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Curious by nature

@Concur
Container Ecosystem Team


Happy
Helming

Looking for my Application

- Write Kubernetes manifest
  - Deployment
  - Service
  - Ingress
- Tweak resources by hand
- Use Kubectl

```yaml
kind: Deployment
apiVersion: extensions/v1beta1
metadata:
  annotations:
    github: 'https://github.com/tiz/crocodemo'
  namespace: tiz
  labels:
    chart: crocodemo-1.0.0
spec:
  replicas: 2
  selector:
    matchLabels:
      app: tiz-demo-crocodemo
  template:
    metadata:
      labels:
        app: tiz-demo-crocodemo
    spec:
      containers:
        - name: crocodemo
          image: 'quay.io/tiz/crocodemo:master'
          ports:
            - containerPort: 8080
              protocol: TCP
          resources:
            limits:
              cpu: 20m
              memory: 256Mi
            requests:
              cpu: 10m
              memory: 128Mi
  ...
```

```yaml
kind: Service
apiVersion: v1
metadata:
  name: tiz-demo-crocodemo
  namespace: code
  labels:
    chart: crocodemo-1.0.0
  annotations:
    service.beta.kubernetes.io/aws-load-balancer-internal: 0.0.0.0/0
spec:
  selector:
    app: tiz-demo-crocodemo
  type: LoadBalancer
  ports:
  - name: http
    port: 8080
    targetPort: 8080
    protocol: TCP
```

```yaml
kind: Ingress
apiVersion: extensions/v1beta1
metadata:
  name: crocodemo
  namespace: tiz
spec:
  tls:
    - hosts:
        - crocodemo-code.us-west-2.nonprod.delivery
  rules:
    - host: crocodemo-code.us-west-2.nonprod.deliver
      http:
        paths:
          - path: /
            backend:
              serviceName: tiz-demo-crocodemo
              servicePort: 80
```


HELM install yeah

HELM install yeah 

$ helm install stable/grafana

$ helm install stable/nginx

$ helm install stable/consul

$ helm install stable/kibana

$ helm install stable/mariadb

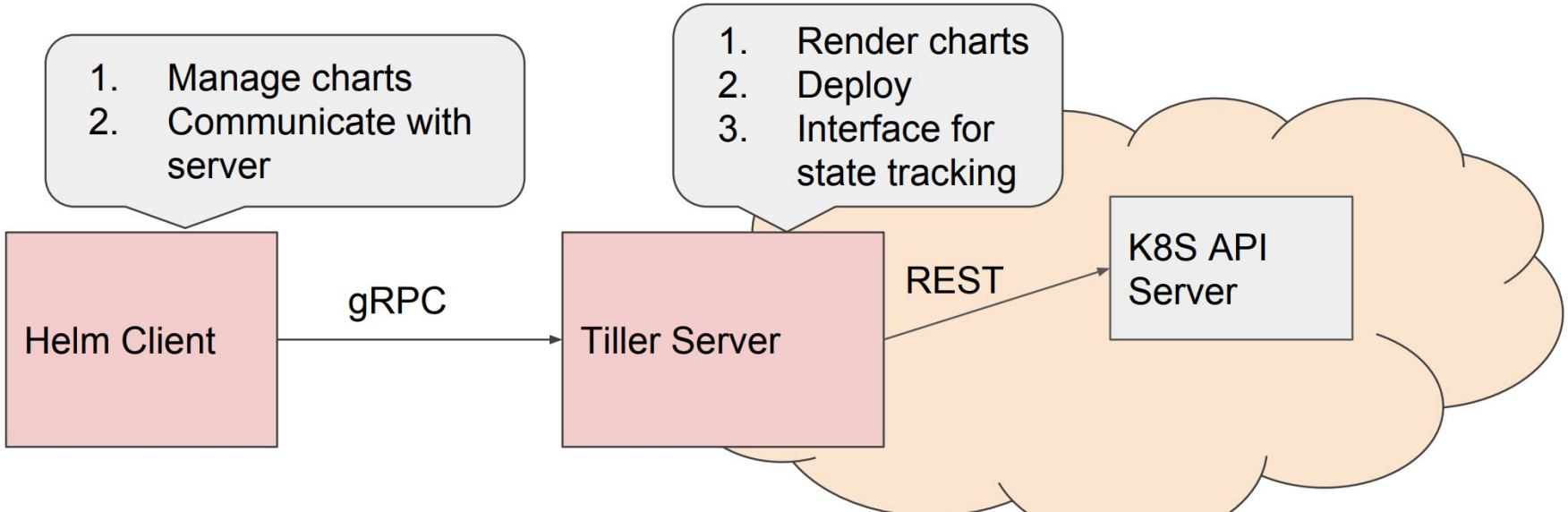
$ helm install stable/jenkins

$ helm install stable/mysql

Helm Architecture

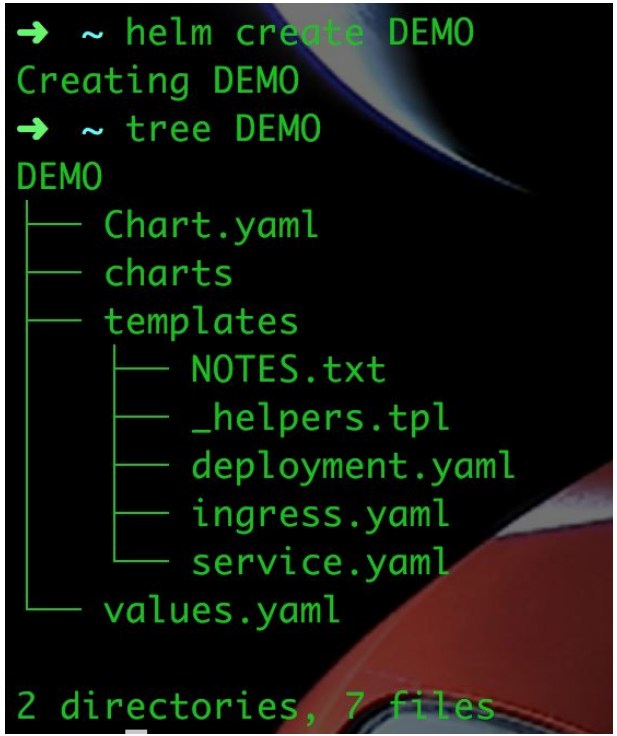
Client
- Helm Client

Server
- Tiller Server



Helm Keywords

Your 1st Chart: **$ Helm create DEMO**



Helm Keywords

Chart.yalm:

```
1  apiVersion: v1
2  description: A Helm chart for Kubernetes
3  name: crocodemo
4  version: 1.0.0
5  appVersion: ${GIT_COMMIT}
6
```

Helm Keywords

Values.yaml: Definition of Deployment values

```yaml
replicaCount: 2
image:
  repository: quay.io/tiz/crocodemo
  tag: master
  pullPolicy: Always
port: 8080
svcPort: 80
domain: us-west-2.nonprod.delivery
```

Helm Keywords

Templates: The Go Template language

```
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: tiz-app
  namespace: tiz
  labels:
    chart: "{{ .Chart.Name }}-{{ .Chart.Version | replace "+" "_" }}"
  annotations:
    github: "https://github.com/tiz/crocodemo"
    commitSHA: {{ .Chart.AppVersion }}
    isNotifiable : "true"
spec:
  replicas: {{ .Values.replicaCount }}
  template:
    metadata:
      labels:
        app: {{ template "fullname" . }}
    spec:
      containers:
      - image: "{{ .Values.image.repository }}:{{ .Values.image.tag }}"
        name: {{ .Chart.Name }}
        ports:
        - containerPort: {{ .Values.port}}
          protocol: TCP
        resources:
          requests:
            cpu: 10m
            memory: 128Mi
          limits:
            cpu: 20m
            memory: 256Mi
```

Let`s Deploy


```
helm install --name tiz-demo --tiller-namespace myNS crocodemo
```

```
helm install --name tiz-demo --tiller-namespace myNS -f values.yaml
```

DEMO


Flags:
-a, --all show all releases, not just the ones marked DEPLOYED
-d, --date sort by release date
--deleted show deleted releases
--deleting show releases that are currently being deleted
--deployed show deployed releases. If no other is specified, this will be automatically enabled
--failed show failed releases
-m, --max int maximum number of releases to fetch (default 256)
--namespace string show releases within a specific namespace
-o, --offset string next release name in the list, used to offset from start value
--tls-key string path to TLS key file (default "$HELM_HOME/key.pem")
--tls-verify enable TLS for request and verify remote
Global Flags:
--debug enable verbose output
--home string location of your Helm config. Overrides $HELM_HOME (default "/Users/i320756/.helm")
--host string address of Tiller. Overrides $HELM_HOST
--kube-context string name of the kubeconfig context to use
--tiller-namespace string namespace of Tiller (default "kube-system")
➜ helm git:(master) ✗ helm ls --tiller-namespace code |grep tiz
tiz-demo 1 Fri May 18 11:09:23 2018 DEPLOYED crocodemo-1.0.0 default
➜ helm git:(master) ✗ helm delete tiz-demo --purge --tiller-namespace code

Helm Syndicate

Helm syndicate is a Kubernetes operator which will allow your application to be deployed and auto-updated based on Quay application channels.

Getting Started:

https://github.com/kubernetes/helm/blob/master/docs/install.md

https://github.com/kubernetes/helm/blob/master/docs/chart_template_guide/getting_started.md

https://github.com/kubernetes/charts/

https://helm.sh/