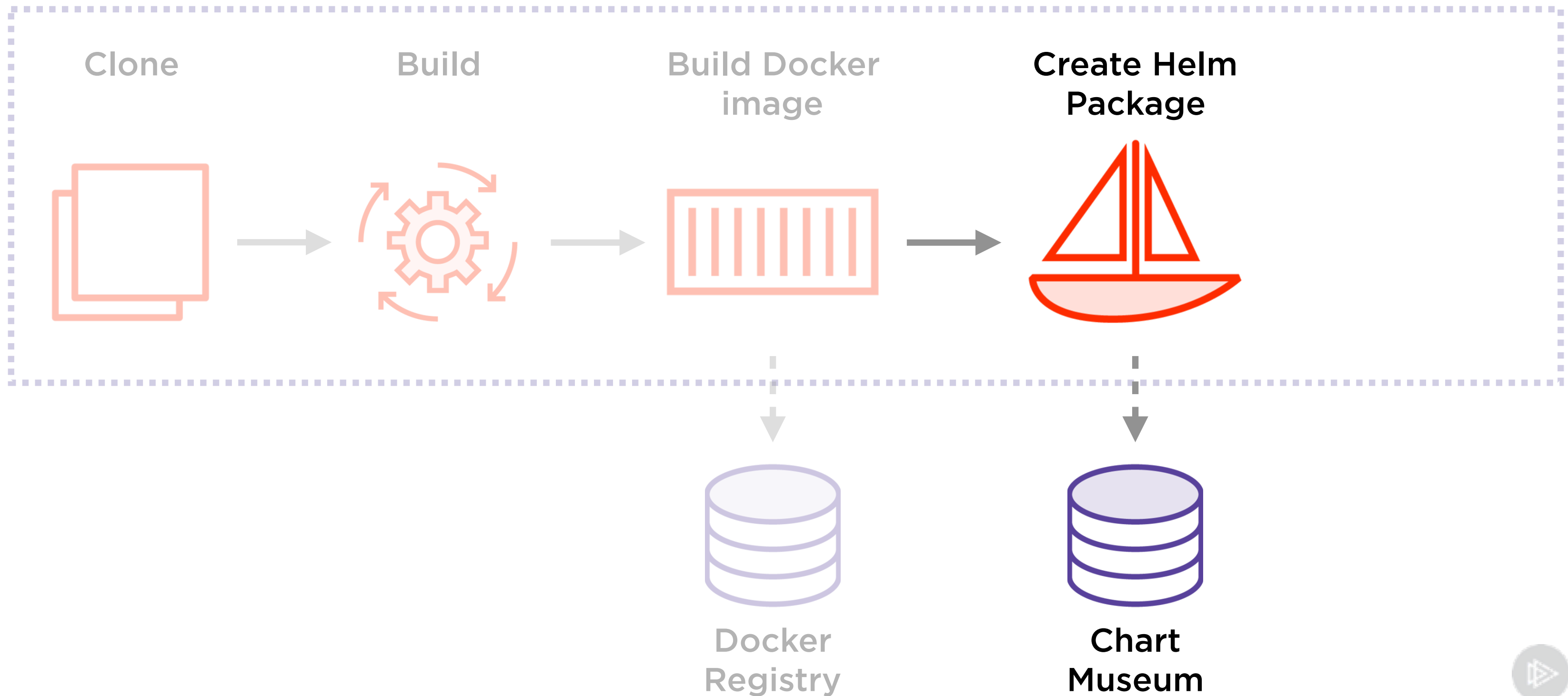
Build



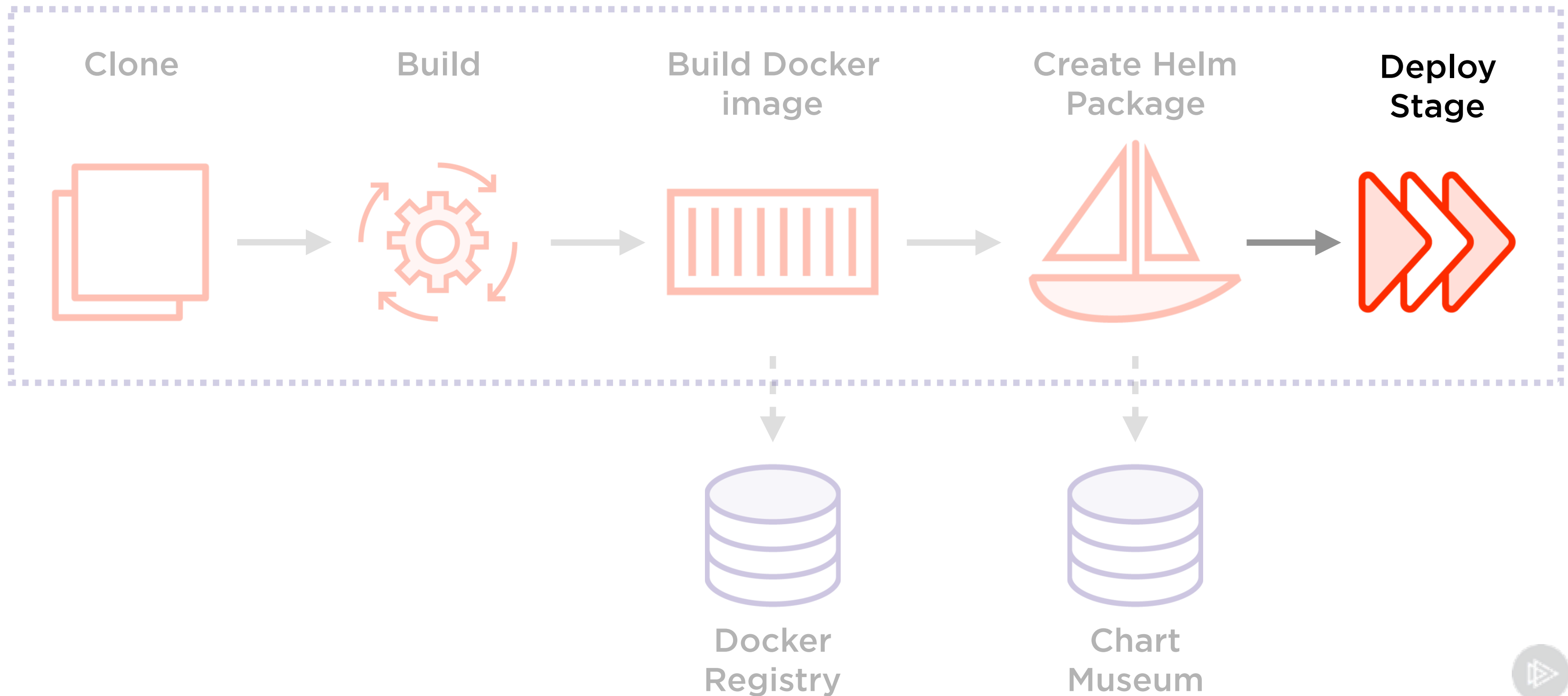
High-level Pipeline Steps

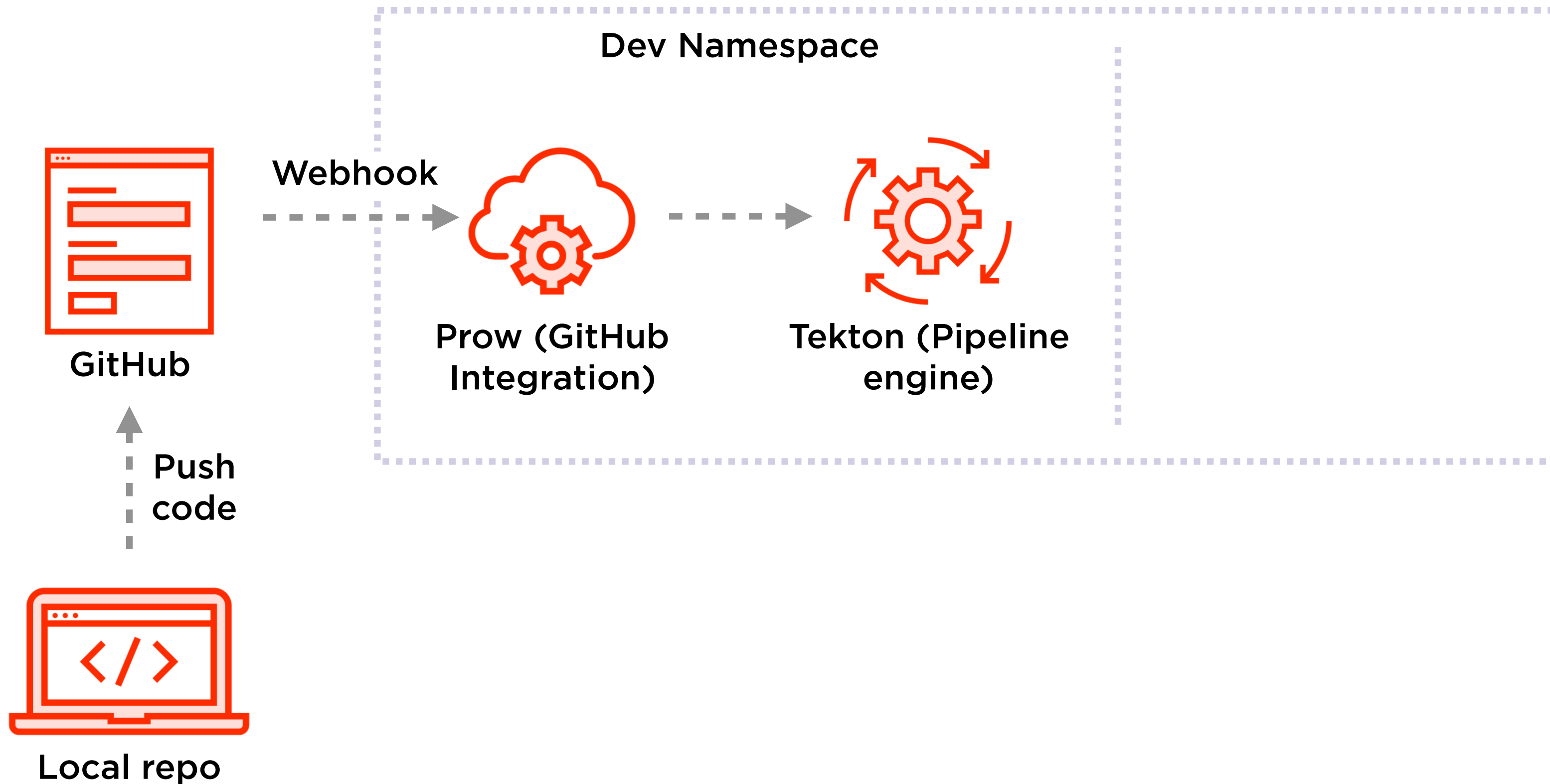


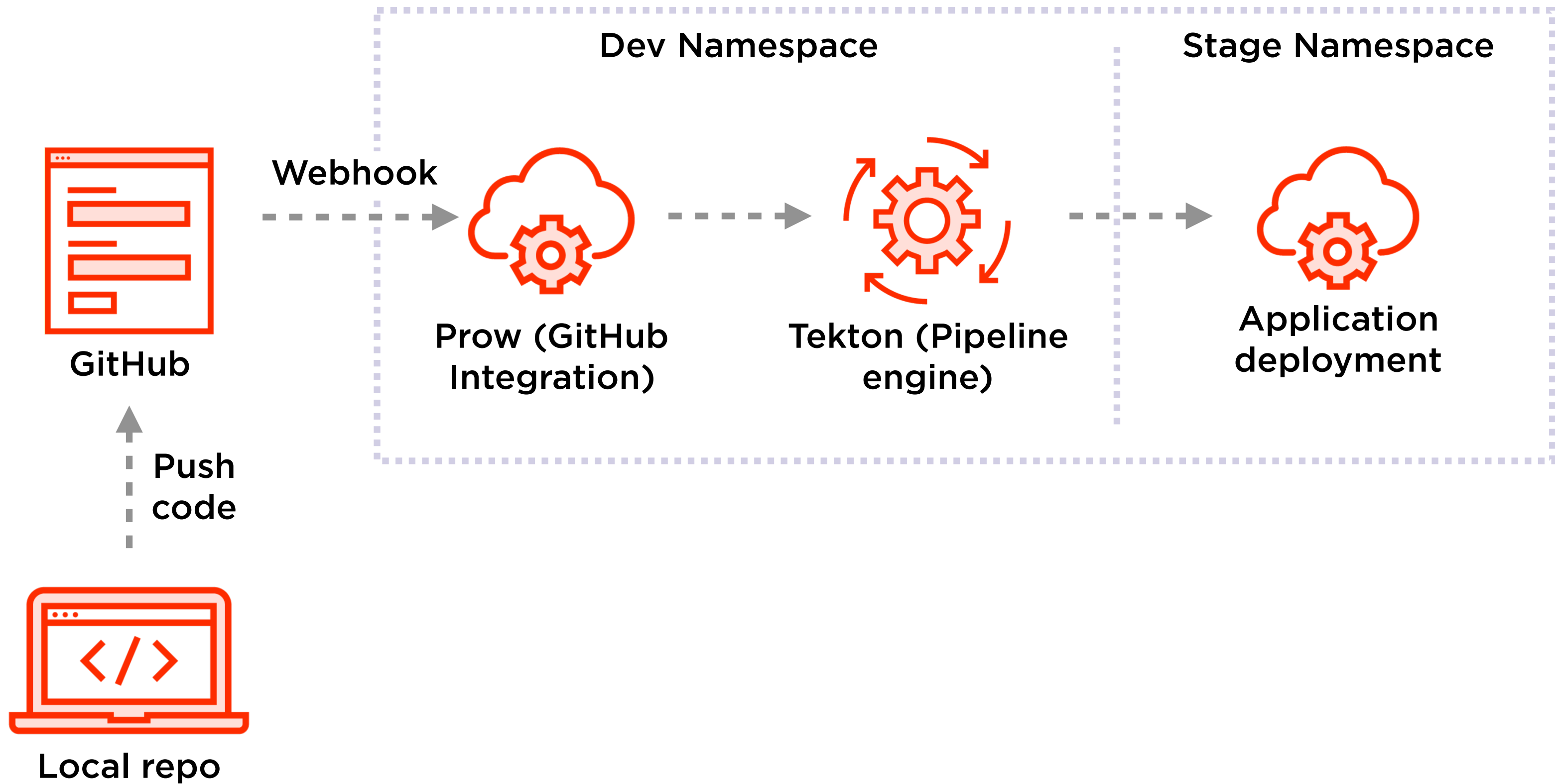
High-level Pipeline Steps



High-level Pipeline Steps







How Our Deployed Application Serves Traffic





app.172.217.17.110.nip.io





nip.io



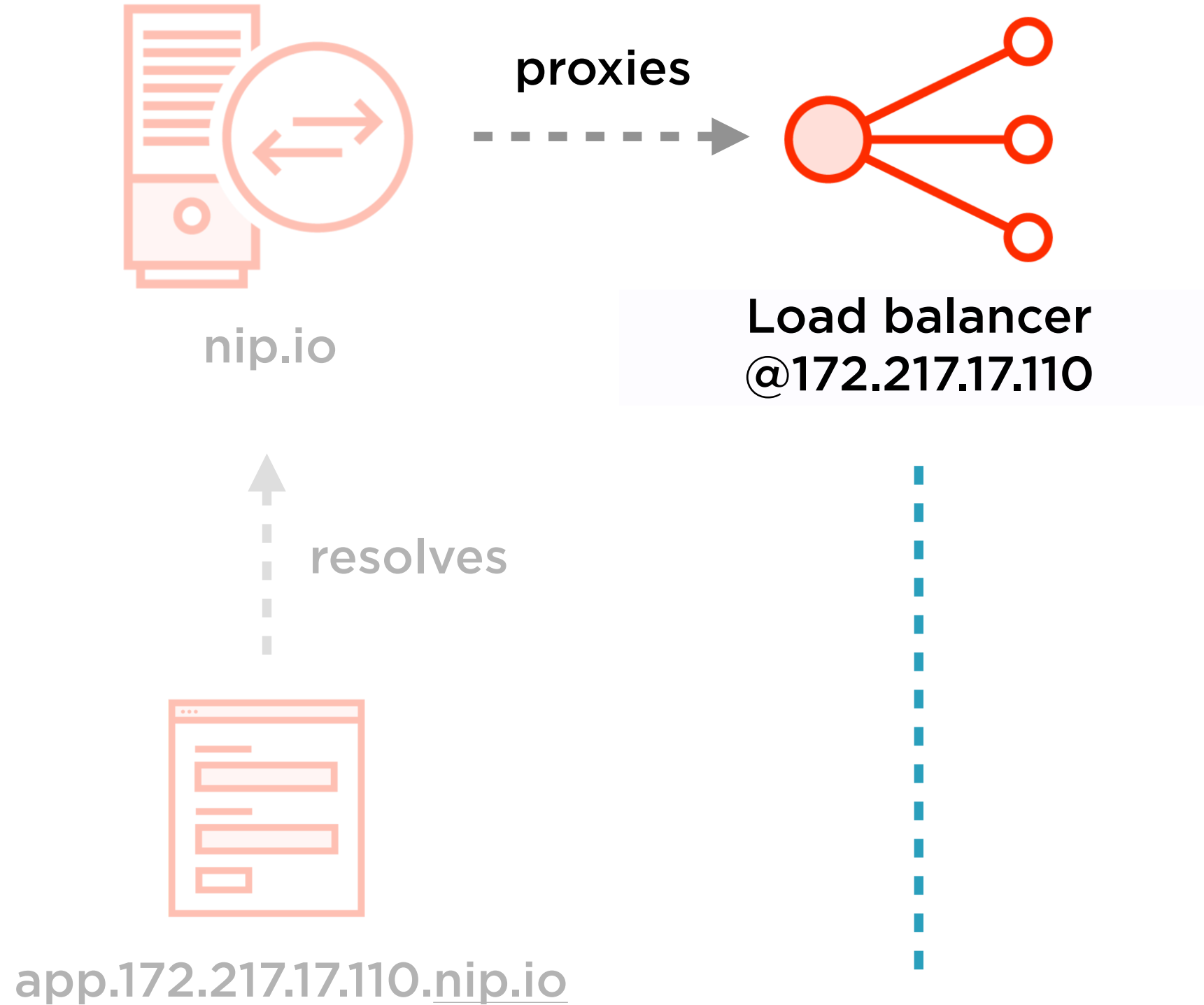
resolves



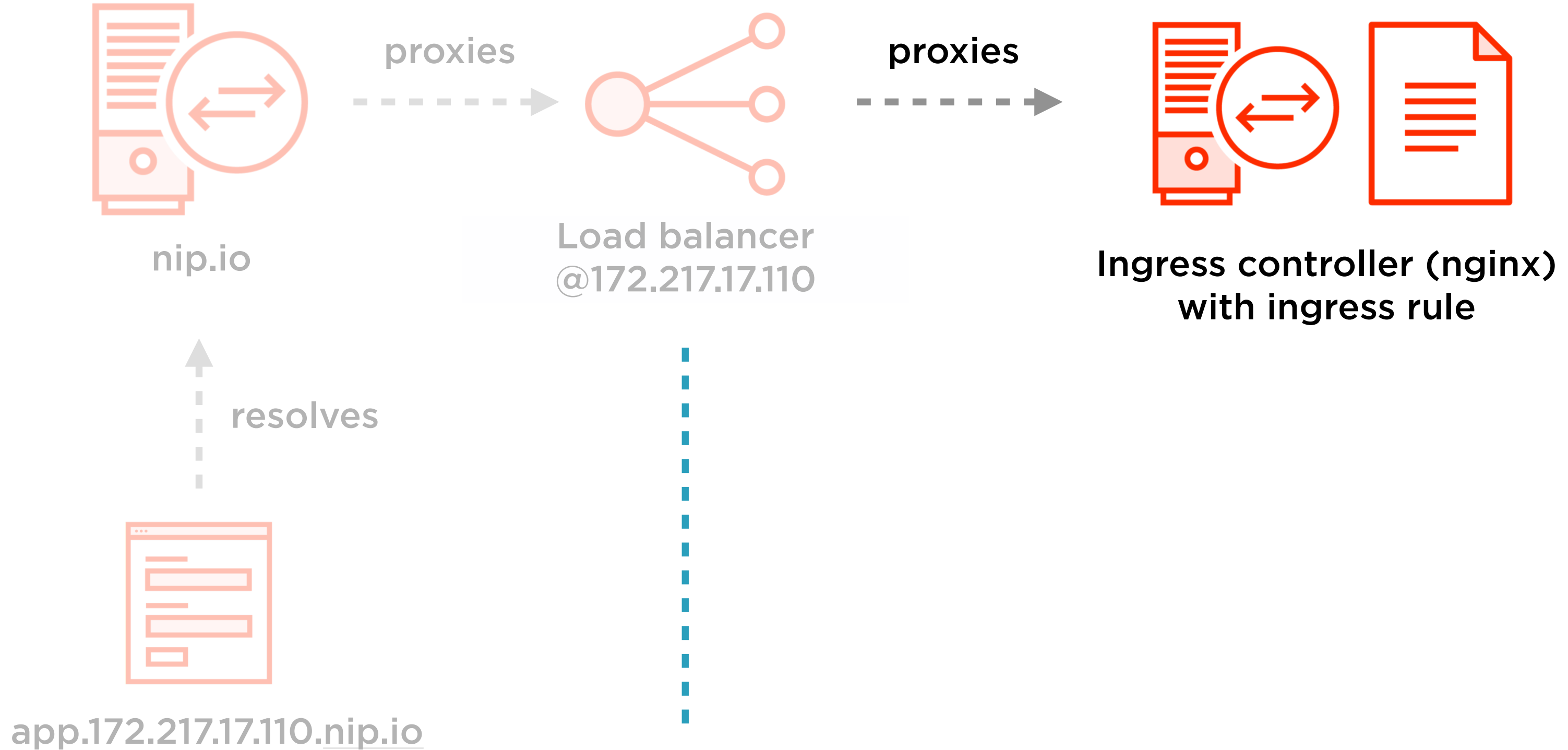
app.172.217.17.110.nip.io



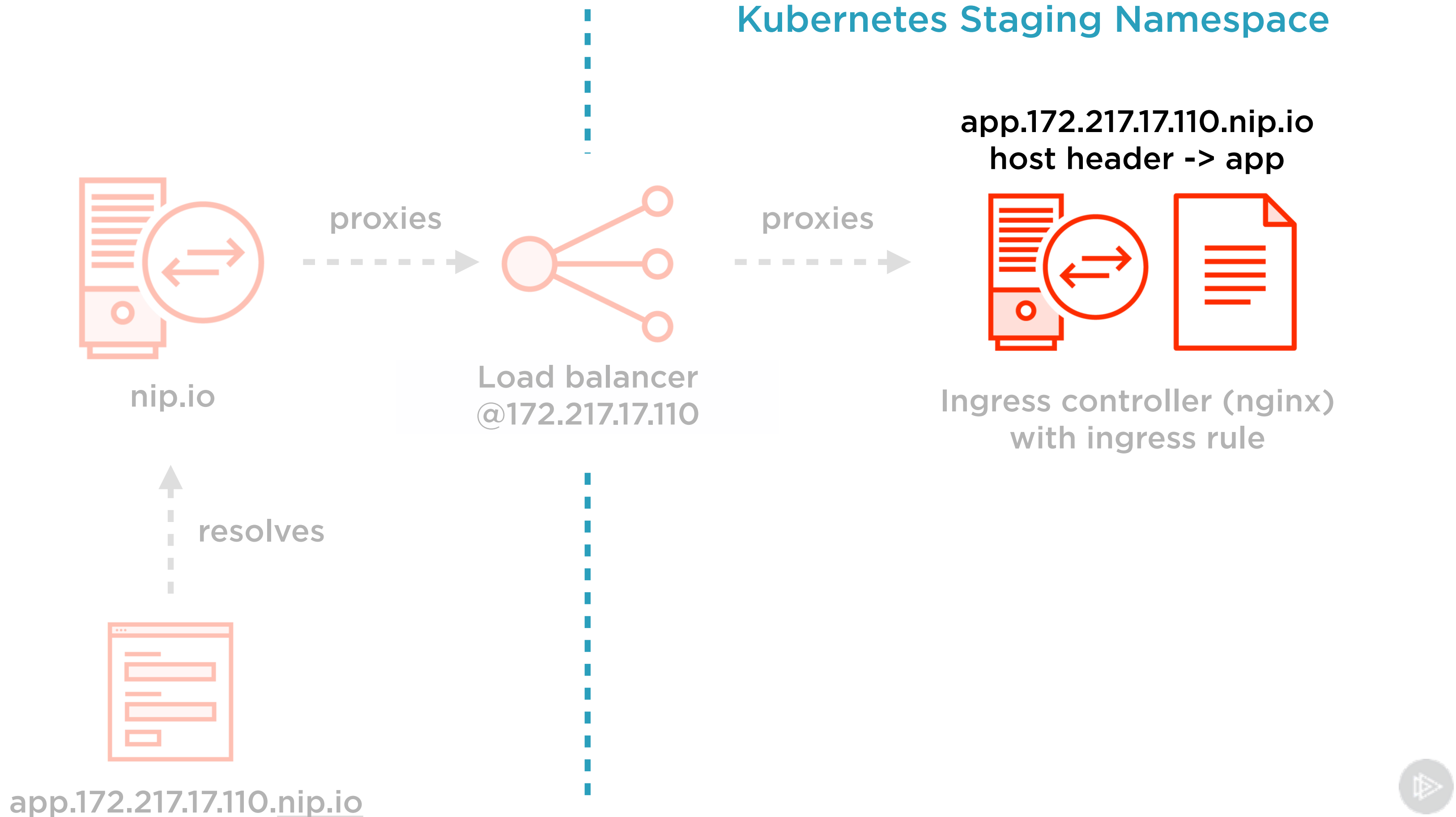
Kubernetes Staging Namespace



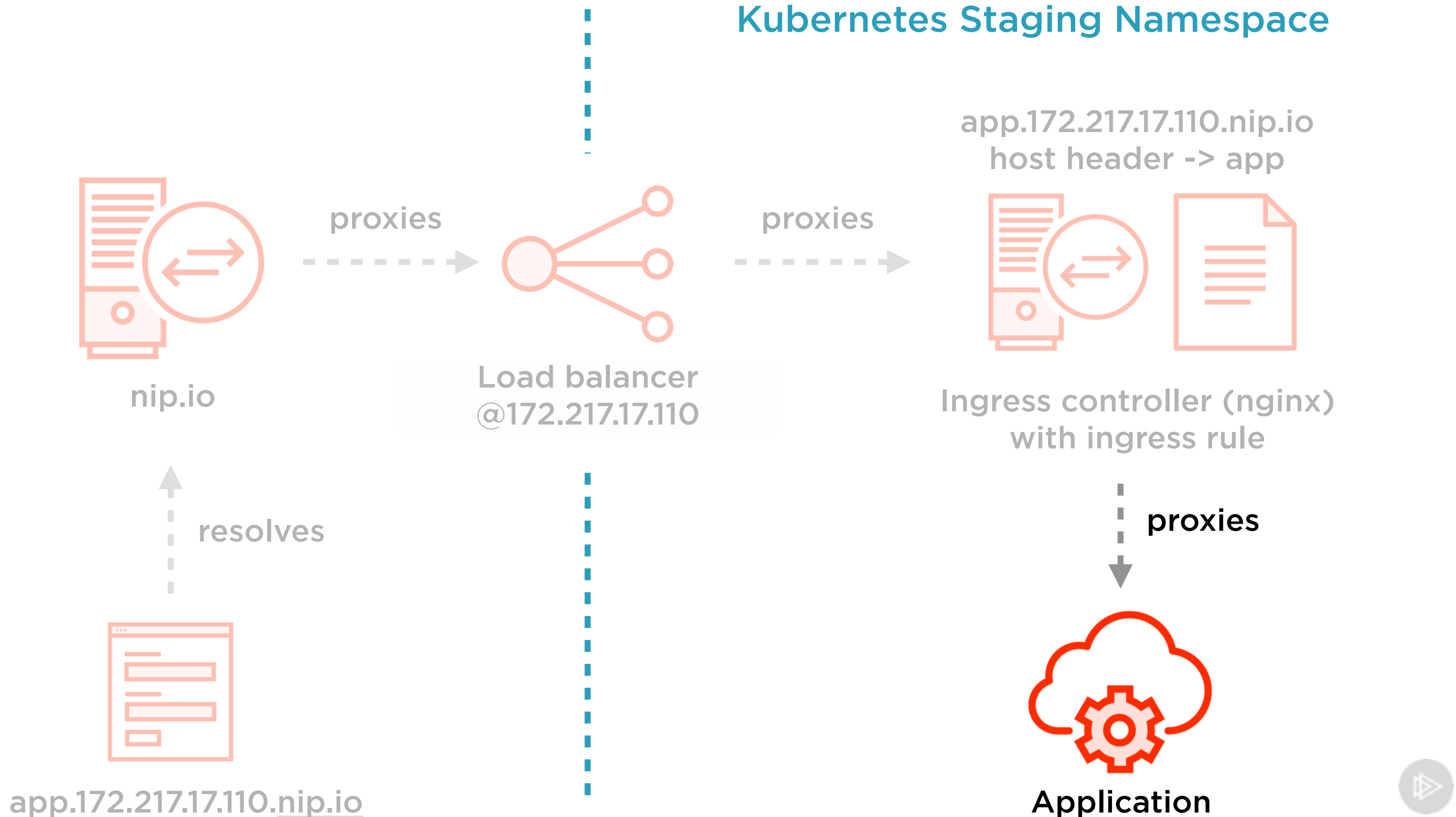
Kubernetes Staging Namespace

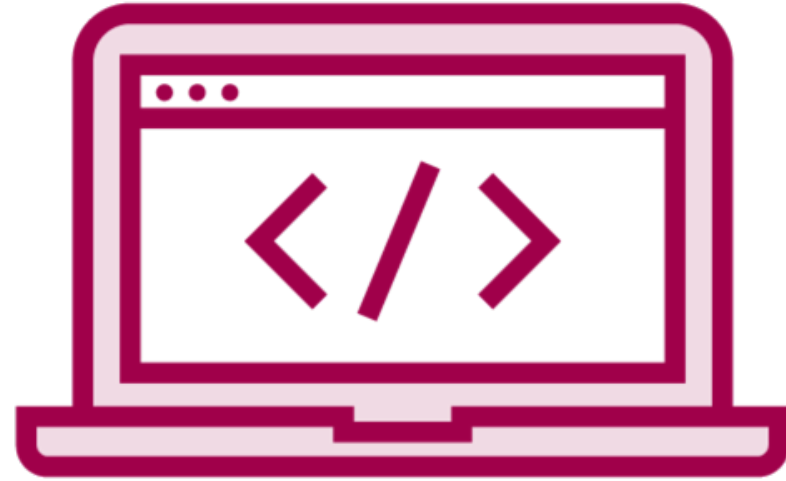


Kubernetes Staging Namespace



Kubernetes Staging Namespace





jx import

Imports an existing project into Jenkins X

From remote or local project

Automatic language detection

Or specify build pack

Does not override anything!



Demo

Import an existing project into Jenkins X

Analyze what we created

Fix a minor bug

Verify our project is deployed to staging



JX Commands Recap



```
jx create quickstart
```

◀ Create a new JX project



```
jx create quickstart
```

```
jx import
```

◀ Create a new JX project

◀ Import an existing project into JX



```
jx create quickstart
```

```
jx import
```

```
jx get activity -f project-name -w
```

◀ Create a new JX project

◀ Import an existing project into JX

◀ Watch the pipeline for a project



```
jx create quickstart
```

```
jx import
```

```
jx get activity -f project-name -w
```

```
jx get build logs project-name
```

◀ Create a new JX project

◀ Import an existing project into JX

◀ Watch the pipeline for a project

◀ View logs for a build pipeline



```
jx create quickstart
```

```
jx import
```

```
jx get activity -f project-name -w
```

```
jx get build logs project-name
```

```
jx get applications
```

◀ Create a new JX project

◀ Import an existing project into JX

◀ Watch the pipeline for a project

◀ View logs for a build pipeline

◀ View deployed applications



Summary

All Jenkins X projects are deployed to Kubernetes using Docker and Helm

Difficult problems like networking, scaling, & self-healing are solved for us by default

New projects can be generated using the quickstart command

Existing projects can be imported using generate command

