# 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 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

# 1.3 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

## 1.4 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

### 1.5 Cluster API Related Works

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

## 1.6 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
--bootstrap-cluster-cleanup

-e, --bootstrap-cluster-kubeconfig string
--bootstrap-flags strings

--bootstrap-type string

-c, --cluster string

-h, --help

--kubeconfig-out string

-m, --machines string --provider string

-p, --provider-components string

A yaml file containing cluster addons to apply to the internal Whether to cleanup the bootstrap cluster after bootstrap. (defa Sets the bootstrap cluster to be an existing Kubernetes cluster Command line flags to be passed to the chosen bootstrapper The cluster bootstrapper to use. (default "none")
A yaml file containing cluster object definition. Required. help for cluster

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Where to output the kubeconfig for the provisioned cluster (def A yaml file containing machine object definition(s). Required. Which provider deployment logic to use (google/vsphere/azure).

A yaml file containing cluster api provider controllers and sup

#### Global Flags:

--alsologtostderr
--kubeconfig string

--log-flush-frequency duration

--log\_backtrace\_at traceLocation

--log\_dir string
--log\_file string
--logtostderr
--master string

--skip\_headers

--stderrthreshold severity

-v, --v Level

--vmodule moduleSpec

log to standard error as well as files

Paths to a kubeconfig. Only required if out-of-cluster. Maximum number of seconds between log flushes (default 5s) when logging hits line file:N, emit a stack trace (default :0)

If non-empty, write log files in this directory

If non-empty, use this log file

log to standard error instead of files (default true)

The address of the Kubernetes API server. Overrides any value in kub

If true, avoid header prefixes in the log messages

logs at or above this threshold go to stderr

number for the log level verbosity

comma-separated list of pattern=N settings for file-filtered logging

#### 1.7 More Resources

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