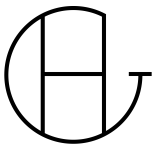

HoGent

Faculteit Bedrijf en Organisatie

NoSQL: Apache Cassandra

Bijlagen

Lorenz Verschingel

Scriptie voorgedragen tot het bekomen van de graad van
Bachelor in de toegepaste informatica

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Inhoudsopgave

Bijlage A

Opzetten vagrant Cassandra single node

A.1 Vagrantfile

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

# All Vagrant configuration is done below. The "2" in Vagrant.configure
# configures the configuration version (we support older styles for
# backwards compatibility). Please don't change it unless you know what
# you're doing.
Vagrant.configure(2) do |config|

  # Specify box
  config.vm.box = "ubuntu/trusty64"

  # forward ssh port
  config.vm.network :forwarded_port, guest: 22, host: 2250, id: "ssh"

  # Provider-specific configuration so you can fine-tune various
  # backing providers for Vagrant. These expose provider-specific option
  # Example for VirtualBox:
  #
  config.vm.provider "virtualbox" do |vb|

    # Customize the amount of memory on the VM:
    vb.memory = "1024"
```

```
    #Set Name of vm
    vb.name = "Cassandra-Single-Node"
  end

  # Enable provisioning with a shell script. Additional provisioners suc
  # Puppet, Chef, Ansible, Salt, and Docker are also available. Please s
  # documentation for more information about their specific syntax and u
  config.vm.provision "shell", path: "provision/setup.sh"
end
```

A.2 Setup

```
#!/bin/bash

echo "Provisioning␣virtual␣machine..."
echo "Adding␣needed␣repositories"
# add repository for java 8
sudo add-apt-repository ppa:webupd8team/java -y
# add the repo's source
echo "deb␣http://www.apache.org/dist/cassandra/debian␣33x␣
    main" | sudo tee -a /etc/apt/sources.list.d/cassandra.
    sources.list
# add three public keys from the Apache Software Foundation
     associated with the package repositories
gpg --keyserver pgp.mit.edu --recv-keys F758CE318D77295D
sudo gpg --export --armor F758CE318D77295D | sudo apt-key
    add -
gpg --keyserver pgp.mit.edu --recv-keys 2B5C1B00
sudo gpg --export --armor 2B5C1B00 | sudo apt-key add -
gpg --keyserver pgp.mit.edu --recv-keys 0353B12C
sudo gpg --export --armor 0353B12C | sudo apt-key add -

sudo apt-get update

echo "Installing␣Java"
# Automated installation (auto accept license)
echo oracle-java8-installer shared/accepted-oracle-license-
    v1-1 select true | sudo /usr/bin/debconf-set-selections
sudo apt-get install -y oracle-java8-installer

echo "Installing␣Cassandra"
sudo apt-get install cassandra -y

echo "Hello␣I'm␣up␣and␣running"
echo "To␣check␣if␣cassandra␣is␣running␣execute␣the␣
    following:"
echo "sudo␣service␣cassandra␣status"
```

Bijlage B

Opzetten vagrant Cassandra cluster

B.1 /etc/hosts

```
127.0.0.1       localhost

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts

192.168.33.10   cassandra-node-0
192.168.33.11   cassandra-node-1
192.168.33.12   cassandra-node-2
192.168.33.13   cassandra-node-3
192.168.33.14   cassandra-node-4
```

B.2 Vagrantfile

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

boxes = [
  { :name => 'cassandra-master', :ip => '192.168.33.10',
    :cpus =>2, :memory => 2048 },
  { :name => 'cassandra-node-1', :ip => '192.168.33.11',
    :cpus =>2, :memory => 2048 },
  { :name => 'cassandra-node-2', :ip => '192.168.33.12',
    :cpus =>2, :memory => 2048 },
  { :name => 'cassandra-node-3', :ip => '192.168.33.13',
    :cpus =>2, :memory => 2048 },
  { :name => 'cassandra-node-4', :ip => '192.168.33.14',
    :cpus =>2, :memory => 2048 }
]

# All Vagrant configuration is done below.
# The "2" in Vagrant.configure
# configures the configuration version
# (we support older styles for
# backwards compatibility).
# Please don't change it unless you know what
# you're doing.
Vagrant.configure(2) do |config|
  boxes.each do |box|
    config.vm.define box[:name] do |config|

      # Specify the box
      config.vm.box = "ubuntu/trusty64"

      # Set ip
      config.vm.network :private_network, ip: box[:ip]

      # Manage /etc/hosts on host and VMs
      config.hostmanager.enabled = false
      config.hostmanager.manage_host = true
      config.hostmanager.include_offline = true
      config.hostmanager.ignore_private_ip = false
```

```
# Set host name
config.vm.hostname = box[:name]

# Vagrant up message
config.vm.post_up_message =
  box[:name] + " is alive and kicking"

# Virtualbox config
config.vm.provider "virtualbox" do |vb|
  # Customize the amount of memory on the VM:
  vb.memory = box[:memory]

  # Customize the amount of cpus on the VM:
  vb.cpus = box[:cpus]

  #Set Name of vm
  vb.name = box[:name]
end

#Copy hosts
config.vm.provision :shell, :inline
  => "cp -fv /vagrant/hosts /etc/hosts"

if (box[:name] == "cassandra-master")
  # Port forwarding
  config.vm.network "forwarded_port",
    guest: 8888, host: 8888

  #config.vm.provision :shell, :inline => $master_script
  config.vm.provision "shell",
    path: => "provision/setup_dse.sh"
else
  #config.vm.provision :shell, :inline => $slave_script
  config.vm.provision :shell,
    :path => "provision/setup_slave.sh"
end

#hostmanager config
config.vm.provision :hostmanager
```

```
    end
  end
end
```

B.3 Setup cluster manager

```
#!/bin/bash

echo "Provisioning␣virtual␣machine..."
echo "Adding␣needed␣repositories"
# add repository for java 8
sudo add-apt-repository ppa:webupd8team/java -y

# add the repo's source
echo "deb␣http://debian.datastax.com/community␣stable␣main"
    | sudo tee -a /etc/apt/sources.list.d/datastax.
   community.list
wget -q -O - http://debian.datastax.com/debian/repo_key |
   sudo apt-key add -

echo "Updating␣repositories"
sudo apt-get update -qq

echo "Installing␣Java"
# Automated installation (auto accept license)
echo oracle-java8-installer shared/accepted-oracle-license-
   v1-1 select true | sudo /usr/bin/debconf-set-selections
   >> /dev/null
sudo apt-get install -y oracle-java8-installer >> /dev/null

echo "Installing␣OpsCenter"
sudo apt-get install -y opscenter >> /dev/null

echo "Starting␣opscenter"
sudo service opscenterd start
```

B.4 Setup slaves

```
#!/bin/bash

echo "Provisioning␣virtual␣machine..."
echo "Adding␣needed␣repositories"
# add repository for java 8
sudo add-apt-repository ppa:webupd8team/java -y

echo "Updating␣repositories"
sudo apt-get update -qq

echo "Installing␣Java"
# Automated installation (auto accept license)
echo oracle-java8-installer shared/accepted-oracle-license-
   v1-1 select true | sudo /usr/bin/debconf-set-selections
sudo apt-get install -y oracle-java8-installer >> /dev/null
```