

# Extras

## » Minikube

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### Overview

Single-Node Cluster with Minikube.

### Install Kubectl

#### macOS

##### brew

```
brew install kubectl
```

##### manual

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/$(curl -s https://storage.googleapis.com/kubernetes-release/release/stable.txt)/bin/darwin/amd64/kubectl
chmod +x ./kubectl
sudo mv ./kubectl /usr/local/bin/kubectl
```

#### Linux

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/$(curl -s https://storage.googleapis.com/kubernetes-release/release/stable.txt)/bin/linux/amd64/kubectl
chmod +x ./kubectl
sudo mv ./kubectl /usr/local/bin/kubectl
```

#### Windows

##### chocolatey

```
choco install kubectl
```

## manual

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/$(curl -s https://storage.googleapis.com/kubernetes-release/release/stable.txt)/bin/windows/amd64/kubectl.exe
```

## Install VirtualBox

### macOS

#### brew

```
brew cask install virtualbox
```

## manual

<https://www.virtualbox.org/wiki/Downloads>

### Linux

#### manual

<https://www.virtualbox.org/wiki/Downloads>

### Windows

#### chocolatey

```
choco install virtualbox
```

## manual

<https://www.virtualbox.org/wiki/Downloads>

## Install Minikube

### macOS

## brew

```
brew cask install minikube
```

## Linux

### manual

```
curl -Lo minikube https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64 chmod +x minikube  
sudo mv minikube /usr/local/bin/
```

## Windows

### chocolatey

```
choco install minikube
```

### manual

```
https://storage.googleapis.com/minikube/releases/latest/minikube-windows-amd64.exe  
# Add to path and rename to minikube.exe
```

Verify Minikube is installed properly.

```
minikube version
```

## Configure Minikube

Set the vm-driver to use Virtualbox

```
minikube config set vm-driver virtualbox
```

Confirm configuration

```
minikube config view
```

View list of enabled addons

```
minikube addons list
```

Get a list of all kubernetes versions available for minikube

```
minikube get-k8s-versions
```

## Use MiniKube

Start minikube

```
minikube start
```

Confirm kubeconfig and certificates were generated.

```
ls -alth ~/.minikube/
```

Verify `kubectl` can connect to the AIO Kubernetes virtual machine

```
kubectl cluster-info
```

View all running pods across all namespaces

```
kubectl get pods --all-namespaces
```

Create a deployment.

```
kubectl run my-minikube-deployment --image=nginx --restart=Always
```

Verify the deployment was successfully created.

```
kubectl get deployments
```

Expose the deployment as a NodePort.

```
kubectl expose deployment my-minikube-deployment --port=80 --target-port=80 --type=NodePort
```

Verify the service was created.

```
kubectl get services
```

Connect to the exposed service via minikube

```
minikube service my-minikube-deployment
```

Open the Kubernetes dashboard.

```
minikube dashboard
```

Enable heapster

```
minikube addons enable heapster
```

View minikube addons manager pod logs

```
kubectl logs kube-addon-manager-minikube --namespace=kube-system
```

Save your minikube project as a profile

```
minikube profile my-first-minikube-project
```

Confirm the profile was set. When you start minikube again, use `minikube start --p my-first-minikube-project`

```
cat ~/.minikube/config/config.json
```

## MiniKube VM

SSH into the minikube virtual machine

```
minikube ssh
```

View running `localkube` process

```
ps aux | grep localkube
```

View all running pods

```
docker ps
```

Exit out of the virtual machine

```
exit
```