Kubernetes 1.3 从入门到进阶 安装篇：minikube

Kubernetes单机运行环境一直是一个没有得到重视的问题。现在我们有了minikube，一个用go语言开发的可以在本地运行kubernetes的利器，不过目前应该只是支持kubernetes1.3。如果你只有一台机器或者虚拟机又想试验一下Kubernetes的新的功能，或者作kubernetes上开发的本地环境，minikube可能是你不错的选择。

下载minikube并设定

下载的时候突然发现版本已经是0.7.0了，发现是6个小时之前刚刚更新的，速度好快，从第一次发布的5/31的0.1版，到现在的第七次版本的迭代，基本上平均是一周一个版本的速度，这就是互联网时代的平均数度。当普通的企业推出新机能的时候，一般是在和用户的耐心在赛跑。但是一周一次的版本更新基本上是在脱着用户前进的节奏。下载来看看吧。

# curl -Lo minikube https://storage.googleapis.com/minikube/releases/v0.7.0/minikube-linux-amd64 && chmod +x minikube && sudo mv minikube /usr/local/bin/

% Total % Received % Xferd Average Speed Time Time Time Current

Dload Upload Total Spent Left Speed100 72.0M 100 72.0M 0 0 866k 0 0:01:25 0:01:25 --:--:-- 889k

[root@liumiao tmp]#

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确认minikube

# which minikube

/usr/local/bin/minikube# minikube version

There is a newer version of minikube available (v0.7.0). Download it here:https://github.com/kubernetes/minikube/releases/tag/v0.7.0

To disable this notification, add WantUpdateNotification: False to the json config file at /root/.minikube/config

(you may have to create the file config.json in this folder if you have no previous configuration)

minikube version: v0.6.0#

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简单解释   
curl -Lo 会把minikube下载到本地   
chmod +x 给其加上执行权限   
mv kubectl /usr/local/bin下是因为普通用户的path中缺省的有/usr/local/bin   
minikube version: v0.6.0 ？这是个什么节奏，我只是想看个版本号。   
按照提示，创建了其提示的目录，明确提示是0.6.0的版本。

# mkdir -p /root/.minikube/config# minikube version

minikube version: v0.6.0#

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找到一台能够连接google机器，一样做了一遍，版本正常显示。0.6也好0.7也罢，继续前进。

# minikube version

minikube version: v0.7.0#

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下载kubectl并设定

我们还需要下载kubectl并设定

# curl -Lo kubectl http://storage.googleapis.com/kubernetes-release/release/v1.3.0/bin/linux/amd64/kubectl && chmod +x kubectl && sudo mv kubectl /usr/local/bin/

% Total % Received % Xferd Average Speed Time Time Time Current

Dload Upload Total Spent Left Speed100 53.8M 100 53.8M 0 0 688k 0 0:01:20 0:01:20 --:--:-- 874k#

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确认kubectl

# which kubectl

/usr/local/bin/kubectl# kubectl version

Client Version: version.Info{Major:"1", Minor:"3", GitVersion:"v1.3.0", GitCommit:"283137936a498aed572ee22af6774b6fb6e9fd94", GitTreeState:"clean", BuildDate:"2016-07-01T19:26:38Z", GoVersion:"go1.6.2", Compiler:"gc", Platform:"linux/amd64"}

The connection to the server localhost:8080 was refused - did you specify the right host or port?#

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我们已经看到了新的版本信息了，Client Version: version.Info{Major:”1”, Minor:”3”, GitVersion:”v1.3.0”, Marjor的版本号1，Minor的3，1.3.0的kubernetes。但是为什么被8080refused了呢。别着急，还没有启动呢，这是没有成功连接kubernetes apiserver的节奏，一切正常，到目前为止，我们只是下载了一个可执行文件设置了权限而已。

安装条件

google官方是这样写的，Minikube requires the latest Virtualbox to be installed on your system，那么我们看看不安装会怎样。

# minikube start

Starting local Kubernetes cluster...

E0726 05:33:07.585166 4210 start.go:78] Error starting host: Error creating. Error with pre-create check: "VBoxManage not found. Make sure VirtualBox is installed and VBoxManage is in the path"

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好的，我们会好好安装的。有Virtualbox的可以跳过此步，minikube start不出错，就可以使用了。

CentOS上安装VB5.10。# cd /etc/yum.repos.d/# wget http://download.virtualbox.org/virtualbox/rpm/rhel/virtualbox.repo# yum update# yum install binutils qt gcc make patch libgomp glibc-headers glibc-devel kernel-headers kernel-devel dkms# export KERN\_DIR=/usr/src/kernels/3.10.0-327.22.2.el7.x86\_64

注意此处根据具体情况3.10.0-327.22.2.el7.x86\_64可能有所变化# yum install VirtualBox-5.1

log的确认：/var/log/vbox-install.log

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BIOS或者虚拟机设定：VT-X/AMD-v

# minikube start

Starting local Kubernetes cluster...

E0727 06:27:17.242507 66718 start.go:78] Error starting host: Error creating. Error with pre-create check: "This computer doesn't have VT-X/AMD-v enabled. Enabling it in the BIOS is mandatory"

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vmware的设定方法：VM => “Settings…” => Processors => 选中复选框Virtualize Intel VT-x/EPT or AMD-V/RVI   
注意：只能在VM停下来的时候才能设定   
BIOS的设定请根据机器型号自行google

启动：VirtualBox版本提示错误

# minikube start

Starting local Kubernetes cluster...

E0727 06:41:54.512097 3933 start.go:78] Error starting host: Error creating. Error with pre-create check: "We support Virtualbox starting with version 5. Your VirtualBox install is \"WARNING: The vboxdrv kernel module is not loaded. Either there is no module\\n available for the current kernel (3.10.0-327.22.2.el7.x86\_64) or it failed to\\n load. Please recompile the kernel module and install it by\\n\\n sudo /sbin/vboxconfig\\n\\n You will not be able to start VMs until this problem is fixed.\\n5.1.2r108956\". Please upgrade at https://www.virtualbox.org"#

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被提示The vboxdrv kernel module is not loaded, 启动一下Virtualbox的Service吧

# /usr/lib/virtualbox/vboxdrv.sh setup

vboxdrv.sh: Starting VirtualBox services.

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启动：成功

# minikube start

Starting local Kubernetes cluster...

Kubernetes is available at https://192.168.99.100:8443.

Kubectl is now configured to use the cluster.#

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总结

看起来很美好，目前用起来不是太方便。没有防火墙和内网限制的可以自由的使用非常方便。

安装脚本

#!/bin/bash

MINI\_VERSION="0.8.0"

KUBE\_VERSION="1.3.0"

MACHINE\_VERSION="0.8.1"

curl -L https://github.com/docker/machine/releases/download/v${MACHINE\_VERSION}/docker-machine-`uname -s`-`uname -m` >/usr/local/bin/docker-machine && \

chmod +x /usr/local/bin/docker-machine

which docker-machine

docker-machine version

curl -Lo minikube https://storage.googleapis.com/minikube/releases/v${MINI\_VERSION}/minikube-linux-amd64 && chmod +x minikube && sudo mv minikube /usr/local/bin/

which minikube

minikube version

curl -Lo kubectl http://storage.googleapis.com/kubernetes-release/release/v${KUBE\_VERSION}/bin/linux/amd64/kubectl && chmod +x kubectl && sudo mv kubectl /usr/local/bin/

kubectl versioncd /etc/yum.repos.d/

wget http://download.virtualbox.org/virtualbox/rpm/rhel/virtualbox.repo

yum update -y

yum install -y binutils qt gcc make patch libgomp glibc-headers glibc-devel kernel-headers kernel-devel dkms

DIR=`ls -lrt /usr/src/kernels/|tail -n1 |awk '{print $NF}'`export KERN\_DIR="/usr/src/kernels/${DIR}"

yum install VirtualBox-5.1

/usr/lib/virtualbox/vboxdrv.sh setup

minikube start