



## Cheatsheets - Kubernetes

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## k9s Cheatsheet

Last Updated: 2024-03-03

### Start k9s

```
# Use default kubeconfig
$ k9s

# Use non-default kubeconfig
$ k9s --kubeconfig /path/to/kubeconfig

# Use non-default context
$ k9s --context foctx

# Readonly
$ k9s --readonly

# Check info (locations for configuration, logs, screen dumps)
$ k9s info
```

### Using k9s

#### List Resources

List a specific resource:

- `:<resource>` : list Resources, e.g. `:pod` to list all pods.
- `:<resource> <namespace>` : list Resources in a given namespace.

List all available resources / apis:

- `:aliases` or `Ctrl-a` : list all available aliases and resources.
- `:crd` : list all CRDs.
- `:apiservices` : list all API Services

#### Filter

- `/<filter>` : regex filter.
- `/!<filter>` : inverse regex filter.
- `/-l <label>` : filter by labels.
- `/-f <filter>` : fuzzy match.

curl

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regex

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base64

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signals

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zsh

## Choose namespace

Type `:namespace` , select the desired namespace by up or down key, press `Enter` to select.

## Choose context

- `:ctx` : list ctx, then select from the list.
- `:ctx <context>` : switch to the specified context.

## Show Decrypted Secrets

Type `:secrets` to list the secrets, then

- `x` to decrypt the secret.
- `Esc` to leave the decrypted display.

## Key mappingg

- move up and down without moving your right hand:
  - `j` : down.
  - `k` : up.
- `SPACE` : select multiple lines (e.g. then `Ctrl-d` to delete)
- `y` : yaml.
- `d` : describe.
- `v` : view.
- `e` : edit.
- `l` : logs.
- `w` : wrap.
- `r` : auto-refresh.
- `s` :
  - `Deployment` screen: scale the number of replicas.
  - `Pod` or `Containers` screen: shell
- `x` : decode a `Secret` .
- `f` : fullscreen. Tip: enter fullscreen mode before copying, to avoid `|` in copied text.
- `Ctrl-d` : delete.
- `Ctrl-k` : kill (no confirmation).
- `Ctrl-w` : toggle wide columns. (Equivalent to `kubect1 ... -o wide` )
- `Ctrl-z` : toggle error state
- `Ctrl-e` : hide header.
- `Ctrl-s` : save output (e.g. the YAML) to disk.
- `Ctrl-l` : rollback.

## Sort by Column

- `Shift-c` : sorts by CPU.
- `Shift-m` : sorts by MEMORY.
- `Shift-s` : sorts by STATUS.
- `Shift-p` : sorts by namespace.
- `Shift-n` : sorts by name.
- `Shift-o` : sorts by node.
- `Shift-i` : sorts by IP address.
- `Shift-a` : sorts by container age.
- `Shift-t` : sorts by number of restarts.
- `Shift-r` : sorts by pod readiness.

## Helm

- `:helm` : show helm releases.
- `:helm NAMESPACE` : show releases in a specific namespace.

## User

There's no "user" object but in k9s you can see all the users by `:users` . Press `Enter` to see a list of Policies.

## XRay View

- `:xray RESOURCE` , e.g. `:xray deploy` .

## Pulse View

- `:pulse` : displays general information about the Kubernetes cluster.

## Popeye View

- `:popeye` or `pop` : checks all resources for conformity with the correctness criteria and displays the resulting "rating" with explanations. <https://popeyecli.io>

## Show Disk Files

- `:dir /path`

E.g. `:dir /tmp` will show your `/tmp` folder on local disk. One common use case: `Ctrl-s` to save a yaml, then find it in `:dir /tmp/k9s-screens-root` , find the file, press `e` to edit and `a` to apply.

## Quit

- `Esc` : Bails out of view/command/filter mode.
- `:q` or `Ctrl-c` : quit k9s.

## Meaning of the Header

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Most of the headers are easy to understand; some of the special ones:

- `%CPU/R` : Percentage of requested CPU
- `%CPU/L` : Percentage of limited CPU
- `%MEM/R` : Percentage of requested memory
- `%MEM/L` : Percentage of limited memory
- `CPU/A` : allocatable CPU

Pods:

- `pf` : PortForward

Containers:

- `PROBES(L:R)` : Liveness and Readiness probes

## FAQ

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### How to change among clusters?

Add all `kubeconfig` paths to `$KUBECONFIG` , then start k9s:

```
$ export KUBECONFIG=/path/to/kubeconfig1:/path/to/kubeconfig2:~/.kube/config:$KUBECONFIG
```

```
$ k9s
```

Inside k9s, type `:ctx` , then select the context to change to a different cluster.

### How to scale up or scale down a deployment?

Go to the `Deployments` page, and press `s` , then enter a number for the desired num of `ReplicaSet` .

## How to force delete a pod?

**Ctrl-d** , move cursor to **Force** , press **space** to select, click **OK** .

## How to monitor resource usage?

Check CPU and MEM usage on the top left corner of the screen;

Check usage in **Node** and **Pod** page;

This is equivalent to:

```
$ kubectl top nodes
$ kubectl top pods

$ kubectl top node <node_name>
```

## Where are the k9s config files?

Note that all YAML files in the **.k9s** directory must have the **.yaml** extension ( **.yml** doesn't work).

- **\$HOME/.k9s/views.yaml** : customize the column view for resource lists.
- **\$HOME/.k9s/plugin.yaml** : manage plugins.
- **\$XDG\_CONFIG\_HOME/k9s/config.yaml** : k9s config.
- **\$XDG\_CONFIG\_HOME/k9s/alias.yaml** : define your own alias.
- **\$XDG\_CONFIG\_HOME/k9s/hotkey.yaml** : define your own hotkeys.
- **\$XDG\_CONFIG\_HOME/k9s/plugin.yaml** : manage plugins.

## How to Check Objects with the Same Name in Different API Groups

e.g. **Cluster** may be found in different api groups, like **cluster.x-k8s.io** or **clusterregistry.k8s.io** or **baremetal.cluster.gke.io** .

```
apiVersion: cluster.x-k8s.io/v1alpha3
kind: Cluster

apiVersion: clusterregistry.k8s.io/v1alpha1
kind: Cluster

apiVersion: baremetal.cluster.gke.io/v1
kind: Cluster
```

Use **apiVersion / kind** (i.e. **Group / Version / kind** ) instead of just **kind** to check the API of a specific group.

- **:cluster.x-k8s.io/v1alpha3/clusters**
- **:clusterregistry.k8s.io/v1alpha1/clusters**
- **:baremetal.cluster.gke.io/v1/clusters**

Or go to the CRDs page ( **:crd** ), move to the correct row, press enter.

## How to change log setting

Change **~/.config/k9s/config.yaml** :

```
logger:
  tail: 500
  buffer: 5000
  sinceSeconds: -1
```

## How to monitor what's going on:

- **:event** (or **:ev**): see the stream of events.
- **:pod** : see the list of pods **Shift-a** to sort by age.
- **:job** : see the list of jobs, ordered by time by default.

## Benchmark

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k9s includes a basic HTTP load generator.

To enable it, you have to configure port forwarding in the pod. Select the pod and press **SHIFT + f** , go to the port-forward menu (using the **pf** alias).

After selecting the port and hitting **CTRL + b** , the benchmark would start. Its results are saved in **/tmp** for subsequent analysis.

To change the configuration of the benchmark, create the **\$HOME/.k9s/bench-<my\_context>.yaml** file (unique for each cluster).

## Plugins

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<https://github.com/derailed/k9s/tree/master/plugins>

## Install

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```
# Go
$ go install github.com/derailed/k9s@latest

# Homebrew / LinuxBrew
$ brew install derailed/k9s/k9s

# MacPort
sudo port install k9s

# Snap
sudo snap install k9s

# PacMan
pacman -S k9s

# Windows: scoop
scoop install k9s

# Windows: chocolatey
choco install k9s
```

## Official Website

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<https://k9scli.io/>



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