micro8ks - kubernetes

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Installation

To install MicroK8s on Ubuntu, you can follow these steps

To install MicroK8s on Ubuntu, you can follow these steps:

1. Open a terminal on your Ubuntu machine.

2. Update your system's package list by running the following command:

```
sudo apt update
```

3. Install MicroK8s using snap, which is a package management system on Ubuntu:

```
sudo snap install microk8s --classic
```

The `--classic` flag is used to enable classic snap confinement, allowing MicroK8s to access the host system.

4. After the installation is complete, add your user to the `microk8s` group so that you can run MicroK8s commands without using `sudo`:

```
sudo usermod -a -G microk8s <your-username>
```

Replace `<your-username>` with your actual username.

5. To enable required permissions for your user, run the following command:

```
sudo chown -f -R <your-username> ~/.kube
```

6. You will need to log out and log back in for the group changes to take effect. So, close the terminal and open a new one.

7. Verify that MicroK8s is up and running by checking the status:

```
microk8s status --wait-ready
```

This command will wait until all the MicroK8s services are running.

8. To enable some useful add-ons, you can use the following commands:

```
microk8s enable dns
```

```
microk8s enable hostpath-storage
```

9. install Kubernetes dashboard, see nect page

To install the Kubernetes dashboard and set up HTTPS access, you can follow these steps:

To install the Kubernetes dashboard and set up HTTPS access, you can follow these steps:

1. Install the Kubernetes dashboard by running the following command:

```
microk8s enable dashboard
```

2. Verify that the dashboard has been successfully installed by checking its status:

```
microk8s kubectl get services -n kube-system
```

Look for a service named `kubernetes-dashboard` in the `kube-system` namespace. Make a note of the port number (usually 443) associated with the service.

3. Generate a self-signed SSL certificate for HTTPS access. Run the following commands to create a directory for the certificates and generate the certificate:

```
sudo mkdir /var/snap/microk8s/current/certs
```

```
sudo microk8s kubectl create secret generic kubernetes-dashboard-certs --from-file=/var/snap/microk8s/current/certs -n kube-system
```

4. Access the dashboard with HTTPS by creating a proxy using the `kubectl` command. Replace `<port>` with the port number noted from step 2:

```
microk8s kubectl proxy --port=<port> --address='0.0.0.0' --accept-hosts='.*'
```

5. Open a web browser and navigate to

```
https://localhost:<port>/api/v1/namespaces/kube-system/services/https:kubernetes-dashboard:/proxy/
```

Replace `<port>` with the same port number used in step 4.

6. You will encounter a security warning due to the self-signed certificate. Accept the warning and proceed to access the Kubernetes dashboard.

Please note that using a self-signed certificate poses security risks, and it's recommended to use a valid SSL certificate from a trusted certificate authority for production environments.

To automatically start the Kubernetes dashboard after booting your Ubuntu machine

To automatically start the Kubernetes dashboard after booting your Ubuntu machine, you can create a systemd service unit. Here's how you can do it:

1. Open a terminal on your Ubuntu machine.

2. Create a new systemd service unit file using a text editor. For example, you can use the following command to create the file with the Nano text editor:
   ```
   sudo nano /etc/systemd/system/microk8s-dashboard.service
   ```

3. Add the following content to the service unit file:
   ```
   [Unit]
   Description=MicroK8s Kubernetes Dashboard
   After=network.target

   [Service]
   ExecStart=/snap/bin/microk8s.kubectl proxy --port=8001 --address='0.0.0.0' --accept-hosts='.*'
   Restart=always
   RestartSec=10

   [Install]
   WantedBy=multi-user.target
   ```

   This configuration defines a service unit for the Kubernetes dashboard, specifying the command to start the proxy and enabling automatic restarts.

4. Save the file and exit the text editor. In Nano, you can do this by pressing Ctrl+O, then Enter to save, and Ctrl+X to exit.

5. Enable the service to start automatically on boot by running the following command:
   ```
   sudo systemctl enable microk8s-dashboard
   ```

6. Start the service manually for the current session by running:
   ```
   sudo systemctl start microk8s-dashboard
   ```

7. Verify that the service is running without any errors by checking its status:
   ```
   sudo systemctl status microk8s-dashboard
   ```

   If everything is set up correctly, the status should indicate that the service is active (running).

After following these steps, the Kubernetes dashboard should start automatically after each boot. You can access it from any machine on the network by using the appropriate URL, as mentioned in the previous responses.

Installation

kubectl

sudo snap install kubectl --classic

microk8s.kubectl config view --raw > $HOME/.kube/microk8s.config

add the minik8s cluster to kubectl

~~-kubectl config set-cluster microk8s-cluster --server=http://127.0.0.1:8080 --insecure-skip-tls-verify~~

ich habe stattdessen

```
microk8s.kubectl config view --raw > $HOME/.kube/config
```

verwendet

create the microk8s context

```
kubectl config set-context microk8s --user=admin --cluster=microk8s-cluster
```

switch to the microk8s context

```
kubectl config use-context microk8s
```

die Datei auf einem externen Rechner kopieren:

```
scp USERNAME@HOST:/home/USERNAME/.kube/config config
```

Installation

Change kubectl editor

sudo -H nano /etc/environment

insert new line: KUBE_EDITOR="nano"

Dashboard WithOut Proxy

Enable additional Add-Ons

We will need to enable a few additional Kubernetes add-ons to get this functionality up and running.

```
microk8s enable ingress # Ingress exposes HTTP and HTTPS routes from outside the cluster to services within the cluster.
microk8s enable dashboard # web-based Kubernetes user interface
microk8s enable dns # creates DNS records for services and pods
microk8s enable storage # provide both long-term and temporary storage to Pods in your cluster.
```

Enable Host Access

We need to alos enable one more additional add-on `host-access` to enable the access to services running on the host machine via fixed IP address.

We can enable to make use of the default address

```
microk8s enable host-access
```

Edit Kubernetes Dashboard Service

We need to edit the kubernetes-dashboard service file which provides dash-board functionality. To to edit this we need to edit dashboard service and change service **type** from **ClusterIP** to **NodePort**.

We use the following command to edit the file using vim.

```
kubectl -n kube-system edit service kubernetes-dashboard
```

This should open the contents of the file in vim and it should look something similar file below

You need to change `type` to `NodePort`

```
# Please edit the object below. Lines beginning with a '#' will be ignored,
# and an empty file will abort the edit. If an error occurs while saving this file will be
# reopened with the relevant failures.
#
apiVersion: v1
kind: Service
metadata:
annotations:
kubectl.kubernetes.io/last-applied-configuration: |
{"apiVersion":"v1","kind":"Service","metadata":{"annotations":{},"labels":{"k8s-app":"kubernetes-dashboard"},"name":"kubernetes-dashboard","namespace":"kube-system"},"spec":{"ports":[{"port":443,"targetPort":8443}],"selector":{"k8s-app":"kubernetes-dashboard"}}}
creationTimestamp: "2022-03-09T14:10:50Z"
labels:
k8s-app: kubernetes-dashboard
name: kubernetes-dashboard
namespace: kube-system
resourceVersion: "1029725"
selfLink: /api/v1/namespaces/kube-system/services/kubernetes-dashboard
uid: b2608643-a712-4b44-abad-160cf140df49
spec:
clusterIP: 10.152.183.220
clusterIPs:
- 10.152.183.220
externalTrafficPolicy: Cluster
internalTrafficPolicy: Cluster
ipFamilies:
- IPv4
ipFamilyPolicy: SingleStack
ports:
- nodePort: 30536
port: 443
protocol: TCP
targetPort: 8443
selector:
k8s-app: kubernetes-dashboard
sessionAffinity: None
type: clusterIP ## Change this to NodePort
status:
loadBalancer: {}
```

Once you save and exit the file K8s will automatically restart the service.

We can then get the Port the service is running by using the following command

kubectl -n kube-system get services

Which should display something similar to the below and which we can see that the Dashboard is available on port `30536` in my case

Check Port

```
sudo snap install nmap
```

```
nmap localhost -p 32061
```

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
metrics-server ClusterIP 10.152.183.108 <none> 443/TCP 7d4h
dashboard-metrics-scraper ClusterIP 10.152.183.170 <none> 8000/TCP 7d4h
kube-dns ClusterIP 10.152.183.10 <none> 53/UDP,53/TCP,9153/TCP 7d4h
kubernetes-dashboard NodePort 10.152.183.220 <none> 443:30536/TCP 7d4h

We can now open our Firefox browser on any workstation on our network and navigate to `https://{server ip}:{port number}` in my case it is https://192.168.0.35:30536

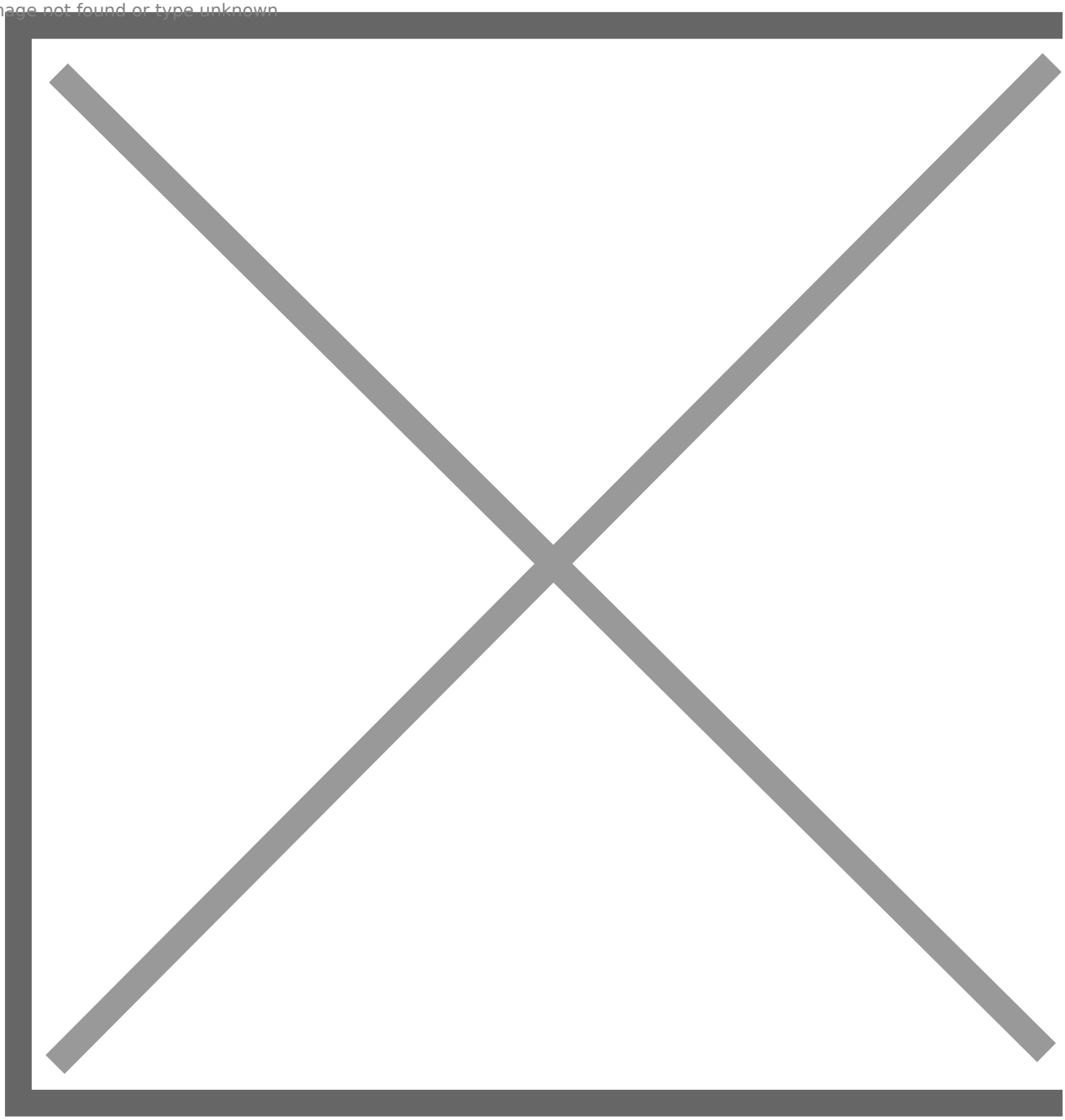
Get the token

We need to get the token from the server so we can do so using the following command in the server terminal

```
token=$(kubectl -n kube-system get secret | grep default-token | cut -d " " -f1) kubectl -n kube-system describe secret $token
```

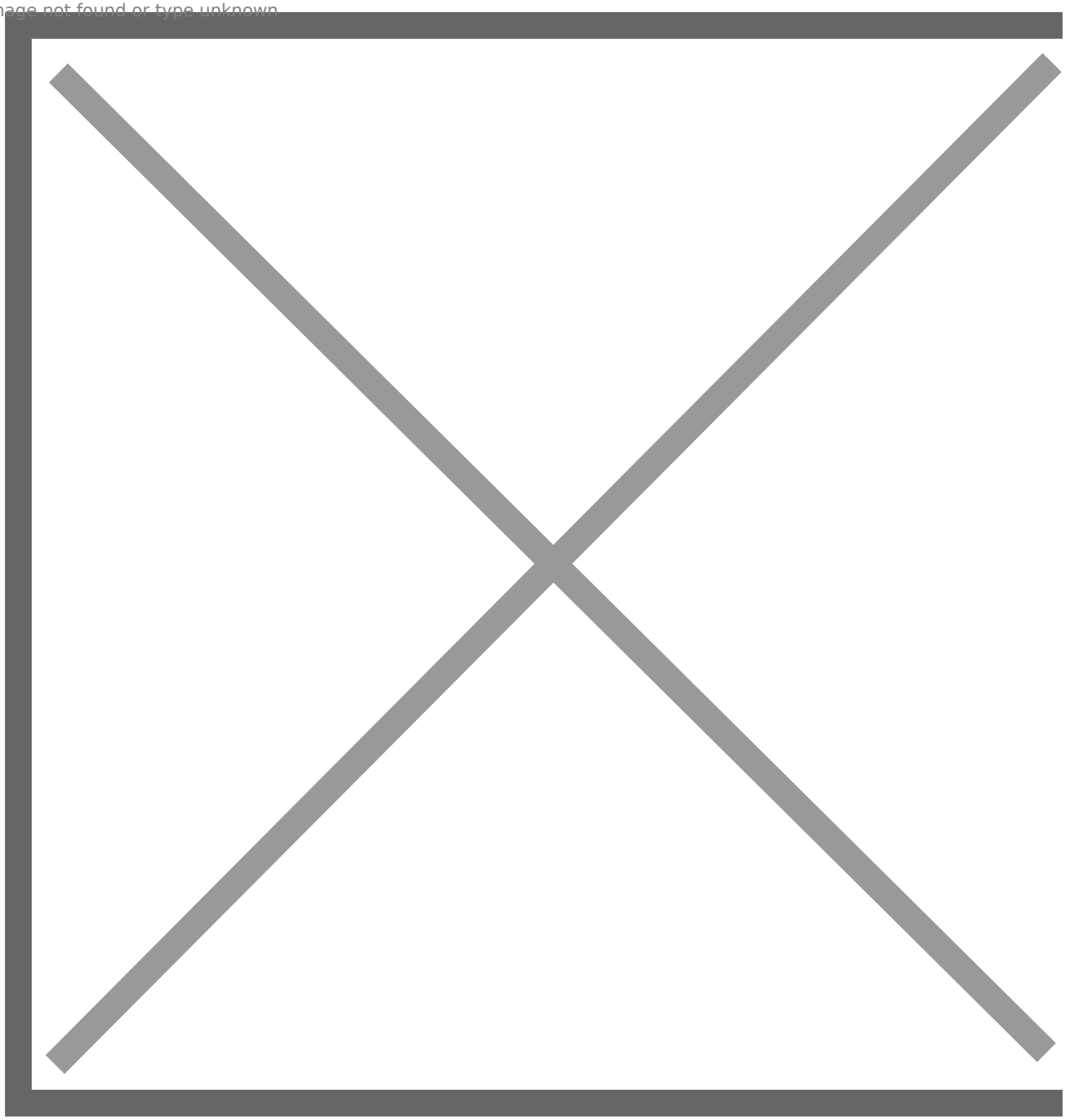
This should return something similar too

Image not found or type unknown



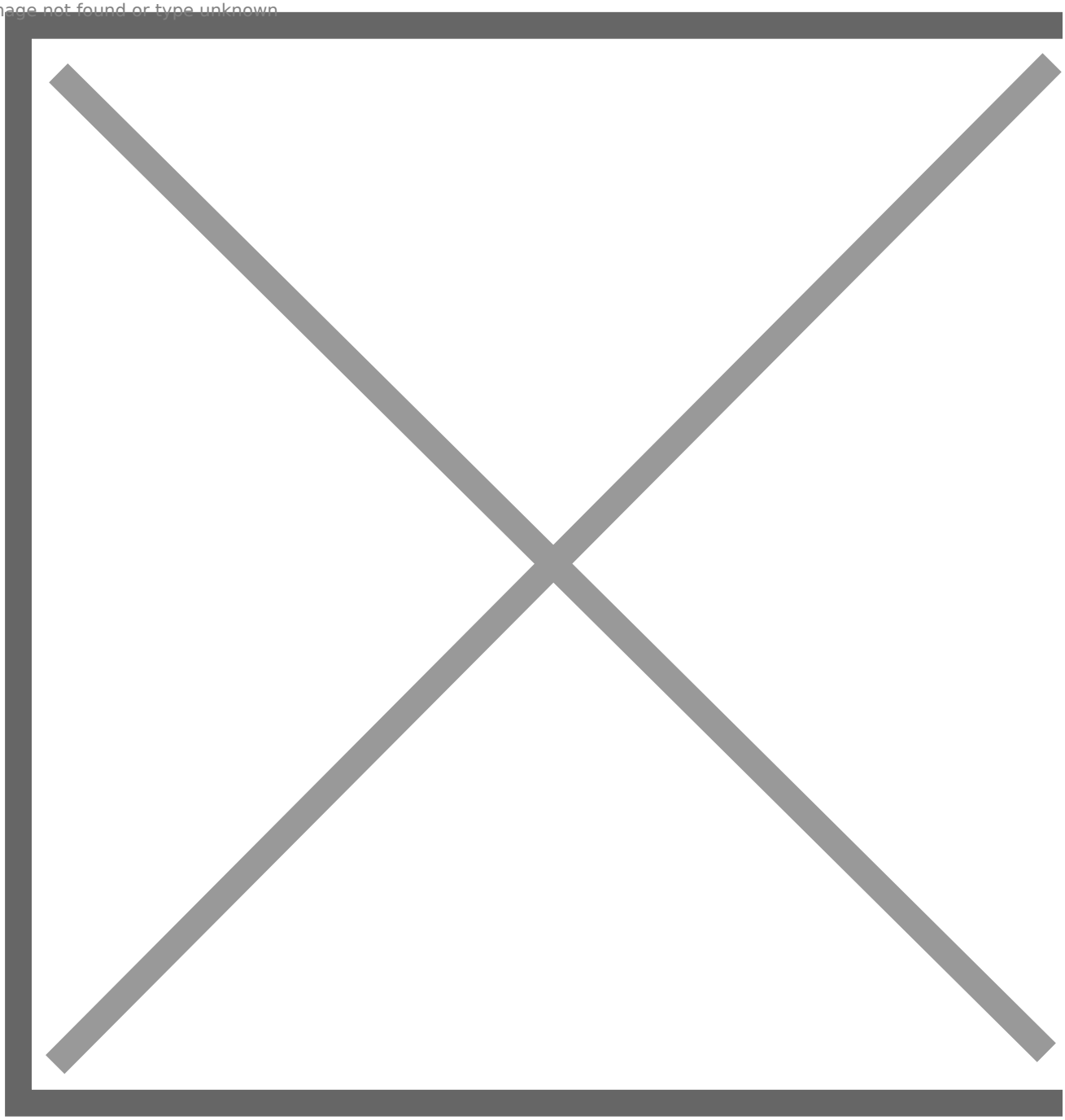
Copy the token text and paste it into the login dialog in the browser

Image not found or type unknown



Then you should be able to login with ease.

Image not found or type unknown



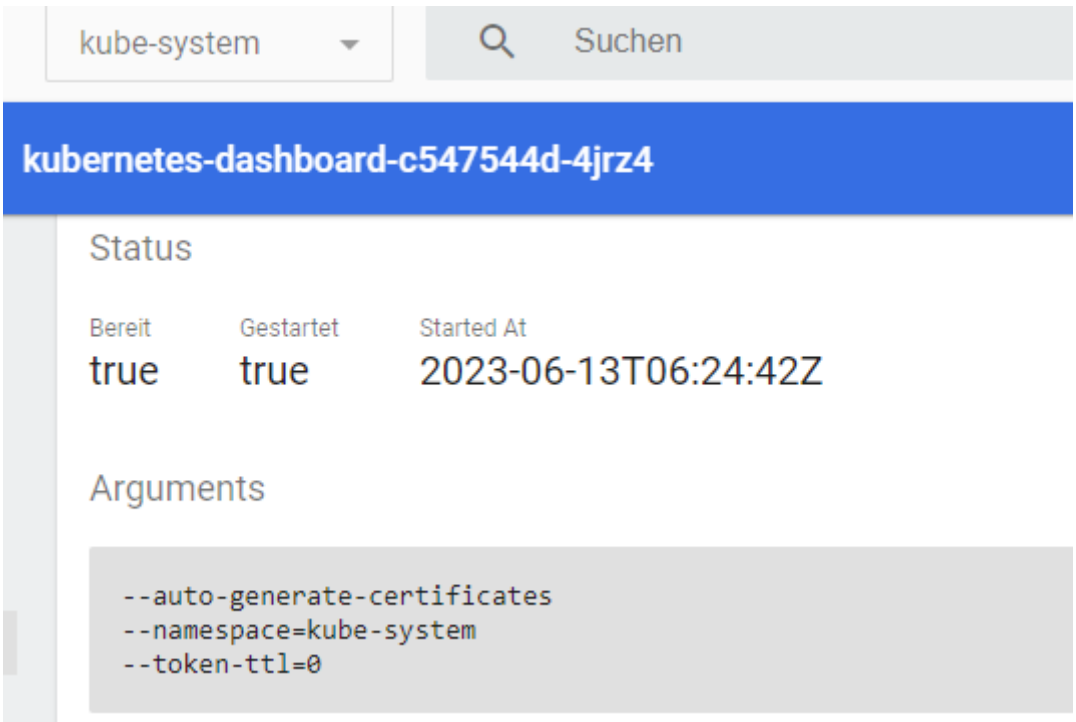
Installation

Dashboard - TimeOut

kubectl -n kube-system edit deployments kubernetes-dashboard

- --token-ttl=0

```
spec:
    containers:
    - args:
      - --auto-generate-certificates
      - --token-ttl=0
```



Dashboard Get Token

sudo cat /var/snap/microk8s/current/credentials/client.config

To use a container registry with MicroK8s, you can follow these steps:

To use a container registry with MicroK8s, you can follow these steps:

1. Enable the `registry` add-on in MicroK8s by running the following command:
   ```bash
   microk8s enable registry
   ```

   This command will start a local container registry in your MicroK8s cluster.

2. Verify that the `registry` add-on is running by checking the status:
   ```bash
   microk8s status | grep registry
   ```

   The output should show `enabled` next to the `registry` add-on.

3. Push an image to the local container registry. First, tag an existing Docker image with the address of the local registry. For example:
   ```bash
   docker tag my-image:latest localhost:32000/my-image:latest
   ```

   Replace `my-image` with the name of your image. The address `localhost:32000` corresponds to the default address of the local registry in MicroK8s.

4. Push the tagged image to the local container registry:
   ```bash
   docker push localhost:32000/my-image:latest
   ```

   This will push the image to the local registry within MicroK8s.

5. Use the image from the local registry in your Kubernetes manifests or deployments. Update your YAML files to reference the image from the local registry. For example:

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: my-pod
spec:
  containers:
    - name: my-container
      image: localhost:32000/my-image:latest
```

Replace `my-image` with the name of your image, and `localhost:32000` with the address of the local registry.

MicroK8s will now use the local container registry for pulling images within your cluster.

Please note that the local container registry in MicroK8s uses port `32000` by default. If you encounter any issues or conflicts with this port, you can customize the port by modifying the `registry` add-on configuration.

By following these steps, you can enable and use a local container registry with MicroK8s to push and pull container images within your cluster.

To resolve this issue, you can configure Docker to allow insecure connections to the local registry by following these steps:

1. Open the Docker configuration file (`daemon.json`) for editing. The location of this file depends on your operating system:
   - Linux: `/etc/docker/daemon.json`
   - Windows: `C:\ProgramData\Docker\config\daemon.json`
   - macOS: `~/Library/Group Containers/group.com.docker/daemon.json`
2. If the file doesn't exist, create it.
3. Add the following content to the `daemon.json` file:
   json Copy code
   ```
   {
    "insecure-registries": ["192.168.178.100:32000"]
   }
   ```
   Replace `192.168.178.100:32000` with the IP address and port of your local container registry.
4. Save the changes to the `daemon.json` file.
5. Restart the Docker daemon for the changes to take effect. The procedure for restarting the Docker daemon varies depending on your operating system. You can usually do this by restarting the Docker service or using the Docker desktop application.

6. ```
   sudo snap restart docker.dockerd
   ```

Once Docker is configured to allow insecure connections, you should be able to push images to the local container registry without encountering the HTTPS error.
   ```

Installationanleitung 2

1. The first thing to do is open a command line on your Ubuntu system and execute the following `snap` command to install MicroK8s:

   ```
   sudo snap install microk8s --classic
   ```

2. Then, execute the following commands to configure Ubuntu's ufw firewall to allow communication between the Kubernetes pods and traffic to and from the internet to pods.

   ```
   sudo ufw allow in on cni0
   sudo ufw allow out on cni0
   sudo ufw default allow routed
   ```

3. Next, add your current user to the MicroK8s user group so you have access to all of the necessary commands:

   ```
   sudo usermod -a -G microk8s $USER
   sudo mkdir ~/.kube && sudo chown -R $USER ~/.kube
   sudo newgrp microk8s
   ```

4. The MicroK8s deployment only has the essential elements enabled out of the box. You can see a full list with the following command:

   ```
   microk8s status
   ```

5. You can enable any number of needed services with the following commands. Enable all of the services that you will need:

   ```
   $ microk8s enable dns
   $ microk8s enable dashboard
   $ microk8s enable storage
   $ microk8s enable ingress
   $ microk8s enable gpu
   $ microk8s enable istio
   $ microk8s enable registry
   ```

   To disable any of these services later, just issue the same command but replace `enable` with `disable`:

   ```
   $ microk8s disable dns
   ```

6. You can see the status of your services with the following command. They are ready to go once they switch to the ‘Running’ status:

```
$ microk8s kubectl get all --all-namespaces
```

Image not found or type unknown
Checking the status of services in MicroK8s on Ubuntu Linux
Checking the status of services in MicroK8s on Ubuntu Linux

7. As we can see in the screenshot above, our Cluster IP Kubernetes dashboard is `10.152.183.38` but yours might be different, so be sure to check. We can now navigate to this address in our browser to access the web based dashboard.

Image not found or type unknown
Accessing the MicroK8s web based dashboard in Firefox
Accessing the MicroK8s web based dashboard in Firefox

8. To log in to the web based dashboard, generate a token with the following commands, and then paste it into login prompt in Firefox.

```
$ token=$(microk8s kubectl -n kube-system get secret | grep default-token | cut -d " " -f1)
$ microk8s kubectl -n kube-system describe secret $token
```

9. You can now get started with deploying your containerized application, or follow along with the three commands below to deploy, and expose a microbot service as an example and proof of concept:

```
$ microk8s kubectl create deployment microbot --image=dontrebootme/microbot:v1
$ microk8s kubectl scale deployment microbot --replicas=2
$ microk8s kubectl expose deployment microbot --type=NodePort --port=80 --name=microbot-service
```

10. You will see your new deployment in the output when executing:

```
$ microk8s kubectl get all --all-namespaces
```

11. To see all of the other MicroK8s commands available, you can use the `-h` option and view a full list:

```
$ microk8s -h
```

12. If, after your testing, you need to get rid of MicroK8s, you can execute:

```
$ microk8s stop
$ sudo snap remove microk8s
```

Dashboard

Dashboard - enable-skip-login

microk8s.kubectl edit deployment/kubernetes-dashboard --namespace=kube-system

```
spec:
      containers:
      - args:
        - --auto-generate-certificates
        - --enable-skip-login
        image: k8s.gcr.io/kubernetes-dashboard-amd64:v1.10.1
"/tmp/kubectl-edit-snu9z.yaml" 102L, 4077C
```

Dashboard - Remote Access

sudo crontab -e

@reboot sleep 60 && /snap/bin/microk8s dashboard-proxy > /tmp/dashboard-start.txt

Dashboard Get Token

sudo cat /var/snap/microk8s/current/credentials/client.config

Docker Desktop Dashboard

```
kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.7.0/aio/deploy/recommended.yaml
```

kubectl proxy

http://localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/#/workloads?namespace=default

Erstellen und speichern Sie die folgende Definition als **s.yml** . Wenden Sie diese Konfiguration dann mit **kubectl apply -f s.yml an**

```
apiVersion: v1
kind: ServiceAccount
metadata:
  name: admin-user
  namespace: kubernetes-dashboard
```

Erstellen und speichern Sie die folgende Definition als **r.yml** . Wenden Sie diese Konfiguration dann mit **kubectl apply -f r.yml an**

```
apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
  name: admin-user
roleRef:
  apiGroup: rbac.authorization.k8s.io
  kind: ClusterRole
  name: cluster-admin
subjects:
- kind: ServiceAccount
  name: admin-user
  namespace: kubernetes-dashboard
```

Führen Sie dann den folgenden Befehl aus:

```
kubectl -n kubernetes-dashboard get Secret $(kubectl -n kubernetes-dashboard get sa/admin-user -o jsonpath="{
```

Fügen Sie das Token in den vorherigen Link ein, und Sie erhalten ein funktionierendes Dashboard für Ihren lokalen Cluster.

Deploying the Dashboard UI

https://kubernetes.io/docs/tasks/access-application-cluster/web-ui-dashboard/

create sample user

The Dashboard UI is not deployed by default. To deploy it, run the following command:

```
kubectl apply -f https://raw.githubusercontent.com/kubernetes/dashboard/v2.7.0/aio/deploy/recommended.yaml
```

Accessing the Dashboard UI

To protect your cluster data, Dashboard deploys with a minimal RBAC configuration by default. Currently, Dashboard only supports logging in with a Bearer Token. To create a token for this demo, you can follow our guide on creating a sample user.

> **Warning:** The sample user created in the tutorial will have administrative privileges and is for educational purposes only.

Command line proxy

You can enable access to the Dashboard using the `kubectl` command-line tool, by running the following command:

```
kubectl proxy
```

Kubectl will make Dashboard available at http://localhost:8001/api/v1/namespaces/kubernetes-dashboard/services/https:kubernetes-dashboard:/proxy/.

The UI can *only* be accessed from the machine where the command is executed. See `kubectl proxy --help` for more options.

```
```

> **Note:** The kubeconfig authentication method does **not** support external identity providers or X.509 certificate-based authentication.

Welcome view

When you access Dashboard on an empty cluster, you'll see the welcome page. This page contains a link to this document as well as a button to deploy your first application. In addition, you can view which system applications are running by default in the `kube-system` namespace of your cluster, for example the Dashboard itself.

Creating sample user

https://github.com/kubernetes/dashboard/blob/master/docs/user/access-control/creating-sample-user.md

In this guide, we will find out how to create a new user using the Service Account mechanism of Kubernetes, grant this user admin permissions and login to Dashboard using a bearer token tied to this user.

IMPORTANT: Make sure that you know what you are doing before proceeding. Granting admin privileges to Dashboard's Service Account might be a security risk.

For each of the following snippets for `ServiceAccount` and `ClusterRoleBinding`, you should copy them to new manifest files like `dashboard-adminuser.yaml` and use `kubectl apply -f dashboard-adminuser.yaml` to create them.

Creating a Service Account

We are creating Service Account with the name `admin-user` in namespace `kubernetes-dashboard` first.

```
apiVersion: v1
kind: ServiceAccount
metadata:
  name: admin-user
  namespace: kubernetes-dashboard
```

Creating a ClusterRoleBinding

In most cases after provisioning the cluster using `kops`, `kubeadm` or any other popular tool, the `ClusterRole` `cluster-admin` already exists in the cluster. We can use it and create only a `ClusterRoleBinding` for our `ServiceAccount`. If it does not exist then you need to create this role first and grant required privileges manually.

```
apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
  name: admin-user
roleRef:
```

```
  apiGroup: rbac.authorization.k8s.io
  kind: ClusterRole
  name: cluster-admin
subjects:
- kind: ServiceAccount
  name: admin-user
  namespace: kubernetes-dashboard
```

Getting a Bearer Token

Now we need to find the token we can use to log in. Execute the following command:

```
kubectl -n kubernetes-dashboard create token admin-user
```

It should print something like:

```
eyJhbGciOiJSUzI1NiIsImtpZCI6IiJ9.eyJpc3MiOiJrdWJlcm5ldGVzL3NlcnZpY2VhY2NvdW50Iiwia3ViZXJuZXRlcy5pby9zZXJ2aWNlYWNjb3VudC9uYW1lc3BhY2UiOiJrdWJlcm5ldGVzLWRhc2hib2FyZCIsImt1YmVybmV0ZXMuaW8vc2VydmljZWFjY291bnQvc2VjcmV0Lm5hbWUiOiJhZG1pbi11c2VyLXRva2VuLXY1N253Iiwia3ViZXJuZXRlcy5pby9zZXJ2aWNlYWNjb3VudC9zZXJ2aWNlLWFjY291bnQubmFtZSI6ImFkbWluLXVzZXIiLCJrdWJlcm5ldGVzLmlvL3NlcnZpY2VhY2NvdW50L3NlcnZpY2UtYWNjb3VudC51aWQiOiIwMzAzMjQzYy00MDQwLTRhNTgtOGE0Ny04NDllZTliYTc5YzEiLCJzdWIiOiJzeXN0ZW06c2VydmljZWFjY291bnQ6a3ViZXJuZXRlcy1kYXNoYm9hcmQ6YWRtaW4tdXNlciJ9.Z2JrQlitASVwWbc-s6deLRFVk5DWD3P_vjUFXsqVSY10pbjFLG4njoZwh8p3tLxnX_VBsr7_6bwxhWSYChp9hwxznemD5x5HLtjb16kI9Z7yFWLtohzkTwuFbqmQaMoget_nYcQBUC5fDmBHRfFvNKePh_vSSb2h_aYXa8GV5AcfPQpY7r461itme1EXHQJqv-SN-zUnguDguCTjD80pFZ_CmnSE1z9QdMHPB8hoB4V68gtswR1VLa6mSYdgPwCHauuOobojALSaMc3RH7MmFUumAgguhqAkX3Omqd3rJbYOMRuMjhANqd08piDC3aIabINX6gP5-Tuuw2svnV6NYQ
```

Now copy the token and paste it into the `Enter token` field on the login screen.

Sing in
Image not found or type unknown

Click the `Sign in` button and that's it. You are now logged in as an admin.

kubectl config

sample config file

```
apiVersion: v1
clusters:
- cluster:
    certificate-authority-data:
LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSUMvakNDQWVhZ0F3SUJBZ0lCQURBTkJna3Foa2lHO
XcwQkFRc0ZBREFWTVJNd0VRWURWUVFERXdwcmRXSmwKY201bGRHVnpNQjRYRFRJek1EVXlNakEy
TWpZME5Gb1hEVE16TURVeE9UQTJNalkwTkZvd0ZURVRNQkVHQTFVRQpBeE1LYTNWaVpYSnVaWFJs
Y3pDQ0FTSXdEUVlKS29aSWh2Y05BUUVCQlFBRGdnRVBBRENDQVFvQ2dnRUJBTmpXClRJeEZxTVJDO
EdSdElsbXlHZVpNUEs4aVRYbGxhcFNJQSsvcEp2a0VkZzBMdWxkU0VoU1JDd1NrckpUVkJhZXMKMVQz
YjR5WlEzSTZ1LzcvYTR3Qkt2eHYyVm4xM0kwZFJDTy8zNHUwdk82cHdoZi9wK3Q3bUJKUENoeGx0cW
ZJegpFalZZbzErTFZ5MVJjamY3ZjhDNWppQThlQlNmYUNrRGFnR012a1FMcndCR1o1UlNiTjJuUGVkWG
4zZVhoTVVTCm5xTkhUYVhpVnRyZkxpNDNFbkhFUVBGVlR1RCtRSGVJR212aVIrVG9aYWNDVWVCUH
M0RlY4ZE55SzJoMmYvSisKcjF3MlJmV1VvQk51UXg0c1hyQUYraTNvMEdQUnNrQTBrWnpEMTROTEk2
MDlsMTVWRXVDSUNFUkZ0c1oxNFRkbgpDL0RWNzZ0cXBnTnJLSTNUNVNVQ0F3RUFBYU5aTUZjd0Rn
WURWUjBQQVFIL0JBUURBZ0trTUE4R0ExVWRFd0VCCi93UUZNQU1CQWY4d0hRWURWUjBPQkJZRUZ
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FpYTXdEUVlKS29aSWh2Y05BUUVMQlFBRGdnRUJBSFFPUitNK0RReEdTRzcrcWRBOAowdTdQem5YVV
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B6S0pPSVdGdDB5SnptSTMrT3NQYmdqa05CUUhYQzljZzg2YUNCa0RrNkNpanRsWkxtS0NLNGZZVFlw
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cwMGZMd3Q3NFU5MApNR3JYYVhNajdXWVVOWjFtZnI5elJ5dDFwTzdSZUw5MlpVNVZHcHhRVmpPK3
VFQ3hyT1E4K0NCYmJGSlgzM2ZZCmx2VW9scXFXZ2RITnY1anpsTjEwdVdCYnhSRU5NNUxlREEvb3Qz
ZTJGbDVyOHZUM3I2TG1UeXBZVFFmZ0RBRkgKMUdFPQotLS0tLUVORCBDRVJUSUZJQ0FURS0tLS0tC
g==
    server: https://kubernetes.docker.internal:6443
  name: docker-desktop
contexts:
- context:
    cluster: docker-desktop
    user: docker-desktop
  name: docker-desktop
kind: Config
preferences: {}
users:
- name: admin
  user:
    token: Z3ZpbksyL1I4TVBCU1BNN0ltS0J2cHR2YkZkQ2RDcXlkQXVrWnJOYU9hcz0K
- name: docker-desktop
  user:
```

client-certificate-data:
LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSURRakNDQWlxZ0F3SUJBZ0lJS3RVTHFDYlkyK1l3RFF
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IQ3lsR0Y0eUJMZ1o2L3I0OVRrUXhiRUJTNQpMaHRLQmNvd0xaZmZxSlRUbXBYeU1McHIyVyswOHd1K
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K1JIS2cKekdSZXpIM0oyV1JMbVJCOWRkZXBRNTFtZDRRVHZRTmxEd2FXbkU1TGpLZzhjVHA2bmZieD
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T0cxUHBuOVZXd293d2NMNk9BcXRybzdpSG8KcHRaVi8rajFiTlZwbmF0Y1hGU2tXUkk1SWFINysvUDN
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BV1E9PQotLS0tLUVORCBDRVJUSUZJQ0FURS0tLS0tCg==
client-key-data:
LS0tLS1CRUdJTiBSU0EgUFJJVkFURSBLRVktLS0tLQpNSUlFcFFJQkFBS0NBUUVBczMvRkVkSkQ4WHFES
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U3cXBXb1ZHRGJIRS84blpvUSsvUVpERmpjUFBiYnZQOXVFRjZESVkOGlhZGZBVTAvVGdWakhXTDg5
TXNhNE1hNlJMSEFHVGNUWjFkVTlOV21XdklsZEhtai9ZUndDMzFmbzBmRldmRgpjUDJVeTk0Yk40eXRI
aHRmVHJ4YXljV1ZlT2t0QUdGTUQ5RFZkY1ZCNlJsRHdlNnhDd2tyVVhSN0tYZy82NmdMCmRQZnh3c3
BSaGVNZ1M0R2V2NitQVTVFTVd4QVV1UzRiU2dYS01DMlgzNmlVMDVxVjhqQzZhOWx2dFBNTHZqdG
kKVlFIOGM5SGRSQ1JLRng3L3JFSmxqRWJ0aDVENC9hbU1PWlMzYlFJREFRQUJBb0lCQVFDdlF4UXlvSEd
DdUxLTQpKc0FQVDkxbkMySnVTeis0bTF2MGZRQ01Qdm41RnNYRHFlYS9ISURhckV0aUF3WGd2Z0lR
WXAwMFEzMlp3MXBVCmJrakdXa3NWemdyV3ZqOXFUMmIxVXJtWVZZZHJjSytKMWxDUkw2OFpSeVJF
RXB6SHRvWmVIbFVDN05JN3ZQL2QKbkoyV2t3NXJLTEVud0J2c1hUU1lZQlZZNWdjTDlqQkM5OW9HW
FA5T0F5ZmwzT3p2R2tzT0tvMVlVUkJsZ1A2YQpRN2xnSUZGNnJ2ZnA5ZUpHSzIwQ3NoYVQzb2xHbjlX
c0p2WUYrbHZPWVFZeko1cFlTUmVyUDUxTWpma2JSUzRJClE2cGFNNGN2OWNOSmhYQThpbnFSNE1
0YmFhV21xVVUxd2RSdUdLblR4RDFtOW02Ylh5NURyUW5ZZXlwcU9xUW4KMko0SWU1WHBBb0dCQ
U5VL1diSmxPbVlpbnJ0NFkzdUJ6a2FPN3lVMFIrdlVZSU1ScTZIR295cG1RUEpYdGpmRgowZUxsZ05XW
UFyQnFmNDVPK0xJNyt6VExGdUw5YXBKejNBY1dveElGajdieE1OeDc3a2pyUUlrVDBVbEllZXlHCkJoYV
pjZDYwcFA0R0lqeTJ0UmZrSnFoL1ErWUdFZTJMb2VXeHNYRm9laElEL1pwQW1tNzh5Nk1QQW9HQkF
OZDgKVkJqdERyczlNbU5xUzk0Mm9lS2lpdWVvQXhwdlMxbUwvelREbTFPdzRsOEJzWGxnc0g3Z3M0O
StXOXNndmdjRwpnOVE2NWVVOEkrazVPakcvbU9zckJCWUNCUzhBcVpEcldZYjlydyt5ZGRGbjVtUWYz
YlppeGczd1REby92UllOCmFNb1gxSmxsZStMajlsblJObUZBSDdiQmxMRndGSlNxUEt4KzFFM0RBb0dC
QUxRSVBORFlsM29jNWtlOWRyZVlKdWpWbGZNNjdHYkVtNXFnaEpmWjVmYzFROEtub2xTVDI5S0NM
UTc2UURFMG1URFEzeGN5cnlRUWtKVmxUdTBLVApZQUg0QVlvNGVjRm9WT2tBRkFjcDNaMGN4d2NJ
a2k2Mlk3TjJybVRudTVmZVU4OVFMUWxUaTdPYlpoWnZyM2tOCjlvdTEvZW1SMitVVHkyb0wrcFdUQk5
UUEFvR0JBTDY1Umw0QmcrWnAxZTEwS2M1Mm9IWk4wNUFTZnh5b29SS1MKL01FZzJKd01sVy90dW

IxcXZReXZxWDQ2SXVjaVpjOG1Ed3lMVE92R2ZTcHlBblICMVVGZ2cyOVBQbk5Kck11ZAo0MUc5dTNL
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CjY2dnBYZE90QW9HQVlyT3JXYTlmNURER3BCTVFoTU9nTEZ6TXZ0Mys4d1ZibmV3Q0MzbGxyckdpT
G5ub3RGOFQKQzlPb0crWjNoejQrdG4vS3lxV2UwbW42bEhLSURRNXBzdTlaMEl0L3c3T1ByYnVoS01jc
UZRaWMzRnd5T0szdgpTdGR4SmpUZ1lLSlJTT2kyWFNPTWlGWGRmWjFDUkVoblNXZVg5Z2hpbDVBM
HozMW50SllWQnBVPQotLS0tLUVORCBSU0EgUFJJVkFURSBLRVktLS0tLQo=

current-context: microk8s

apiVersion: v1
clusters:
- cluster:
    certificate-authority-data:
LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSUREekNDQWZlZ0F3SUJBZ0lVTS9TOVFpWW9ZSHI0
TFphNFoyVkIxUjc4UTFRd0RRWUpLb1pJaHZjTkFRUwKQlFBd0Z6RVZNQk1HQTFVRUF3d01NVEF1TV
RVeUxqRTRNeTR4TUI0WERUSXpNRFV4TlRBNU1UY3lNMW9YRFRNegpNRFV4TWpBNU1UY3lNMW93R
npFVk1CTUdBMVVFQXd3TU1UQXVNVFV5TGpFNE15NHhNSUlCSWpBTkJna3Foa2lHCjI3MEJBUUVGQU
FPQ0FROEFNSUlCQ2dLQ0FRRUFxVW9ScUxubWp5YUJRb1NpQTNpMGRQdlArVExaVTM2cm9Bc3gKcn
I5V3cweWNTUzgwcFl0a2VNcld5akRtczJZZ0UraTljb25YdTc0TkYxOEJjbXZUR2U4eXJ2aTZleUE0L2NRK
worMGwwcDI3cTlkV0lNMC9lc1YwSVVtYmNMblVpTW15am0zRm1nYURvNWhMQm9mcVdTNHRmQkd
OcFFQRDE2ZWIrCmcvcDJHS3cxTHlJUCtOWGFDWWdGMUZaRUs0UlkxQ0ROT0tNTVFpR0Q3cFlJUXlVb
jdVZGNXSXN1WThwaklyTTIKU2gvak0yaTkyT0l4VjlqVjZzVW5VczNheW93dEhGbHM1T21PN3VNUjNR
c2VOWm9pUDEvMkhVYUx2ei9pMEt3RwpqNENVL1NUVVIrRldEdzlmWXBwblZSbDN1MkhVTkoyRUE3
Wkh5d1FuVkZad1Nnckhzd0lEQVFBQm8xTXdVVEFkCkJnTlZIUTRFRmdRVUJrQWlRVzJSQmZaYlE1ZGd
yV3pma0ZLR3VWa3dId1lEVIIwakJCZ3dGb0FVQmtBaVFXMlIKQmZaYlE1ZGdyV3pma0ZLR3VWa3dEd
1lEVIIwVEFRSC9CQVV3QXdFQi96QU5CZ2txaGtpRzl3MEJBUXNGQUFPQwpBUUVBbEhBS1NDVGhKRG
gwUHNjMTIvWlBmc3AvaStLUEkvaHpXR1IxeXB2ZUU0NFY3R3ZPcHlSVTJIWGFhanJaCmhldkpwb0xwY
y9XZzhwZ2Rid011MVdZcTRXVEJkTjQ1N1NoL0ZGUkxmL2FoNnJ3RVVlbHEwMkJaYUNsZGNCNTkKSWp
jNmtJVlpnblRUcGx6MnVQMzRkckVMdFUzVTlYeVBYZFRyVGpuVkFvN2dSTFRlUEVKNG9NYXI2dXRyVk
9TWQpnbXF0OHJyZXFRa2dIOVAxSGlPbm83c0VTOUtXemZoTnEyZVQ1ZHdsMWNvLzJ0MlZ2WTd5elh
nek5POVdBRkZwCnAwRXFGa2c3RTJPMmxyUzNNVzlScEMveDBXQ3dYQzhHSVNFSnFwTmN6bU1PVX
QzNUJqVU9Sc3NLdU5zRE4zejUKYnhmbzI5bFpuUlk1ZkQvYlJ1UnQ5L2c2SVE9PQotLS0tLUVORCBDRVJ
USUZJQ0FURS0tLS0tCg==
    server: https://192.168.0.115:16443
  name: microk8s-cluster
contexts:
- context:
    cluster: microk8s-cluster
    user: admin
  name: microk8s
current-context: microk8s
kind: Config
preferences: {}
users:
- name: admin
  user:

token: Z3ZpbksyL1I4TVBCU1BNN0ltS0J2cHR2YkZkQ2RDcXlkQXVrWnJOYU9hcz0K

kubectl config

kubectl change context

kubectl help config

kubectl set-context XXX

kubectl cluster-info

microk8s - Registry

Registry Cleanup

```
microk8s disable registry
```

```
microk8s disable storage:destroy-storage
```

```
microk8s enable registry
```

Registry - Commands

http://192.168.0.115:32000/v2/_catalog

http://192.168.178.100:32000/v2/_catalog

```
kubectl get svc -n container-registry
```

```
microk8s.enable ingress
```

Delete more images by Name

```
microk8s ctr images rm $(microk8s ctr images ls | grep 'IMAGENAME')
```

Uninstall

Uninstall

deinstallieren

```
microk8s.disable dashboard dns
sudo snap remove microk8s
```

oder

```
sudo snap remove microk8s --purge
```

Sollte eine Fehlermeldung mit ..unlinkat.. erscheinen dann neu booten,

```
sudo snap remove microk8s
```

danach sollte es weg sein

microk8s - Commands

Funktionstest

```
microk8s status
```

```
microk8s kubectl get services -n kube-system
```

```
$ microk8s kubectl get all --all-namespaces
```

Secrets erstellen

Version1

```
kubectl create secret generic SECRETSNAME --from-file=FILENAME
```

Version2

```
kubectl create secret generic SECRETSNAME --from-file=.FILENAME --dry-run=client --output=yaml >
SECRETSFILE.yaml
kubectl apply -f SECRETSFILE.yaml
```

kubectl - Commands

Get a Shell to a Running Container

```
kubectl get pod
```

```
kubectl exec --stdin --tty PODNAME -- /bin/bash
```