How To Install Minikube On Ubuntu 18.04 / 20.04

Posted April 30, 2020 DOCKER VIRTUALIZATION KUBERNETES

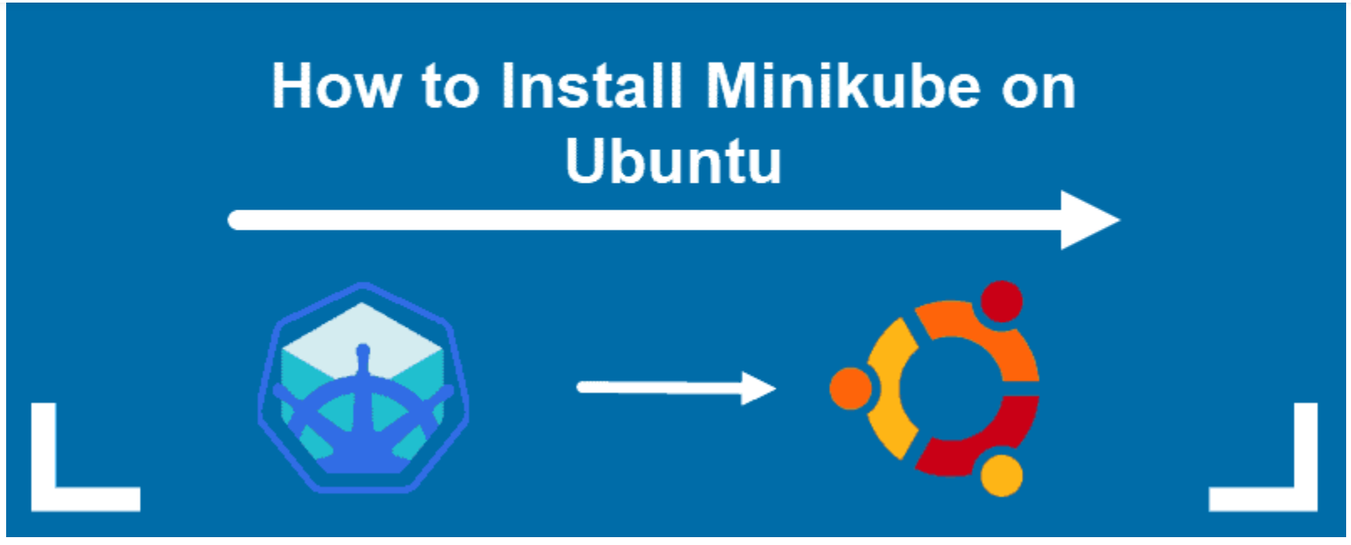
Contents

Introduction

Minikube is an open source tool that allows you to set up a single-node Kubernetes cluster on your local machine. The cluster is run inside a virtual machine and includes Docker, allowing you to run containers inside the node.

This is an excellent way to test in a Kubernetes environment locally, without using up too much resources.

This tutorial will show you how to install Minikube on Ubuntu 18.04 or 20.04.



Prerequisites

- A system running Ubuntu 18.04 Bionic Beaver or Ubuntu 20.04
- A user account with **sudo** privileges
- Access to a terminal window / command line (**Ctrl+Alt+T**, search > terminal)

How to Install Minikube on Ubuntu

Step 1: Update System and Install Required Packages

Before installing any software, you need to update and upgrade the system you are working on. To do so, run the commands:

```
sudo apt-get update -y
```

```
sudo apt-get upgrade -y
```

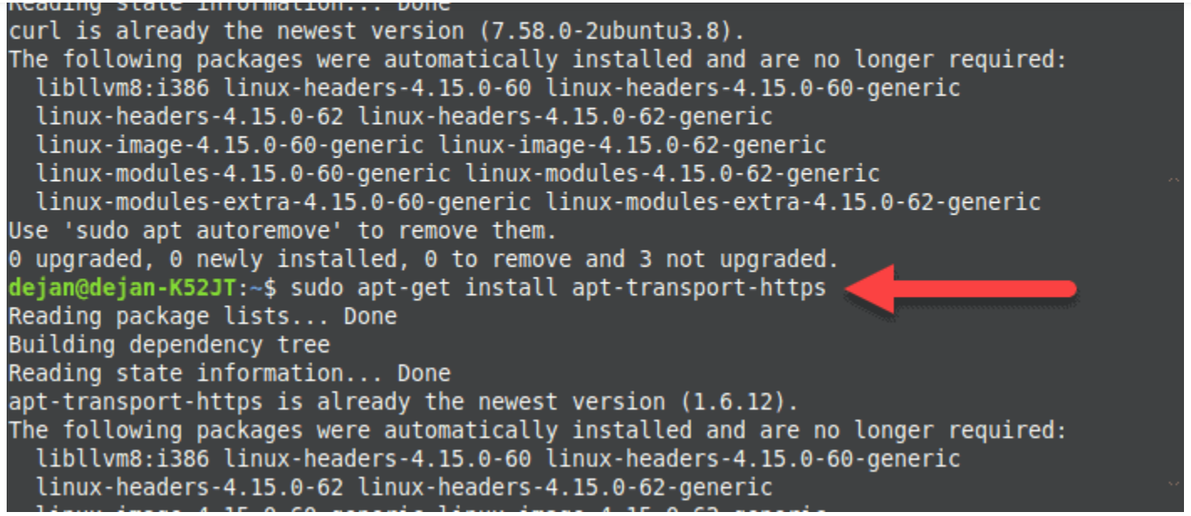
```
Hit:4 http://ubuntu.mirror.ftn.uns.ac.rs/archive bionic-backports InRelease
Hit:5 http://archive.canonical.com/ubuntu bionic InRelease
Hit:6 http://security.ubuntu.com/ubuntu bionic-security InRelease
Ign:7 http://packages.linuxmint.com tina InRelease
Hit:8 http://dl.google.com/linux/chrome/deb stable Release
Hit:9 http://packages.linuxmint.com tina Release
Reading package lists... Done
dejan@dejan-K52JT:~$ sudo apt-get upgrade -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  libllvm8:i386 linux-headers-4.15.0-60 linux-headers-4.15.0-60-generic
  linux-headers-4.15.0-62 linux-headers-4.15.0-62-generic
  linux-image-4.15.0-60-generic linux-image-4.15.0-62-generic
  linux-modules-4.15.0-60-generic linux-modules-4.15.0-62-generic
  linux-modules-extra-4.15.0-60-generic linux-modules-extra-4.15.0-62-generic
Use 'sudo apt autoremove' to remove them.
```

Also, make sure to install (or check whether you already have) the following required packages:

```
sudo apt-get install curl
```

```
sudo apt-get install apt-transport-https
```

In the image below, the output informs that the packages are already installed.



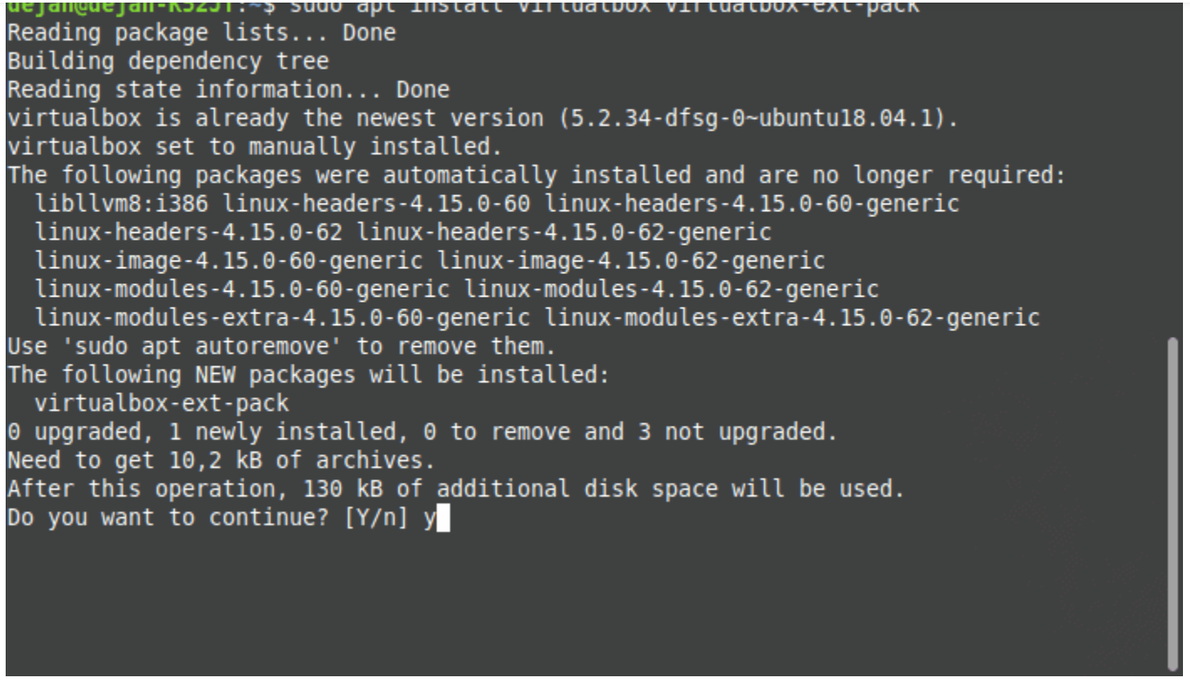
Step 2: Install VirtualBox Hypervisor

As mentioned above, you need a virtual machine in which you can set up your single node cluster with Minikube. Depending on your preference, you can use VirtualBox or KVM.

This guide will show you how to install Minikube with VirtualBox.

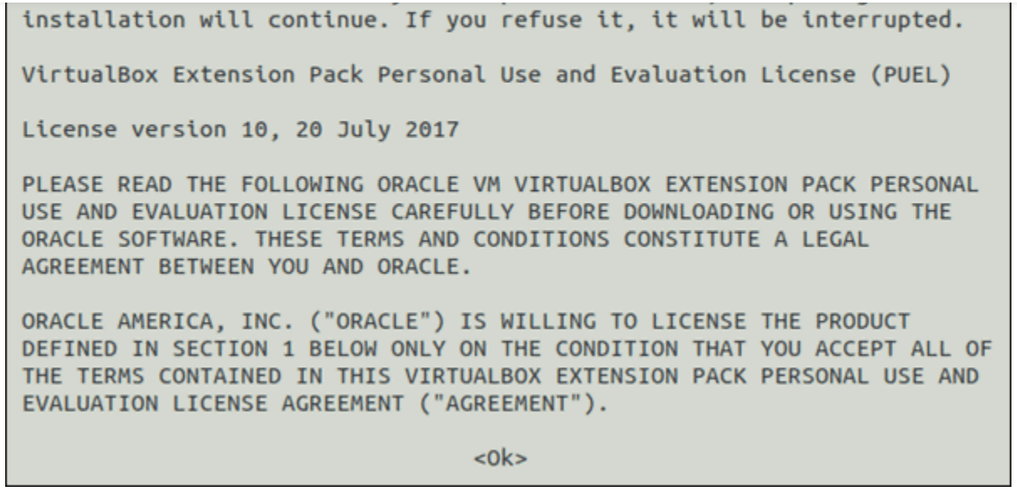
1. To install VirtualBox on Ubuntu, run the command:

```
sudo apt install virtualbox virtualbox-ext-pack
```

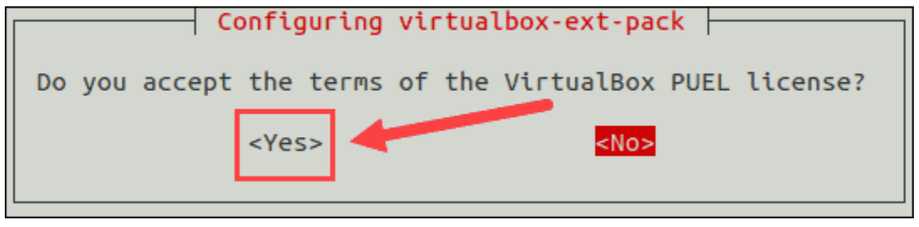


2. Confirm the installation with **y** and hit **Enter**.

3. Next, the licence agreement appears on the screen. Press **Tab** and then **Enter** to continue.



4. The installer asks you to agree with the terms of the VirtualBox PUEL license by selecting **Yes**.



5. Wait for the installation to complete and then move on to the next step.

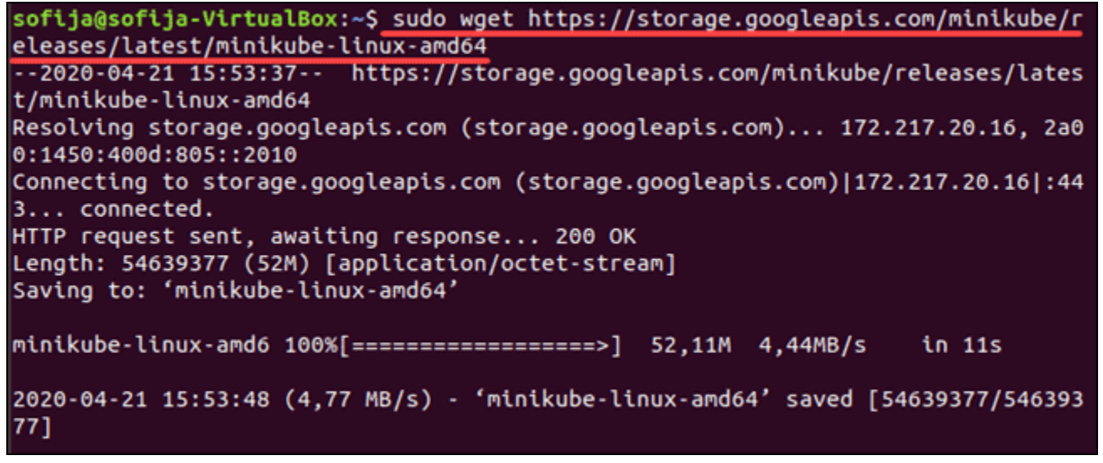
Note: For the VirtualBox hypervisor to work, hardware virtualization must be enabled in your system

Step 3: Install Minikube

With VirtualBox set up, move on to installing Minikube on your Ubuntu system.

1. First, download the latest Minikube binary using the **`wget`** command:

```
wget https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
```



```
sudo cp minikube-linux-amd64 /usr/local/bin/minikube
```

There will be no output if the command was executed correctly.

3. Next, give the file executive permission using the chmod command:

```
sudo chmod 755 /usr/local/bin/minikube
```

Again, there will be no output.

4. Finally, verify you have successfully installed Minikube by checking the version of the software:

```
minikube version
```

The output should display the version number of the software, as in the image below.

Step 4: Install Kubectl

To deploy and manage clusters, you need to install **kubectl**, the official command line tool for Kubernetes.

1. Download kubectl with the following command:

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/`curl -s https://storag
e.googleapis.com/kubernetes-release/release/stable.txt`/bin/linux/amd64/kubectl
```

2. Make the binary executable by typing:

```
chmod +x ./kubectl
```

```
sudo mv ./kubectl /usr/local/bin/kubectl
```

4. Verify the installation by checking the version of your kubectl instance:

```
kubectl version -o json
```

Step 5: Start Minikube

Once you have set up all the required software, you are ready to start Minikube.

Run the following command:

```
minikube start
```

First, the system downloads the Minikube ISO file from an online source and the localkube binary. Then, it creates a virtual machine in VirtualBox within which it starts and configures a single node cluster.

Managing Kubernetes with Minikube

Common Minikube Commands

To see the kubectl configuration use the command:

```
kubectl config view
```

To show the cluster information:

```
kubectl cluster-info
```

To check running nodes use the following command:

```
kubectl get nodes
```

To see a list of all the Minikube pods run:

```
kubectl get pod
```

To ssh into the Minikube VM:

```
minikube ssh
```

To exit out of the shell run:

```
exit
```

To stop running the single node cluster type:

```
minikube stop
```

```
minikube status
```

To delete the single node cluster:

```
minikube delete
```

To see a list of installed Minikube add-ons:

```
minikube addons list
```

Access Minikube Dashboard

To enable and access the Minikube dashboard via terminal, run the following command:

```
minikube dashboard
```

Once you exit the terminal, the process will end and the Minikube dashboard will shut down.

Alternatively, you can access the dashboard directly via browser.

To do so, acquire the dashboard's IP address:

```
minikube dashboard --url
```

Access your Minikube dashboard by browsing to your dashboard's IP address.

Conclusion

By following this article, you should have successfully installed and configured Minikube on Ubuntu 18.04 or 20.04.
You can now test and master the art of Kubernetes on your local machine with the help of a single Minikube node.

Check out our guide on how to install Minikube on CentOS if you are using this version of Linux distribution.

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