

## Домашна 6 - Kubernetes (Intro)

1. kubectl version --client

```
marko@Marko-PC MINGW64 ~  
$ kubectl version --client  
Client Version: v1.32.2  
Kustomize Version: v5.5.0
```

2. choco install k3d

```
PS C:\WINDOWS\system32> choco install k3d  
Chocolatey v2.4.3  
Installing the following packages:  
k3d  
By installing, you accept licenses for the packages.  
Downloading package from source 'https://community.chocolatey.org/api/v2/'  
k3d v5.8.3 [Approved]  
k3d package files install completed. Performing other installation steps.  
ShimGen has successfully created a shim for k3d.exe  
The install of k3d was successful.  
Deployed to 'C:\ProgramData\chocolatey\lib\k3d'  
  
Chocolatey installed 1/1 packages.  
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).  
  
Did you know the proceeds of Pro (and some proceeds from other  
licensed editions) go into bettering the community infrastructure?  
Your support ensures an active community, keeps Chocolatey tip-top,  
plus it nets you some awesome features!  
https://chocolatey.org/compare
```

### 3. k3d cluster create mycluster --servers 3 --agents 5

```
marko@Marko-PC MINGW64 ~
$ k3d cluster create mycluster --servers 3 --agents 5
INFO[0000] Prep: Network
INFO[0000] Created network 'k3d-mycluster'
INFO[0000] Created image volume k3d-mycluster-images
INFO[0000] Starting new tools node...
INFO[0000] Creating initializing server node
INFO[0000] Creating node 'k3d-mycluster-server-0'
INFO[0001] Pulling image 'ghcr.io/k3d-io/k3d-tools:5.8.3'
INFO[0001] Pulling image 'docker.io/rancher/k3s:v1.31.5-k3s1'
INFO[0003] Starting node 'k3d-mycluster-tools'
INFO[0012] Creating node 'k3d-mycluster-server-1'
INFO[0014] Creating node 'k3d-mycluster-server-2'
INFO[0014] Creating node 'k3d-mycluster-agent-0'
INFO[0015] Creating node 'k3d-mycluster-agent-1'
INFO[0016] Creating node 'k3d-mycluster-agent-2'
INFO[0016] Creating node 'k3d-mycluster-agent-3'
INFO[0017] Creating node 'k3d-mycluster-agent-4'
INFO[0017] Creating LoadBalancer 'k3d-mycluster-serverlb'
INFO[0018] Pulling image 'ghcr.io/k3d-io/k3d-proxy:5.8.3'
INFO[0023] Using the k3d-tools node to gather environment information
INFO[0024] Starting new tools node...
INFO[0024] Starting node 'k3d-mycluster-tools'
INFO[0025] Starting cluster 'mycluster'
INFO[0025] Starting the initializing server...
INFO[0026] Starting node 'k3d-mycluster-server-0'
INFO[0028] Starting servers...
INFO[0029] Starting node 'k3d-mycluster-server-1'
INFO[0050] Starting node 'k3d-mycluster-server-2'
INFO[0064] Starting agents...
INFO[0064] Starting node 'k3d-mycluster-agent-1'
INFO[0065] Starting node 'k3d-mycluster-agent-2'
INFO[0065] Starting node 'k3d-mycluster-agent-3'
INFO[0065] Starting node 'k3d-mycluster-agent-4'
INFO[0065] Starting node 'k3d-mycluster-agent-0'
INFO[0071] Starting helpers...
INFO[0071] Starting node 'k3d-mycluster-serverlb'
INFO[0078] Injecting records for hostAliases (incl. host.k3d.internal) and for 10 network members in to CoreDNS configmap...
INFO[0080] Cluster 'mycluster' created successfully!
INFO[0080] You can now use it like this:

kubectrl cluster-info
```

### 4. k3d node list

```
marko@Marko-PC MINGW64 ~
$ k3d node list
```

NAME	ROLE	CLUSTER	STATUS
k3d-mycluster-agent-0	agent	mycluster	running
k3d-mycluster-agent-1	agent	mycluster	running
k3d-mycluster-agent-2	agent	mycluster	running
k3d-mycluster-agent-3	agent	mycluster	running
k3d-mycluster-agent-4	agent	mycluster	running
k3d-mycluster-server-0	server	mycluster	running
k3d-mycluster-server-1	server	mycluster	running
k3d-mycluster-server-2	server	mycluster	running
k3d-mycluster-serverlb	loadbalancer	mycluster	running
k3d-mycluster-tools		mycluster	running

### 5. kubectrl get pods --all-namespaces

```
marko@Marko-PC MINGW64 ~  
$ kubectl get nodes --all-namespaces  
E0511 00:25:15.563266 17108 memcache.go:265] "Unhandled Error" err="couldn't get current server API group list: Get \"http://host.docker.internal:55345/api?timeout=32s\": dial tcp 192.168.0.101:55345: connectex: No connection could be made because the target machine actively refused it."
```

6. k3d cluster delete mycluster

```
marko@Marko-PC MINGW64 ~  
$ k3d cluster delete mycluster  
INFO[0000] Deleting cluster 'mycluster'  
INFO[0011] Deleting cluster network 'k3d-mycluster'  
INFO[0012] Deleting 1 attached volumes...  
INFO[0012] Removing cluster details from default kubeconfig...  
INFO[0012] Removing standalone kubeconfig file (if there is one)...  
INFO[0012] Successfully deleted cluster mycluster!
```

7. k3d cluster list

```
marko@Marko-PC MINGW64 ~  
$ k3d cluster list  
NAME      SERVERS  AGENTS  LOADBALANCER
```