1 CheatSheet: Kubernetes Cluster API

CLOUD

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- PDF Link: cheatsheet-clusterapi-A4.pdf, Category: Cloud
- Blog URL: https://cheatsheet.dennyzhang.com/cheatsheet-clusterapi-A4
- \bullet Related posts: Kubernetes Yaml, Kubectl CheatSheet, #denny-cheatsheets

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1.1 Cluster API - Basic

Name	Summary
Cluster API Project Milestone	v1alpha1(Due by 03/29/2019)
Key Initiatives	Declarative infra; CRD design model; Resource LCM
CAL (cloud abstraction layer)	
Boostrap cluster	minikube by default
Machine Object	Machine CRD
Cluster Object	
clusterctl	GitHub: cluster-api/cmd/clusterctl, Might be merged into kubectl directly
Demo	Video: vSphere Clsuter-API provider: self-service

1.2 Concepts

Core Kubernetes	Cluster API
Pod	Machine
ReplicaSet	MachineSet
Deployment	MachineDeployment

1.3 Components

Name	Summary
API Spec	Link: Kubernetes Cluster Management API
provider-components.yaml	
cluster.yaml	
machines.yaml	
addons.yaml	
2 pods in guest k8s clusters	cluster api controller, cloud provider controller
Reference	GitHub: kubernetes-sigs/cluster-api

1.4 Commands

Name	Summary
Deploy a k8s cluster	clusterctl create cluster -p provider-components.yaml -c cluster.yaml -m machine
Delete a k8s cluster	clusterctl delete clusterkubeconfig=kubeconfig -p provider-components.yaml
List all kind clusters	kind get clusters
Delete kind cluster	kind delete clustername clusterapi
Create kind clusrer	kind create clustername clusterapi
SSH to K8S master/worker vm	ssh -i /root/.ssh/vsphere_tmp ubuntu@\$vm_ip
kubeconfig in new k8s clusters	/etc/kubernetes/admin.conf in master VM

1.5 Cluster API Providers - vsphere

Name	Summary
Check controller log	kubectl logs -n vsphere-provider-system vsphere-provider-controller-manager-0 -f
Vsphere	GitHub: Vsphere Example Files

1.6 Cluster API Related Works

Name Summary
SAP gardener
Gardener with cluster api GitHub Issue: Adopt Cluster API Spec

1.7 clusterctl cli Online Help

> go/src/sigs.k8s.io/cluster-api-provider-gcp > ./bin/clusterctl create cluster --help

IO311 17:25:43.924329 50076 machineactuator.go:811] Using the default GCP client Create a kubernetes cluster with one command

Usage:

clusterctl create cluster [flags]

Flags:

-a, --addon-components string A yaml file containing cluster addons to apply to the internal --bootstrap-cluster-cleanup Whether to cleanup the bootstrap cluster after bootstrap. (defa Sets the bootstrap cluster to be an existing Kubernetes cluster -e, --bootstrap-cluster-kubeconfig string Command line flags to be passed to the chosen bootstrapper --bootstrap-flags strings --bootstrap-type string The cluster bootstrapper to use. (default "none") -c, --cluster string A yaml file containing cluster object definition. Required. -h, --help help for cluster Where to output the kubeconfig for the provisioned cluster (def --kubeconfig-out string A yaml file containing machine object definition(s). Required. -m, --machines string --provider string Which provider deployment logic to use (google/vsphere/azure). A yaml file containing cluster api provider controllers and sup -p, --provider-components string

Global Flags:

log to standard error as well as files --alsologtostderr --kubeconfig string Paths to a kubeconfig. Only required if out-of-cluster. --log-flush-frequency duration Maximum number of seconds between log flushes (default 5s) --log_backtrace_at traceLocation when logging hits line file:N, emit a stack trace (default :0) --log_dir string If non-empty, write log files in this directory --log_file string If non-empty, use this log file --logtostderr log to standard error instead of files (default true) The address of the Kubernetes API server. Overrides any value in kub --master string --skip_headers If true, avoid header prefixes in the log messages logs at or above this threshold go to stderr --stderrthreshold severity -v, --v Level number for the log level verbosity --vmodule moduleSpec comma-separated list of pattern=N settings for file-filtered logging

1.8 More Resources

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