Ik ben gestart met de files van sysadmin. Als eerste heb ik de ubuntu versies moeten veranderen naar trusty32, heb de vorige keer ondervonden dat de 64 versie om een bizarre reden niet wil werken.

```
# Defines our Vagrant environment
# -*- mode: ruby -*-
# vi: set ft=ruby:
Vagrant.configure("2") do |config|
  # create mgmt node
  config.vm.define :mgmt do |mgmt_config|
      mgmt_config.vm.box = "ubuntu/trusty32"
      mgmt_config.vm.hostname = "mgmt"
      mgmt_config.vm.network :private_network, ip: "10.0.15.10"
      mgmt_config.vm.provider "virtualbox" do |vb|
       vb.memory = "256"
      mgmt_config.vm.provision :shell, path: "bootstrap-mgmt.sh"
 end
  # create load balancer
  config.vm.define :lb do |lb config|
      lb config.vm.box = "ubuntu/trusty32"
      lb config.vm.hostname = "lb"
      lb_config.vm.network :private_network, ip: "10.0.15.11"
      lb_config.vm.network "forwarded_port", guest: 80, host: 10000
      lb_config.vm.provider "virtualbox" do |vb|
        vb.memory = "256"
      end
 end
 # create some web servers
  # https://docs.vagrantup.com/v2/vagrantfile/tips.html
  (1..2).each do |i|
    config.vm.define "web#{i}" do |node|
       node.vm.box = "ubuntu/trusty32"
       node.vm.hostname = "web#{i}"
       node.vm.network :private_network, ip: "10.0.15.2#{i}"
       node.vm.network "forwarded_port", guest: 80, host: "1000#{i}"
       node.vm.provider "virtualbox" do |vb|
          vb.memory = "256"
        end
    end
 end
end
```

Noot: trusty64 -> trusty 32 & poort aangepast naar 10000.

EDIT: host verandert naar 1230 (blijkbaar al een andere app op 10000)

We laten hiermee 4 servers starten, een managementserver voor ansible, een load balancer met HAProxy en 2 webservers.

Volgende stap: Vagrant up

```
warin@LAPTOP-60KD73AR MINGW64 ~/Dropbox/DO_Ansible (master)
$ vagrant up
Bringing machine 'mgmt' up with 'virtualbox' provider...
Bringing machine 'web1' up with 'virtualbox' provider...
Bringing machine 'web2' up with 'virtualbox' provider...
Bringing machine 'web2' up with 'virtualbox' provider...
=> mgmt: Importing base box 'ubuntu/trusty32'...
=> mgmt: Checking if box 'ubuntu/trusty32' is up to date...
=> mgmt: A newer version of the box 'ubuntu/trusty32' is available! You currently
=> mgmt: have version '20160518.0.0'. The latest is version '20160601.0.0'. Run
=> mgmt: Setting the name of the VM: Do_Ansible_mgmt_1465136622482_45646
==> mgmt: Clearing any previously set forwarded ports...
=> mgmt: Clearing any previously set network interfaces...
=>> mgmt: Preparing network interfaces based on configuration...
mgmt: Adapter 1: nat
mgmt: Adapter 2: hostonly
=>> mgmt: Forwarding ports...
mgmt: 22 (guest) => 2222 (host) (adapter 1)
=>> mgmt: Booting VM...
=>> mgmt: Booting VM...
=>> mgmt: Waiting for machine to boot. This may take a few minutes...
mgmt: SSH address: 127.0.0.1:2222
mgmt: SSH username: vagrant
```

Als alles slaagt dan zien we de servers verschijnen

Next up: Vagrant ssh mgmt!

```
marin@LAPTOP-60KD73AR MINGW64 ~/Dropbox/DO_Ansible (master)
$ vagrant ssh mgmt
Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 3.13.0-86-generic i686)
* Documentation: https://help.ubuntu.com/
System information disabled due to load higher than 1.0

Get cloud support with Ubuntu Advantage Cloud Guest:
   http://www.ubuntu.com/business/services/cloud

0 packages can be updated.
0 updates are security updates.
```

SSH-keys aanmaken + opslaan naar hostsfile

```
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/vagrant/.ssh/id rsa.
Your public key has been saved in /home/vagrant/.ssh/id_rsa.pub.
The key fingerprint is:
ae:0c:12:66:a4:48:0d:97:96:7a:7c:db:4c:58:7c:4d vagrant@mgmt
The key's randomart image is:
+--[ RSA 2048]----+
  . .o . oE
   ++ 0 . .
 0+00.
  = . = S
 0
    . 0 .
       0
vagrant@mgmt:~$ ssh-keyscan web1 web2 lb >> .ssh/kwon_hosts
# lb SSH-2.0-OpenSSH 6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH 6.6.1p1 Ubuntu-2ubuntu2.7
# lb SSH-2.0-OpenSSH 6.6.1p1 Ubuntu-2ubuntu2.7
read (web1): No route to host
read (web1): No route to host
vagrant@mgmt:~$ ssh-keyscan web1 web2 lb >> .ssh/known_hosts
# web2 SSH-2.0-OpenSSH 6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# lb SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
  lb SSH-2.0-OpenSSH 6.6.1p1 Ubuntu-2ubuntu2.7
```

Playbook runnen

We slaan de ssh-key op van mgmt

Nu volledig:

```
vagrant@mgmt:~$ ssh-keyscan web1 web2 lb >> .ssh/known_hosts
# web1 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# web2 SSH-2.0-OpenSSH_6.6.1p1 Ubuntu-2ubuntu2.7
# lb SSH-2.0-OpenSSH_6.0.1p1 Ubuntu-2ubuntu2.7
# lb SSH-2.0-OpenSSH_6.0.1p1 Ubuntu-2ubuntu
```

PING PONG

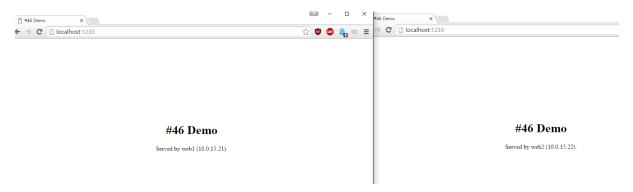
```
vagrant@mgmt:~$ ansible all -m ping
web1 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
web2 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
lb | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
vagrant@mgmt:~$

# web2 SSH-2.0-OpenSSH_6.6.
# the SSH-2.0-OpenSSH_6.6.
```

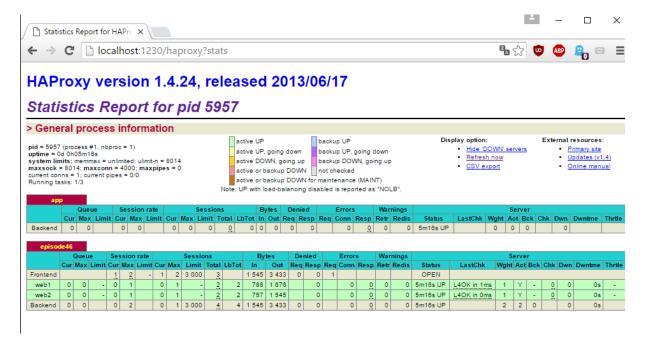
HAPROXY instellen

```
vagrant@mgmt:~$ ansible-playbook e46-site.yml
changed: [web1]
changed: [web2]
changed: [lb]
changed: [web1]
changed: [web2]
hanged: [web2]
hanged: [web1]
TASK [write our /etc/nginx/sites-available/default] ****************************
changed: [web1]
changed: [web2]
changed: [web1]
changed: [web2]
changed: [web2]
changed: [web1]
changed: [lb]
changed: [lb]
changed: [lb]
changed=5
changed=6
changed=6
               unreachable=0
                    failed=0
                    failed=0
               unreachable=0
               unreachable=0
                    failed=0
```

Als men in 2 vensters naar localhost:1230 surft, kan men zien dat het door 2 aparte nodes wordt doorverbonden



HAPROXY STATS



Rolling updates!

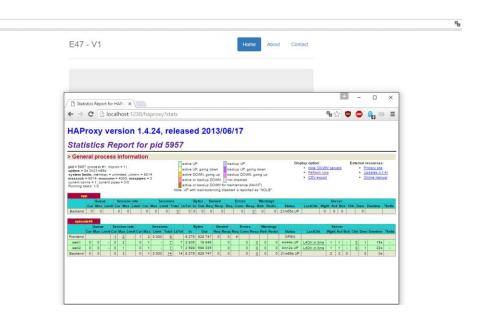
Een van de requirements van de opdracht is dat er zero down-time nodig is, de nodes zullen dus apart moeten geüpdatet worden.

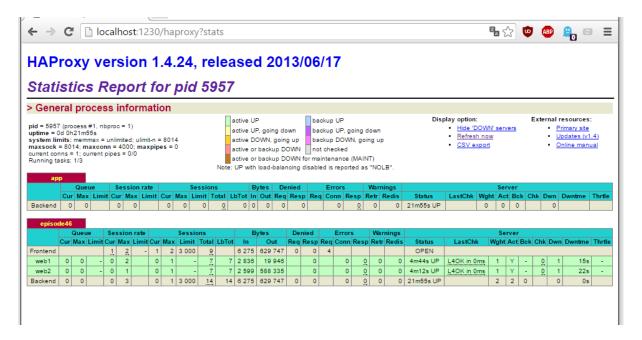
Load balancer moet server uit de haproxy halen -> updaten-> terug toevoegen

vagrant@mgmt:~> ansible-playbook e4/-rolling.yml [DEPRECATION WARNING]: Instead of sudo/sudo_user, use become/become_user and make sure become_method is 'sudo' (de This feature will be removed in a future release. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
PLAY [all] ***********************************
TASK [install git] ************************************
PLAY [web] ************************************
TASK [setup] ************************************
TASK [disable server in haproxy] ************************************
TASK [install nginx] ************************************
TASK [write our nginx.conf] ************************************
TASK [write our /etc/nginx/sites-available/default] ************************************
TASK [clean existing website content] ************************************
TASK [deploy website content] ************************************
TASK [enable server in haproxy] ************************************
PLAY [web] ************************************
TASK [setup] ************************************
TASK [disable server in haproxy] ************************************
TASK [install nginx] ************************************
TASK [write our nginx.conf] ************************************
TASK [write our /etc/nginx/sites-available/default] ************************************
TASK [clean existing website content] ************************************

```
changed: [web2]
changed: [web2]
changed: [web2 -> lb] => (item=lb)
TASK [Configure the haproxy cnf file with hosts] *******************************
changed=0 unreachable=0
                   failed=0
          changed=4
changed=4
              unreachable=0
                   failed=0
                   failed=0
              unreachable=0
vagrant@mgmt:~$ _
```

← → **C** 🗋 localhost:1230

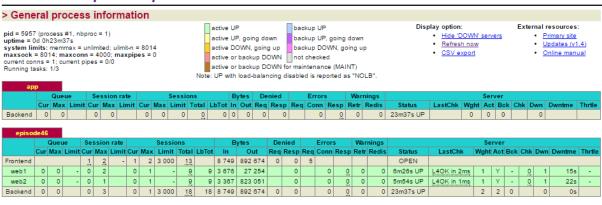




Resultaat

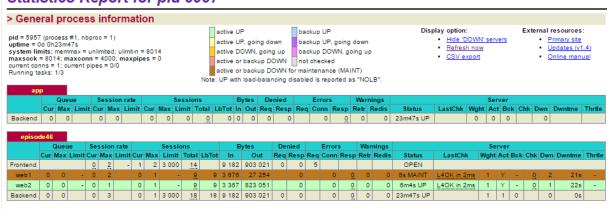
HAProxy version 1.4.24, released 2013/06/17

Statistics Report for pid 5957



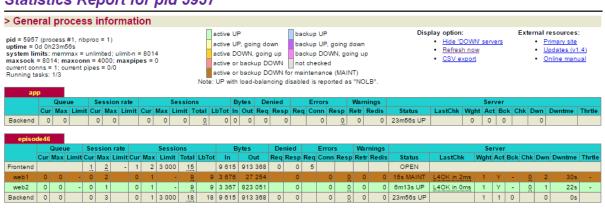
HAProxy version 1.4.24, released 2013/06/17

Statistics Report for pid 5957

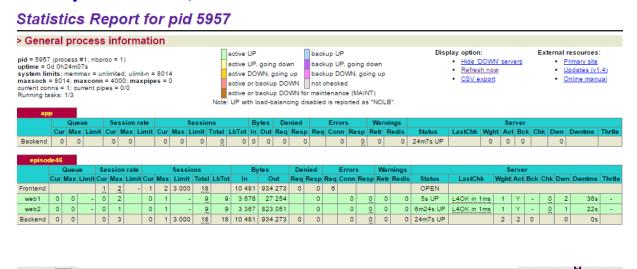


HAProxy version 1.4.24, released 2013/06/17

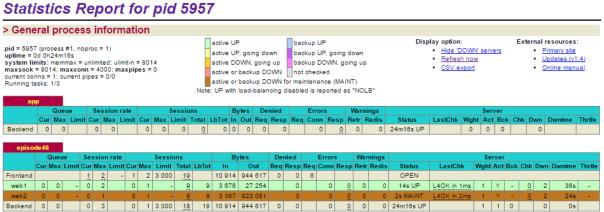
Statistics Report for pid 5957



HAProxy version 1.4.24, released 2013/06/17



HAProxy version 1.4.24, released 2013/06/17



HAProxy version 1.4.24, released 2013/06/17
Statistics Report for pid 5957
General process Information Display option: External re

Hele DONN' servers 23
Behaviorise 23
CSV 80005 22 active UP are lossed possed for service Officer (Street, Street, Stree pid = 5907 (process #1, nippod = 1) agéine = Od 0x27ef2e lystem limits: merman = unimited, ulimit n = 8014 maxxxxxx = 5014; maxxxxxx = 4000; maxpipes = 0 unimit conn = 1; commit pipes = 000 banking teather (3)

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Web2		3	0		0			0			9	9	3 357	023 05		0				0	0	3m14x UP	L40K in Ov			Y		0	2
Dackend		5	0		0	- 3		0		3 000	15	10	15 677	1 050 91	7 0	0			9	0	0	27m52x UP			2	2	0		0