

Experiment 04: Getting started with k3d

Install k3d from the binary, build from a tap, or build it custom.

<https://github.com/rancher/k3d/releases>

For Windows we'd download the binary here:

<https://github.com/rancher/k3d/releases/download/v3.0.1/k3d-windows-amd64.exe>

Install in c:\k3d or similar

C:\> **mkdir dir k3d**

We already installed kubectl with kind, so won't need to reinstall.

C:\k3d> **dir**

Volume in drive C is OS
Volume Serial Number is 5081-CA53

Directory of C:\k3d

```
09/09/2020 12:03 PM <DIR>      .
09/09/2020 12:03 PM <DIR>      ..
09/08/2020 10:05 PM          6,284,049 k3d-3.0.1.zip
09/08/2020 10:05 PM      22,014,464 k3d-windows-amd64.exe
                2 File(s)  28,298,513 bytes
                2 Dir(s) 175,237,222,400 bytes free
```

C:\k3d> **move k3d-windows-amd64.exe k3d.exe**

1 file(s) moved.

C:\k3d> **k3d version**

k3d version v3.0.1
k3s version v1.18.6-k3s1 (default)

C:\k3d> **k3d cluster list**

NAME SERVERS AGENTS LOADBALANCER

C:\k3d> **k3d cluster create demo --servers 3 --agents 3**

```
[36mINFO[0m[0000] Created network 'k3d-demo'
[36mINFO[0m[0000] Created volume 'k3d-demo-images'
[36mINFO[0m[0000] Creating initializing server node
```

```
[36mINFO[0m[0000] Creating node 'k3d-demo-server-0'
[36mINFO[0m[0001] Pulling image 'docker.io/rancher/k3s:v1.18.6-k3s1'
[36mINFO[0m[0089] Creating node 'k3d-demo-server-1'
[36mINFO[0m[0090] Creating node 'k3d-demo-server-2'
[36mINFO[0m[0091] Creating node 'k3d-demo-agent-0'
[36mINFO[0m[0092] Creating node 'k3d-demo-agent-1'
[36mINFO[0m[0094] Creating node 'k3d-demo-agent-2'
[36mINFO[0m[0096] Creating LoadBalancer 'k3d-demo-serverlb'
[36mINFO[0m[0097] Pulling image 'docker.io/rancher/k3d-proxy:v3.0.1'
[36mINFO[0m[0158] Cluster 'demo' created successfully!
[36mINFO[0m[0158] You can now use it like this:
kubectl cluster-info
```

C:\k3d> **k3d cluster list**

NAME	SERVERS	AGENTS	LOADBALANCER
demo	1/3	2/3	true

C:\k3d> **k3d kubeconfig get demo**

apiVersion: v1

clusters:

- cluster:

certificate-authority-data:

LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSUJWekNCL3FBREFnRUNBZ0VBTUFvR
0NDcUdTTTQ5QkFNQ01DTXhJVEFmQmdOVkJBtU1HR3N6Y3kxelpYSjlKWlhJdFkyRkFNVF
U1T1RZM01URTJOakFIRncweU1EQTVNRGt4TnpBMk1EWmFGdzB6TURBNU1EY3hOekEyT
URaYQpNQ014SVRBZklnTIZCQU1NR0dzemN5MXpaWEoyWlhJdFkyRkFNVFU1T1RZM01U
RTJOakJaTUJNR0J5cUdTTTQ5CkFnRUdDQ3FHU000OUF3RUhBMEIBQkR4cWISWnl2cVUy
R25GYjQ1UjdTU2ljVmdFSC9RNEY3V3dBtQkdU9uazUKOFIwVGVNRUh1eTYwN0ZXeWlqaz
VkeFJ3WjBOaUlybjcrSW1EOUVia2FmaWpJekFoTUE0R0ExVWREd0VCL3dRRQpBd0lDcERB
UEJnTIZlUk1CQWY4RUJUQUJBUUgvdU1FvR0NDcUdTTTQ5QkFNQ0EwZ0FNRVVDSU02Nn
FaRkVuZ1BuCIN3TmE2bU1wN1Zkd1UvN2FValdGM0s0Z1o1OWhhd29CQWlFQTgxY241UjA2
RTEzYndQdXJORjIMTIZXL0l5UzMKKeEFEK1EyM2QwVUMvYk1nPQotLS0tLUVORCBDRVJUS
UZJQ0FURS0tLS0tCg==

server: https://0.0.0.0:53948

name: k3d-demo

contexts:

- context:

cluster: k3d-demo

user: admin@k3d-demo

name: k3d-demo

current-context: k3d-demo

kind: Config

preferences: {}

users:

- name: admin@k3d-demo

user:

password: 6a4ad9aadd405b3dcffc77b5f12c46d5
username: admin

C:\k3d> **k3d node list**

NAME	ROLE	CLUSTER	STATUS
k3d-demo-agent-0	agent	demo	running
k3d-demo-agent-1	agent	demo	running
k3d-demo-agent-2	agent	demo	exited
k3d-demo-server-0	server	demo	exited
k3d-demo-server-1	server	demo	exited
k3d-demo-server-2	server	demo	running
k3d-demo-serverlb	loadbalancer	demo	running

C:\k3d> **mkdir .kube**

C:\k3d> **cd .kube**

C:\k3d\.kube> **cd ..**

C:\k3d> **set KUBECONFIG_FILE=.\.kube\demo**

C:\k3d> **set | grep KUBE**

KUBECONFIG_FILE=.\.kube\demo

C:\k3d> **k3d cluster list**

NAME	SERVICES	AGENTS	LOADBALANCER
demo	1/1	3/3	true

C:\k3d> **k3d kubeconfig get demo > %KUBECONFIG_FILE%**

C:\k3d> **type %KUBECONFIG_FILE%**

apiVersion: v1
clusters:
- cluster:

```
certificate-authority-data:
LS0tLS1CRUdJTiBDRVJUSUZJQ0FURStLS0tCk1JSUJWekNCL3FBREFnRUNBZ0VTUUFvR
0NDcUdTTTQ5QkFNQ01DTXhJVEFmQmdOVkKJBTU1HR3N6Y3kxelpYSjIKWlhJdFkyRkFNVF
U1T1RZM01qUTRPEFIRncweU1EQTVNRGt4TnpJNE1EbGFGdzB6TURBNU1EY3hOekk0TU
RsYQpNQ014SVRBZk1JnTIZCQU1NR0dzemN5MXpaWEoyWlhJdFkyRkFNVFU1T1RZM01qUT
RPVEJaTUJNR0J5cUdTTTQ5CkFnRUdDQ3FHU000OUF3RUhBMEIBQkdmRm53RUtycFVtbV
h3ckVFUFdaYSsxZWdYQWhPV2ZUZEorZU94UWo4U3kKUDgzSTJQbDYrTUQ4OUNMTIRtb
E1Ebk5pM3FvS1N0ZHdGZFRhOFRHQUxTS2pJekFoTUE0R0ExVWREd0VCL3dRRQpBd0IDc
ERBUEJnTIZiUk1CQWY4RUJUQURBUUgvTUFvR0NDcUdTTTQ5QkFNQ0EwZ0FNRVVSUF
VOGpaQ0RORkhMCkpDVkdOd2I2UXhxS0xPekp1NUtYV2JNdGZ0VVB4Ymc4QWIFQXNkQXF
JRm90R2JPcV4OUxudU45eStrTU44M1AKU1pPWWRGMElyNUV2dXgwPQotLS0tLUVORCB
DRVJUSUZJQ0FURStLS0tCg==
server: https://0.0.0.0:6550
name: k3d-demo
contexts:
- context:
    cluster: k3d-demo
    user: admin@k3d-demo
    name: k3d-k3d-rancher
current-context: k3d-demo
kind: Config
preferences: {}
users:
- name: admin@k3d-demo
  user:
    password: dd79f910ebe64a30855bcd38b7425b98
    username: admin
```

```
C:\k3d> set KUBECONFIG=%KUBECONFIG_FILE%
```

```
C:\k3d> kubectl cluster-info
```

```
Kubernetes master is running at https://0.0.0.0:6550
CoreDNS is running at https://0.0.0.0:6550/api/v1/namespaces/kube-system/services/kube-
dns:dns/proxy
Metrics-server is running at https://0.0.0.0:6550/api/v1/namespaces/kube-
system/services/https:metrics-server:/proxy
```

```
C:\k3d> k3d cluster delete demo
```

```
[36mINFO[0m[0000] Deleting cluster 'demo'
[36mINFO[0m[0001] Deleted k3d-demo-serverlb
[36mINFO[0m[0001] Deleted k3d-demo-agent-2
[36mINFO[0m[0002] Deleted k3d-demo-agent-1
[36mINFO[0m[0003] Deleted k3d-demo-agent-0
[36mINFO[0m[0003] Deleted k3d-demo-server-2
[36mINFO[0m[0003] Deleted k3d-demo-server-1
[36mINFO[0m[0003] Deleted k3d-demo-server-0
[36mINFO[0m[0003] Deleting cluster network
'7f899c3403da533a8429f782ed2d5e1090d8eaaa605a886cba48c4d36ecc4413'
```

```
[36mINFO[0m[0003] Deleting image volume 'k3d-demo-images'  
[36mINFO[0m[0003] Removing cluster details from default kubeconfig...  
[36mINFO[0m[0003] Removing standalone kubeconfig file (if there is one)...  
[36mINFO[0m[0003] Successfully deleted cluster demo!
```