Kubernetes Installation Micro K8s

Installation

Kubernetes can be install in three ways

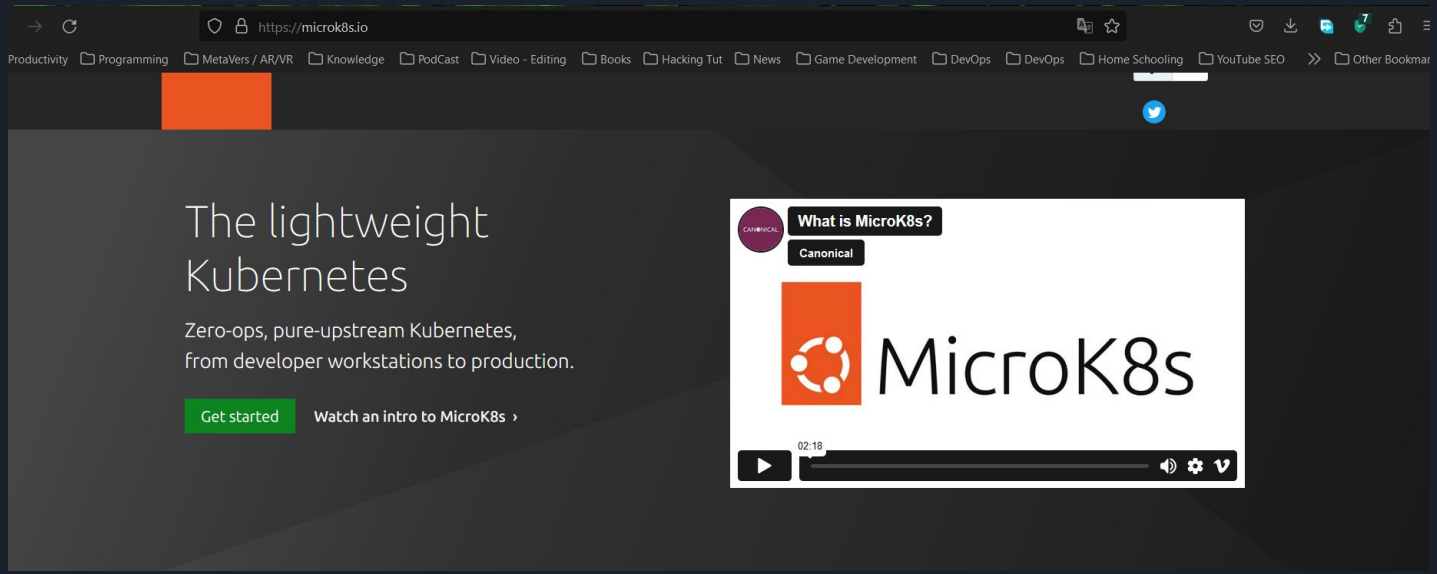
- **MicroK8s** is a lightweight and easy-to-use Kubernetes distribution developed by Canonical, the company behind Ubuntu. It is designed to run on desktops, servers, and IoT devices, and provides a complete Kubernetes environment on a single node.

- **Minikube** is a tool that allows users to run a single-node Kubernetes cluster on their local machine. It is designed for developers and individuals who want to test and develop Kubernetes applications locally before deploying them to a production Kubernetes cluster

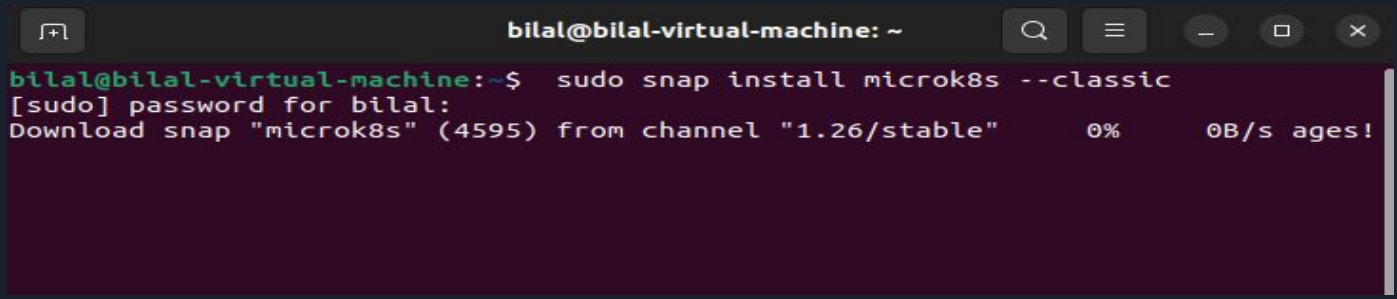
- **Kubeadm** is a tool for bootstrapping a Kubernetes cluster. It is designed for advanced users and administrators who want to set up a custom Kubernetes cluster from scratch. Kubeadm provides a set of commands for initializing and joining nodes to a Kubernetes cluster, and can be used to set up highly available and secure Kubernetes clusters.

Micro K8s

https://microk8s.io/



→ Install Micro K8s on Linux



→ Check the status while Kubernetes starts

```
bilal@bilal-virtual-machine:~$ microk8s status --wait-ready
microk8s is running
high-availability: no
  datastore master nodes: 127.0.0.1:19001
  datastore standby nodes: none
addons:
  enabled:
    ha-cluster           # (core) Configure high availability on the current node
    helm                 # (core) Helm - the package manager for Kubernetes
    helm3                # (core) Helm 3 - the package manager for Kubernetes
  disabled:
    cert-manager         # (core) Cloud native certificate management
    community            # (core) The community addons repository
    dashboard            # (core) The Kubernetes dashboard
    dns                  # (core) CoreDNS
```

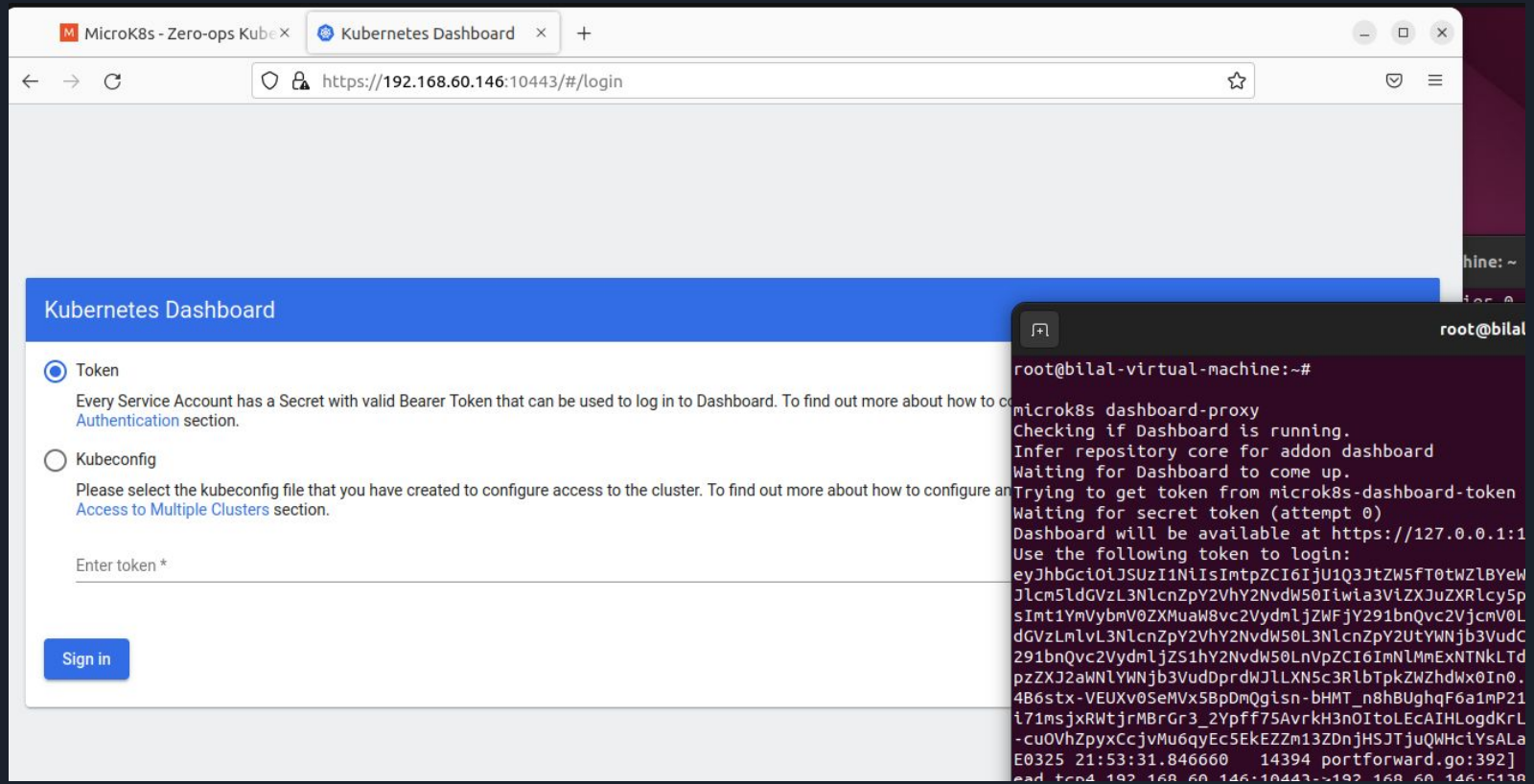
→ Turn on the services you want

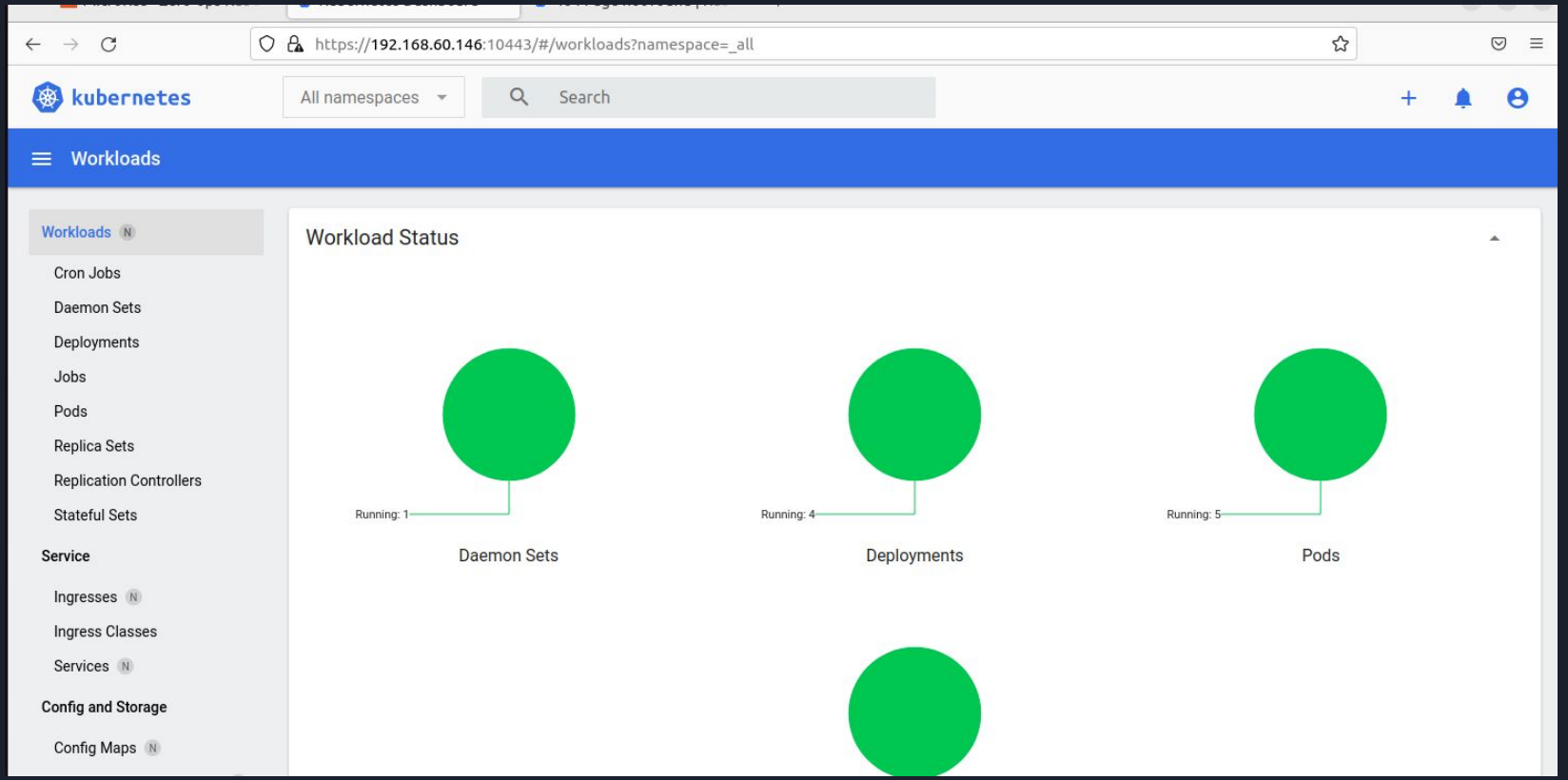
```
    registry             # (core) Private image registry exposed on localhost:32000
    storage              # (core) Alias to hostpath-storage add-on, deprecated
root@bilal-virtual-machine:~#  microk8s enable dashboard dns registry istio
Infer repository core for addon dashboard
Enabling Kubernetes Dashboard
Infer repository core for addon metrics-server
Enabling Metrics-Server
serviceaccount/metrics-server created
clusterrole.rbac.authorization.k8s.io/system:aggregated-metrics-reader created
clusterrole.rbac.authorization.k8s.io/system:metrics-server created
rolebinding.rbac.authorization.k8s.io/metrics-server-auth-reader created
clusterrolebinding.rbac.authorization.k8s.io/metrics-server:system:auth-delegator created
```

→ Start using Kubernetes

```
microk8s dashboard-proxy
Checking if Dashboard is running.
Infer repository core for addon dashboard
Waiting for Dashboard to come up.
Trying to get token from microk8s-dashboard-token
Waiting for secret token (attempt 0)
Dashboard will be available at https://127.0.0.1:10443
Use the following token to login:
```

→ Access the Kubernetes dashboard




https://192.168.60.146:10443/#/workloads?namespace=_all
kubernetes
All namespaces
Search
Workloads
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
Config and Storage
Config Maps
Workload Status
Running: 1
Daemon Sets
Running: 4
Deployments
Running: 5
Pods