How to Install Minikube on Ubuntu 18.04

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In this tutorial, I'll take you through the steps to install minikube on Ubuntu 18.04 new to minikube, let's start with an introduction before diving to the installation s

Minikube is an open source tool that was developed to enable developers and sy administrators to run a single cluster of Kubernetes on their local machine. Minik single node kubernetes cluster locally with small resource utilization. This is ideal development tests and POC purposes,

In a nutshell, Minikube packages and configures a Linux VM, then installs Docker Kubernetes components into it.

Minikube supports Kubernetes features such as:

- DNS
- NodePorts
- ConfigMaps and Secrets
- Dashboards

As of this writing, Minikube does not yet support Cloud Provider specific features

- LoadBalancers
- PersistentVolumes
- Ingress

Hypervisor choice for Minikube:

Minikube supports both VirtualBox and KVM hypervisors. This guide will cover bc hypervisors.

Step 1: Update system

Run the following commands to update all system packages to the latest release:

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

Step 2: Install KVM or VirtualBox Hypervisor

For VirtualBox users, install VirtualBox using:

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

KVM Hypervisor Users

For those interested in using KVM hypervisor, check our guide on how to Install K
CentOS 7 / Ubuntu 16.04 / Debian 9 / SLES 12 / Arch Linux.

Then follow How to run Minikube on KVM instead.

Step 3: Download minikube

You need to download the minikube binary. I will put the binary under /usr/local/
directory since it is inside **$PATH**.

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

Confirm version installed

```
$ minikube version
minikube version: v0.28.0
```

Step 4: Install kubectl on Ubuntu 18.04

We need kubectl which is a command line tool used to deploy and manage appli
Kubernetes

```
curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg
```

Add Kubernetes apt repository:

```
echo "deb http://apt.kubernetes.io/ kubernetes-xenial main" |
```

Update apt index and install kubectl

```
sudo apt update
sudo apt -y install kubectl
```

Check version:

```
# kubectl version -o json
{
  "clientVersion": {
    "major": "1",
    "minor": "10",
    "gitVersion": "v1.10.4",
    "gitCommit": "5ca598b4ba5abb89bb773071ce452e33fb66339d",
    "gitTreeState": "clean",
    "buildDate": "2018-06-06T08:13:03Z",
    "goVersion": "go1.9.3",
    "compiler": "gc",
    "platform": "linux/amd64"
  }
}
```

Step 5: Starting minikube

Now that components are installed, you can start minikube. VM image will be do
and configure d for Kubernetes single node cluster.

```
$ minikube start
Starting local Kubernetes v1.10.0 cluster...
```

```
Starting VM...
Downloading Minikube ISO
150.53 MB / 150.53 MB [=======================================
Getting VM IP address...
Moving files into cluster...
Downloading kubeadm v1.10.0
Downloading kubelet v1.10.0
Finished Downloading kubeadm v1.10.0
Finished Downloading kubelet v1.10.0
Setting up certs...
Connecting to cluster...
Setting up kubeconfig...
Starting cluster components...
Kubectl is now configured to use the cluster.
Loading cached images from config file.
```

Wait for the download and setup to finish then confirm that everything is workin

Step 6: Minikube Basic operations

To check cluster status, run:

```
$ kubectl cluster-info

Kubernetes master is running at https://192.168.39.117:8443
KubeDNS is running at https://192.168.39.117:8443/api/v1/names

To further debug and diagnose cluster problems, use 'kubectl c
```

Note that Minikube configuration file is located under

```
~/.minikube/machines/minikube/config.json
```

To View Config, use:

```
$ kubectl config view

apiVersion: v1
clusters:
- cluster:
    certificate-authority: /home/jmutai/.minikube/ca.crt
    server: https://192.168.39.117:8443
  name: minikube
contexts:
- context:
    cluster: minikube
    user: minikube
  name: minikube
current-context: minikube
kind: Config
preferences: {}
users:
- name: minikube
  user:
    client-certificate: /home/jmutai/.minikube/client.crt
    client-key: /home/jmutai/.minikube/client.key
```

To check running nodes:

```
$ kubectl get nodes

NAME       STATUS    ROLES     AGE       VERSION
minikube   Ready     master    13m       v1.10.0
```

Access minikube VM using ssh:

```
$ minikube ssh

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```

```
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$ sudo su -
```

To stop a running local kubernetes cluster, run:

```
$ minikube stop
```

To delete a local kubernetes cluster, use:

```
$ minikube delete
```

Step 7: Enable Kubernetes Dashboard

Kubernete ships with a web dashboard which allows you to manage your cluster interacting with a command line. The dashboard addon is installed and enabled l minikube.

```
$ minikube addons list

- addon-manager: enabled
- coredns: disabled
- dashboard: enabled
- default-storageclass: enabled
- efk: disabled
- freshpod: disabled
- heapster: disabled
- ingress: disabled
- kube-dns: enabled
- metrics-server: disabled
- registry: disabled
- registry-creds: disabled
- storage-provisioner: enabled
```

To open directly on your default browser, use:

```
$ minikube dashboard
```

To get the URL of the dashboard

```
$ minikube dashboard --url
http://192.168.39.117:30000
```

Access Kubernetes Dashboard by opening the URL on your favorite browser. For reading, check:

- Hello Minikube Series: https://kubernetes.io/docs/tutorials/stateless-application/hello-m
- Minikube guides for newbies: https://kubernetes.io/docs/getting-started-guides/minikub

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