HELM

The Kubernetes Package Manager

Hello!

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Getting started with Kubernetes

1. Copy/paste configs
2. Fix Indents
3. Repeat

Example kubernetes resources

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
  labels:
    app: nginx
spec:
  replicas: 3
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
      - name: nginx
        image: nginx:1.7.9
        ports:
        - containerPort: 80
```

Problems

Multiple manifest copies for multiple environments?

Use sed to replace text in manifests?

Run hooks pre or post deploy?

Helm to the rescue

A package manager for Kubernetes

Packages are called "charts"

A chart is a collection of files that describe a related set of Kubernetes resources
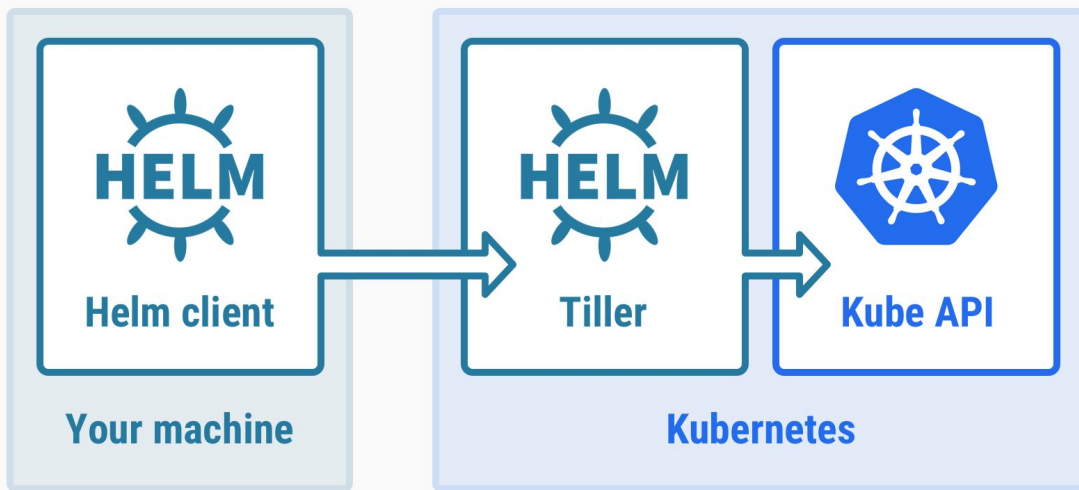
Helm and Tiller

Helm is the CLI

Tiller is an in-cluster components

Helm talks to Tiller, Tiller talks to Kubernetes API

Tiller stores state in Kubernetes

How are people using it?

Install community backed charts (remote charts)

Package their own applications

Lifecycle management

Install

Upgrade

Testing

Rollback

Hooks (pre, post, etc)

Configuration management

Chart structure

```
/Chart.yaml

/values.yaml (default config values)

/templates

    /deployment.yaml

    /service.yaml

    /ingress.yaml
```

Example template

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: {{ template "alpine.fullname" . }}
  labels:
    heritage: {{ .Release.Service }}
    release: {{ .Release.Name }}
    chart: {{ .Chart.Name }}-{{ .Chart.Version }}
    app: {{ template "alpine.name" . }}
spec:
  restartPolicy: {{ .Values.restartPolicy }}
  containers:
  - name: waiter
    image: "{{ .Values.image.repository }}:{{ .Values.image.tag }}"
    imagePullPolicy: {{ .Values.image.pullPolicy }}
    command: ["/bin/sleep", "9000"]
```

Demo

Further reading

https://helm.sh/

https://github.com/kubernetes/charts (stable charts)

Thank you

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