Propel 2.x, How to deploy Propel2 VM within MS Azure

This document describes a step-by-step procedure how to deploy Propel2 within MS Azure cloud.

1. Open and start 'propel-2_20.ova' VM by VMWare Workstation. Log in as root

2. Uninstall VMWare Tools
```
vmware-uninstall-tools.pl
```

3. Re-build existing ramdisk image of CentOS 7
```
mkinitrd --with=hid-hyperv --with=hv_utils --with=hv_vmbus --
with=hv_storvsc --with=hv_netvsc /boot/initramfs-$(uname -r).img $(uname -r)
-f
```

4. Execute commands. Use a sample FQDN
```
export PROPEL_VM_HOSTNAME=vmklm21.cloudapp.local
cd /opt/hp/propel-install
./configureNetwork.sh --hostname $PROPEL_VM_HOSTNAME –configuredhcp
reboot
```

5. Check if IP adddress ia assigned correctly by DHCP
```
ifconfig
```

6. Edit file: */etc/sysconfig/network* (mobaXterm tool can be used as SSH client and text editor from Windos OS)
```
NETWORKING=yes
HOSTNAME=localhost.localdomain
```

7. Edit file: */etc/sysconfig/network-scripts/ifcfg-eth0*
```
DEVICE="eth0"
BOOTPROTO="dhcp"
DHCP_HOSTNAME="vmklm21.cloudapp.local"
IPV6INIT="no"
MTU="1500"
NM_CONTROLLED="yes"
ONBOOT="yes"
TYPE="Ethernet"
PEERDNS="yes"
USERCTL="no"
```

8. Execute commands
```
ln -s /dev/null /etc/udev/rules.d/75-persistent-net-generator.rules
chkconfig network on
```

9. Edit file: */etc/default/grub* (Replace GRUB_CMDLINE_LINUX line with)
```
GRUB_CMDLINE_LINUX="rd.lvm.lv=centos/root biosdevname=0 rootdelay=300
console=ttyS0 earlyprintk=ttyS0 net.ifnames=0"
```

10. Execute commands
```
grub2-mkconfig -o /boot/grub2/grub.cfg
```

11. Edit file: */etc/fstab* (Delete the following line)

```
/dev/mapper/centos-swap
swap                          swap    defaults        0 0
```

12. Execute commands

```
swapoff -a
lvremove /dev/mapper/centos-swap
lvextend -r -l+100%FREE /dev/mapper/centos-root
mkdir /mnt/resource
chmod 600 /mnt/resource
```

13. Edit file: */etc/yum.repos.d/CentOS-Base.repo*

```
[openlogic]
name=CentOS-$releasever - openlogic packages for $basearch
baseurl=http://olcentgbl.trafficmanager.net/openlogic/$releasever/openlogic/$
basearch/
enabled=1
gpgcheck=0

[base]
name=CentOS-$releasever - Base
baseurl=http://olcentgbl.trafficmanager.net/centos/$releasever/os/$base
arch/
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7

#released updates
[updates]
name=CentOS-$releasever - Updates
baseurl=http://olcentgbl.trafficmanager.net/centos/$releasever/updates/
$basearch/
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7

#additional packages that may be useful
[extras]
name=CentOS-$releasever - Extras
baseurl=http://olcentgbl.trafficmanager.net/centos/$releasever/extras/$
basearch/
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7

#additional packages that extend functionality of existing packages
[centosplus]
name=CentOS-$releasever - Plus
baseurl=http://olcentgbl.trafficmanager.net/centos/$releasever/centospl
us/$basearch/
gpgcheck=1
enabled=0
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7

#contrib - packages by Centos Users
[contrib]
name=CentOS-$releasever - Contrib
```

```
     baseurl=http://olcentgbl.trafficmanager.net/centos/$releasever/contrib/
$basearch/
     gpgcheck=1
     enabled=0
     gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-7
```

14. Execute commands
```
     yum clean all
     yum install WALinuxAgent
     systemctl enable waagent
     yum install -y xorg-x11-server-Xorg xorg-x11-xauth xorg-x11-apps
     yum install firefox
     yum install screen
     reboot
```

15. Edit file: */etc/waagent.conf*
```
     Provisioning.DeleteRootPassword=n
     ResourceDisk.Format=y
     ResourceDisk.Filesystem=ext4
     ResourceDisk.MountPoint=/mnt/resource
     ResourceDisk.EnableSwap=y
     ResourceDisk.SwapSizeMB=5120     ## NOTE: 5GB swap space.
```

16. Execute commands
```
     waagent -force -deprovision
     export HISTSIZE=0
     logout
```

17. Click **VM -> Power -> Shut Down** in VMware Workstation.

18. Convert the HDD of VMWare machine in VHD fixed format by **StarWind V2V Converter**
The result of this step is a 50GB HDD.

19. Login to MS Azure account by portal http://manage.windowsazure.com

20. Create storage account in MS Azure

21. Copy VHD HDD as Page Blob to Azure storage account by **CloudBerry Explorer for Azure Blob Storage**
It could take more than 15h to copy the template disk into MS Azure storage account

22. Create e a new Virtual Network/Subnet

Virtual Network Address Spaces

ADDRESS SPACE	STARTING IP	CIDR (ADDRESS COUNT)	USABLE ADDRESS RANGE
192.168.1.0/24	192.168.1.0	/24 (256)	192.168.1.0 - 192.168.1.255
SUBNETS			
appliance-sub1	192.168.1.0	/25 (128)	192.168.1.0 - 192.168.1.127
add subnet			

add address space

23. Create a new VM image in Azure

virtual machines

INSTANCES   IMAGES   DISKS

NAME	↑	STATUS	SOURCE	LAST UPDATE
hyperv	→	✔ Available	-	
propel220		✔ Available	-	

Create an image from a VHD

NAME

propel220

DESCRIPTION

VHD URL select 50GB VHD HDD, copied to MS Azure storage

OPERATING SYSTEM FAMILY

Linux

☑ I have run waagent -deprovision on the virtual machine

✓

24. Create a new VM instance in MS Azure. Use Gallery/My Images. A faster VM with >=4 CPU and >=28GB RAM is recommended, for example D12_v2
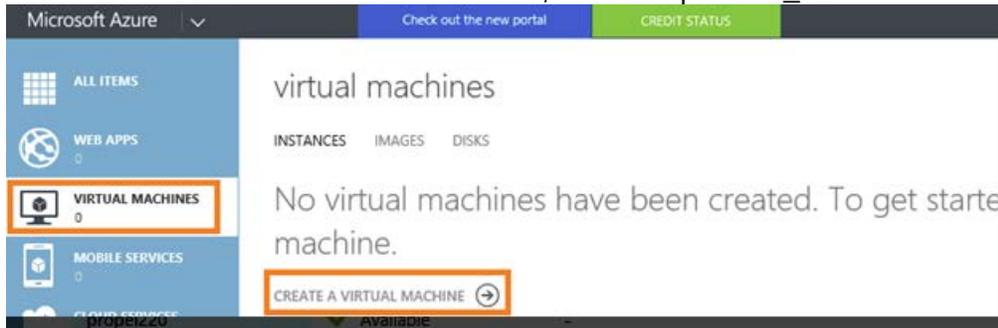
Enter a cloud service DNS name different than VM host name.
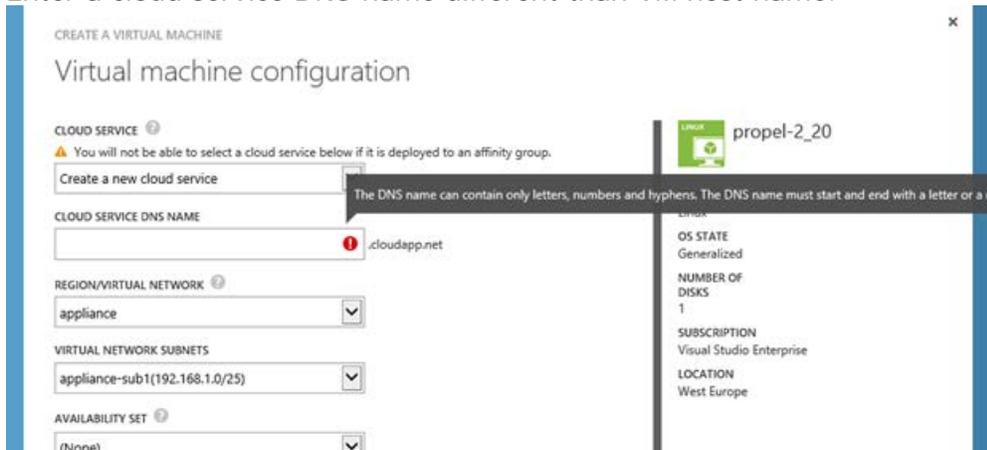
25. Connect via SSH and execute command, where propel220.cloudapp.net is cloud service DNS selected in previous step

```
ifconfig eth0:0 `getent hosts propel220.cloudapp.net | awk '{ print $2
; exit }'` netmask 255.255.255.255 up
```

26. Edit file: */etc/hosts*

```
192.168.1.21 vmklm21.cloudapp.local vmklm21
```

*note: A static IP address can be assigned trough **MS Azure -> VM properties** menu.
Propel2 VM is still configured to use DHCP.

27. Execute command (screen is used in case of disconnection during setup)

```
screen
export PROPEL_VM_HOSTNAME=vmklm21.cloudapp.local
cd /opt/hp/propel-install
./propel-ssl-setup.sh auto --hostname $PROPEL_VM_HOSTNAME 2>&1 | tee
ssl-setup.log
./setup.sh --debug install $PROPEL_VM_HOSTNAME 2>&1 | tee install.log
```

28. Execute commands

```
propel status
propel stop
propel start
```

29. Start firefox and open Propel2 URLs

```
firefox
```
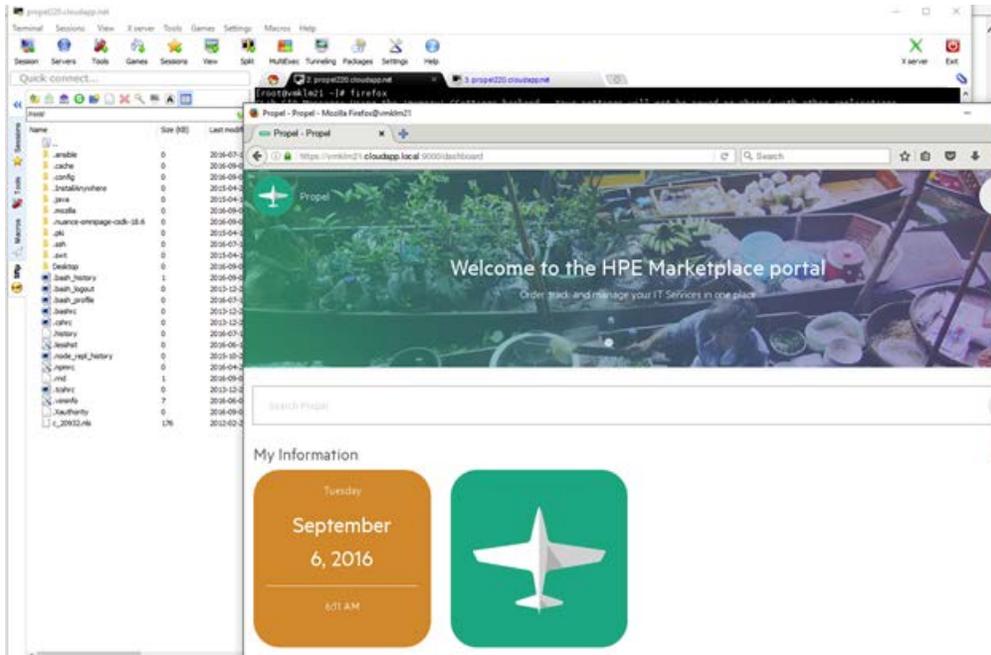
*Please, note that MS Azure is not officially supported environment for Propel2 (according to Support Matrix document)
Please, use this document for testing/POC purposes only.