Working with Your Kubernetes Cluster

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Course Overview

Introduction

Exploring Kubernetes Architecture

Installing and Configuring Kubernetes

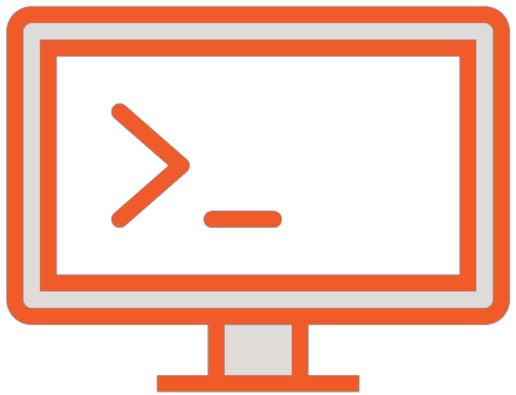
Working with Your Kubernetes Cluster

Overview

Using `kubectl` to Interact With Your Cluster

Application Deployments

Using kubectl

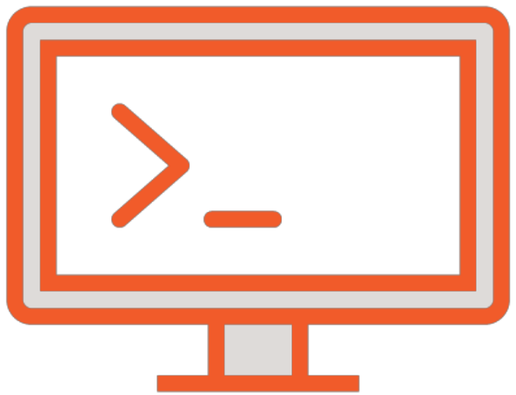


Primary CLI tool

Control your Kubernetes Cluster

- Operations - what you want to do
- Resources - what you want to do it to
- Output - if there's output, it's format

Operations - what do you want to do?



`apply/create` **- create resource(s)**

`run` **- start a pod from an image**

`explain` **- documentation of resources**

`delete` **- delete resource(s)**

`get` **- list resources**

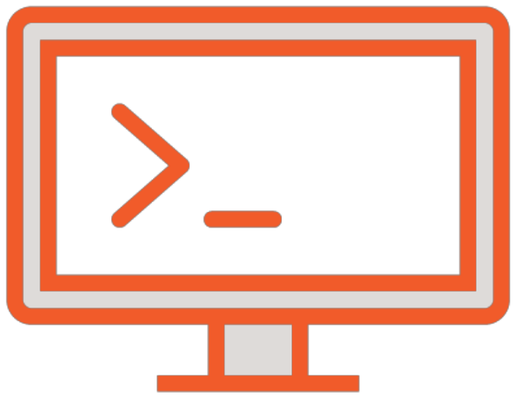
`describe` **- detailed resource information**

`exec` **- execute a command on a container**

`logs` **- view logs on a container**

https://kubernetes.io/docs/reference/kubectl/overview/#operations

Resources - what do you want to do it to?



`nodes (no)`

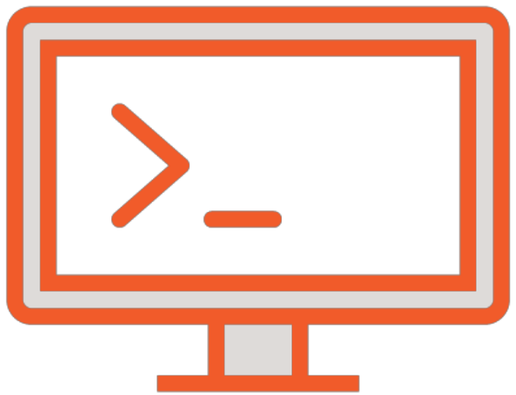
`pods (po)`

`services (svc)`

..and many more

https://kubernetes.io/docs/reference/kubectl/overview/#resource-types

Output



Specify `kubectl`'s output format

- `wide` - output additional info to stdout
- `yaml` - YAML formatted API object
- `json` - JSON formatted API object

https://kubernetes.io/docs/reference/kubectl/overview/#output-options

kubectl

`kubectl`	`[command]`	`[type]`	`[name]`	`[flags]`
`kubectl`	`get`	`pods`	`pod1`	`--output=yaml`
`kubectl`	`create`	`deployment`	`nginx`	`--image=nginx`

https://kubernetes.io/docs/reference/kubectl/kubectl/

https://kubernetes.io/docs/reference/kubectl/cheatsheet/

Demo

Using kubectl

- **Nodes**
- **Pods**
- **API Resources**
- **Configure bash auto-completion**

Application Deployment in Kubernetes

Imperative

```
kubectl create deployment nginx \
--image=nginx
```

```
kubectl run nginx --image=nginx
```

Declarative

Define our desired state in code

Manifest

YAML or JSON

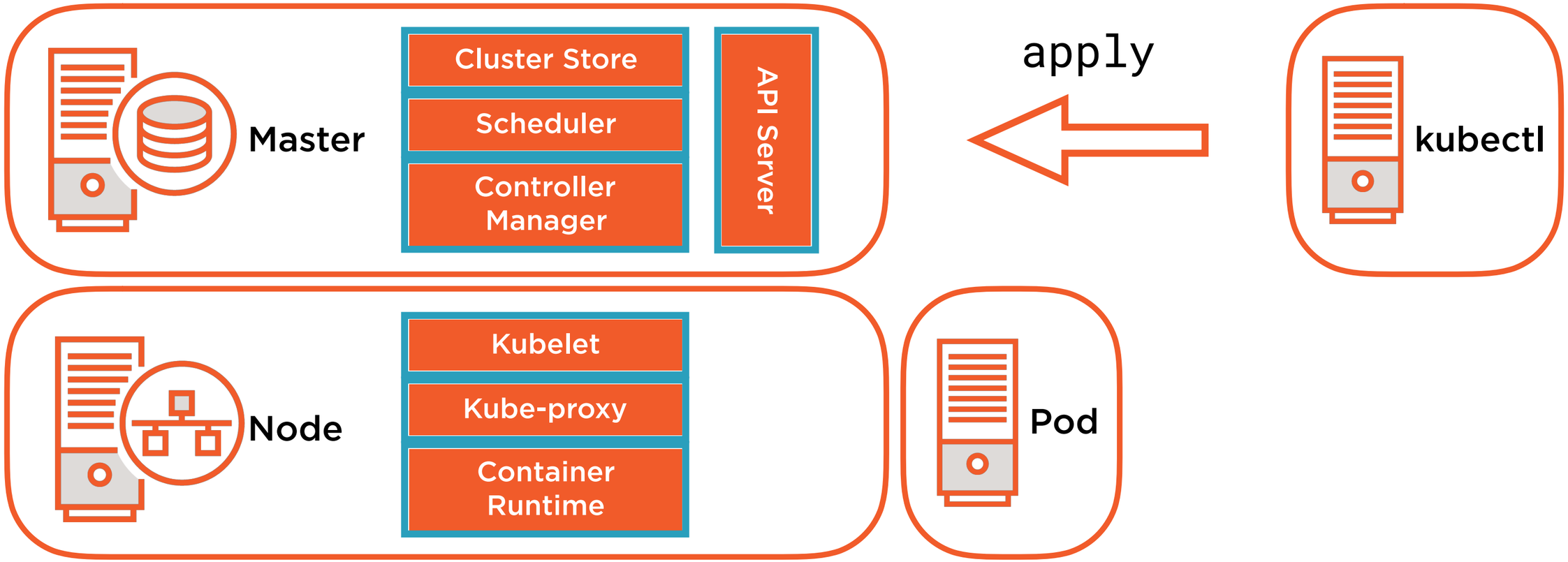
```
kubectl apply -f deployment.yaml
```

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: nginx-pod
spec:
  containers:
  - name: nginx
    image: nginx
```

Basic Manifest - Pod

```
kubectl apply -f nginx.yaml
```

Application Deployment Process



Demo

Declaratively and Imperatively

Deploying resources in your Cluster

- Pods
- Deployments
- Services

Making changes to existing resources

Summary

Using `kubectl` to Interact With Your Cluster

Application Deployments

Thank You!

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