

Setup minikube at your local and explore creating namespaces (Go through official documentation).

1. First need to open powershell and install Kubernetes and minikube using commands, Then start the minikube and check.
2. Then create a namespace in Kubernetes cluster using commands, and create deployment in Kubernetes using nginx image. So it created one pod. To view the pod using get commands.
3. Create ec2 vm in aws console and then connect into the terminal. Create one text file into the ec2 vm.

```
Administrator: Windows PowerShell
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

Warnings:
- kubernetes-cli - kubernetes-cli v1.33.2 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.
PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32> choco install minikube -y
Chocolatey v2.4.1
Installing the following packages:
minikube
By installing, you accept licenses for the packages.
Minikube v1.36.0 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.
Chocolatey installed 0/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

Warnings:
- Minikube - Minikube v1.36.0 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.
PS C:\WINDOWS\system32> minikube config set driver docker
! These changes will take effect upon a minikube delete and then a minikube start
PS C:\WINDOWS\system32> minikube config set driver hyperv
! These changes will take effect upon a minikube delete and then a minikube start
PS C:\WINDOWS\system32> minikube start
* minikube v1.36.0 on Microsoft Windows 11 Pro 10.0.26100.4484 Build 26100.4484
E0706 20:00:37.088146 15368 start.go:819] api.Load failed for minikube: filestore "minikube": Docker machine "minikube" does not exist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
E0706 20:00:37.093637 15368 start.go:819] api.Load failed for minikube: filestore "minikube": Docker machine "minikube" does not exist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
* Using the hyperv driver based on existing profile
* Starting "minikube" primary control-plane node in "minikube" cluster
* Creating hyperv VM (CPUs=2, Memory=2200MB, Disk=20000MB) ...
! StartHost failed, but will try again: creating host: create: precreate: Hyper-V PowerShell Module is not available
* Creating hyperv VM (CPUs=2, Memory=2200MB, Disk=20000MB) ...
* Failed to start hyperv VM. Running "minikube delete" may fix it: creating host: create: precreate: Hyper-V PowerShell Module is not available
X Exiting due to PR_HYPERV_MODULE_NOT_INSTALLED: failed to start host: creating host: create: precreate: Hyper-V PowerShell Module is not available
* Suggestion: Run: 'Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V-Tools-All -All'
* Documentation: https://www.altaro.com/hyper-v/install-hyper-v-powershell-module/
* Related issue: https://github.com/kubernetes/minikube/issues/9040
PS C:\WINDOWS\system32>

Administrator: Windows PowerShell
PS C:\WINDOWS\system32> minikube start
* minikube v1.36.0 on Microsoft Windows 11 Pro 10.0.26100.4484 Build 26100.4484
E0706 20:06:09.227350 12600 start.go:819] api.Load failed for minikube: filestore "minikube": Docker machine "minikube" does not exist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
E0706 20:06:09.228535 12600 start.go:819] api.Load failed for minikube: filestore "minikube": Docker machine "minikube" does not exist. Use "docker-machine ls" to list machines. Use "docker-machine create" to add a new one.
* Using the hyperv driver based on existing profile
* Starting "minikube" primary control-plane node in "minikube" cluster
* Creating hyperv VM (CPUs=2, Memory=2200MB, Disk=20000MB) ...
! Image was not built for the current minikube version. To resolve this you can delete and recreate your minikube cluster using the latest images. Expected minikube version: v1.35.0 -> Actual minikube version: v1.36.0
! Failing to connect to https://registry.k8s.io/ from inside the minikube VM
* To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/networking/proxy/
* Preparing Kubernetes v1.33.1 on Docker 28.0.4 ...
- Generating certificates and keys ...
- Booting up control plane ...
- Configuring RBAC rules ...
- Configuring bridge CNI (Container Networking Interface) ...
- Verifying Kubernetes components...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
! Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
PS C:\WINDOWS\system32> minikube status
minikube
type: Control Plane
host: Running
kubectl: Running
apiserver: Running
kubeconfig: Configured
PS C:\WINDOWS\system32> kubectl create namespace dev-namespace
namespace/dev-namespace created
PS C:\WINDOWS\system32> kubectl get namespaces
NAME                STATUS    AGE
default              Active   82s
dev-namespace        Active   9s
kube-node-lease      Active   82s
kube-public          Active   82s
kube-system          Active   82s
PS C:\WINDOWS\system32> kubectl create deployment nginx-deploy --image=nginx --namespace=dev-namespace
deployment.apps/nginx-deploy created
PS C:\WINDOWS\system32> kubectl get deployments -n dev-namespace
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deploy        0/1     1             0           14s
PS C:\WINDOWS\system32> kubectl get pods -n dev-namespace
NAME                READY   STATUS    RESTARTS   AGE
nginx-deploy-c9d9f6c6-gpdk 0/1     ContainerCreating   0           15s
PS C:\WINDOWS\system32>
```

