

Rancher CheatSheet

CLOUD

- PDF Link: [cheatsheet-rancher-A4.pdf](#), Category: Cloud
- Blog URL: <https://cheatsheet.dennyzhang.com/cheatsheet-rancher-A4>
- Related posts: [OpenShift CheatSheet](#), [PKS CheatSheet](#), [#denny-cheatsheets](#)

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1.1 Rancher Summary

| Name | Command |
|--|--|
| Setup rancher in vagrant | GitHub: quickstart/vagrant , https://172.22.101.101/admin/admin |
| Start rancher control plane with container | <code>docker run -d -p 80:80 -p 443:443 rancher/rancher</code> |
| Reference | Rancher v2.0 Documentation, Rancher Slack, Rancher Forum |
| Reference | YouTube: Rancher Overview, YouTube: Setup Rancher In A Hard Way |
| Reference | OpenShift CheatSheet, Rancher CheatSheet, PKS CheatSheet |

<https://raw.githubusercontent.com/dennyzhang/cheatsheet.dennyzhang.com/master/cheatsheet-rancher-A4/rancher-architecture.png>

1.2 Rancher Components

| Name | Command |
|-------------------------|--|
| Control plane - rancher | Complete container management platform |
| cli | Rancher CLI |
| VM distro - os | Tiny Linux distro that runs the entire OS as Docker containers |
| Storage - longhorn | Distributed block storage for Kubernetes |

1.3 rancher Concepts

| Name | Command |
|---------------|---------|
| Node driver | |
| Node template | |

1.4 rancher Command Line

| Name | Command |
|---------------------|--|
| Reference | Link: Rancher CLI |
| Login to cluster | <code>rancher login https://<SERVER_URL> --token <BEARER_TOKEN></code> |
| Select project | <code>rancher context switch</code> |
| Rancher ssh to vm | <code>rancher ssh node-001</code> |
| Run kubectl command | <code>rancher kubectl get nodes</code> |

1.5 Rancher Source Code

| Name | Command |
|---------------------------|--|
| Rancher API Layer | GitHub: rancher/norman |
| Rancher Kubernetes Engine | GitHub: rancher/rke , GitHub: rancher/kontainer-engine |

1.6 Rancher Footprint

```
> kubectl get all --all-namespaces
```

| NAMESPACE | NAME | READY | STATUS | RESTARTS | AGE |
|---------------|---|-------|---------|----------|-----|
| cattle-system | pod/cattle-cluster-agent-55897c6cb-xdj96 | 1/1 | Running | 0 | 6m |
| cattle-system | pod/cattle-node-agent-89jgs | 1/1 | Running | 0 | 6m |
| ingress-nginx | pod/default-http-backend-797c5bc547-669zf | 1/1 | Running | 0 | 6m |
| ingress-nginx | pod/nginx-ingress-controller-4gdhf | 1/1 | Running | 0 | 6m |
| kube-system | pod/kube-dns-7588d5b5f5-xpfmg | 3/3 | Running | 0 | 6m |
| kube-system | pod/kube-dns-autoscaler-5db9bbb766-kdhdn | 1/1 | Running | 0 | 6m |
| kube-system | pod/kube-flannel-x686d | 2/2 | Running | 0 | 6m |
| kube-system | pod/metrics-server-97bc649d5-8pf7f | 1/1 | Running | 0 | 6m |

| | | | | | |
|-------------|---|-----|-----------|---|----|
| kube-system | pod/rke-ingress-controller-deploy-job-7wn5h | 0/1 | Completed | 0 | 6m |
| kube-system | pod/rke-kubedns-addon-deploy-job-2pzw6 | 0/1 | Completed | 0 | 6m |
| kube-system | pod/rke-metrics-addon-deploy-job-69zxc | 0/1 | Completed | 0 | 6m |
| kube-system | pod/rke-network-plugin-deploy-job-bv4jc | 0/1 | Completed | 0 | 6m |

| NAMESPACE | NAME | TYPE | CLUSTER-IP | EXTERNAL-IP | PORT(S) | AGE |
|---------------|------------------------------|-----------|---------------|-------------|---------------|-----|
| default | service/kubernetes | ClusterIP | 10.43.0.1 | <none> | 443/TCP | 7m |
| ingress-nginx | service/default-http-backend | ClusterIP | 10.43.142.185 | <none> | 80/TCP | 6m |
| kube-system | service/kube-dns | ClusterIP | 10.43.0.10 | <none> | 53/UDP,53/TCP | 6m |
| kube-system | service/metrics-server | ClusterIP | 10.43.20.15 | <none> | 443/TCP | 6m |

| NAMESPACE | NAME | DESIRED | CURRENT | READY | UP-TO-DATE | AVAILABLE |
|---------------|---|---------|---------|-------|------------|-----------|
| cattle-system | daemonset.apps/cattle-node-agent | 1 | 1 | 1 | 1 | 1 |
| ingress-nginx | daemonset.apps/nginx-ingress-controller | 1 | 1 | 1 | 1 | 1 |
| kube-system | daemonset.apps/kube-flannel | 1 | 1 | 1 | 1 | 1 |

| NAMESPACE | NAME | DESIRED | CURRENT | UP-TO-DATE | AVAILABLE | AGE |
|---------------|--------------------------------------|---------|---------|------------|-----------|-----|
| cattle-system | deployment.apps/cattle-cluster-agent | 1 | 1 | 1 | 1 | 6m |
| ingress-nginx | deployment.apps/default-http-backend | 1 | 1 | 1 | 1 | 6m |
| kube-system | deployment.apps/kube-dns | 1 | 1 | 1 | 1 | 6m |
| kube-system | deployment.apps/kube-dns-autoscaler | 1 | 1 | 1 | 1 | 6m |
| kube-system | deployment.apps/metrics-server | 1 | 1 | 1 | 1 | 6m |

| NAMESPACE | NAME | DESIRED | CURRENT | READY | AGE |
|---------------|---|---------|---------|-------|-----|
| cattle-system | replicaset.apps/cattle-cluster-agent-55897c6cb | 1 | 1 | 1 | 6m |
| ingress-nginx | replicaset.apps/default-http-backend-797c5bc547 | 1 | 1 | 1 | 6m |
| kube-system | replicaset.apps/kube-dns-7588d5b5f5 | 1 | 1 | 1 | 6m |
| kube-system | replicaset.apps/kube-dns-autoscaler-5db9bbb766 | 1 | 1 | 1 | 6m |
| kube-system | replicaset.apps/metrics-server-97bc649d5 | 1 | 1 | 1 | 6m |

| NAMESPACE | NAME | DESIRED | SUCCESSFUL | AGE |
|-------------|---|---------|------------|-----|
| kube-system | job.batch/rke-ingress-controller-deploy-job | 1 | 1 | 6m |
| kube-system | job.batch/rke-kubedns-addon-deploy-job | 1 | 1 | 6m |
| kube-system | job.batch/rke-metrics-addon-deploy-job | 1 | 1 | 6m |
| kube-system | job.batch/rke-network-plugin-deploy-job | 1 | 1 | 6m |

1.7 Rancher CLI Help

Denny > ./rancher --help

Rancher CLI, managing containers one UTF-8 character at a time

Usage: rancher [OPTIONS] COMMAND [arg...]

Version: v2.0.5

Options:

--debug Debug logging
 --help, -h show help
 --version, -v print the version

Commands:

apps, [app] Operations with apps
 catalog Operations with catalogs
 clusters, [cluster] Operations on clusters
 context Operations for the context
 inspect View details of resources
 kubectl Run kubectl commands
 login, [l] Login to a Rancher server
 namespaces, [namespace] Operations on namespaces

| | |
|---------------------|--|
| nodes, [node] | Operations on nodes |
| projects, [project] | Operations on projects |
| ps | Show workloads in a project |
| settings, [setting] | Show settings for the current server |
| ssh | SSH into a node |
| up | apply compose config |
| help, [h] | Shows a list of commands or help for one command |

Run 'rancher COMMAND --help' for more information on a command.

1.8 More Resources

<https://rancher.com/docs/rancher/v2.x/en/quick-start-guide/deployment/>

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