

# Lab 5- VM Migration

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## Ozioma Okonicha and Selina Varouqa (SE-01)

!!Disclaimer!!

Due to 8gb RAM capacity on my laptop, we could not progress further with the exercise without my laptop freezing and shutting down. Hence in this report we provided evidence of what we were able to accomplish along with steps of what could not be accomplished

## Questions

**Q1:** *What type of hypervisor is VMware Workstation (or Fusion)?*

**A1:** It is a type 2 hypervisor, also called a hosted hypervisor; which means it is a virtual machine manager that is installed as a software application on an existing operating system.

**Q2:** *What type of hypervisor is VMware ESXi?*

**A1:** It is a type 1 hypervisor, which is a layer of software we install directly on top of a physical server and its underlying hardware

After configuration of dnsmasq:

```
ozzie_kins@ozzie-kins-X542UN:~$ dig vcenter6-7.localdomain

; <<>> DiG 9.16.1-Ubuntu <<>> vcenter6-7.localdomain
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 30215
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;vcenter6-7.localdomain.          IN      A

;; ANSWER SECTION:
vcenter6-7.localdomain. 0        IN      A      192.168.101.103

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Sun Sep 06 20:39:40 UTC 2020
;; MSG SIZE rcvd: 67
```

```
ozzie_kins@ozzie-kins-X542UN:~$ dig -x 192.168.101.101

; <<>> DiG 9.16.1-Ubuntu <<>> -x 192.168.101.101
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 43618
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;101.101.168.192.in-addr.arpa.    IN      PTR

;; ANSWER SECTION:
101.101.168.192.in-addr.arpa. 0 IN      PTR      esxi.localdomain.
101.101.168.192.in-addr.arpa. 0 IN      PTR      esxi.

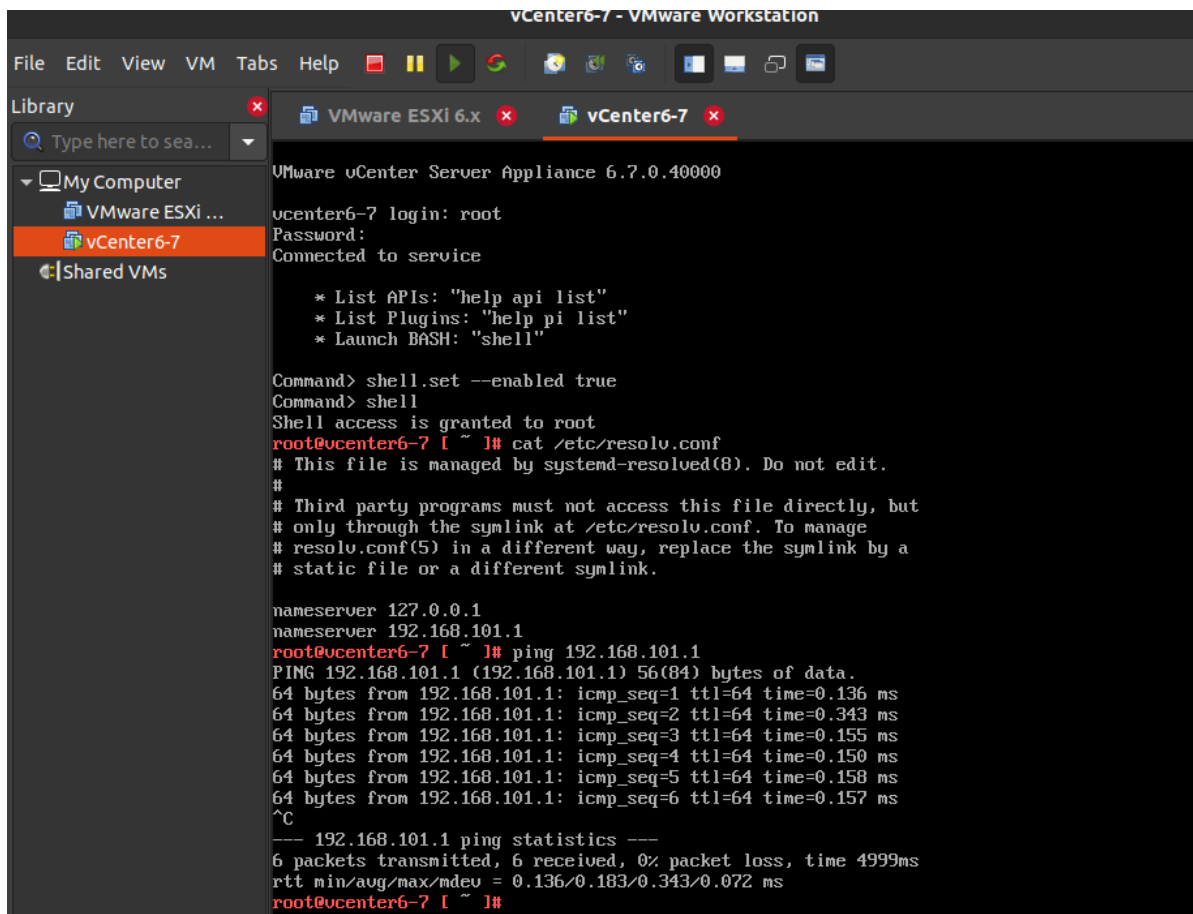
;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Sun Sep 06 20:40:01 UTC 2020
;; MSG SIZE rcvd: 105
```

```
ozzie_kins@ozzie-kins-X542UN:~$
```

```
ozzie_kins@ozzie-kins-X542UN:~$ ping 192.168.101.103
PING 192.168.101.103 (192.168.101.103) 56(84) bytes of data.
64 bytes from 192.168.101.103: icmp_seq=1 ttl=64 time=0.594 ms
64 bytes from 192.168.101.103: icmp_seq=2 ttl=64 time=0.184 ms
64 bytes from 192.168.101.103: icmp_seq=3 ttl=64 time=0.205 ms
64 bytes from 192.168.101.103: icmp_seq=4 ttl=64 time=0.174 ms
64 bytes from 192.168.101.103: icmp_seq=5 ttl=64 time=0.212 ms
^C
```

```
--- 192.168.101.103 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4078ms
rtt min/avg/max/mdev = 0.174/0.273/0.594/0.160 ms
```

```
ozzie_kins@ozzie-kins-X542UN:~$
```



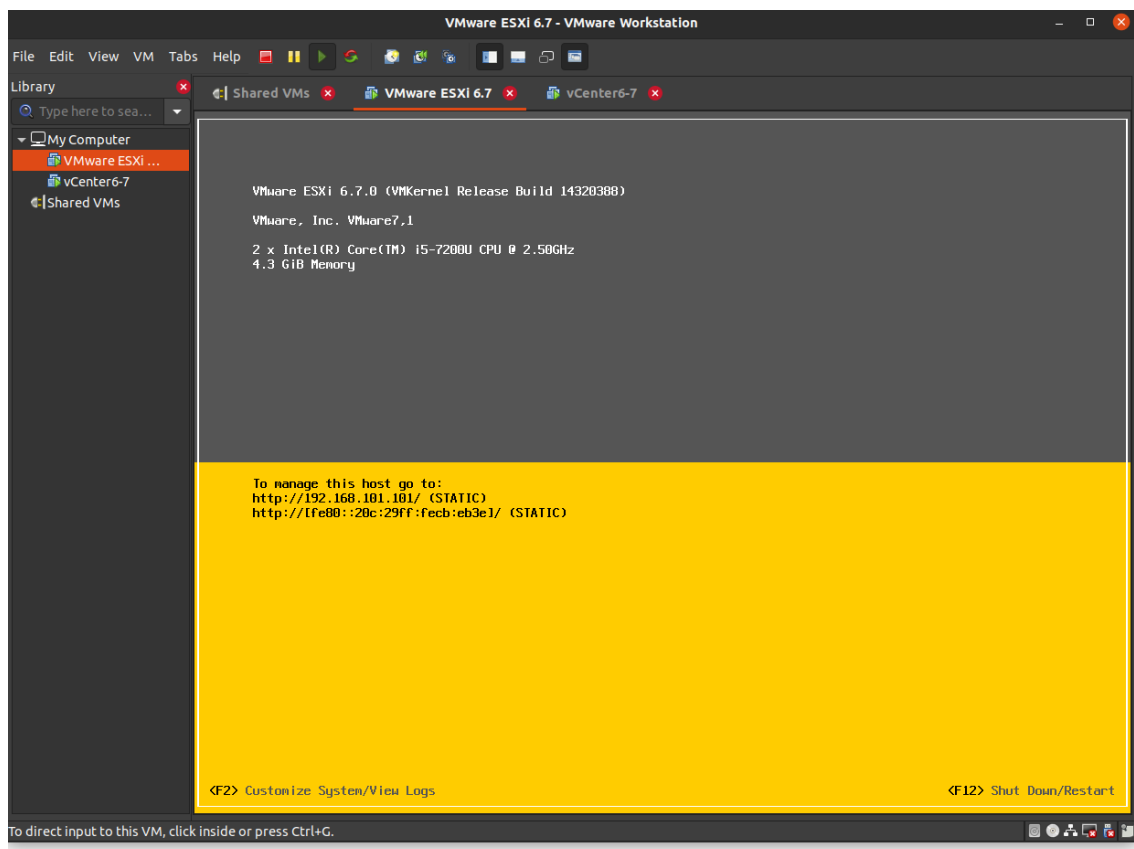
```
vCenter6-7 - VMware Workstation
File Edit View VM Tabs Help
Library
  Type here to sea...
  My Computer
    VMware ESXi ...
    vCenter6-7
  Shared VMs
vCenter6-7
  VMware vCenter Server Appliance 6.7.0.40000
  vcenter6-7 login: root
  Password:
  Connected to service
  * List APIs: "help api list"
  * List Plugins: "help pi list"
  * Launch BASH: "shell"
  Command> shell.set --enabled true
  Command> shell
  Shell access is granted to root
  root@vcenter6-7 [ ~ ]# cat /etc/resolv.conf
  # This file is managed by systemd-resolved(8). Do not edit.
  #
  # Third party programs must not access this file directly, but
  # only through the symlink at /etc/resolv.conf. To manage
  # resolv.conf(5) in a different way, replace the symlink by a
  # static file or a different symlink.
  nameserver 127.0.0.1
  nameserver 192.168.101.1
  root@vcenter6-7 [ ~ ]# ping 192.168.101.1
  PING 192.168.101.1 (192.168.101.1) 56(84) bytes of data:
  64 bytes from 192.168.101.1: icmp_seq=1 ttl=64 time=0.136 ms
  64 bytes from 192.168.101.1: icmp_seq=2 ttl=64 time=0.343 ms
  64 bytes from 192.168.101.1: icmp_seq=3 ttl=64 time=0.155 ms
  64 bytes from 192.168.101.1: icmp_seq=4 ttl=64 time=0.150 ms
  64 bytes from 192.168.101.1: icmp_seq=5 ttl=64 time=0.158 ms
  64 bytes from 192.168.101.1: icmp_seq=6 ttl=64 time=0.157 ms
  ^C
  --- 192.168.101.1 ping statistics ---
  6 packets transmitted, 6 received, 0% packet loss, time 4999ms
  rtt min/avg/max/mdev = 0.136/0.183/0.343/0.072 ms
  root@vcenter6-7 [ ~ ]#
```

**Q3:** *What level of virtualization are you at?*

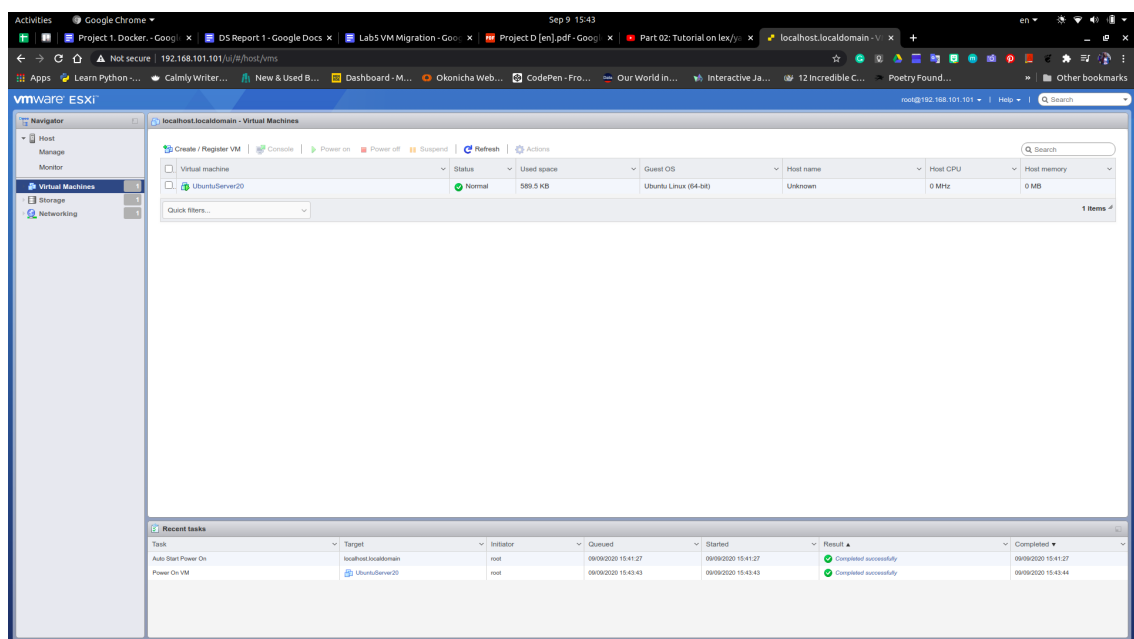
With the nested VM's, we nested a hypervisor within a hypervisor. The hypervisor running the main virtual machine is considered a level 0, or LO hypervisor, and the initial hypervisor running inside the virtual machine is referred to as a level 1 or L1 hypervisor.

## Requested Screenshots

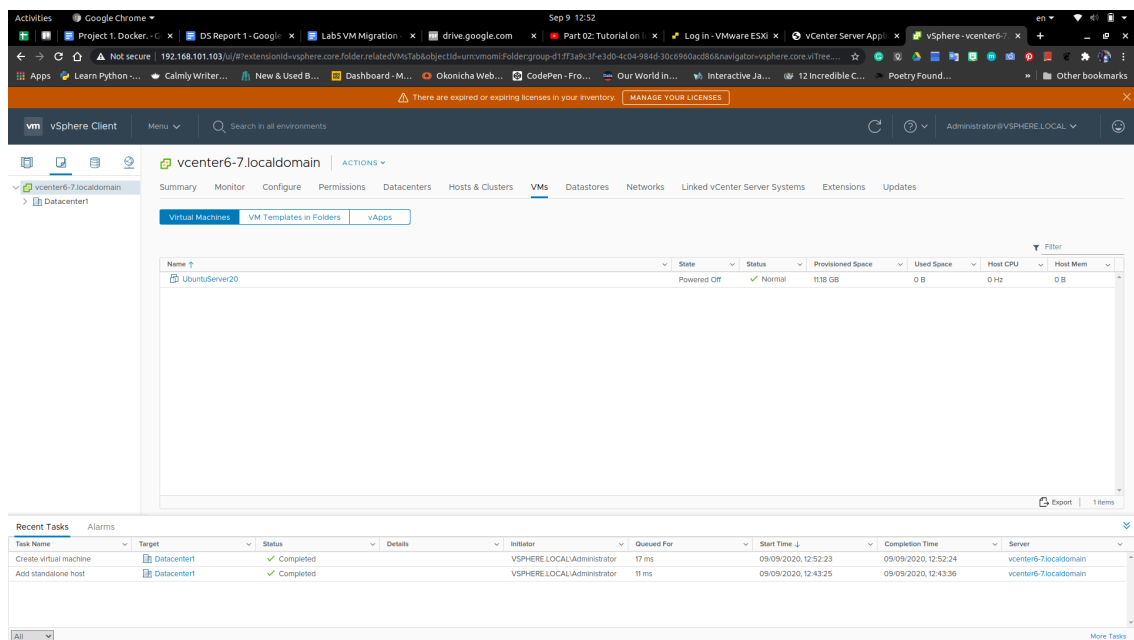
- VMware Workstation (or Fusion) with ESXi and vCenter VMs



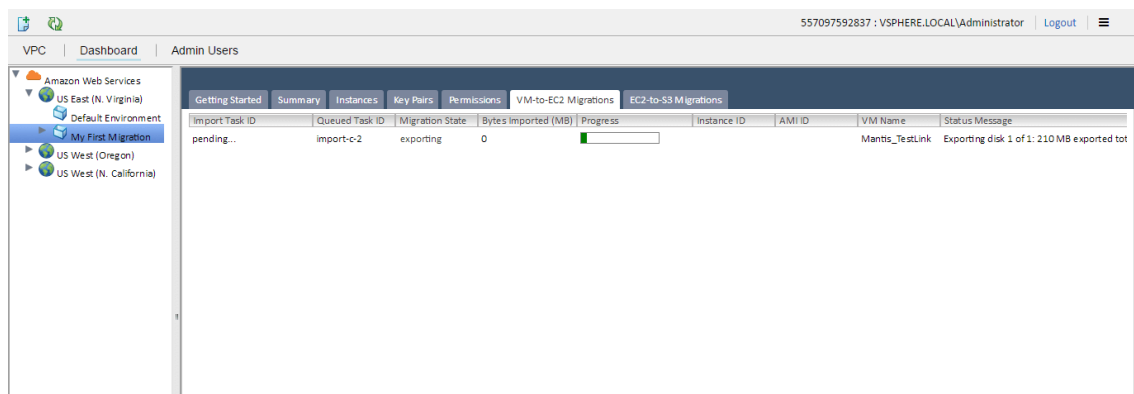
- Virtual Machine panel on the ESXi client web interface



- ESXi host panel with VMs on vSphere vCenter client web interface



- AWS Server Migration Service status page from AWS connector VM  
(Example of what it should look like, but unable to complete due to RAM capacity)



- Launched your migrated instances on AWS console