DR Chapter 4 - Recovery Process

Table of Contents

Tier 0 | 0-4 Hours

DNS & Domain Controllers

Tier 0 | 0-4 Hours

NOTE	*Note* Tier 0 is for disaster testing only. Not for an actual disaster.

Domain Controllers and DNS Servers

Production

PWV001DC1	172.23.10.113
PWV001DC2	172.23.10.115
PWV001DC3	172.23.10.69
PWV001DC4	172.23.10.150

DR

DWV088DC1	172.27.98.101
DWV088DC2	172.27.98.102
DWV088DC3	172.27.98.103
DWV088DC4	172.27.98.104

Tier 0 Linux / Windows Server Names and IP Addresses

Blade Chassis

SUXUCS001	172.27.100.151	CISCO UCS

Physical Blade Servers

DAV010VCTR	127.27.97.12	Windows VMWare vCenter Infrastructure Server

ESX Servers at DR

des071esx20	172.27.97.105	Apps
des071esx21	172.27.97.106	Apps
des071esx22	172.27.97.107	Apps
des071esx30	172.27.97.225	DB
des071esx31	172.27.97.226	DB
des074esx20	172.27.97.120	DMZ
des075esx20	172.27.97.140	DMZ Large CPU
des076esx31	172.27.100.31	VDI
des076esx32	172.27.100.32	VDI
des076esx33	172.27.100.33	VDI
des076esx34	172.27.100.34	VDI
des077esx21	172.27.97.42	Windows
des077esx22	172.27.97.43	Windows
des077esx23	172.27.97.44	Windows
des077esx24	172.27.97.45	Windows
des078esx31	172.27.97.32	Process Controls
des078esx32	172.27.97.53	Process Controls
des079esx20	172.27.97.104	Quad CPU

Kemp

K01 | KEMP (pav010kemp01, pav010kemp02) | 10 MIN

Load balancers

pav010kemp01 (172.23.5.213), pav010kemp02 (172.232.5.214)

- Refer to Appendix 02 on starting a VM server and finding the vCenter where it lives

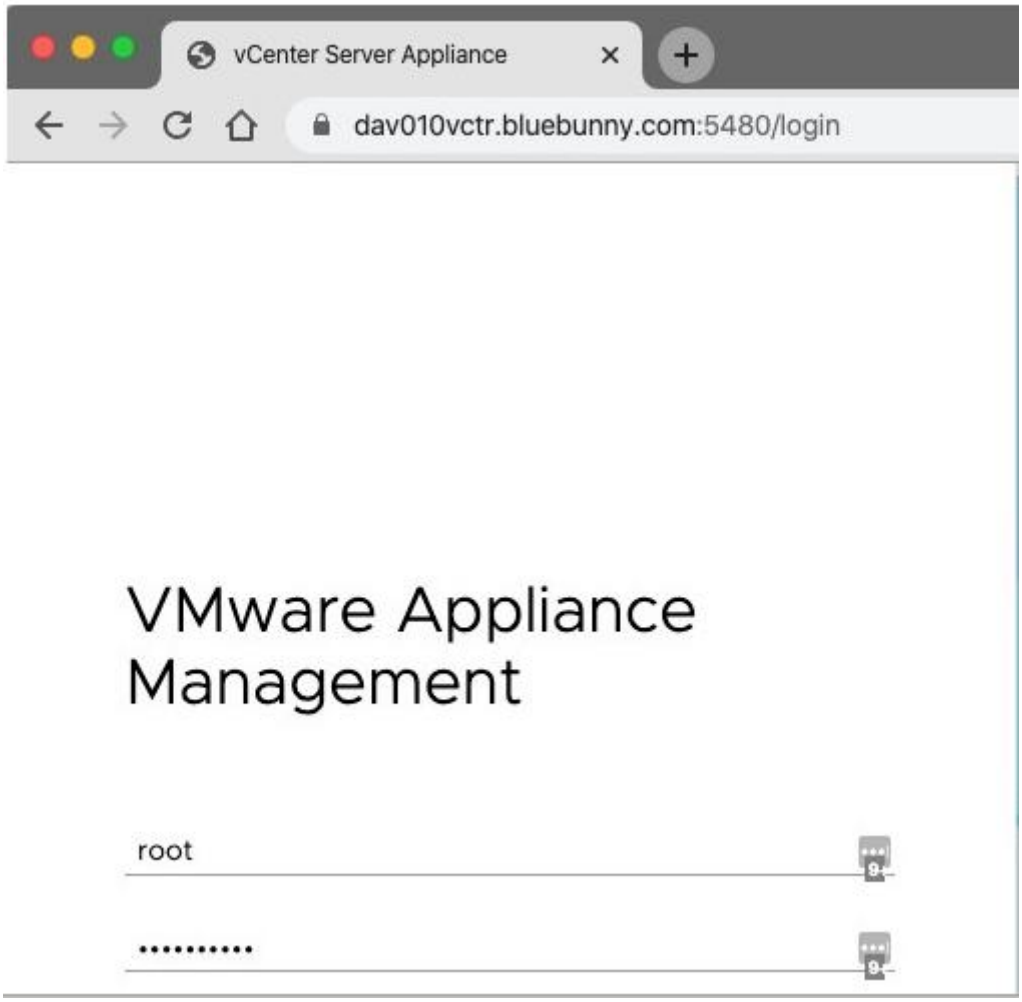
- The Kemp appliances live in PAV010VCTRAPPS

Linux

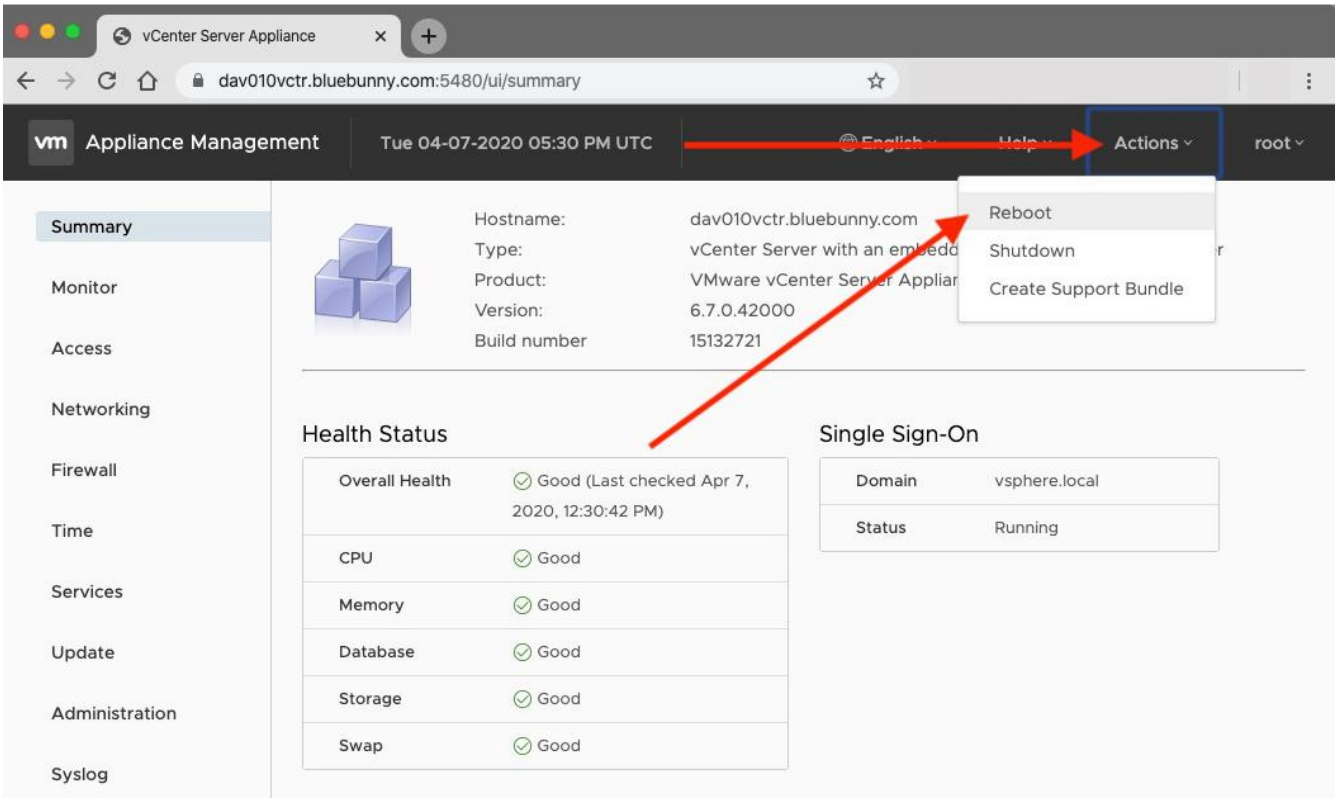
L01 | Reboot vCenter Server (DAV010VCTR) | 20 MIN |

IMPORTANT	W02 must be completed before this step.

Open a browser go to https://dav010vctr.bluebunny.com:5480/login https://172.27.97.12:5480/login and login with the root account.



Click on the "Actions" menu in the top right hand corner and select Reboot.



Click on the "Yes" button when the confirmation window pops up.

L02 | Prepare ESX Servers | 40 MIN |

IMPORTANT	W02, L01, N04, S02 must be completed before this step.

Applications - des071esx20 (172.27.97.105) , des071esx21 (172.27.97.106), des071esx22 (172.27.97.107

DB - des073esx30 (172.72.97.225, des073esx31(172.72.97.226)

DMZ - des074esx20 (172.27.97.120)

DMZ Large CPU - des075esx20 (172.72.97.140)

Windows - des077esx21 (172.27.97.42), des077esx22 (172.27.97.43), des077esx23 (172.27.97.44), des0077esx24 (172.27.97.45) **If these are hot servers - DO NOT REBOOT**

Process Controls - des078esx31 (172.27.97.32).des078esx32 (172.27.97.530

Quad CPU - des079esx20 (172.27.97.104)

OPTION 1

```
Scan the storage.  If the volumes show up, continue to L03 without rebooting.  This
will save time by not needing to reboot.
```

OPTION 2

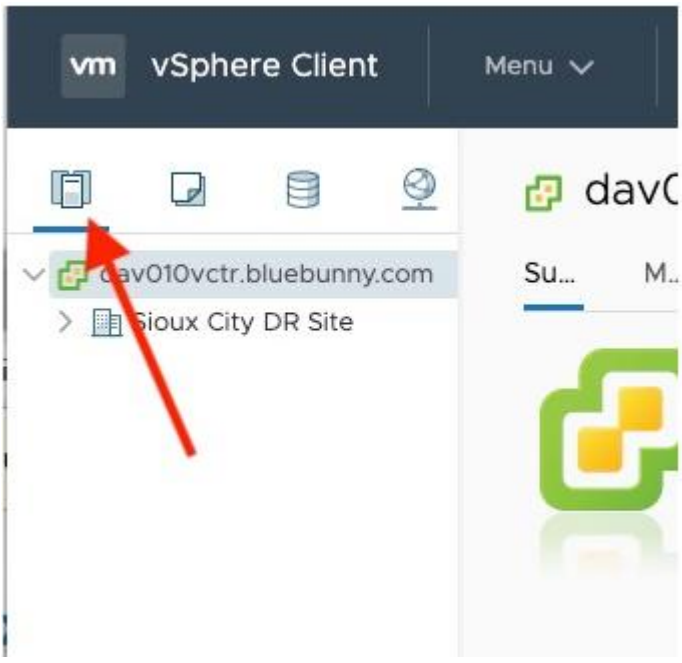
```
Scan the storage.  If the volumes do not show up after scanning the storage, reboot
the ESX servers.  Choose one of the following 3 reboot options.  When the reboots are
complete continue to L03.
```

There are 2 ways to reboot ESX servers - (1) HTML5 client reboot and (2) CLI reboot. Both options are described below. Perform the steps on only one option.

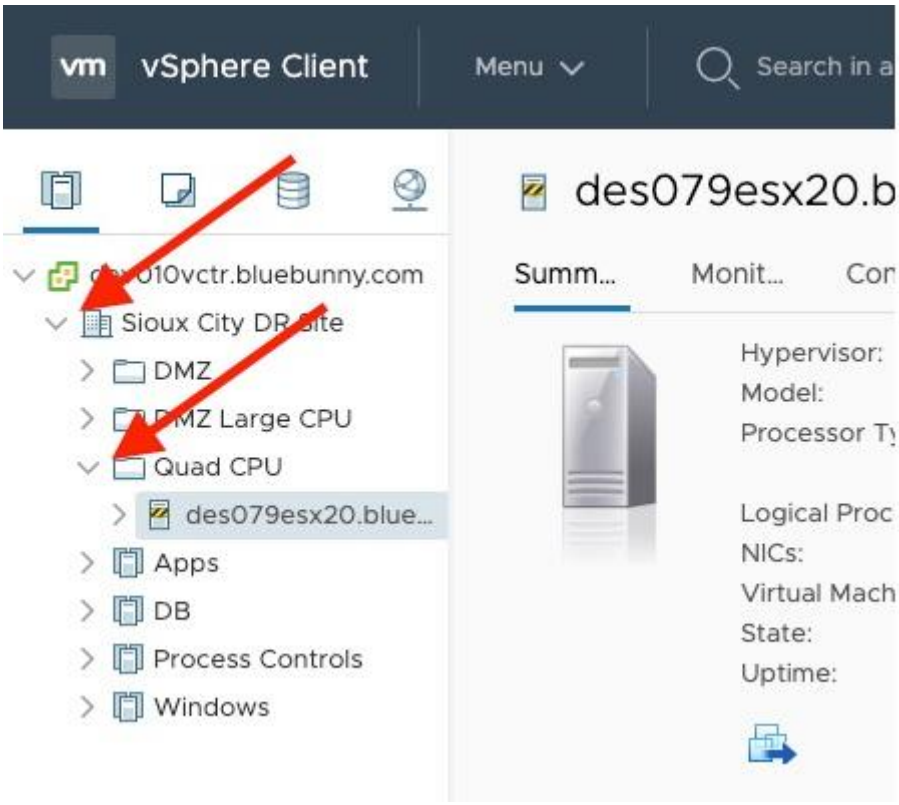
Option #1 - HTML5 CLIENT REBOOT

1. Open a browser and go to the vCenter vSphere Manager and login as the administrator@vsphere.local.user

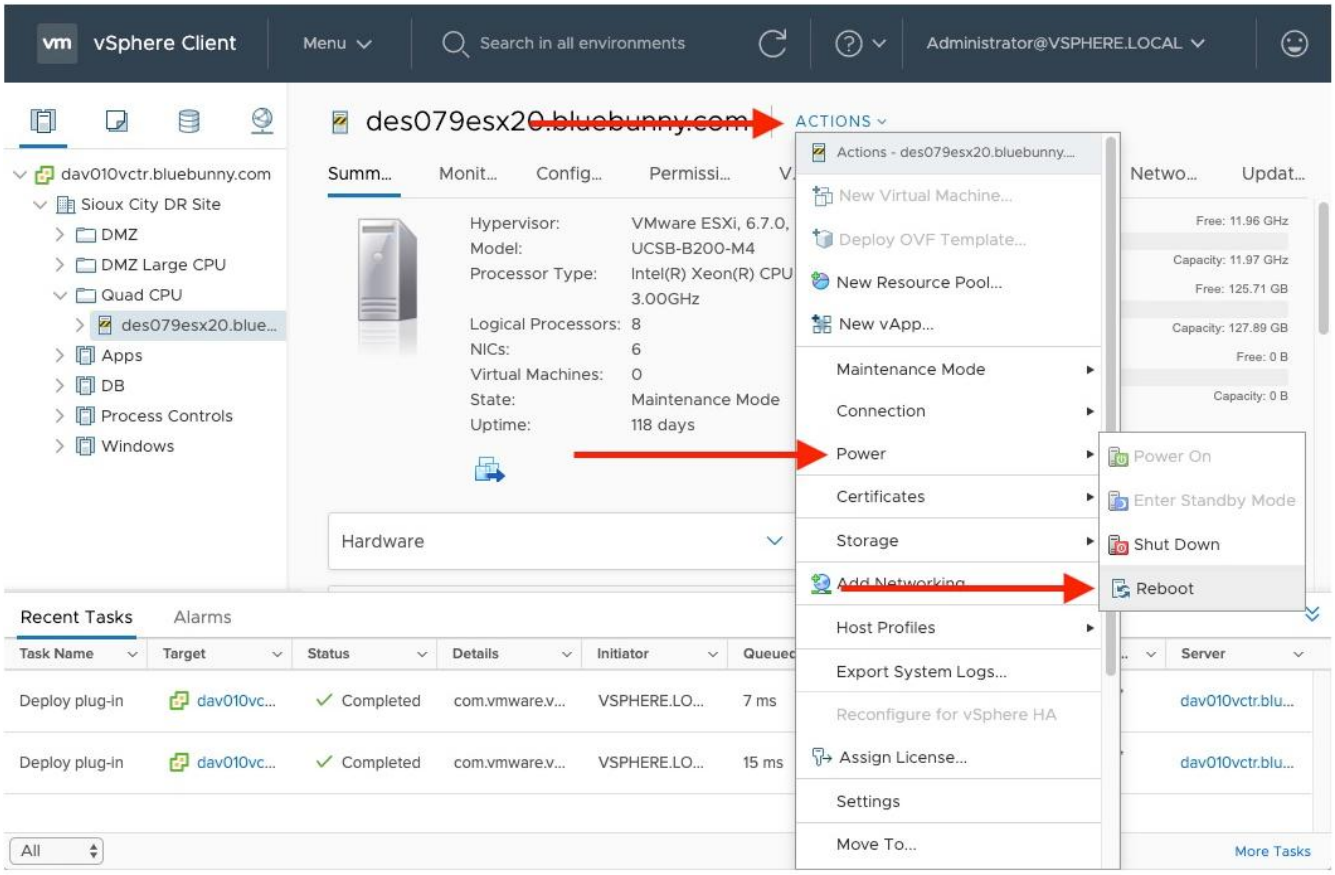
2. Click on the "Hosts and Clusters" tab in the top left hand corner



3. Select the ESXi server to be rebooted by traversing he tree in the left hand pane



4. Click on the "Actions" menu then "Power" option and then the "Reboot" option



5. Enter the reason for the reboot in the Text box and then click on the "OK" button to reboot the server.

Option #2 - CLI REBOOT

1. Login to system as root

```
$ ssh root@des071esx20
```

2. Type the reboot command and press the ENTER key.

```
# reboot
```

3. Take the ESX servers out of maintenance mode

L03 | Start plv001ntp, plv001lxlog, plv001foswiki, plv001lxadm | 10 MIN |

IMPORTANT	W02, N04, S02, L02 must be completed before this step.

IMPORTANT	MAKE SURE DOMAIN CONTROLLERS ARE UP BEFORE USING VMWARE (verify with the windows admins)

plv001ntp

```
Description: Time Server
```

```
IP Address: 172.23.5.237
```

```
VLAN: 5 - Network adapter 1
```

```
ESXi Cluster: Apps
```

```
Datastore: 71-LXAdmin
```

- Refer to Appendix A02 for boot up procedure.

plv001lxlog

```
Description: Logging Server
```

```
IP Address: 172.23.5.240
```

```
VLAN: 5 - Network adapter 1
```

```
ESXi Cluster: Apps
```

```
Datastore: 71-LXAdmin
```

- Refer to Appendix A02 for boot up procedure.

plv001foswiki

```
Description: Time Server
```

```
IP Address: 172.23.5.246
```

```
VLAN: 5 - Network adapter 1
```

```
ESXi Cluster: Apps
```

```
Datastore: 71-LXAdmin
```

- Refer to Appendix A02 for boot up procedure.

plv001lxadm

```
Description: Time Server
```

```
IP Address: 172.23.5.241
```

```
VLAN: 5 - Network adapter 1
```

```
ESXi Cluster: Apps
```

```
Datastore: 71-LXAdmin
```

- Refer to Appendix A02 for boot up procedure.

L04 | OIDPRD DB (plv044oiddb) | 10 MIN

IMPORTANT	W02, L02 must be completed before this step.

NOTE	*Note* DBAs will use DWV088DC1 (172.27.98.101), DWV088DC2 (172.27.98.102), DWV088DC3 (172.27.98.103), and DWV088DC4 (172.27.98.104) for domain controllers.

Needed for Oracle Applications to authenticate

Refer to Appendix - A17 for changing /etc/resolv.conf - needs to be done on each server

- For RHEL6 change /etc/resolv.conf on hosts after this change.
- For RHEL7 change to /etc/resolv.conf.custom on hosts for this change.
- Add 172.27.98.101 as the first nameserver and 172.27.98.103 as the secondary nameserver.

plv044oiddb (172.23.5.26) | COLD | OIDPRD DB (OIDPRD Datastore, Database Cluster)

- Refer to Appendix - A02 on starting a VM server and finding the vCenter where it lives
- DB Starts Automatically.

ssh root@plv044oiddb

```
su -oracle

 --start oid app server

cd /sysop/bin/astech

./start_OID.sh
```

PAUSE HERE FOR DBA STEPS

1. OID - Active Directory Synchronization (Synchronization): http://plv044oiddb.bluebunny.com:7001/em
2. Expand Identity and Access
3. Right-click DIP
4. Administration -→ Synchronization Profiles
5. AD_Sync -→ Edit
6. Change host to dwv088dc1.bluebunny.com
7. OID - What to Authenticate Against (External Authentication): http://plv044oiddb.bluebunny.com:7005/odsm
8. Advanced -→ oidexplg_bind_ad Optional
9. Properties -→ Flex Fields -→ Edit host & host2 to dwv088dc3.bluebunny.com & dwv088dc4.bluebunny.com
10. Advanced -→ oidexplg_compare_ad
11. Optional Properties -→ Flex Fields -→ Edit host & host2 to dwv088dc3.bluebunny.com & dwv088dc4.bluebunny.com
12. OID - Restart Services:

```
/sysop/bin/astech/stop_OID.sh

/sysop/bin/astech/start_OID.sh
```

L05 | OAMPRD DB (plv045oamdb (172.23.5.29) | 10 MIN

IMPORTANT	W02, L02 must be completed before this step.

plv045oamdb | COLD |

- Refer to Appendix - A02 on starting a VM server and finding the vCenter where it lives
- DB Starts Automatically.

L06 | OAM APP SERVER (plv046oamoim (172.23.5.32) | 5 MIN

IMPORTANT	W02, L02, L05 must be completed before this step.

plv046oamoim | COLD

ssh root@plv046oamoim

```
su - oracle
  --start app server
cd /sysop/bin/astech
./start_oamoim.sh
```

L07 | OAMWEB (plv047oamweb (172.23.5.57) | 5 MIN

IMPORTANT	W02, L02, L05 must be completed before this step.

ssh root@plv047oamweb

```
su - oracle

/u01/app/oracle/product/Middleware/Oracle_WT1/instances/instance1/bin/opmnctl startall
```

L08 | OAMEBS (plv048oamebs (172.23.5.58) | 5 MIN

ssh root@plv048oamebs

```
su - oracle

/u01/oracle/start_ebsoam.sh
```

You don't have to wait for the script to finish to run the next command.

Open a new terminal window.

```
su - oracle -c
/u01/app/oracle/product/Middleware/Oracle_WT1/instances/instance1/bin/opmnctl startall
```

L09 | RMNPRD (plv032rmandb (172.23.5.210) | 05 MIN

IMPORTANT	W02, L02 must be completed before this step.

plv032rman | COLD

- Refer to Appendix - A02 on starting a VM server and finding the vCenter where it lives
- DB Starts Automatically.

L10 | OEMPRD (plv033oemdb (172.23.12.20) | 10 MIN

IMPORTANT	W02, L02 must be completed before this step.

plv033oemdb | COLD

- Refer to Appendix - A02 on starting a VM server and finding the vCenter where it lives
- DB Starts Automatically.

L11 | Enterprise Manager (plv033oemapp (172.23.12.21) | 10 MIN

IMPORTANT	W02, L02, L10 must be completed before this step.

plv033eomapp | COLD

ssh root@plv033oemapp

```
su - oracle
cd /sysop/bin/astech
./start_all.sh
```

L12 | Paging Servers (plv001page (172.23.5.12), plv002page (172.23.5.18) | 05 MIN

Loudspeaker paging primary server (Paging Datastore, Applications Cluster)

IMPORTANT	W02, L02 must be completed before this step.

- Refer to Appendix - A02 on starting a VM server and finding the vCenter where it lives
- InformaCast starts automatically
- Telephony admin makes DNS changes

L13 | DNS Management Server (PAV010IPAM (172.23.5.254) | 10 MIN

IMPORTANT	W02, L02 must be completed before this step.

NOTE	*Note* This server is not necessary. It does help with IP and DNS management by providing a better view of these two.

L14 | ISE Appliances (PAV010ISE05 (172.23.5.100), PAV010ISE06 (172.23.5.101) | 10 MIN

IMPORTANT	N04 must be completed before this step.

pav010ise05, pav010ise06

These are needed for devices using certificates and wireless access at DR

- Refer to Appendix - A02 on starting a VM server

Network

N01 | Modify Routing Statement on DR-ASW-A | 05 MIN |

IMPORTANT	S01 must be completed before this step.

N01 - N04 takes roughly 55 minutes to complete

DR-ASW-A (172.27.96.131)

For a DR Test - Refer to Appendix - A10 (Network DR Test Only Steps)

For an actual DR Event there are 2 options: 1) we have access to a classroom or 2) we must perform all work in the data center.

Wherever our work area is, the infrastructure cabling must be configured by Long Lines staff so Wells can connect to our equipment in a classroom.

If we work in the datacenter, we'll put a switch on a table and run cables with which to connect laptops.

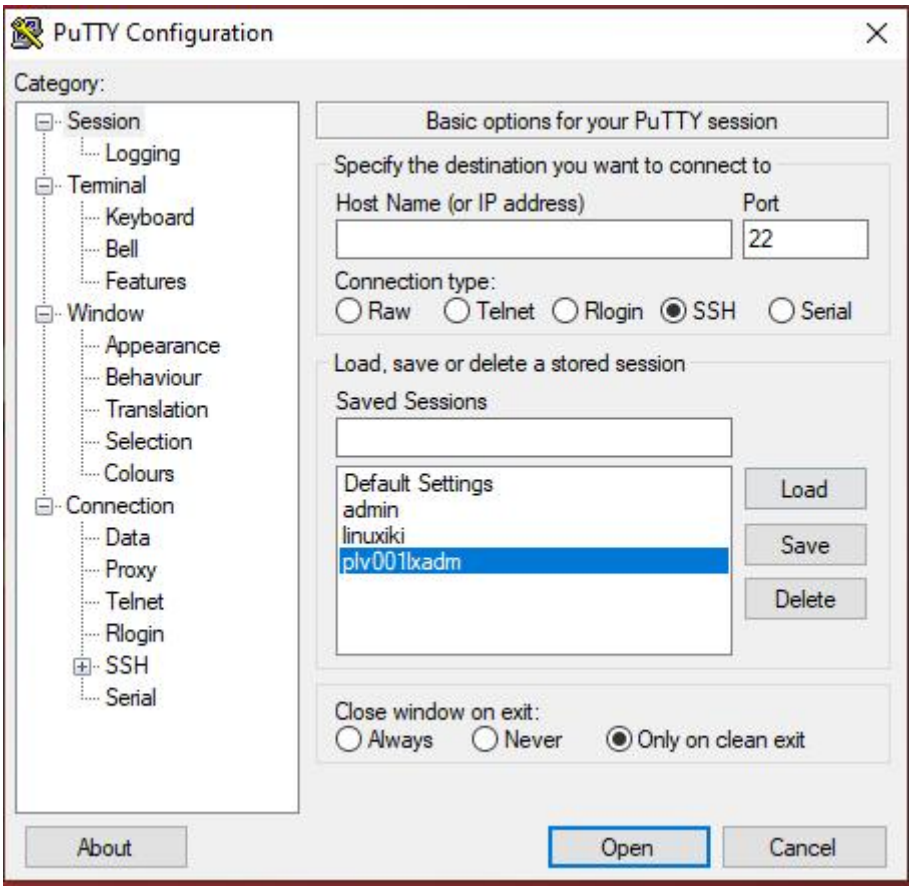
Classroom

1. WHAT SWITCH, CABLE - LOCATION TERA TERM, USER/PASSWORD (stays in datacenter not on

network) (Label all equipment)

2. connect console → open tera term → choose serial → select comm port → enter
3. prompt to enter password pops up → > shows up → enter 'en' (to enable) → enter
4. enter next password (high security) → # appears → start commands

Start the Putty Program



5. IN THE HOST NAME (OR IP ADDRESS) ENTER THE IP OF DRN9K
6. USE SSH AS THE CONNECTION TYPE
7. CLICK THE LOAD OPTION ON THE RIGHT MIDDLE OF THE SCREEN AND OPEN OPTION
8. GO TO 'SSH TO DRN9K' LINE AND CONTINUE

Data Center

1. USE A DR LAPTOP WITH WELLS DOMAIN ACCESS AND PUTTY INSTALLED
2. USING AN ETHERNET CABLE, CONNECT THE LAPTOP TO DR-N5K-100 ON PORT 424
3. LOG ON AS

```
- SSH to DRN9K (172.27.96.2)

- Username: draswa <enter>

- Password: xxxxxx <enter>

- DRN9K>enable <enter>

- DRN9K>enablePWD <enter>

- DRN9K# config t <enter>

- DRN9K<CONFIG># int eth 130/1/21 <enter>

- DRN9K<CONFIG-IF># no shut <enter>

- DRN9K<CONFIG># int eth 130/1/22 <enter>

- DRN9K<CONFIG-IF># no shut <enter>

- DRN9K<CONFIG-IF>#exit <enter>

- DRN9K<CONFIG>#ip route 0.0.0.0 0.0.0.0 172.27.96.10

- DRN9K<CONFIG>#ip route 172.26.1.0 255.255.255.0 172.27.96.10

- DRN9K<CONFIG-IF># end <enter>

- DRN9K# copy running-config startup-config <enter>

- DRN9K# exit - hit enter
```

N02 | Change Gateway of last resort | 05 MIN

- **SSH to DR-BB-GTW (this will need to be consoled into)**

```
- Username:drbbgtw <enter>

- Password:xxxxx <enter>

- DR-BB-GTW>enable <enter>

- DR-BB-GTW>enablePWD <enter>

- DR-BB-GTW># config t <enter>

- DR-BB-GTW<CONFIG># int gig 0/1 <enter>

- DR-BB-GTW<CONFIG-IF>#ip address 204.126.22.4 255.255.254.0 <enter>

- DR-BB-GTW<CONFIG-IF># end

- DR-BB-GTW># copy running-config startup-config <enter>

- DR-BB-GTW>#exit <enter>
```

N03 | Enable DMZ | 05 MIN

- **Connect to DR-ASA-A**

```
DR-ASA-A<CONFIG>#int gig 0/3 <enter>

DR-ASA-A<CONFIG-IF>#no shut <enter>

DR-ASA-A<CONFIG-IF>#int gig 0/0 <enter>

ip address 204.126.23.130 255.255.254.0

DR-ASA-A<CONFIG-IF># copy run start.
```

N04 | Network Available | 10 MIN

- **From Drn9ka**

```
DRn9k# ping 172.23.10.1 (server Farm)

PING 172.23.10.1 (172.23.10.1): 56 data bytes

--- 172.23.10.1 ping statistics ---

5 packets transmitted, 5 packets received, 0.00% packet loss
```

```
DRn9k# ping 172.25.100.1 (SICP User Vlan)

PING 172.25.100.1 (172.25.100.1): 56 data bytes

--- 172.25.100.1 ping statistics ---

5 packets transmitted, 5 packets received, 0.00% packet loss
```

```
DRn9k# ping 172.21.100.1 (NICP user vlan)

PING 172.21.100.1 (172.21.100.1): 56 data bytes

--- 172.21.100.1 ping statistics ---

5 packets transmitted, 5 packets received, 0.00% packet loss

DRn9k#
```

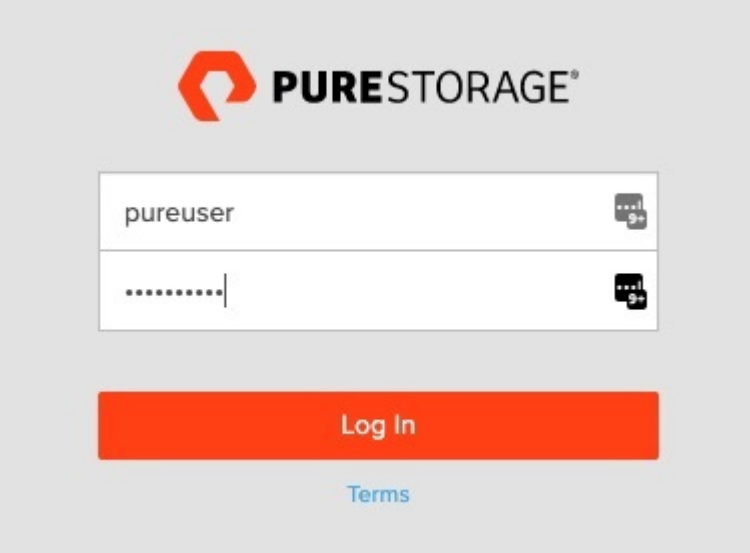
- **If above is successful no further action required.**

Storage

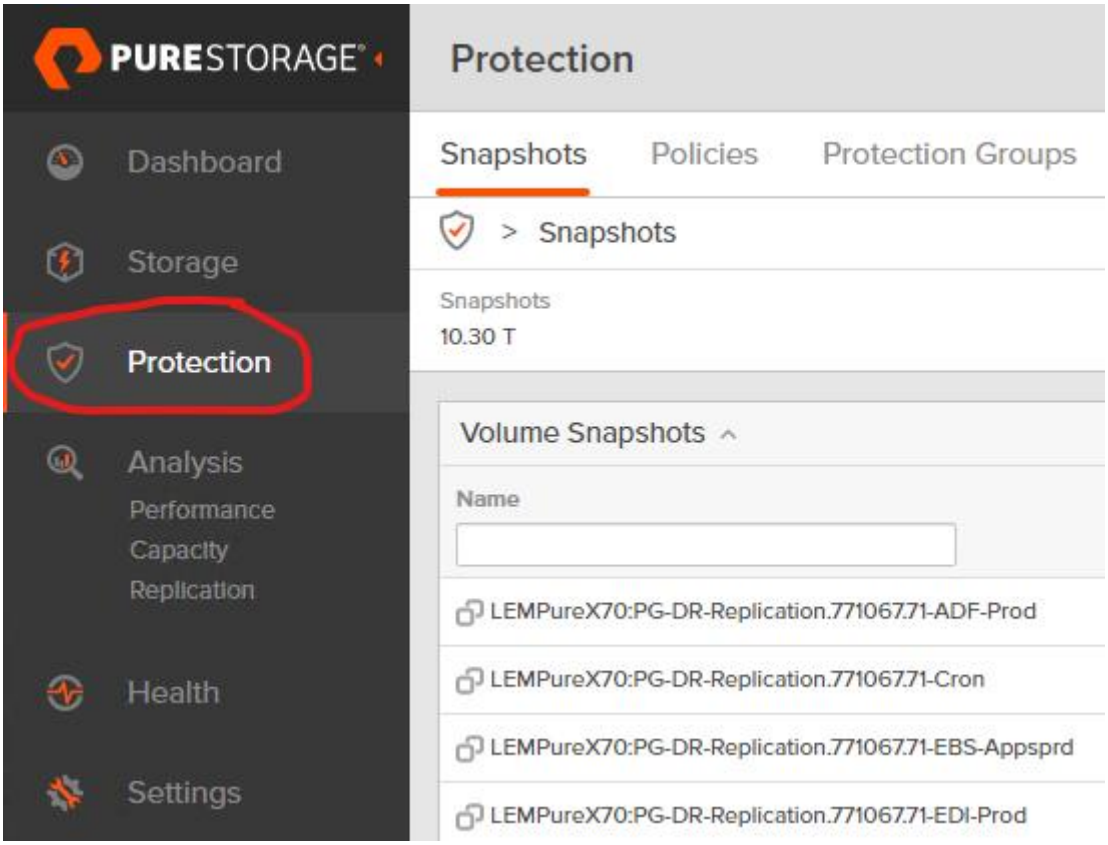
S01 | Pure Storage | 15 MIN | Before breaking the Network Connection

IMPORTANT	*Note* S01 is used in DR Testing and actual DR Events.

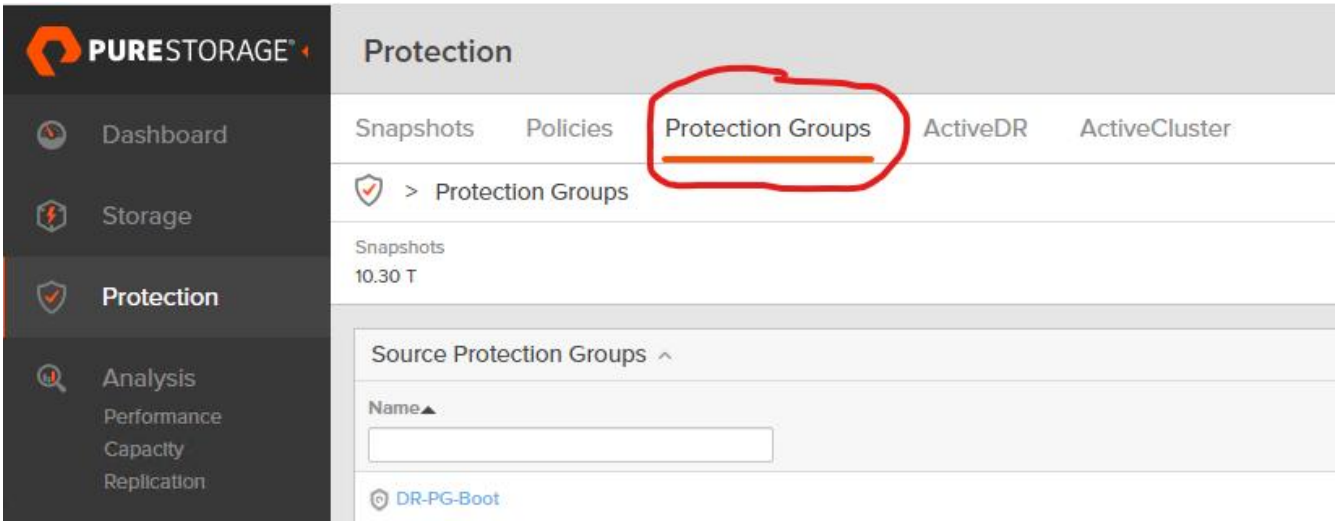
1. Open a browser go to https://suxpurem50.bluebunny.com or https://172.27.100.20 and login with the pureuser account.



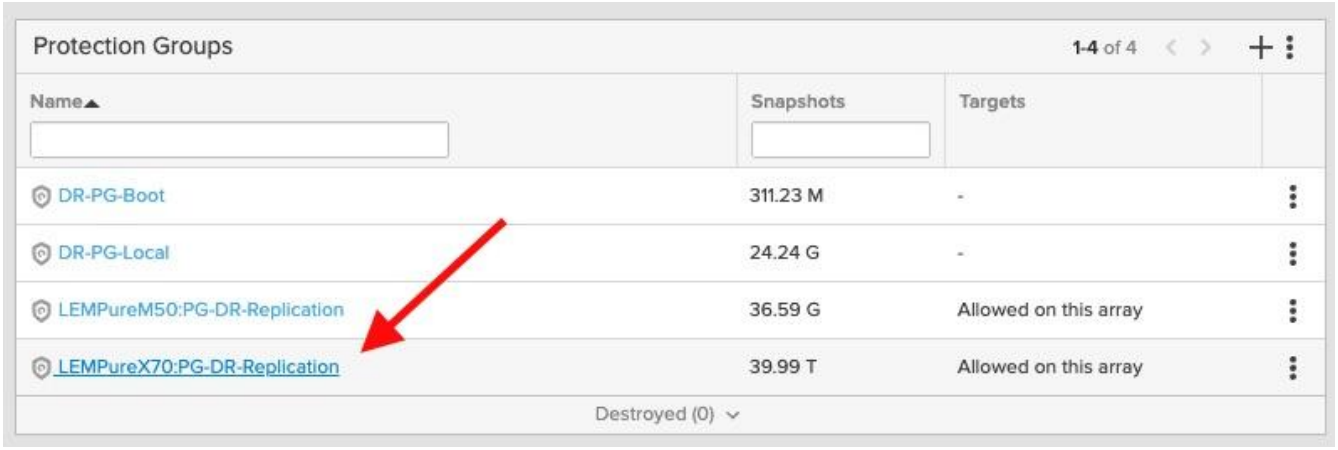
2. Select "Protection" from the left side menu.



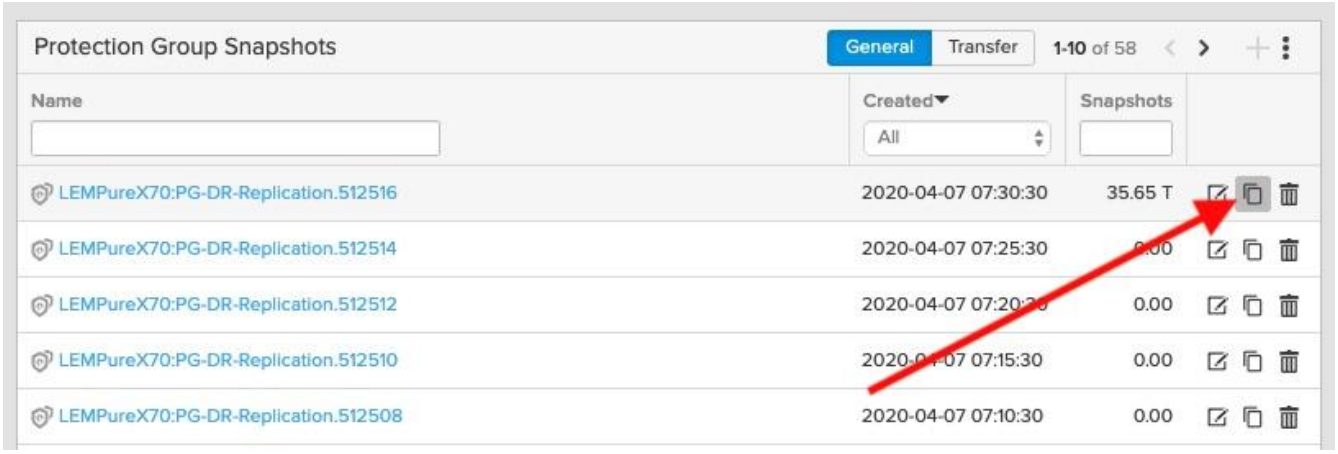
3. Select the "Protection Groups" tab at the top of the main window.



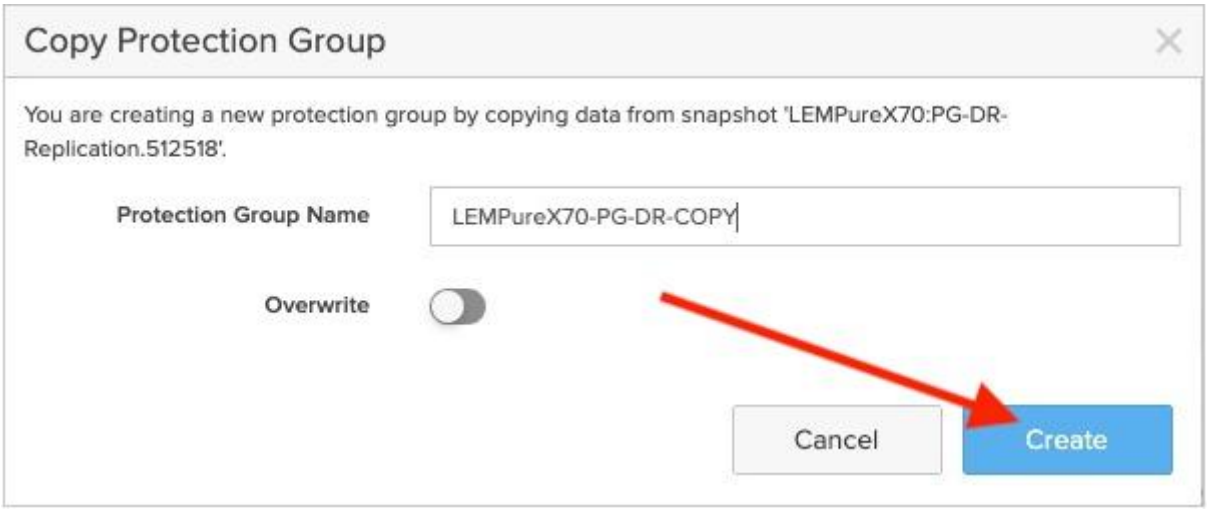
4. Scroll down and click on the LEMPureX70:PG-DR-Replication Protection Group.



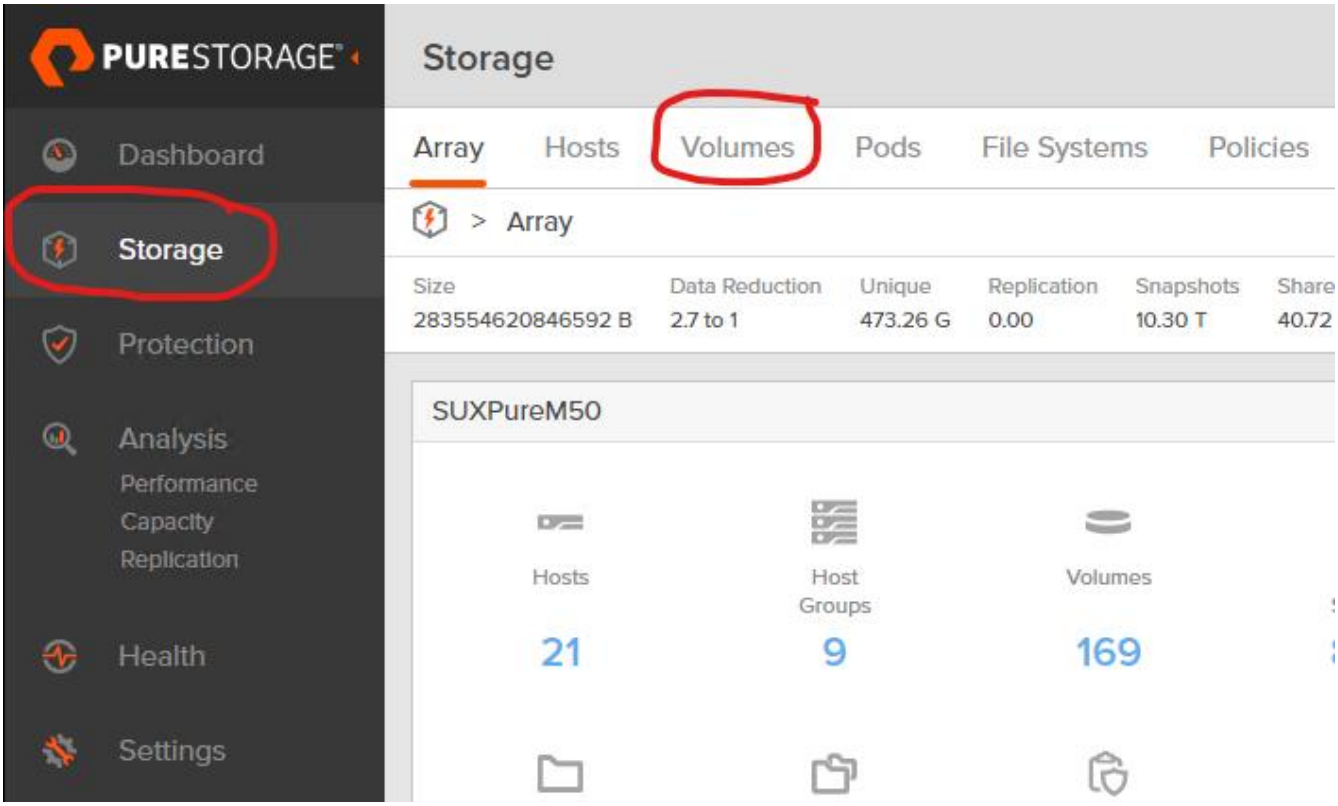
5. Click on the "Copy Protection Group" button for the latest snapshot from the "Protection Group Snapshots" section at the bottom of the page.



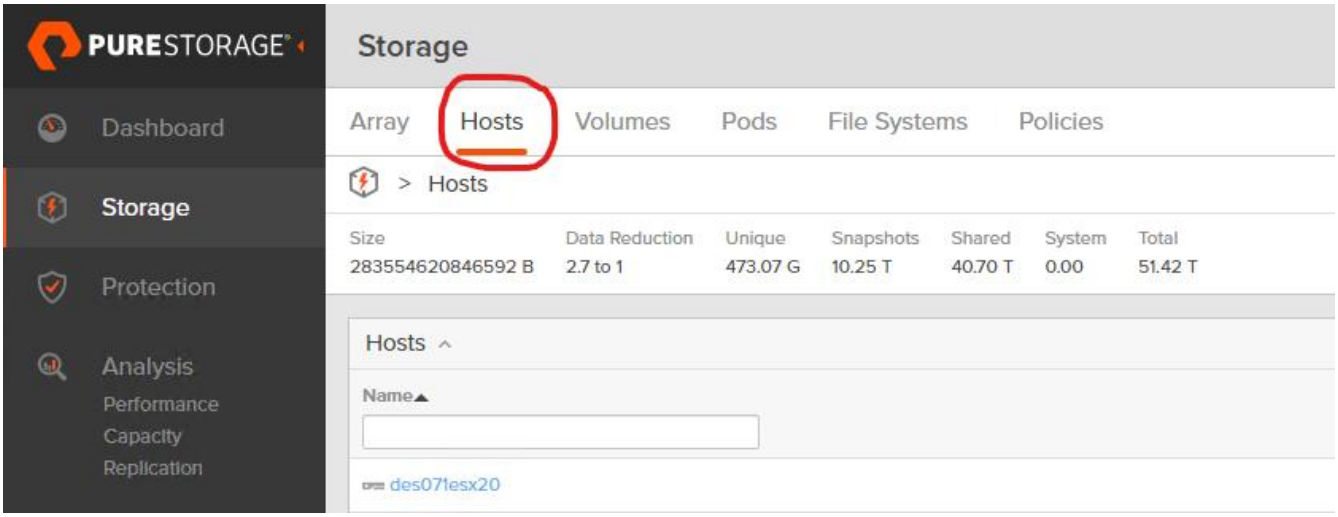
6. In the name text box type a descriptive name and click the Create button



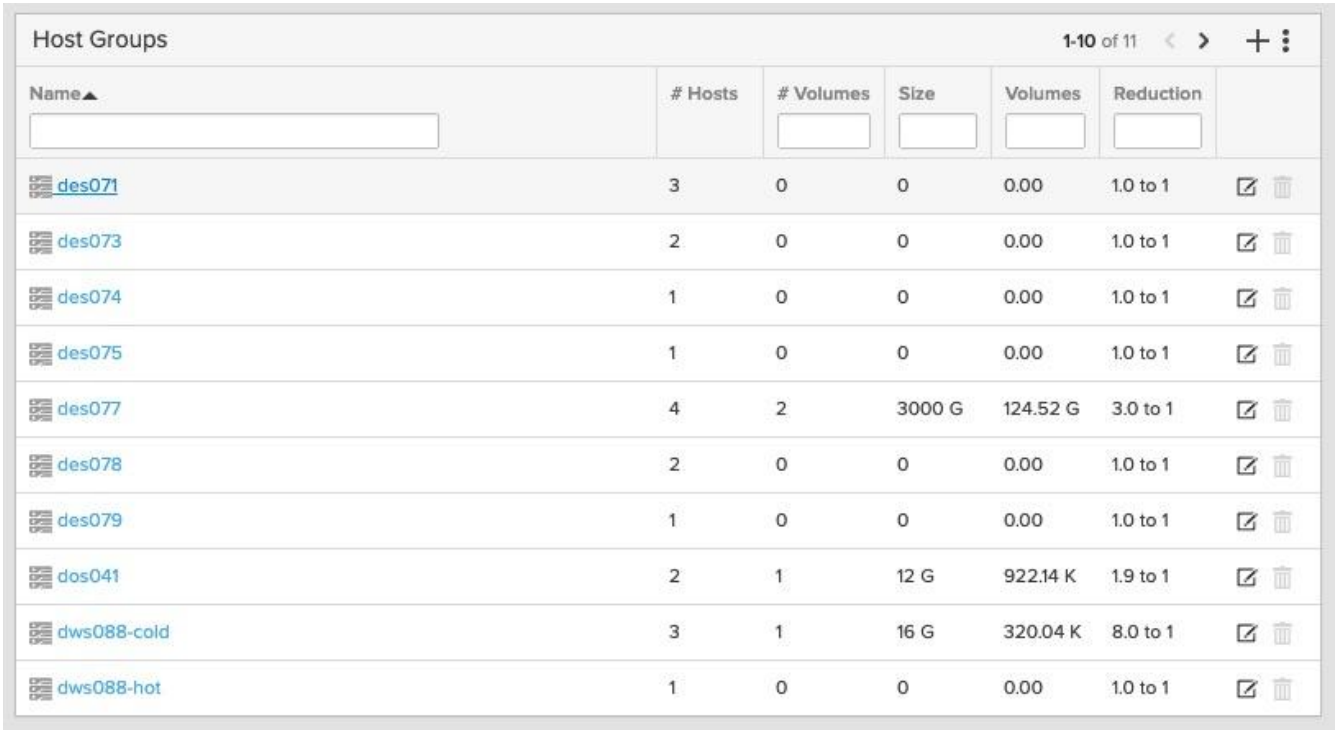
7. Now click Storage in the left side menu and then select the "Volumes" tab at the top of the main window. You will now see copies of the volumes which were part of the protection group.



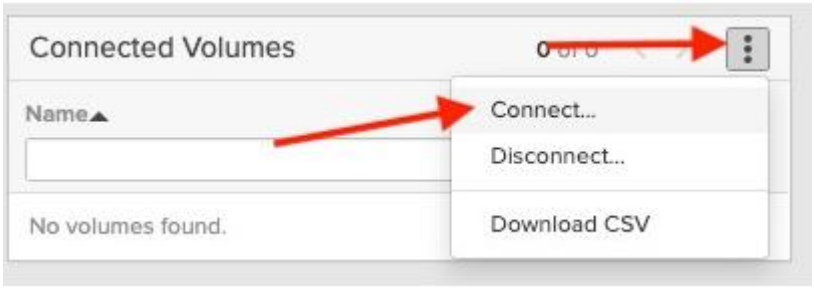
8. Select the "Hosts" tab at the top of the main window.



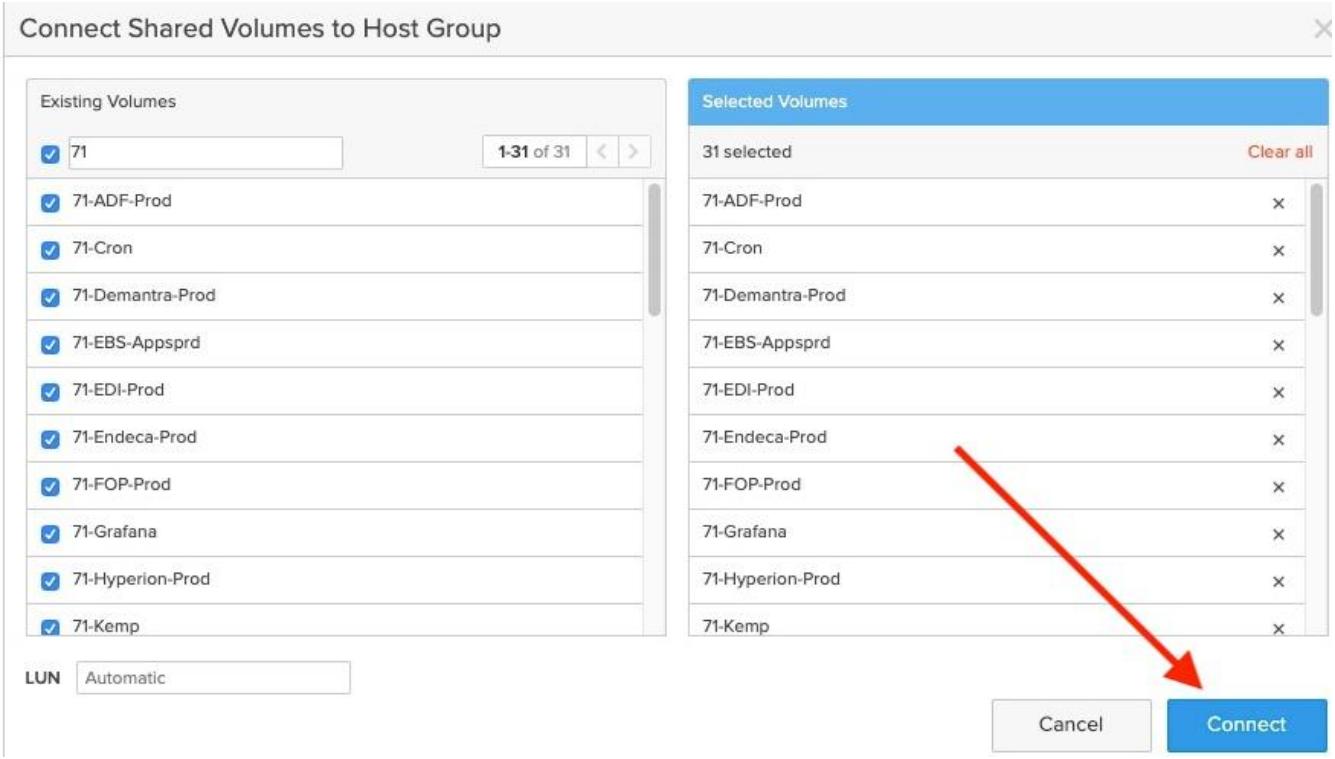
9. Select the host group from the "Host Groups" section at the bottom of the page.



10. Click on the three vertical dots in the "Connected Volumes" section and select "Connect".



11. Click the checkbox next to all of the volumes that need to be assigned to the host group and click the Connect button

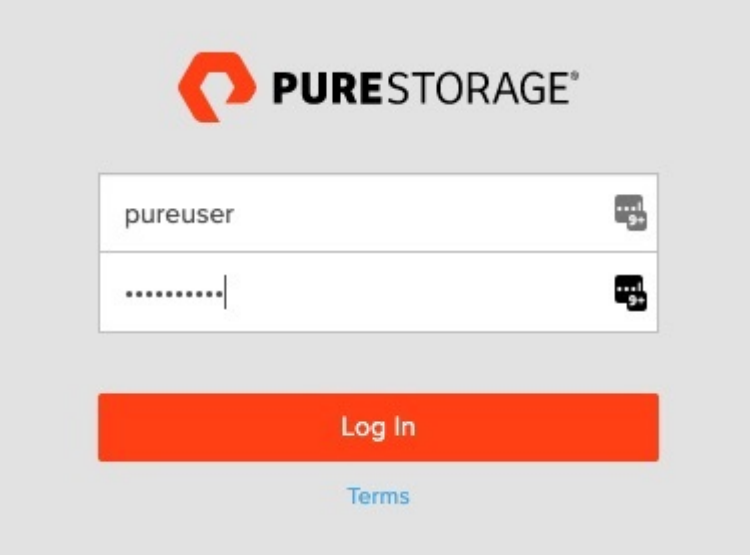


12. Repeat steps 8-11 for all Host Groups.

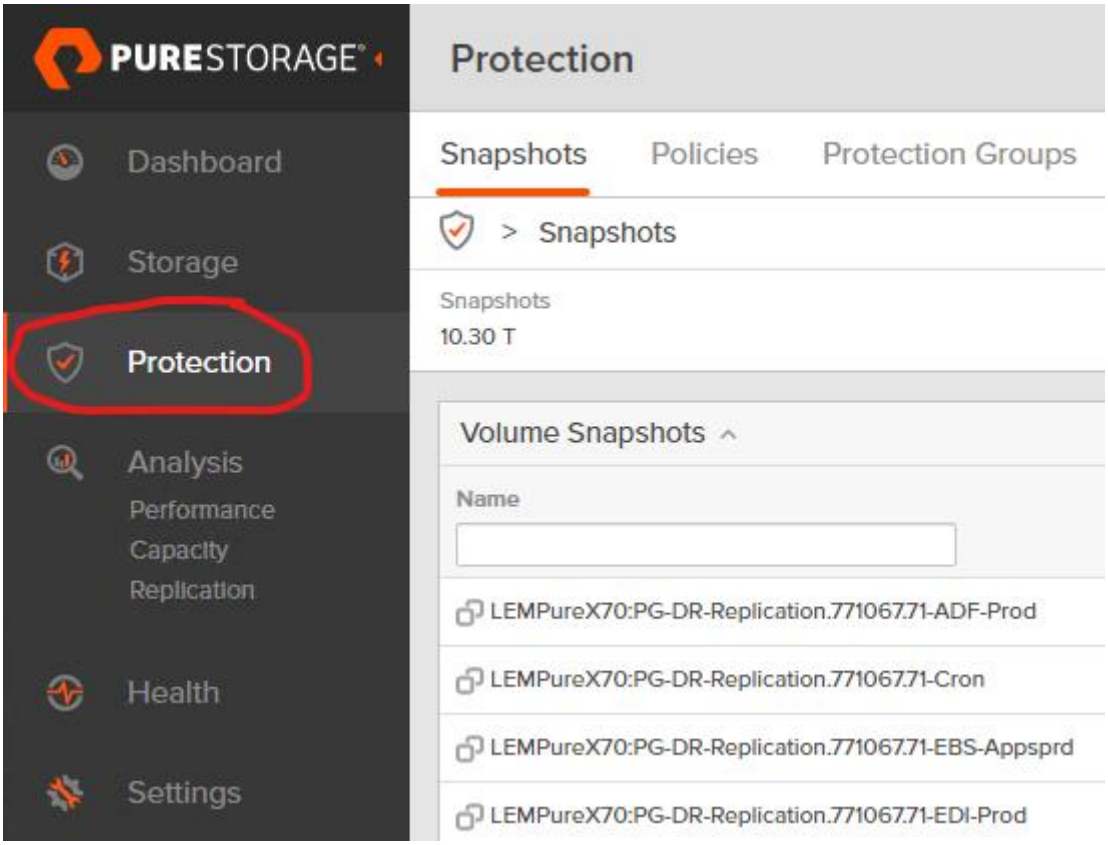
12. Repeat steps 3-12 for protection group LEMPureM70:PG-DR-Replication.

S02 | Preparing PURE Hot VM Volumes | 15 MIN |

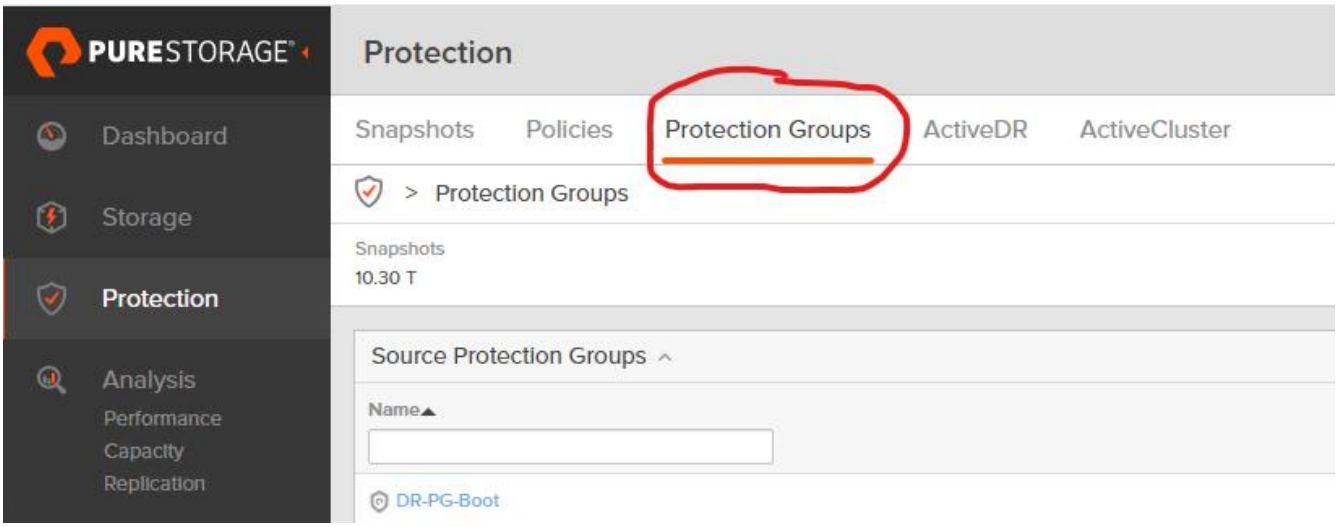
1. Open a browser go to https://suxpurem50.bluebunny.com or https://172.27.100.20 and login with the pureuser account.



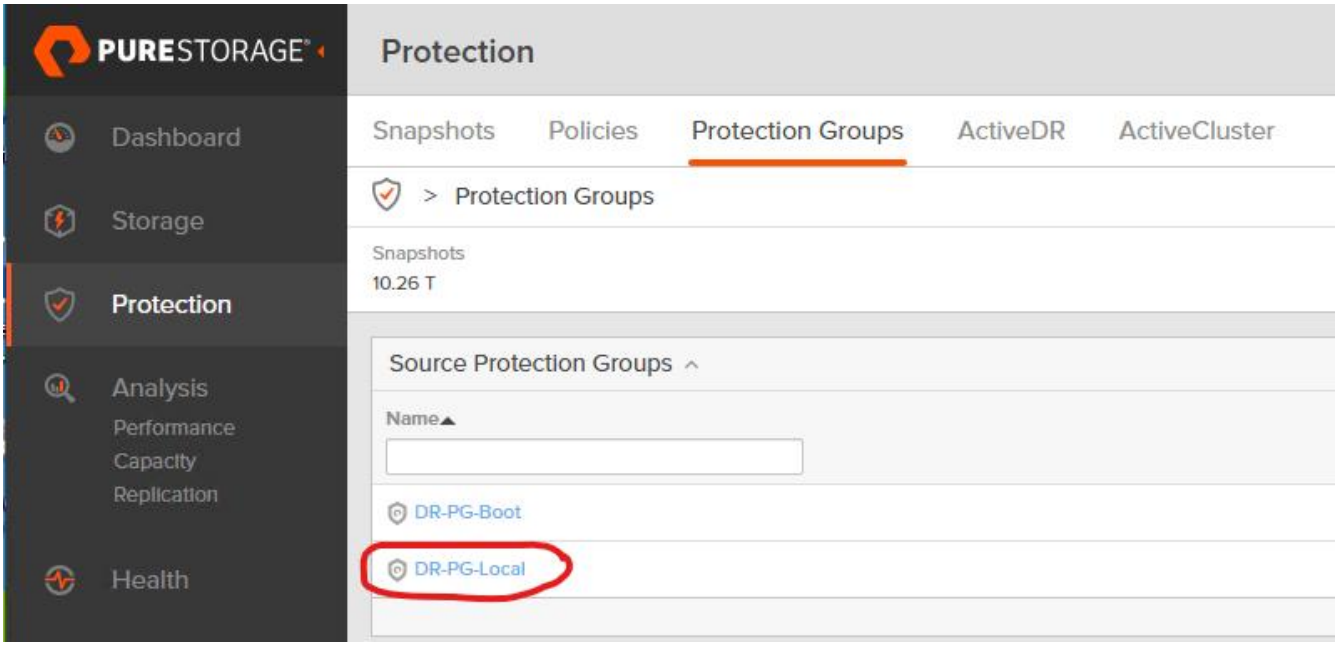
2. Select "Protection" from the left side menu.



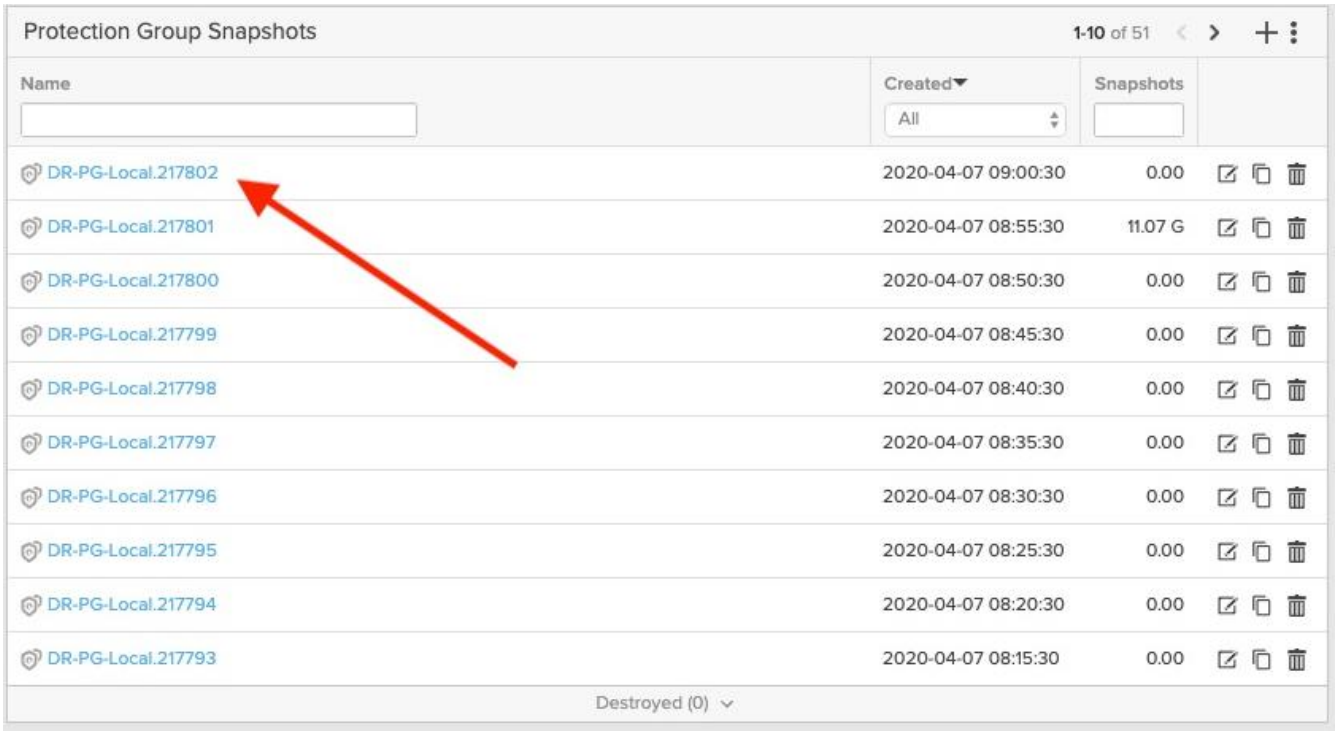
3. Select the "Protection Groups" tab at the top of the main window.



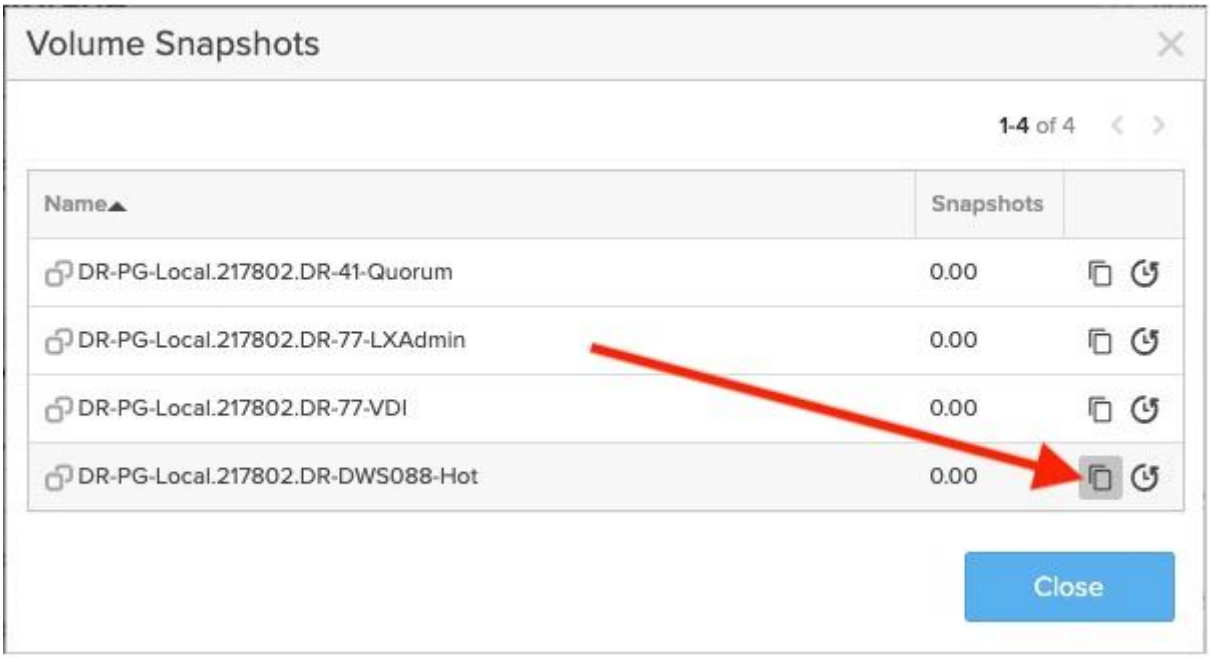
4. Click on the DR-PG-Local Protection Group



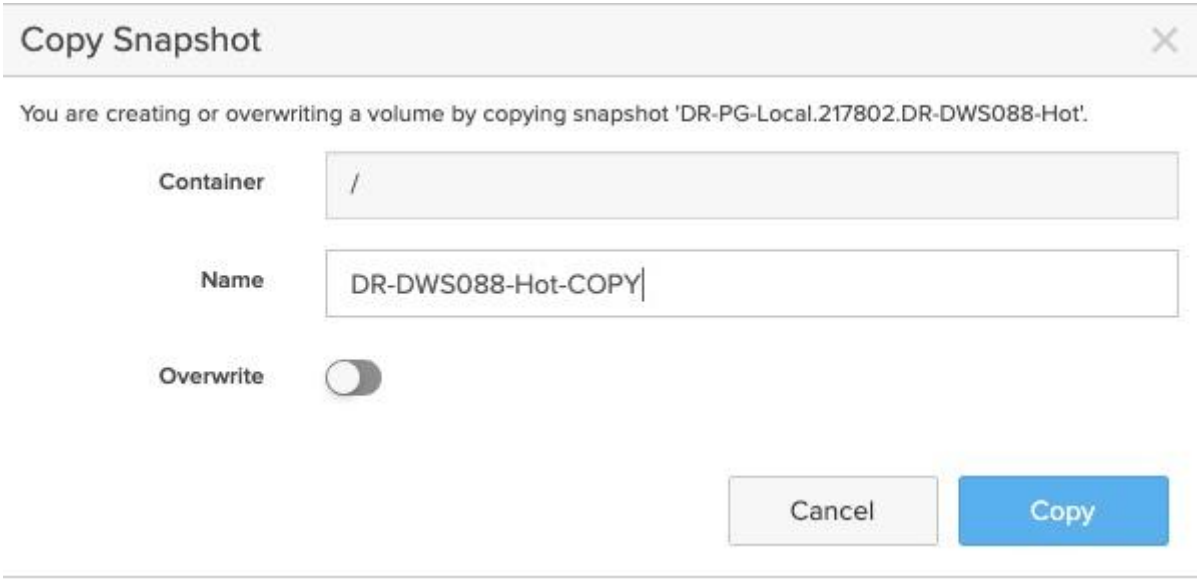
5. Copy the latest snapshot from the "Protection Group Snapshots" section at the bottom of the page.



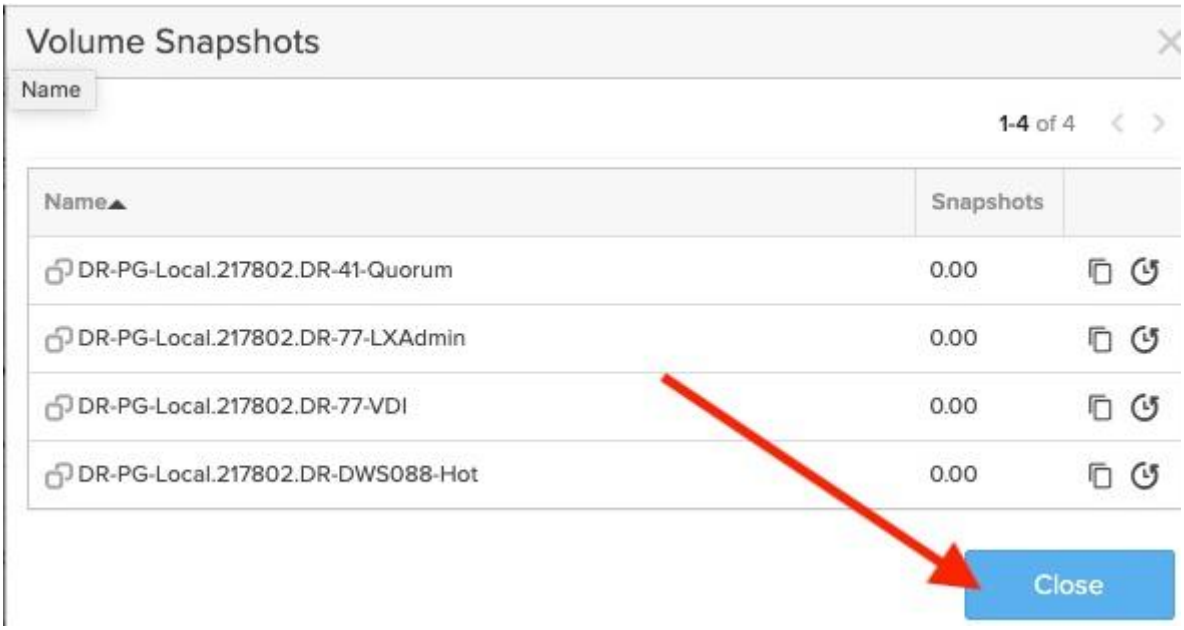
6. Click on the "Copy Snapshot" button for the DR-DWS088-Hot volume in the "Volume Snapshot" window.



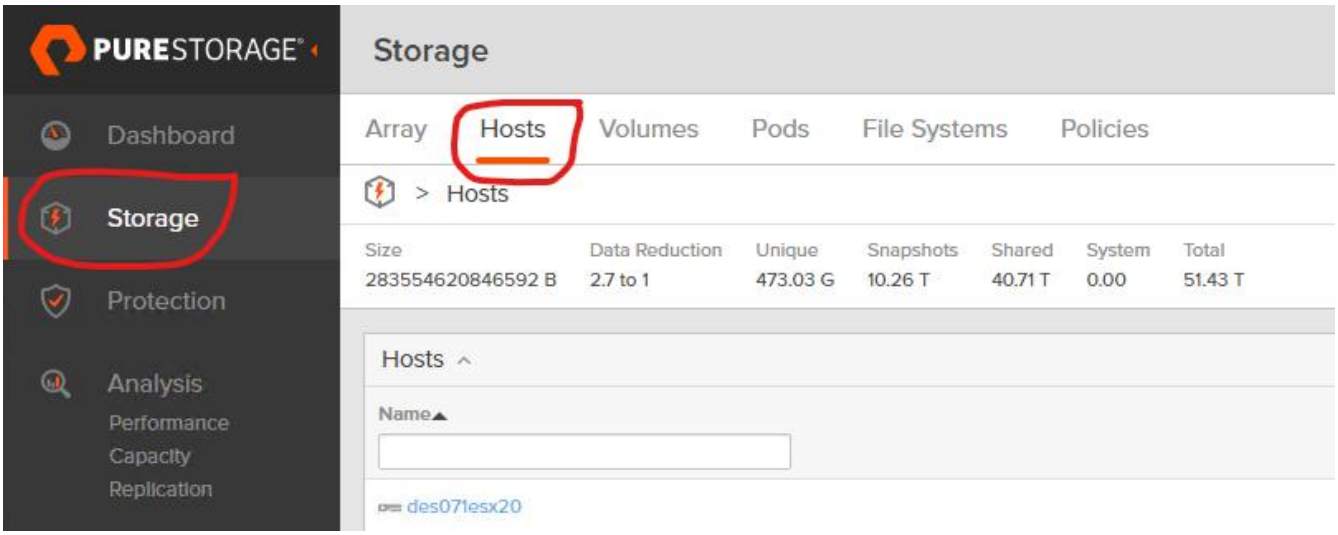
7. In the name text box type a descriptive name and click the Copy button.



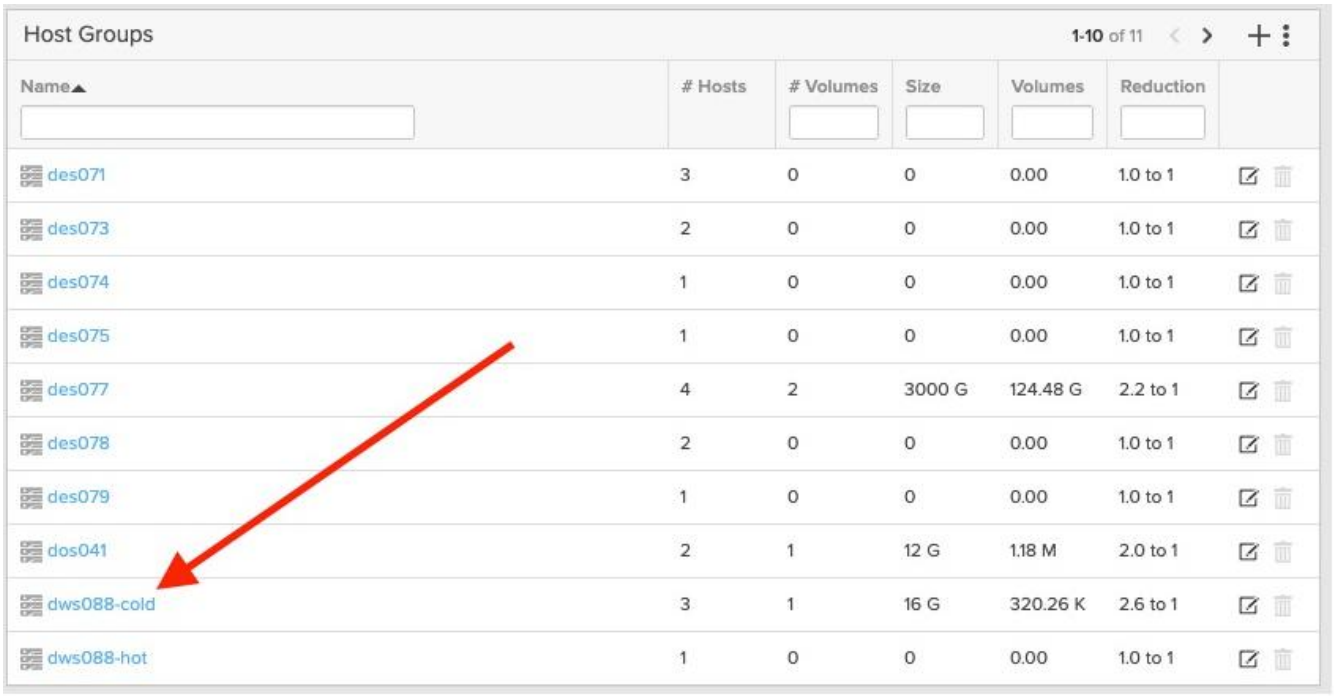
8. Click on the "Close" button in the "Volume Snapshots" window.



9. Select the "Hosts" tab at the top of the main window.



10. Select the host group "dws088-cold" from the "Host Groups" section at the bottom of the page.



11. Click on the three vertical dots in the "Connected Volumes" section and select "Connect".

12. Click the checkbox next to the volume that was just created and click the Connect button.

S03 | Starting NetApp Storage | 30 MIN

IMPORTANT	L01 must be completed before this step.

lem-netapp-deploy-prod

- Description: NetApp Deploy Appliance
- IP Address: 172.23.6.219
- VLAN: 6 - Network adapter 1
- ESXi Cluster: Apps
- Datastore: 71-Netapp-Prod-Deploy

lem-netapp-prod

- Description: NetApp Cluster Interface
- IP Address: 172.23.6.220

lem-netapp-prod-01

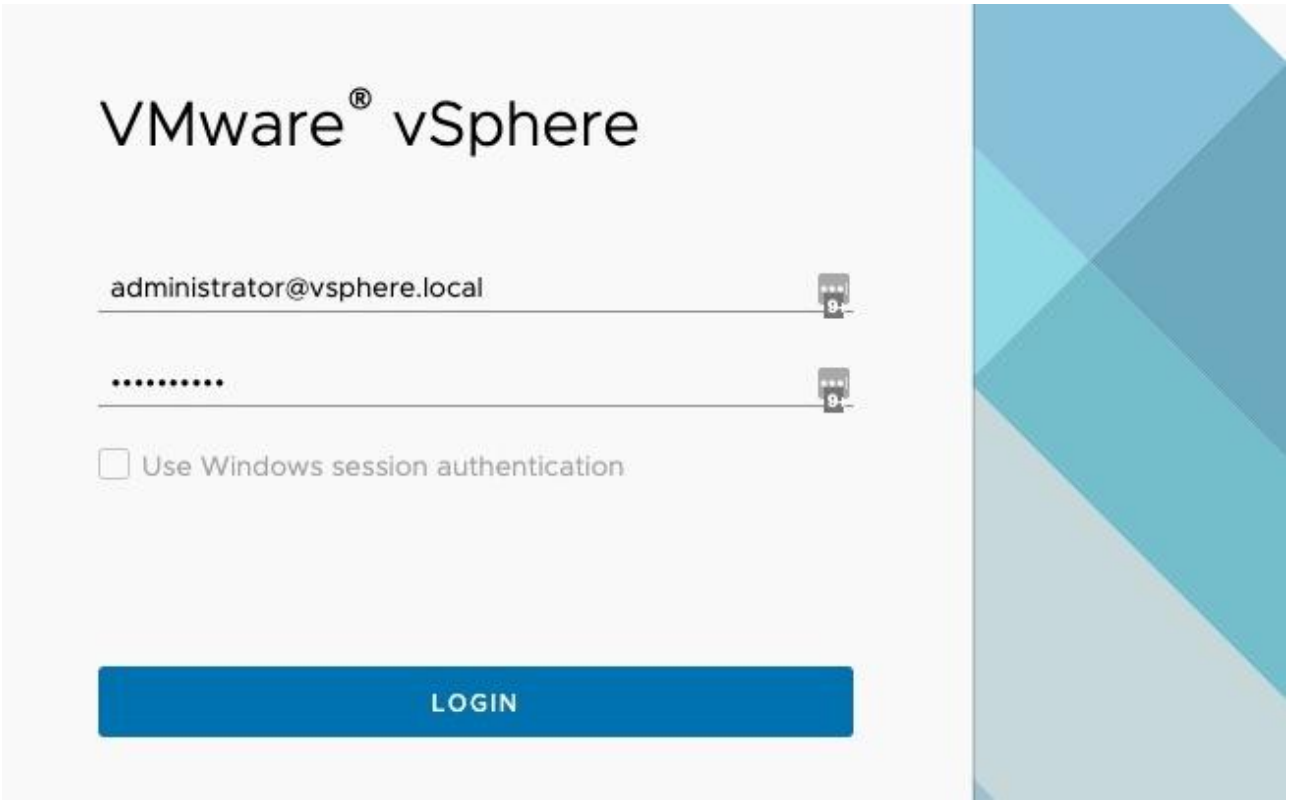
- Description: NetApp Cluster Node 1
- IP Address: 172.23.6.221
- VLAN: 6 - Network adapter 1
- VLAN: 6 - Network adapter 2
- VLAN: NetApp-Non-Routed - Network adapter 3
- VLAN: NetApp-Non-Routed - Network adapter 4
- VLAN: NetApp-Non-Routed - Network adapter 5
- VLAN: NetApp-Non-Routed - Network adapter 6
- VLAN: 6 - Network adapter 7
- ESXi Cluster: Apps
- Datastore: 71-Netapp-Prod-01

lem-netapp-prod-02

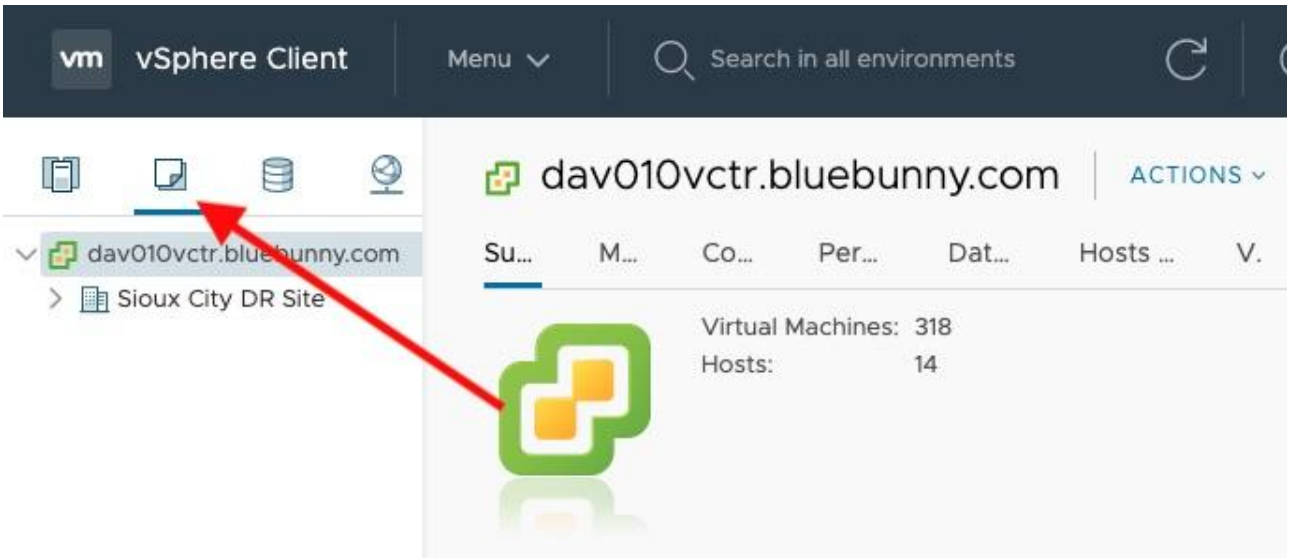
- Description: NetApp Cluster Node 2
- IP Address: 172.23.6.222
- VLAN: 6 - Network adapter 1
- VLAN: 6 - Network adapter 2
- VLAN: NetApp-Non-Routed - Network adapter 3
- VLAN: NetApp-Non-Routed - Network adapter 4
- VLAN: NetApp-Non-Routed - Network adapter 5
- VLAN: NetApp-Non-Routed - Network adapter 6
- VLAN: 6 - Network adapter 7
- ESXi Cluster: Apps
- Datastore: 71-Netapp-Prod-02

Boot VM's

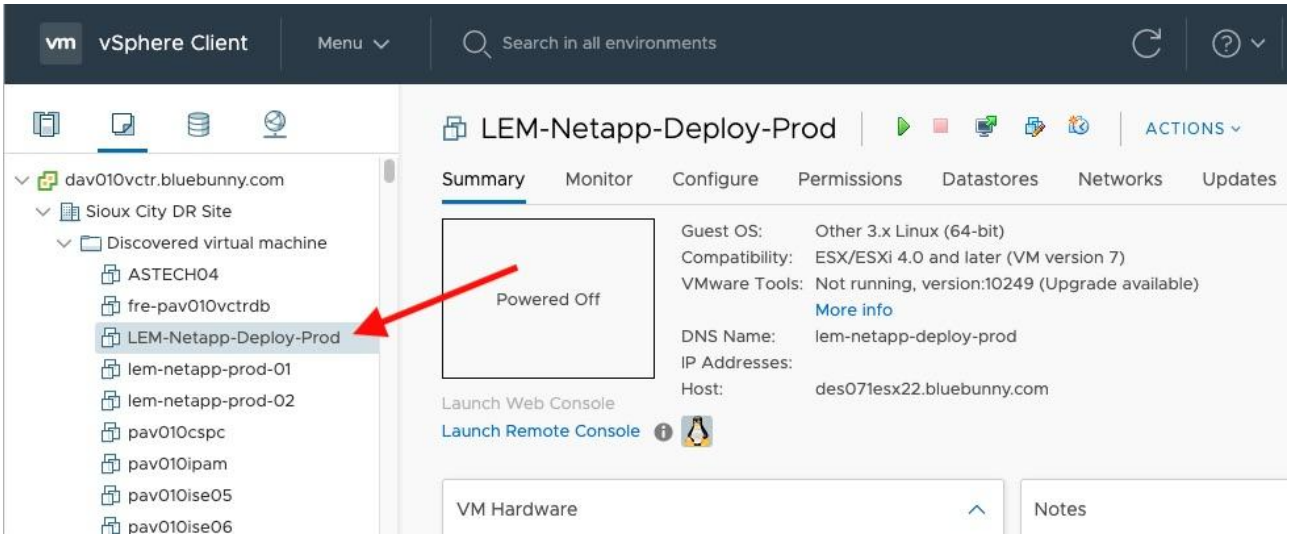
1. Open a browser and go to https://dav010vctr.bluebunny.com/ui or https://172.27.97.12/ui and login as the administrator@vsphere.local user.



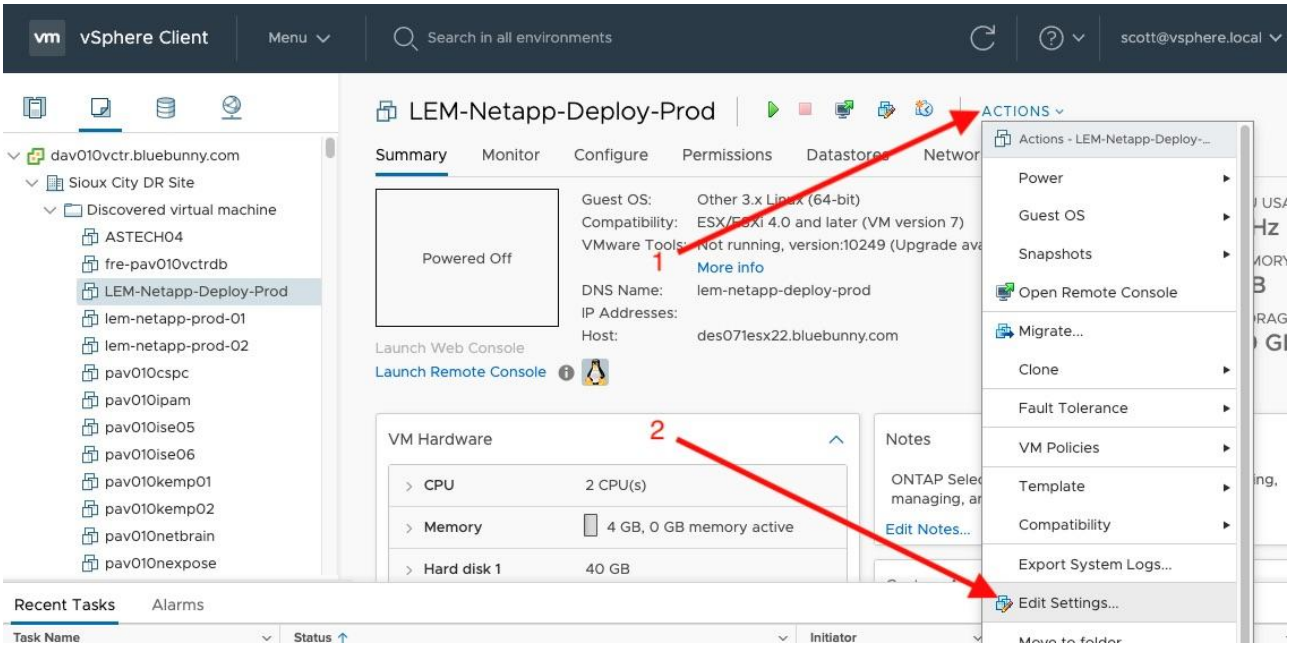
2. Click on the "VMs and Templates" view icon.



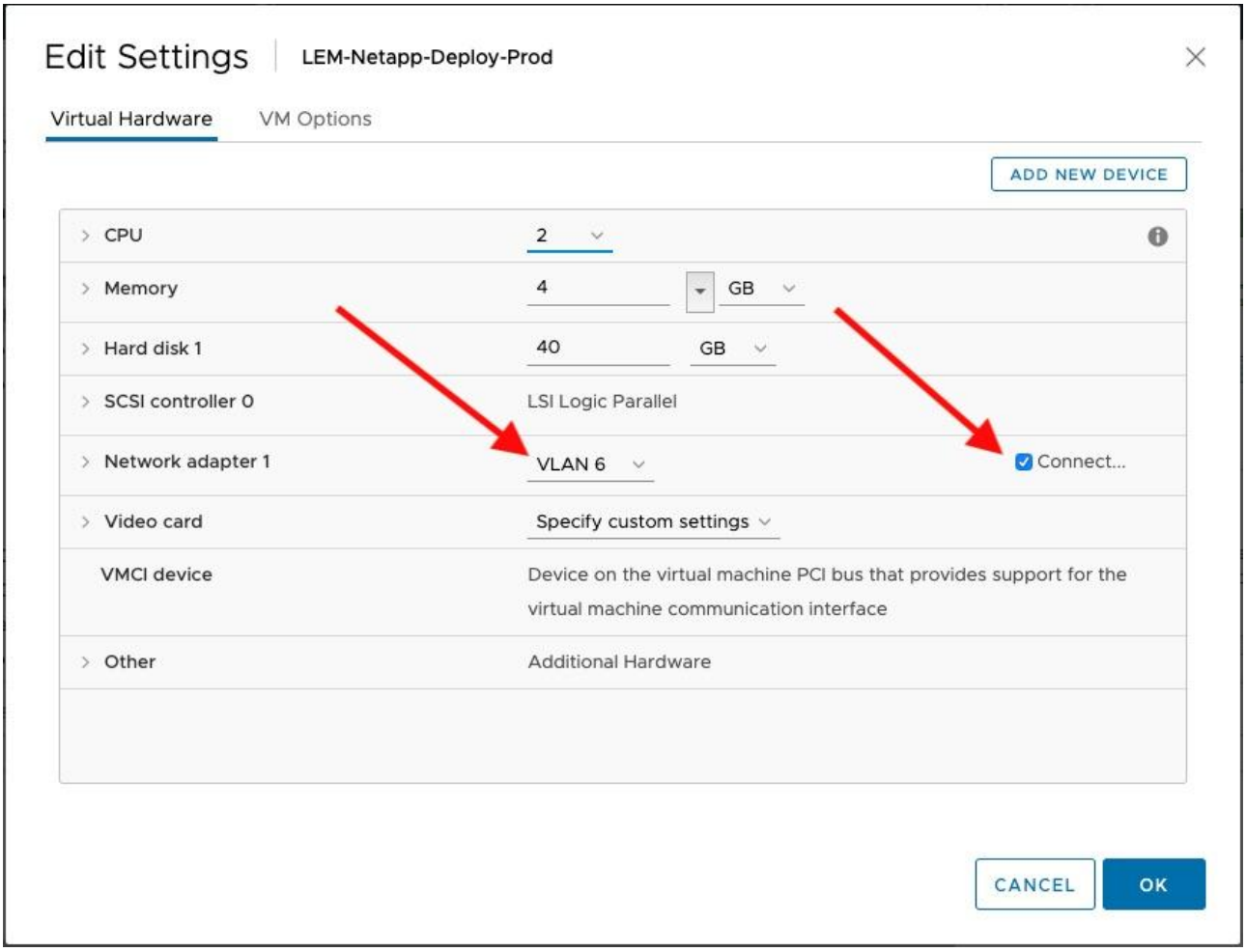
3. Navigate the tree in the left pane to the LEM-Netapp-Deploy-Prod VM.



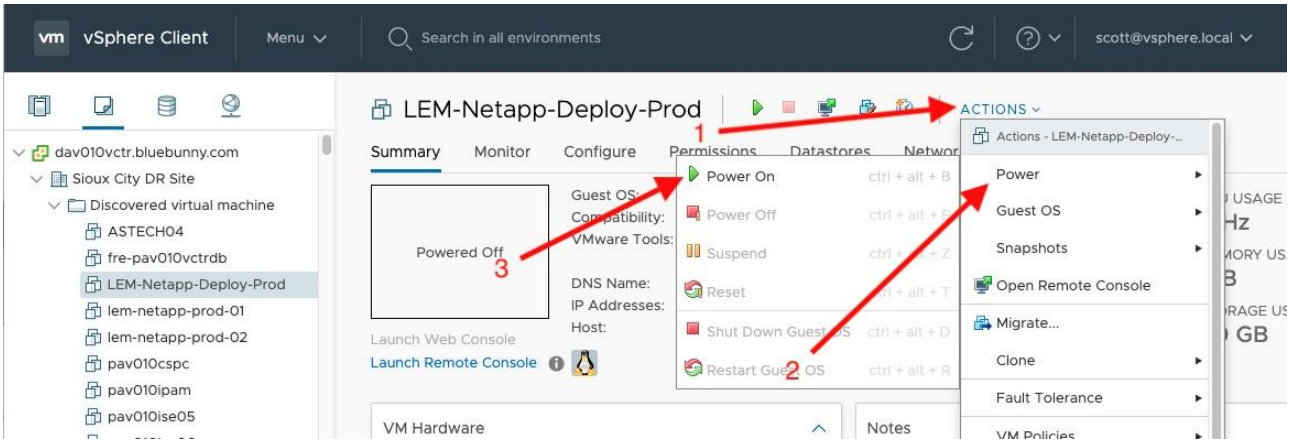
4. Click on the "Actions" menu and select "Edit Settings...".



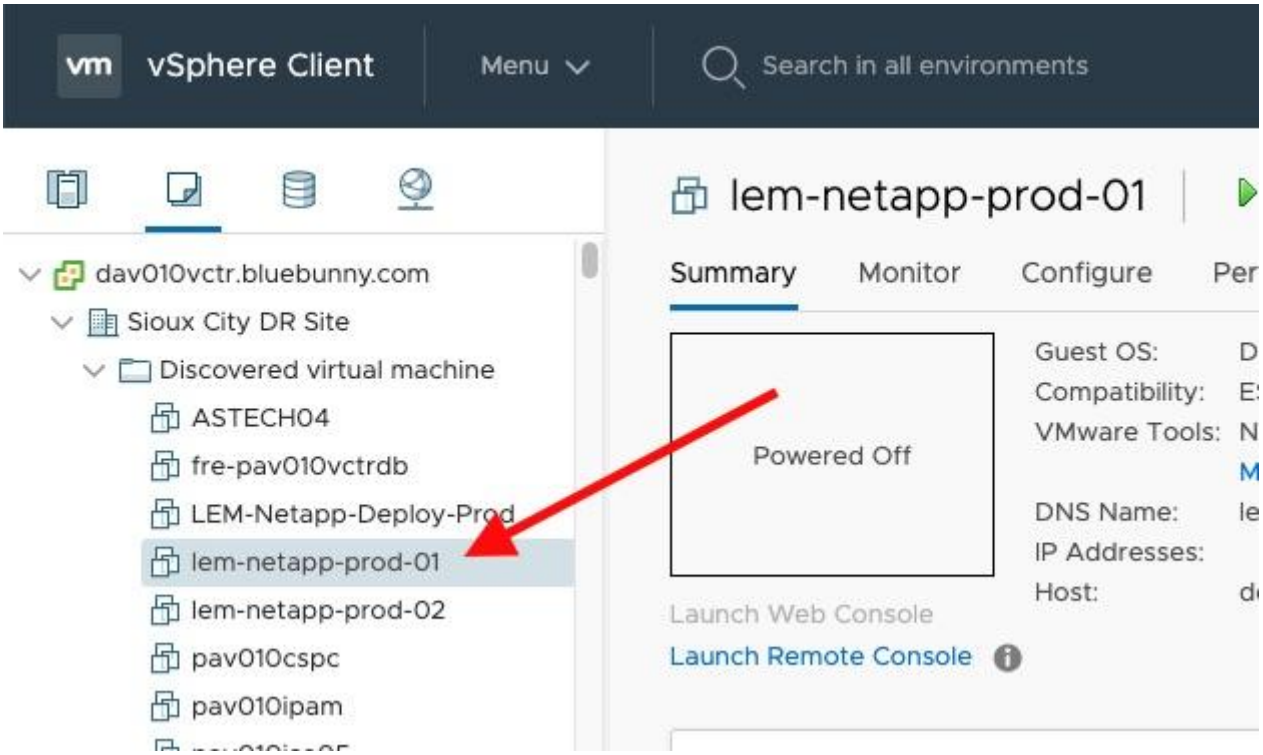
5. Verify that the Network adapter(s) has the VLAN set and it is correct. Then verify the Connect checkbox is checked and click the OK button.



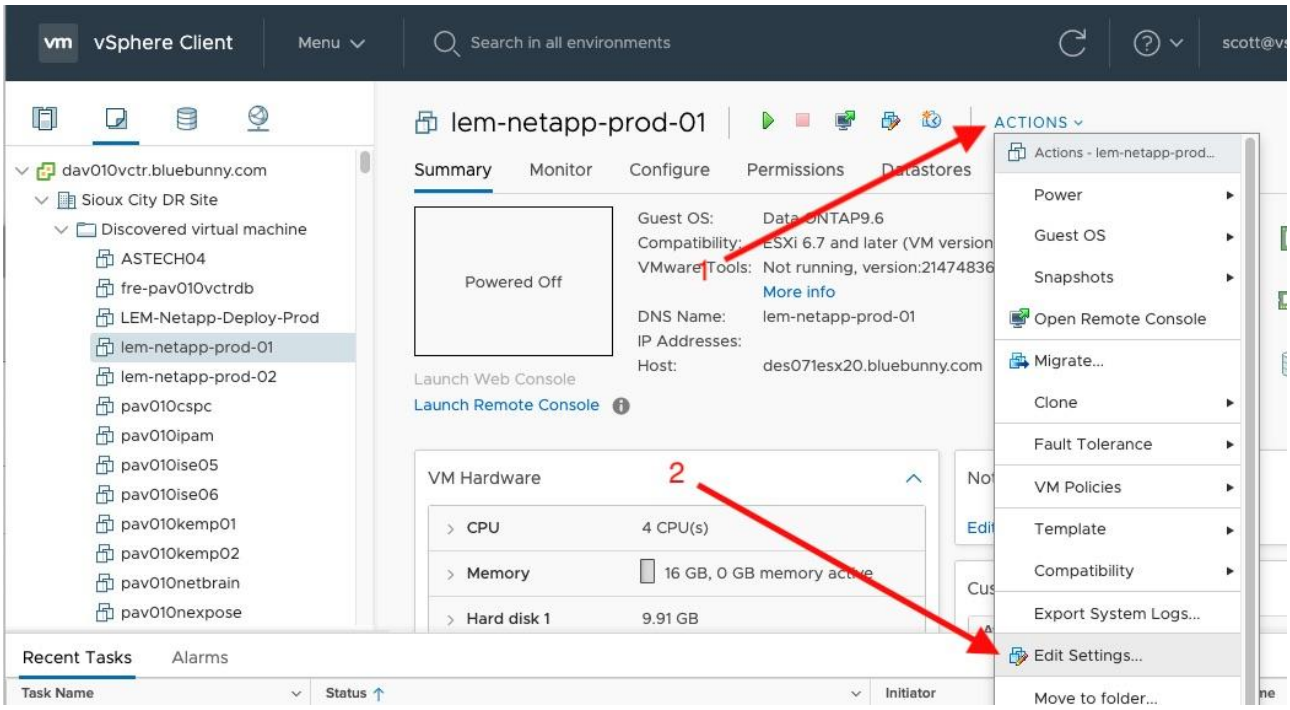
6. To boot the VM click on the "Actions" menu select "Power" then select "Power On".



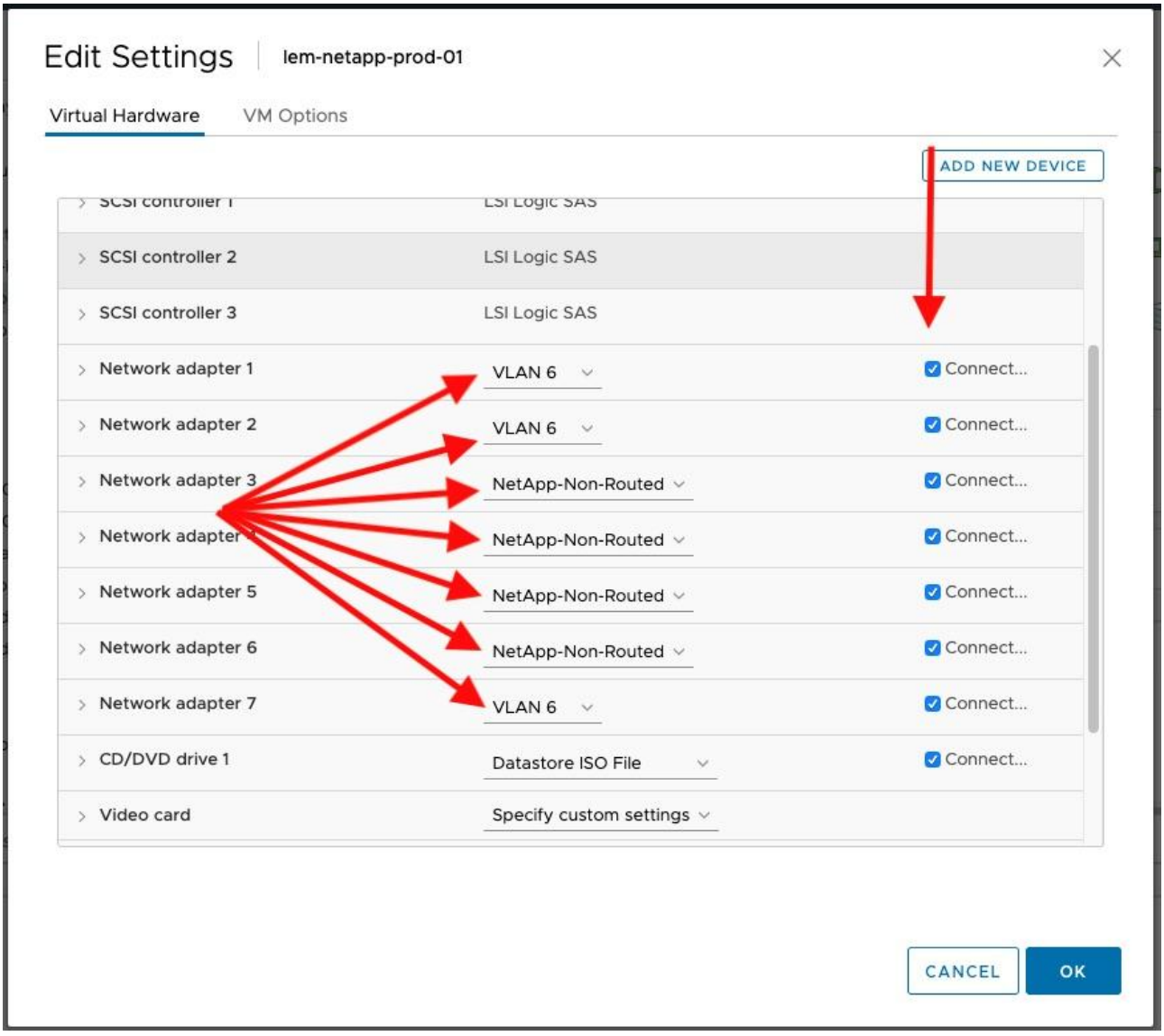
7. Navigate the tree in the left pane to the lem-netapp-prod-01 VM



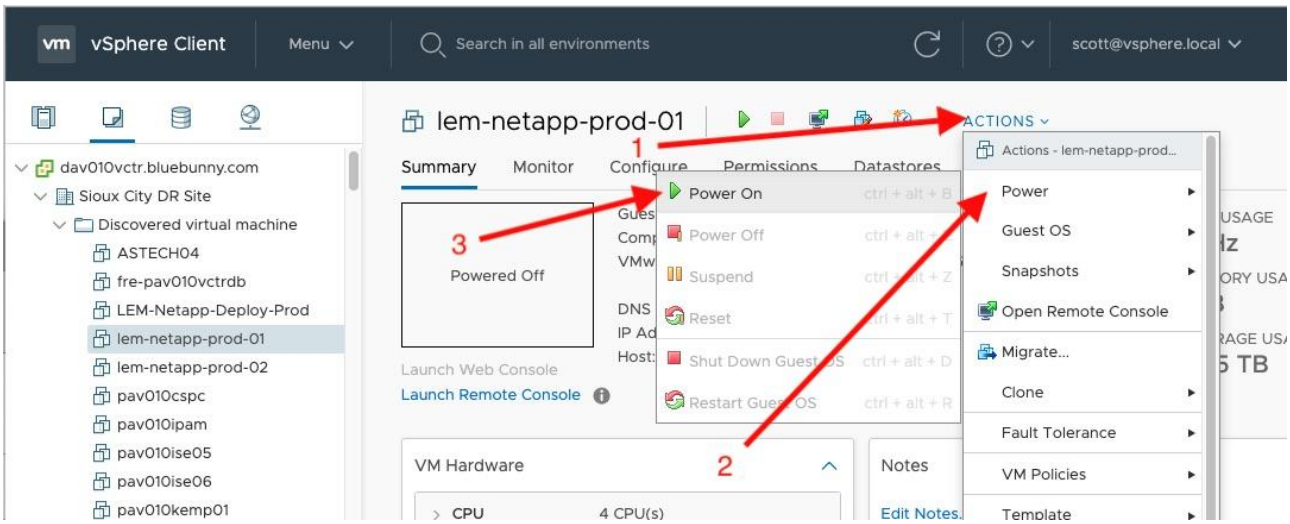
8. Click on the "Actions" menu and select "Edit Settings...".



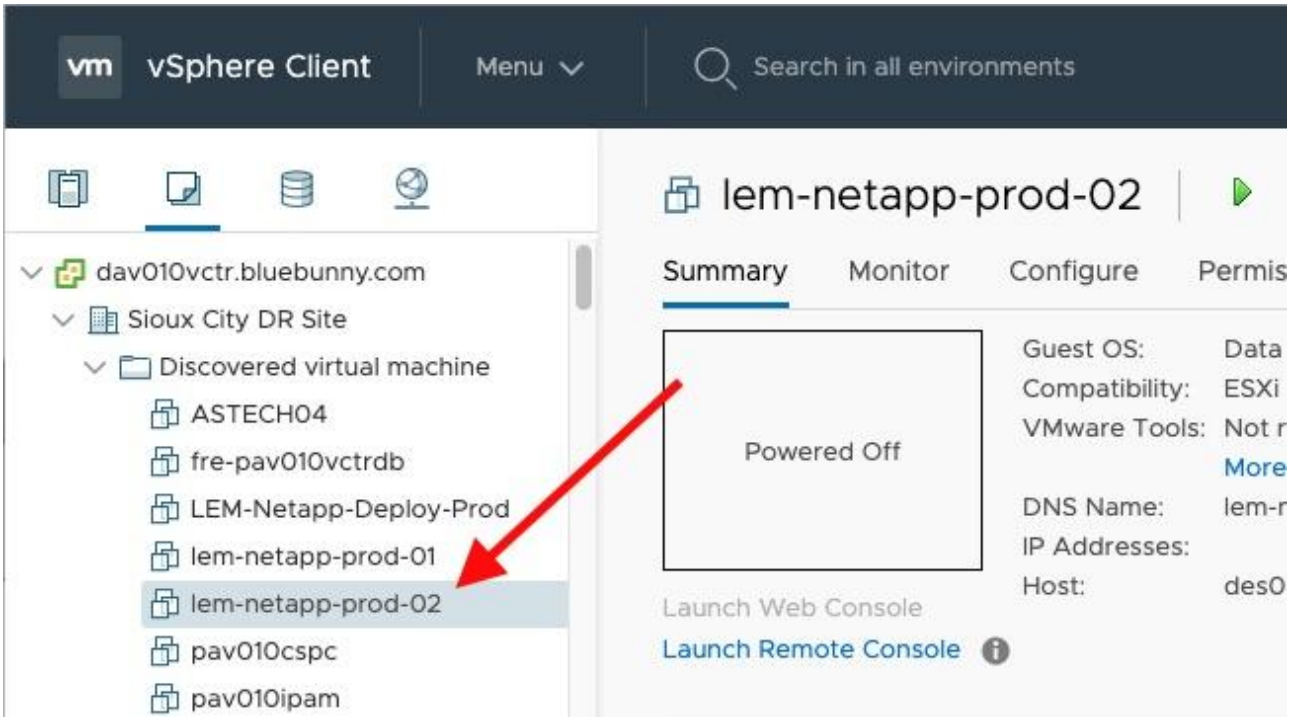
9. Verify that the Network adapter(s) has the VLAN set and it is correct. Then verify the Connect checkbox is checked and click the OK button.



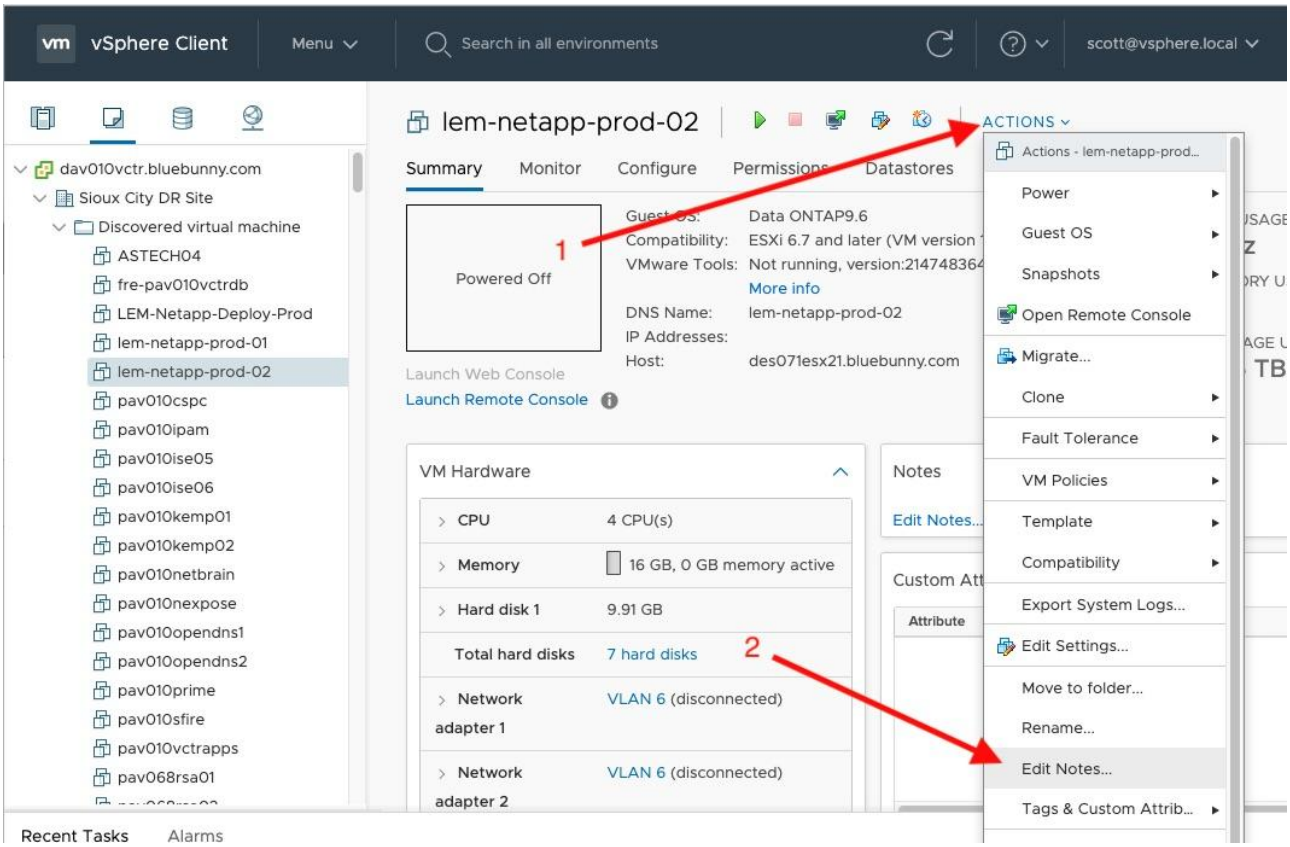
10. To boot the VM click on the "Actions" menu select "Power" then select "Power On".



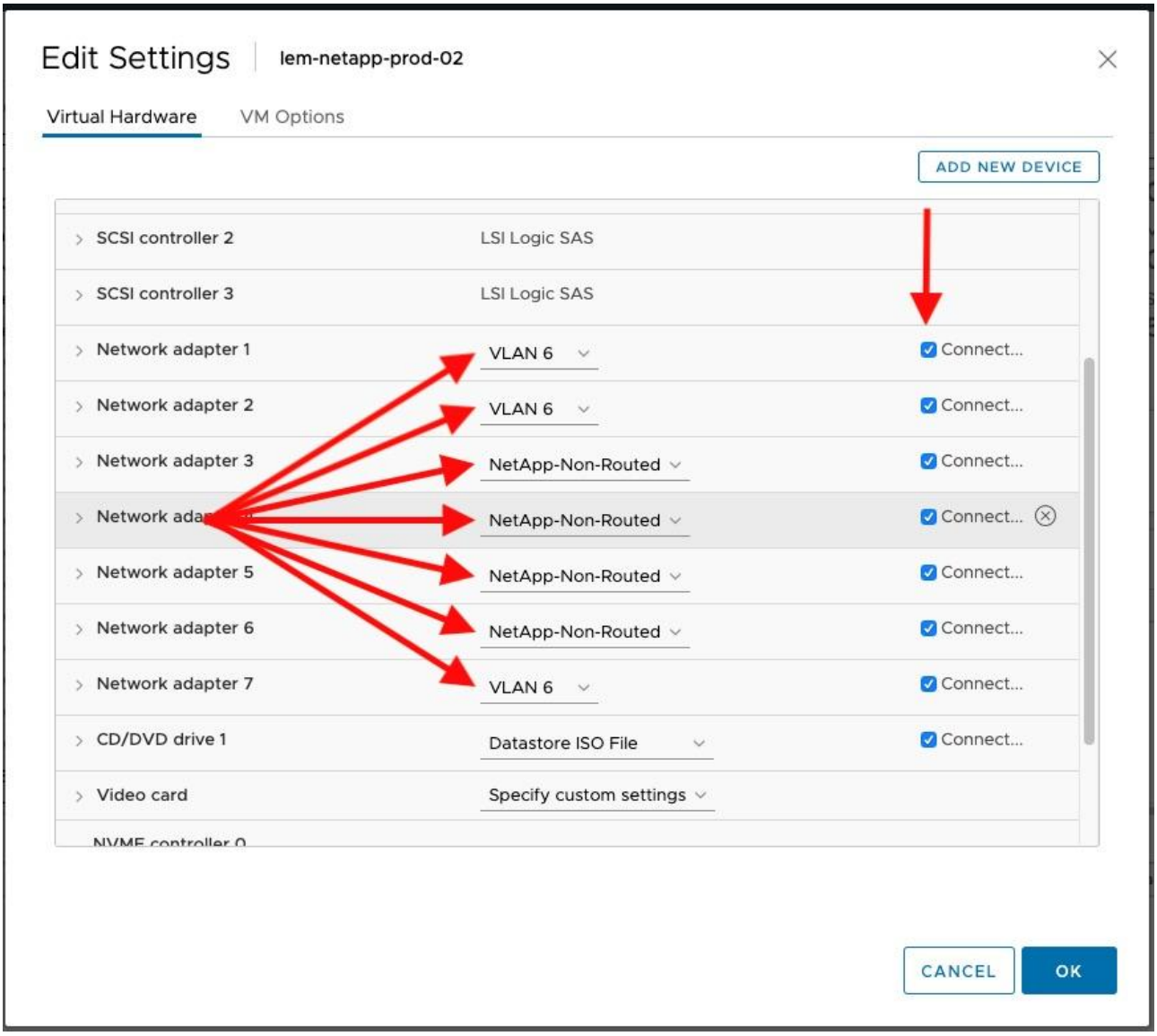
11. Navigate the tree in the left pane to the lem-netapp-prod-02 VM.



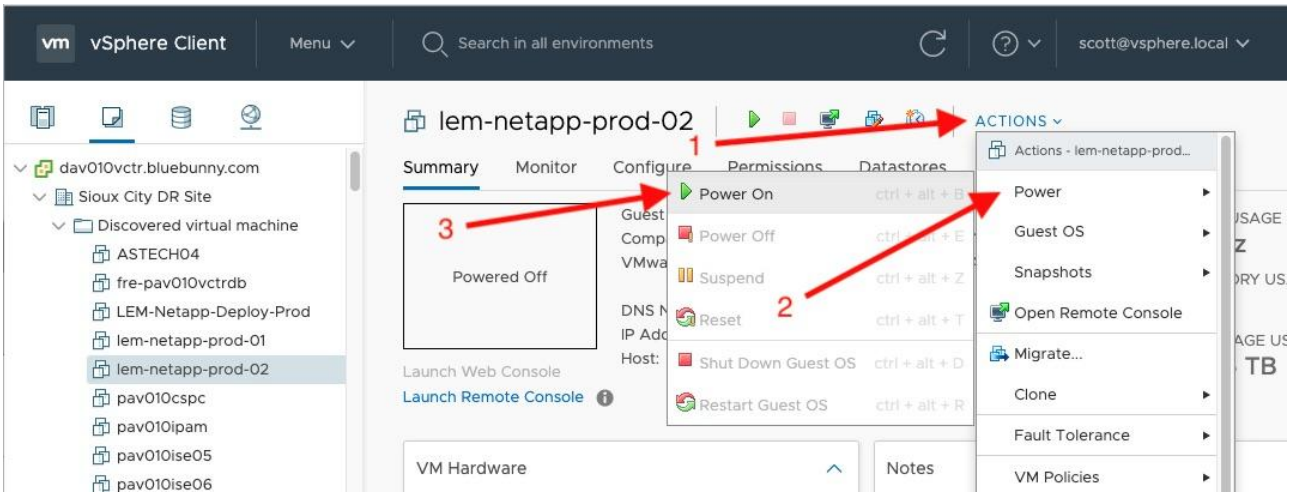
12. Click on the "Actions" menu and select "Edit Settings...".



13. Verify that the Network adapter(s) has the VLAN set and it is correct. Then verify the Connect checkbox is checked and click the OK button.

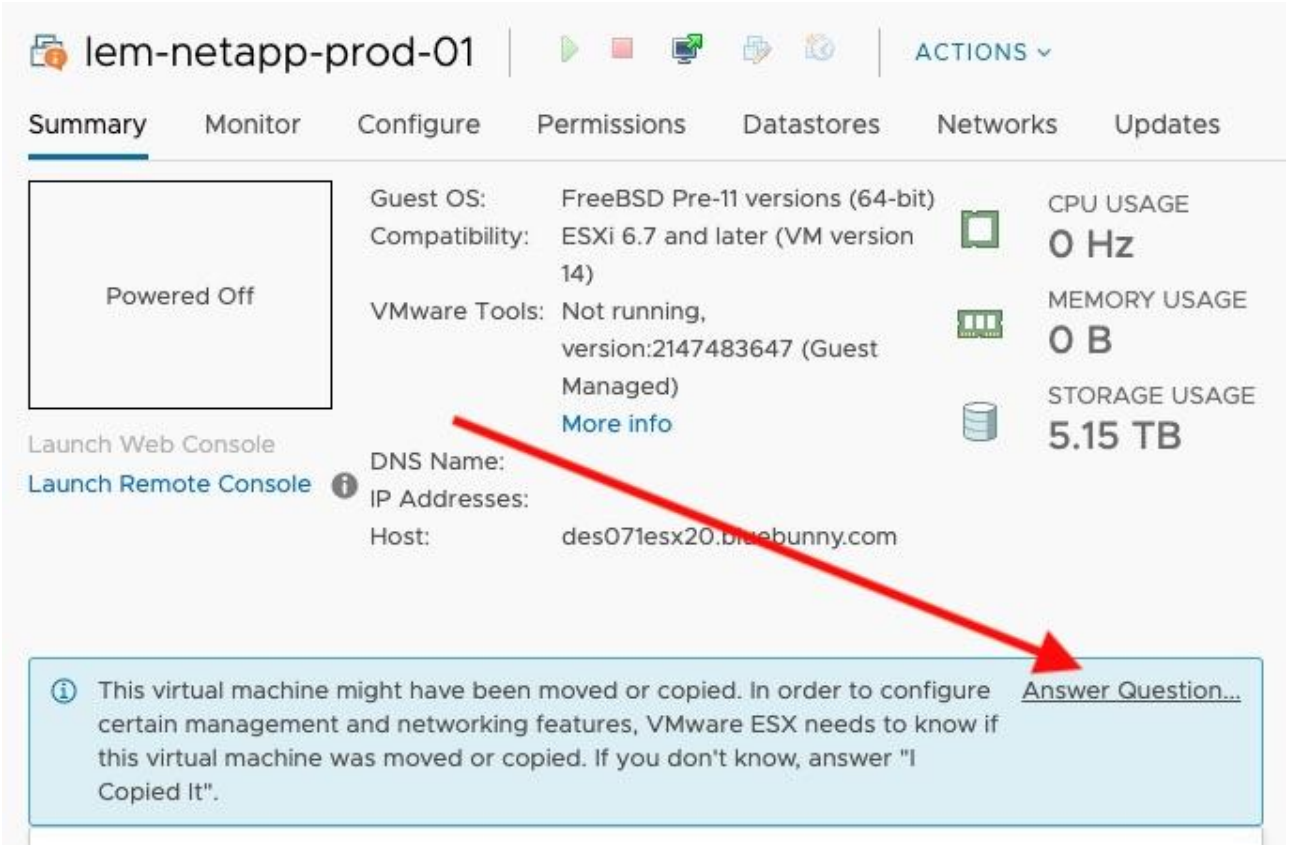


14. To boot the VM click on the "Actions" menu select "Power" then select "Power On".



Replicated, Copied or Moved VMs

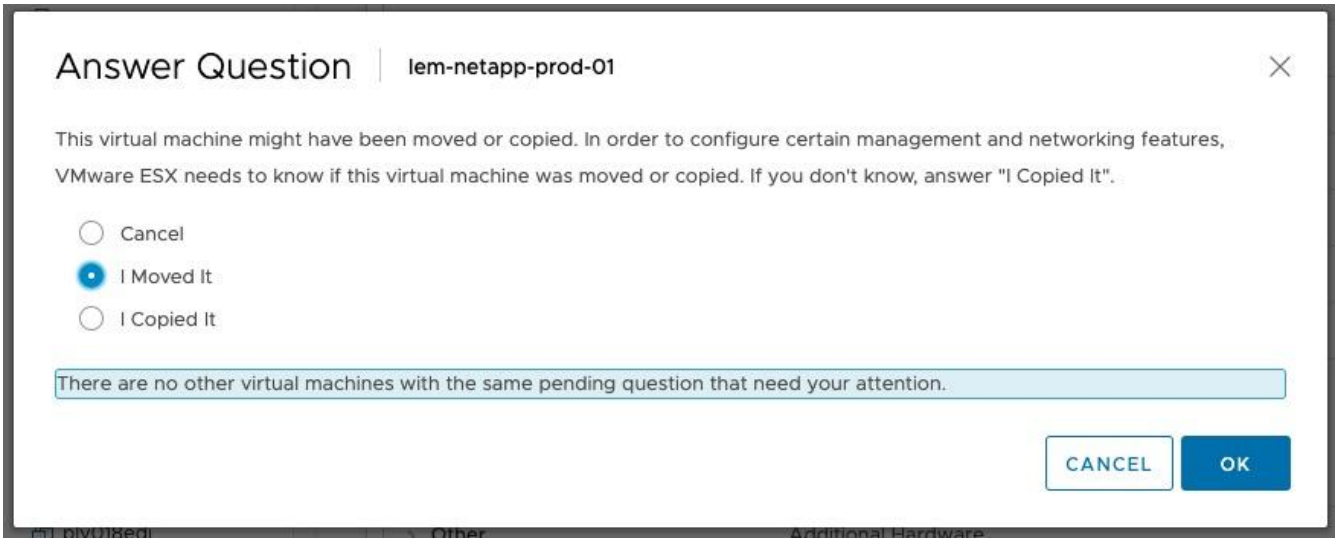
1. If the VM was replicated, copied or moved after you power on the VM the message shown below.



2. In the "Answer Question" window you have a choice to:
    - Cancel: Will stop the VM from booting.
    - I Moved It: Will start the VM as is.
    - I Copied It: Will change the MAC address and start the VM.

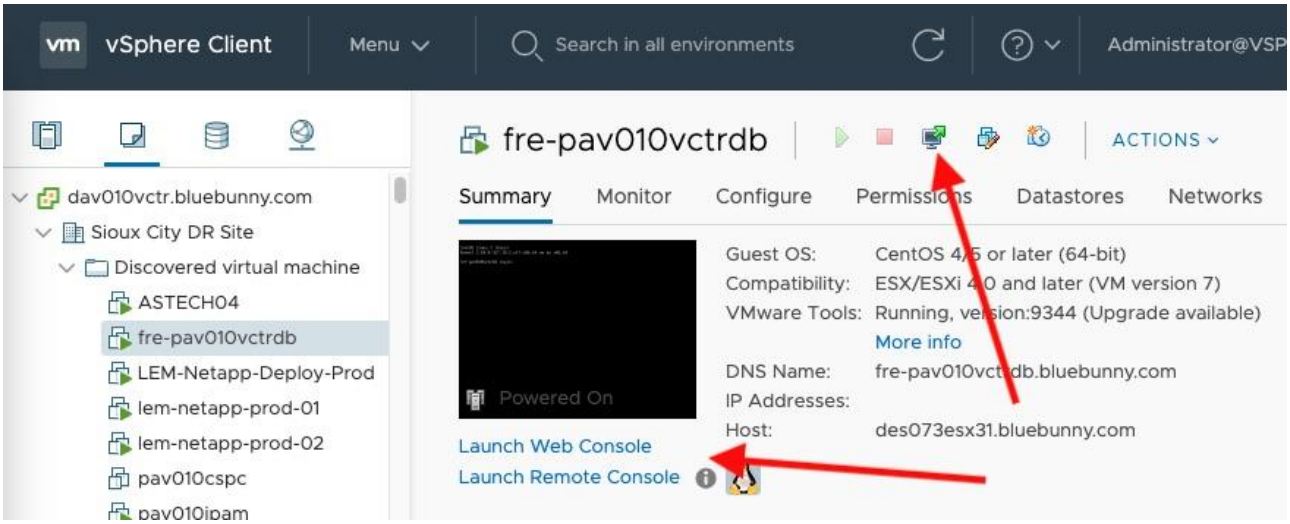
Make your selection and click the OK button.

NOTE: When at DR you want to use the "I Moved It" option.

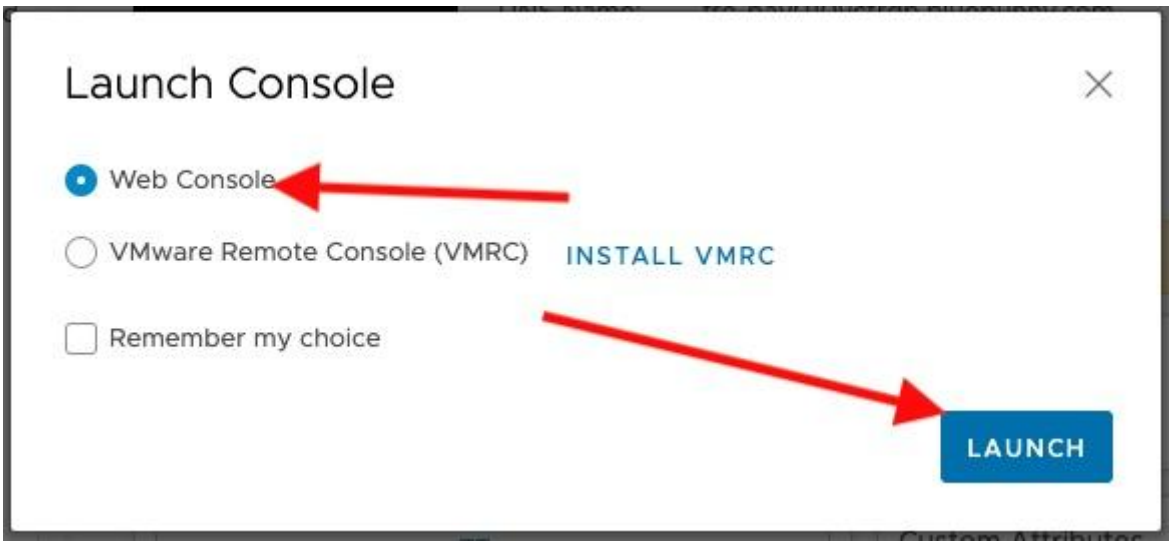


Console Access

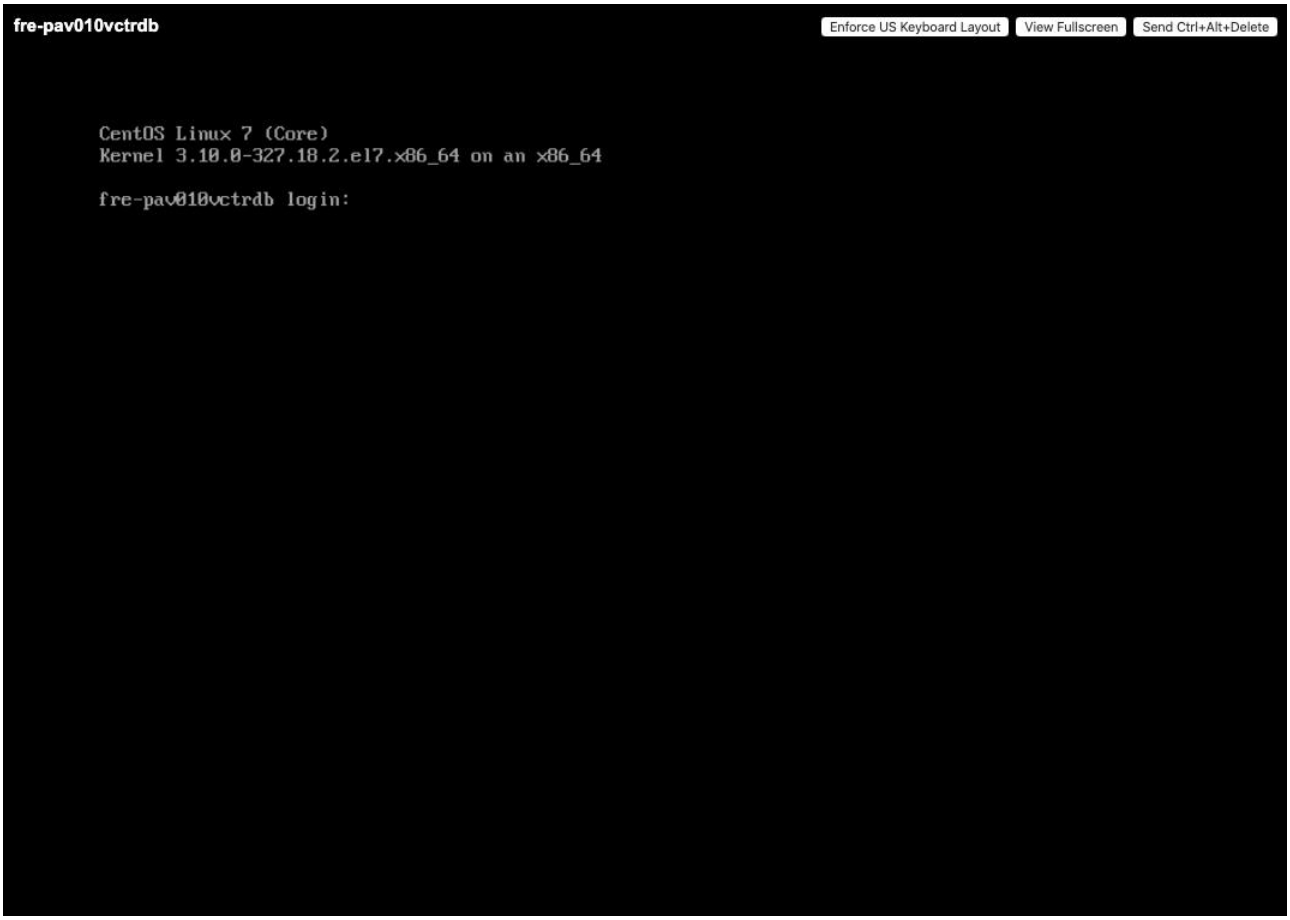
1. To monitor the VM as it is booting you can access the console by clicking on the console icon at the top or clicking on the console links.



2. Select "Web Console" and click the "Launch" button in the "Launch Console" window.



3. A console screen should pop up in another browser tab or window.



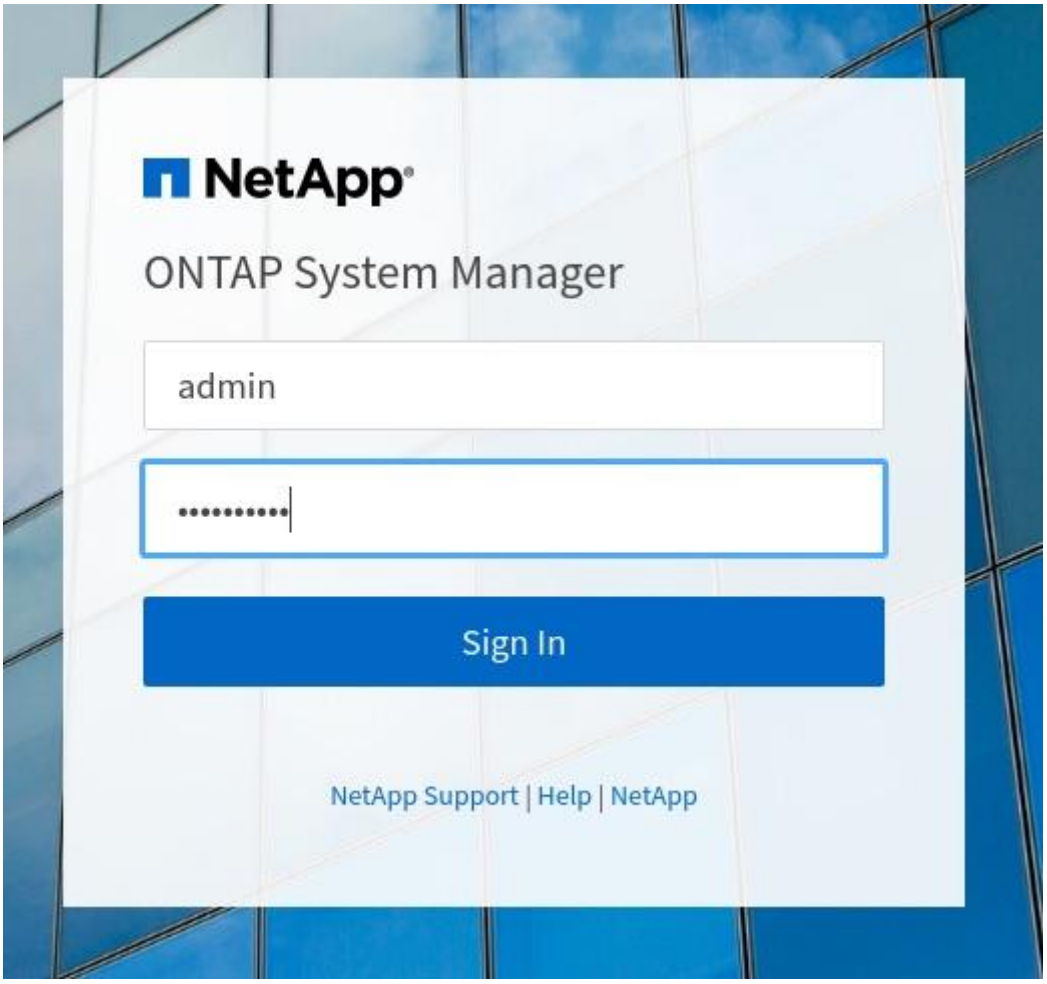
Fixing the LDAP and DNS Servers

NOTE

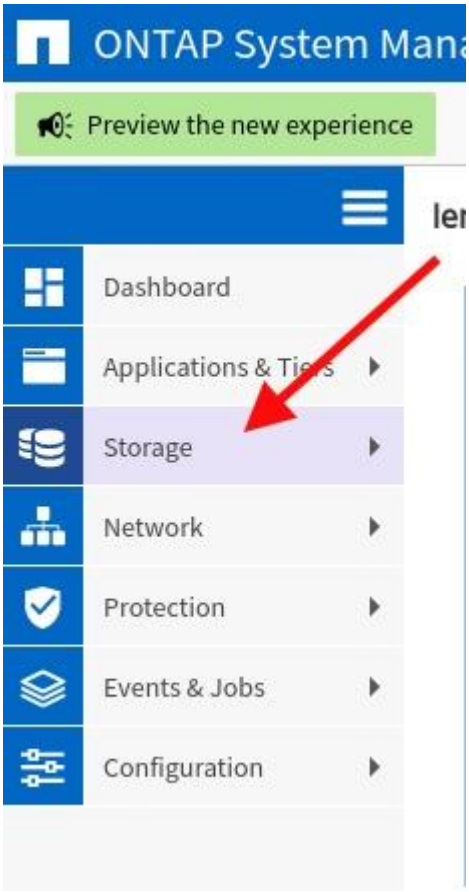
Note

The servers we use for DNS resolution at the corporate office are different than the servers we use at DR so we need to point the SVMs to the DR DNS servers.

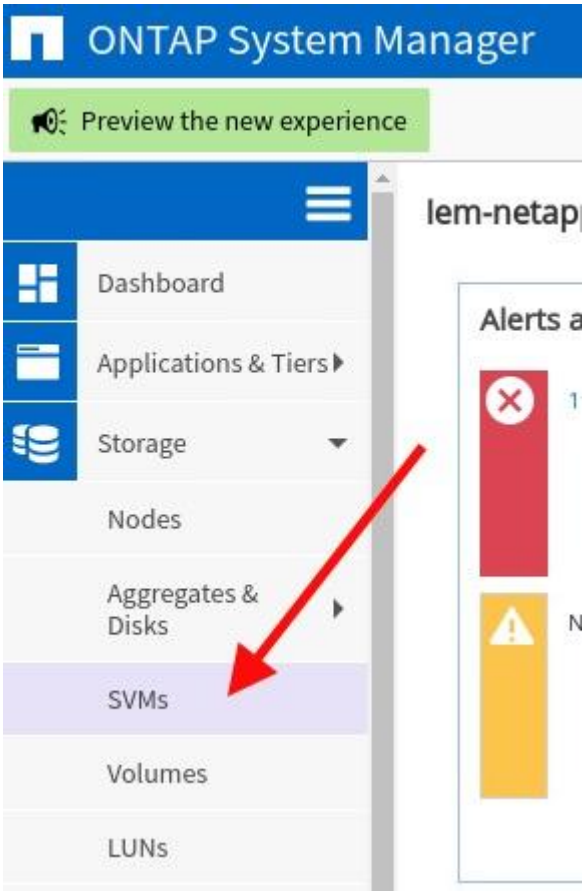
1. Open a browser and go to https://lem-netapp-prod.bluebunny.com or https://172.23.6.220 and login as the admin user.



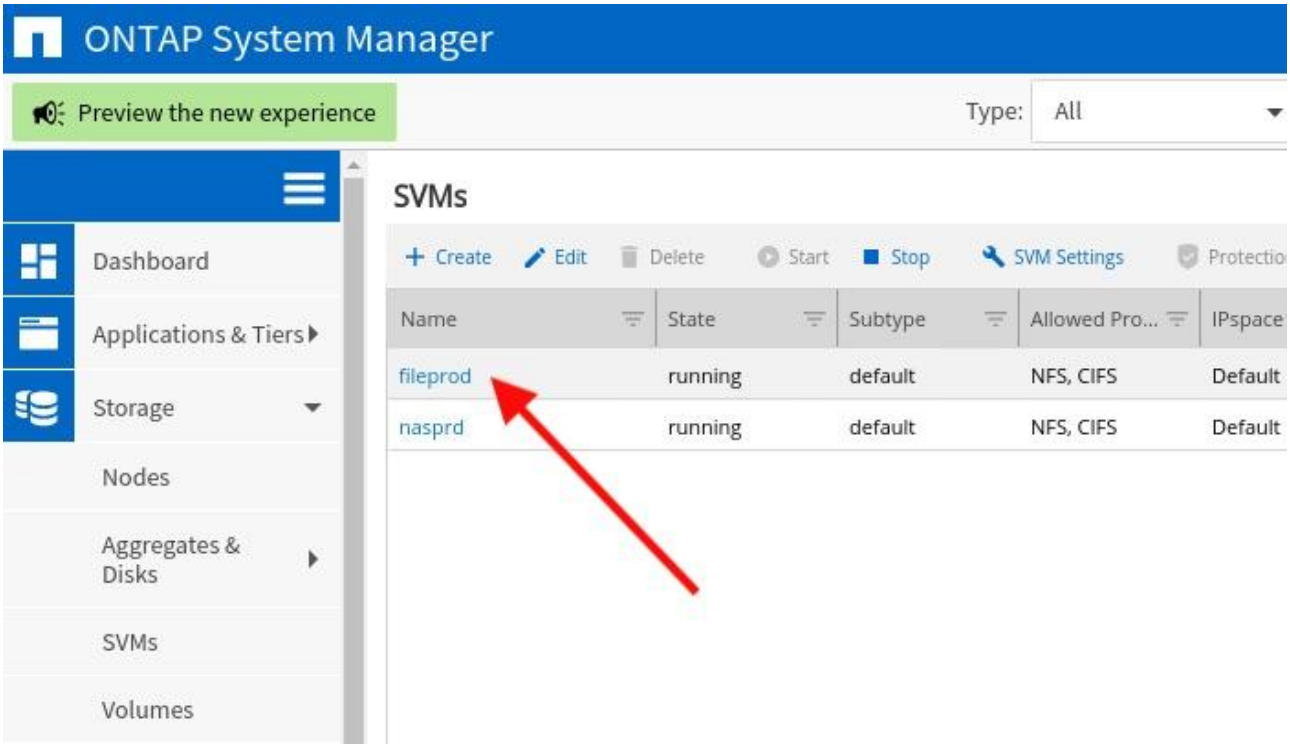
2. Click on the "Storage" side tab



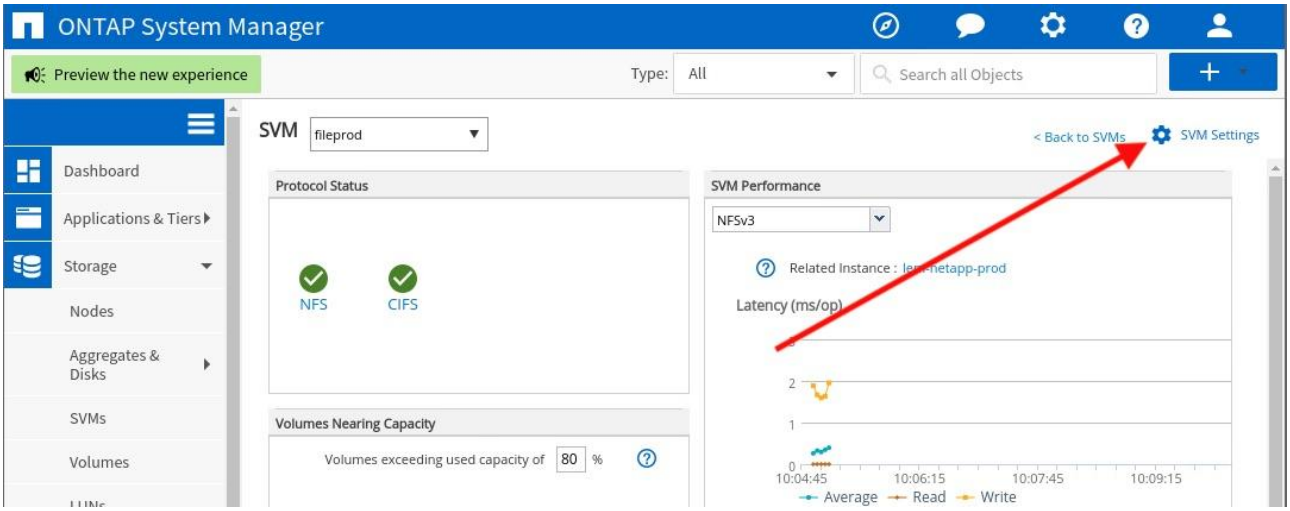
3. Click on the "SVM" side subtab



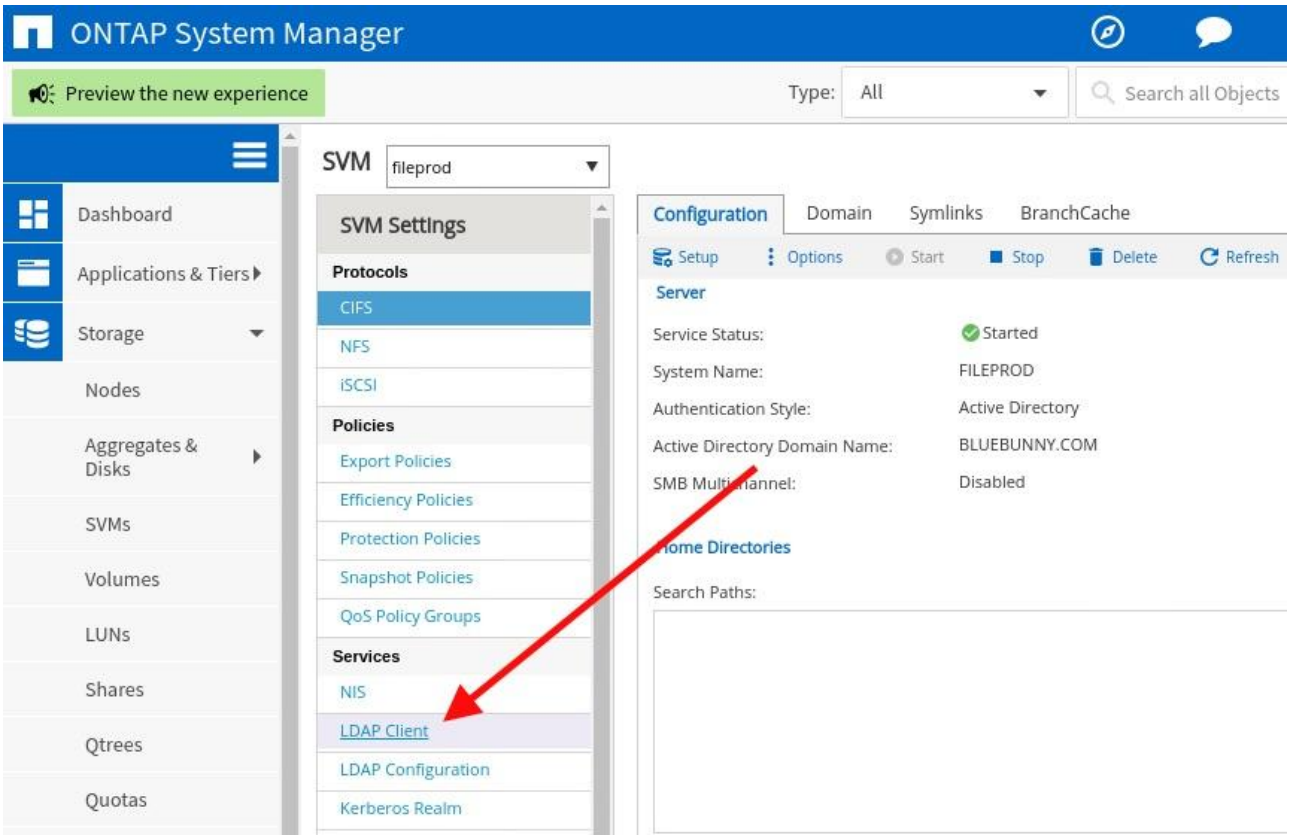
4. Click on the "fileprod" SVM.



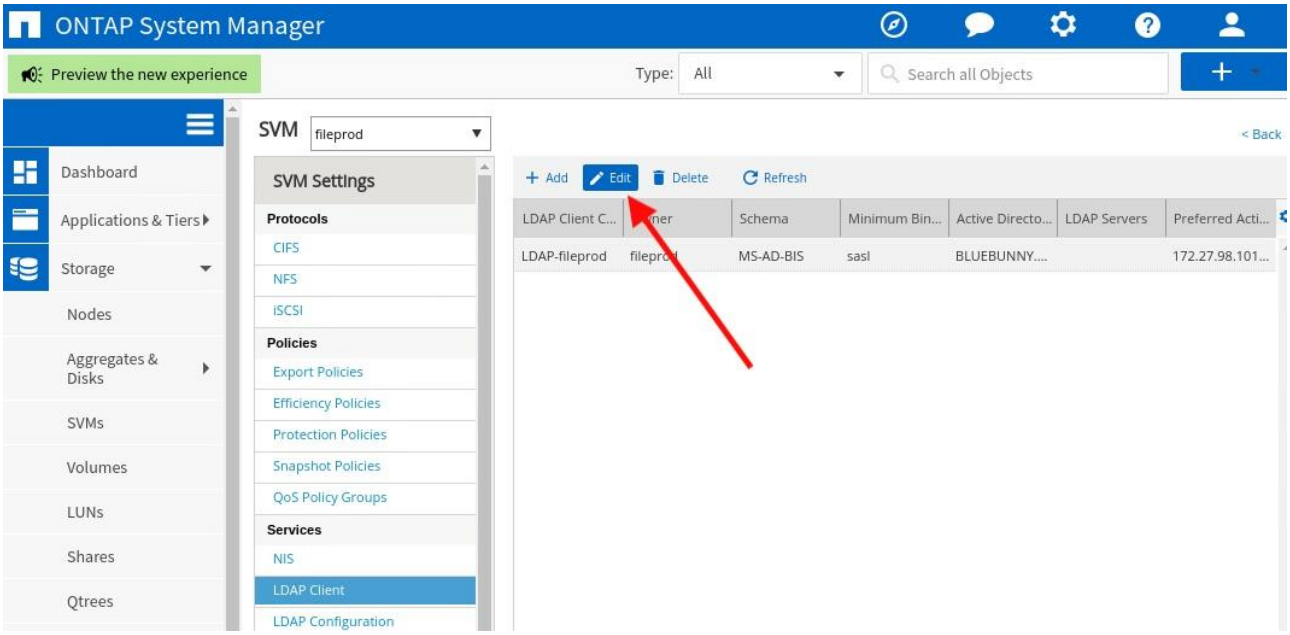
5. Click on the "SVM Settings" link.



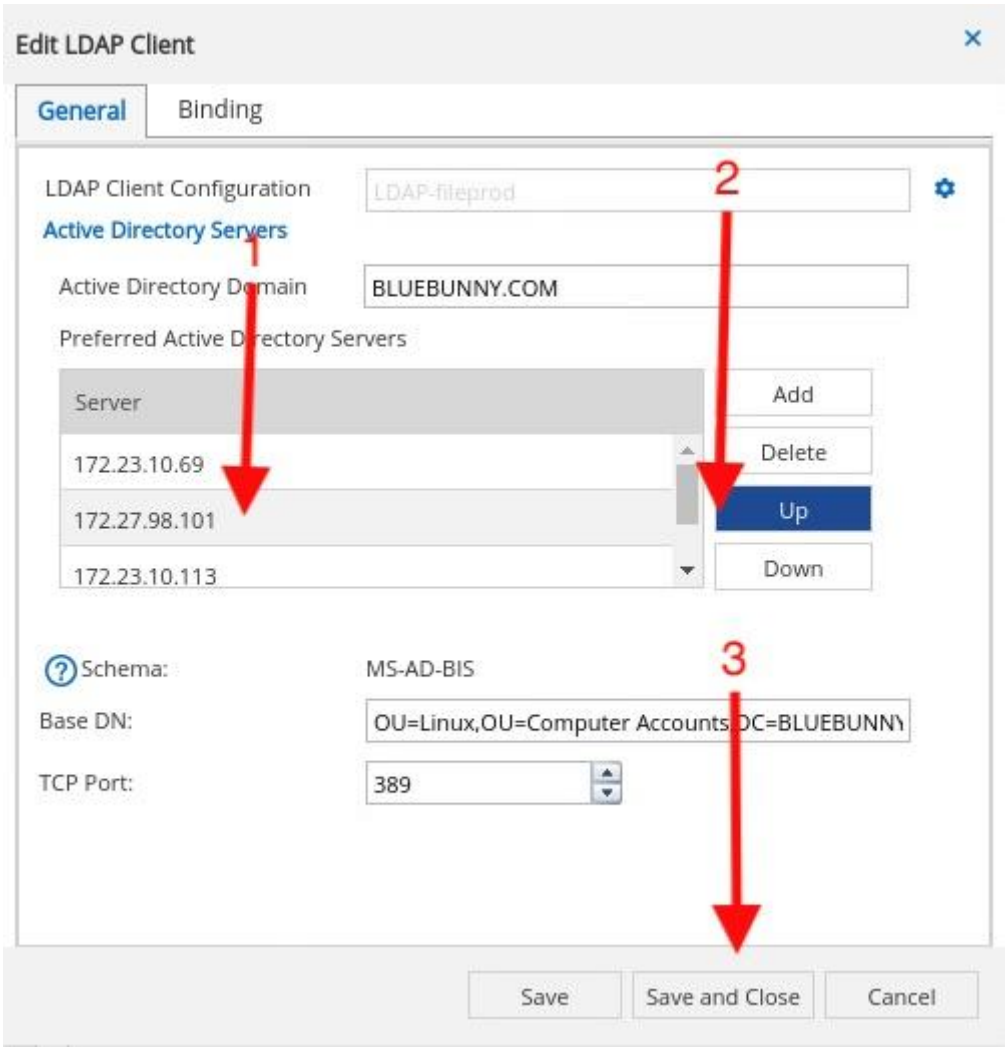
6. Click on "LDAP Client"



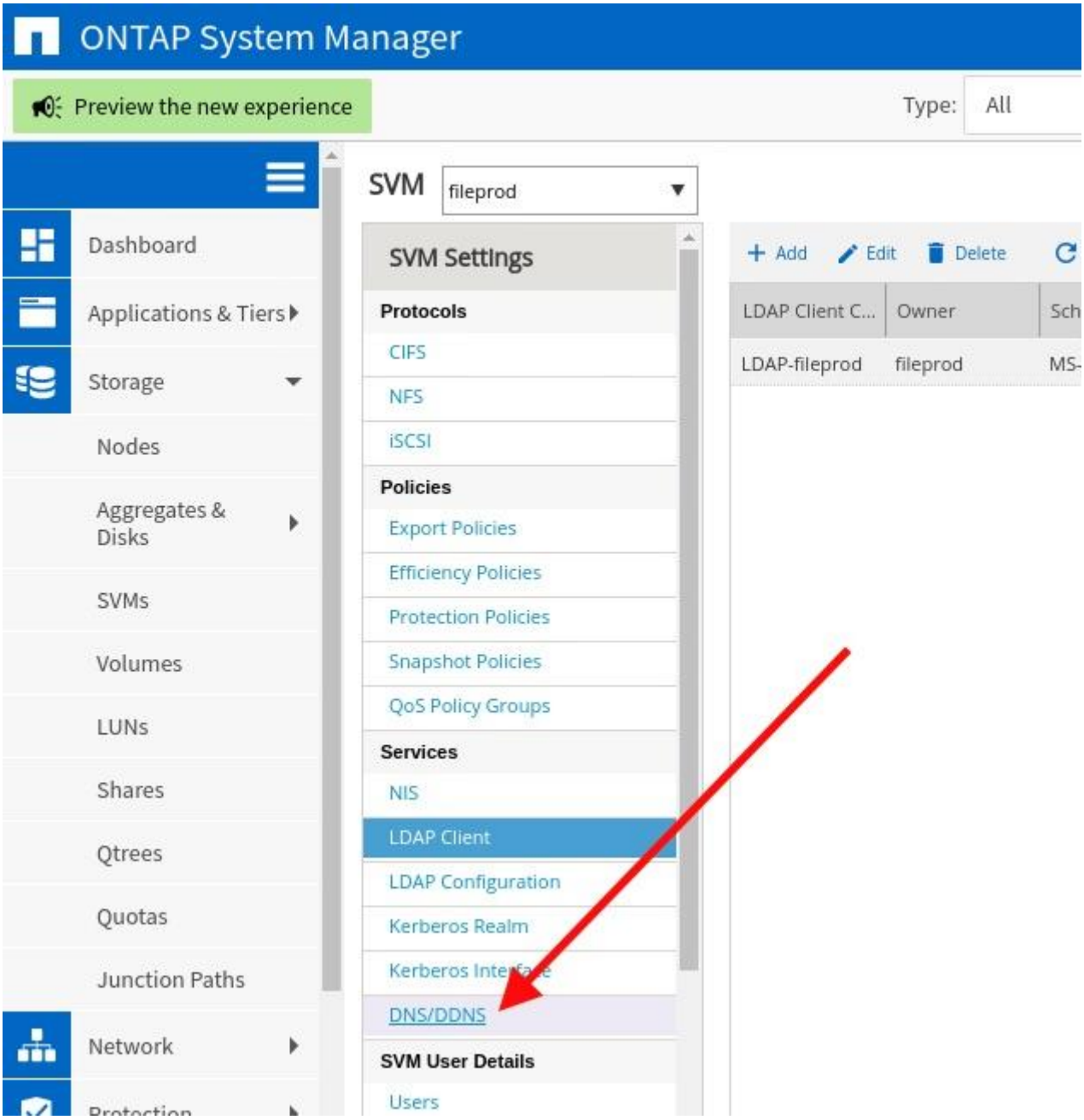
7. Click on "Edit"



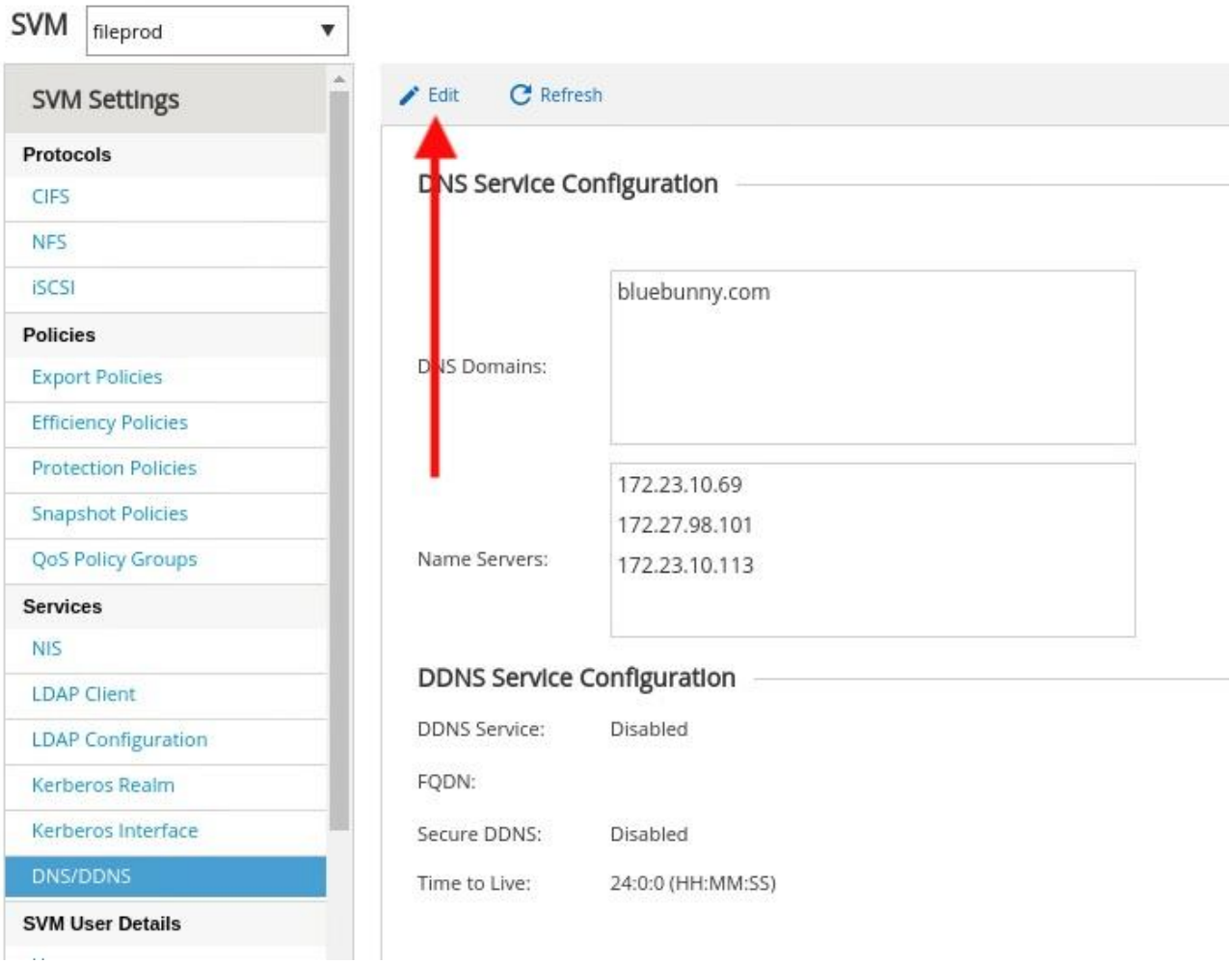
8. In "Preferred Active Directory Servers" select the 172.27.98.101 IP Address. Click the "Up" button until 172.27.98.101 is at the top of the list. Then click the "Save and Close" button.



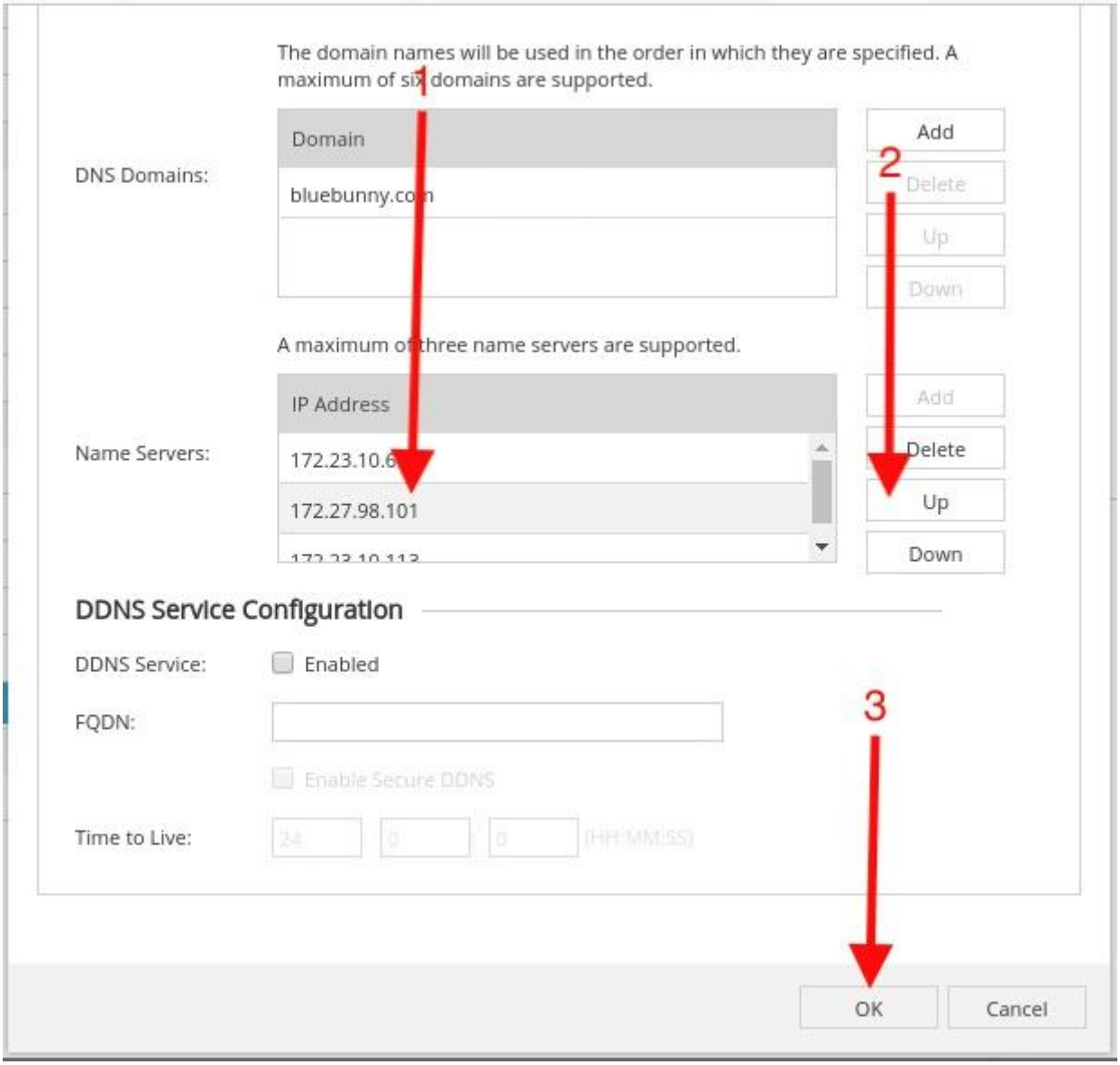
9. Click on "DNS/DDNS"



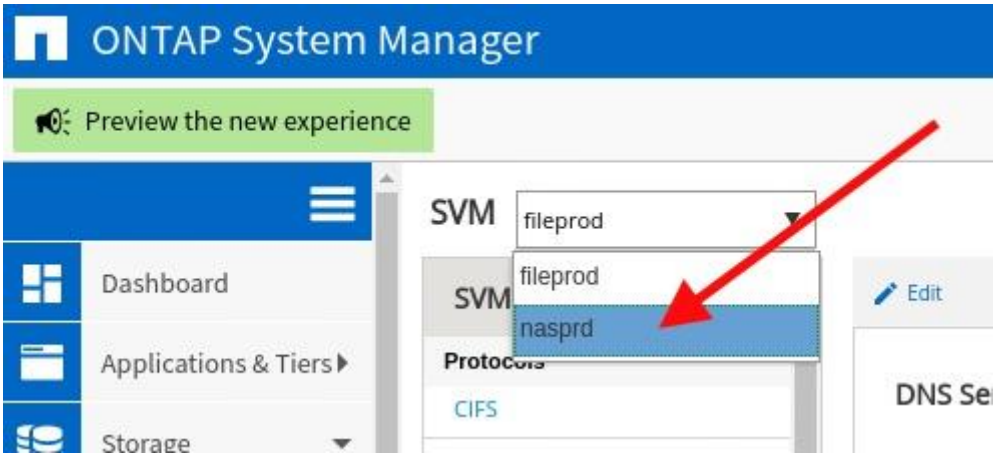
10. Click on "Edit"



11. In "Name Servers" select the 172.27.98.101 IP Address. Click the "Up" button until 172.27.98.101 is at the top of the list. Then click the "OK" button.



12. Select "nasprd" from the "SVM" drop down and repeat steps 6 - 11.



Telephony

T02 | Verify Paging (Loud Speaker -Informacast) | 05 MIN

IMPORTANT	W01, W02 must be completed before this step.

T03 | Audio Codes | 05 MIN

IMPORTANT	N04 must be completed before this step.

Audio Codes Paging Gateway Hot (redundant gateway, always online/HOT, no steps necessary

- Verify gateway is working via http://172.27.99.9

T04 | Ring Central Test | 05 MIN

IMPORTANT	N04 must be completed before this step.

1. Sign into Ring Central Client
2. Send Instant Message (IM)
3. Test call to another internal number / user

Windows

W01 | Hot Hyper-V Servers Prep (Cold VMs - DWS088HV2, DWS088HV3, DWS088HVSQL1, DWS088HVSQL2) | WIN | 30 MIN

IMPORTANT	S02 must be completed before this step.

DWS088HV2 (172.27.98.105), DWS088HV3 (172.27.98.106) | HOT

- For failover cluster manager, use cluster name DRHVCLUSTER66.bluebunny.com

DWS088HVSQL1 (172.27.98.108), DWS088HVSQL2 (172.27.98.109) | HOT | Microsoft SQL VMs

- For failover cluster manager, use cluster name DRHVCLUSTER77.bluebunny.com

For Hyper-V servers: This is being updated during the DR test

1. Use the UCS console to access either DWS088HV2 (172.27.98.105) or HV3 (172.27.98.106) using Active Directory account: Bluebunny\dradmin and password.
2. In Server Manager, click on TOOLS then Computer Management then select Disk Management

3. After the Volumes are presented to the hosts, they will show in Disk Management as Offline.
4. In Disk Management, Right-Click on the Offline Disks and select "Online".
    a. There will be several disks that will need to be brought Online

IF the disks cannot be seen - reboot the host

W02 | Domain Controllers (DWV088DC1 , DWV088DC2 , DWV088DC3, DWV088DC4, DWV001DHCP) | 45 MIN

IMPORTANT	N04 must be completed before this step.

NOTE	*Note* Must be domain admin to complete these steps

DWV088DC1 (172.27.98.101), DWV088DC2 (172.27.98.102), DWV088DC3 (172.27.98.102), DWV088DC4 (172.27.98.104), DWV001DHCP | HOT |

See Appendix A09 for active directory remote tests only

- After the snapshot, verify that the volumes are present.

W03 | DHCP (PWV001DHCP1, PWV001DHCP2, PWV001DHCPVPN1, PWV051DNSDHCP) | 70 MIN

IMPORTANT	W01, W02 must be completed before this step.

pwv001dhcp1 (172.23.10.170), pwv001dhcp2 (172..23.10.171), pwv001dhcpvpn1 (172.23.29.71), pwv051dnsdhcp (172.26.1.160) | COLD

- Refer to Appendix A02 on starting a VM server

VLAN98 is for onsite DR testing. VLAN198 is for DR testing from corporate.

From the pre-test steps, VLAN98 should be active.

W04 | Configure Domain Controller (PWV001DC10) | 60 MIN

IMPORTANT	W01, W02 must be completed before this step.

1. Configure PWV001DC10 (HOT in DR) from existing VM for Exchange 2016.
2. Bring online. Add to domain.
3. Add DNS, DFS, and AD roles then promote to DC.

4. Add 172.23.10.69 to network adapter

When adding new domain controller to LeMars site on subnet 172.23.10.x

- Add 172.23.10.69 as second IP address to new DC for DNS resolution

```
netsh int IPv 4 add address ethernet 172.23.10.69 SkipAsSource=True
```

W05 | File Servers - (PWV001FILE (172.23.110.85), PWV092FILE (172.23.110.111), PWV003FILE (172.23.10.191), PWV004FILE (172.23.10.233), PWV005FILE (172.23.10.237), PWV006FILE (172.23.10.236), PWV001DA (pwv001da) | 30 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- Highlight server name in Failover Cluster Manager
- Right click then click "Start"

W06 | Tools Servers (TOOLSx, PWV022x , PWV023X (VMware View) | 60 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

Tools Servers | COLD

- Needed for IT Tools/Applications. Servers starting with TOOL* and PWV022*
  1. Highlight server name in Failover Cluster Manager
  2. Right click then click "Start"

W07 | Microsoft Licensing Server (PWV002KMS, PWV003KMS, PWV004KMS) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

M/S Licensing Server COLD

pwv002kms (172.23.110.139) pwv003kms (172.23.110.177) pwv004kms (172.23.110.31)

- Highlight server name in Failover Cluster Manager
- Right click then click "Start

W08 | AZURE AD Federation Services (PWV001ADCON) | 05 MIN

IMPORTANT	W01, W02 must be completed before this step.

pwv001adcon (172.23.120.43) | COLD

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W09 | DNS for VPN Clients (PWV001DNSVPN1, PWV001DNSVPN2) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

pwv001dnsvpn1 (172.23.120.120), pwv001dnsvpn2 (172.23.120.121) | COLD

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W10 | CERTIFICATE SERVERS (PWV032CERT1, PWV032CERT2) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

pwv032cert1 (172.23.10.59), pwv032cert2 (172.23.10.60) | COLD

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.
  1. Right click then click "Start"

W11 | SQL Servers (PWV017SQL1, PWV017SQL2, PWV001SQLWIT, PWV001SQL1, PWV001SQL2, PWV008SQL, PWV012SQL, DWV088SQL, PWV014SQL1, PWV014SQL2) | 30 MIN

IMPORTANT	W01, W02 must be completed before this step.

SQL Servers

PWV001SQLWIT	172.23.110.207	Cold
PWV001SQL1	172.23.120.237	Cold
PWV001SQL2	172.23.120.238	Cold
PWV008SQL	172.23.10.101	Cold
PWV012SQL	172.23.10.52	Cold
DWV088SQL	172.27.98.115	
PWV014SQL1	172.23.6.21	
PWV014SQL2	172.23.120.151	
PWV017SQL1	172.23.120.237	
PWV017SQL2	172.23.120.238	

- Highlight server name in Failover Cluster Manager
- Right click then click "Start"

Tier 1A | 4-8 Hours

Linux

L15 | WBBPRD (plv050ebsdb) | 10 MIN

IMPORTANT	Tier 0 must be completed before this step.

plv050ebsdb (172.23.6.12) | COLD

Oracle Database (DB Tier) (WBBPRD_OS Datastore, Database Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives:
- Database starts automatically
- Verify the Oracle database has started with the following command:

```
ps -ef | grep pmon
```

L16 | OTMPRD (plv081otmdb, plv082soadb) | 05 MIN

IMPORTANT	Tier 0 must be completed before this step.

plv081otmdb (172.23.6.80) | COLD

OTMPRD Database (OTMPRD Datastore, OTMPRD-Redo Datastore, Database Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives:
- Database starts automatically
- Verify the Oracle database has started with the following command:

```
ps -ef | grep pmon
```

plv082soadb (172.23.6.21) | COLD

OTM SOA Repository DB (SOAPRD Datastore, Database Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives:
- Database starts automatically
- Verify the Oracle database has started with the following command:

```
ps -ef | grep pmon
```

L17 | OTM APP (plv080otmapp, plxvm083, plv084otmweb, plv088otmwebx, plv080milemkr) | 10 MIN

IMPORTANT	Tier 0, L16 must be completed before this step.

OTM Apps Middle Tiers | COLD

- Refer to Appendix 02 on starting a VM servers for the following:
  - plv080otmapp 172.23.6.95
  - plxvm083 172.23.6.91
  - plv084otmweb 172.23.6.96
  - plv088otmwebx 172.23.6.97
  - plv080milemkr 172.23.5.63

L18 | Apps Middle Tiers | 30 MIN

IMPORTANT	Tier 0, L15, L16 must be completed before this step.

NOTE	*Note* MOUNT NETWORK FILE SYSTEMS (/u02, /u03, /u04) ON MIDDLE TIER SERVERS AFTER THE SERVERS ARE UP

Verify if the mounts work from Pure

Change /etc/resolv.conf (refer to Appendix A17) - may require rebooting all VMs

Oracle Apps Middle Tiers | COLD

- Refer to Appendix 02 on starting a VM servers for the following:
  - plxvm070 172.23.22.51
  - plxvm071 172.23.22.52
  - plxvm072 172.23.22.53
  - plxvm073 172.23.22.54
  - plxvm074 172.23.22.27
  - plxvm075 172.23.22.28
  - plxvm076 172.23.22.29

- plxvm077 172.23.22.55
- plv070staylink 172.23.6.28
- plv070btf 172.23.5.39
- plv071endeca 172.23.22.71

DBA group Start Oracle

1. ssh to plxvm070
2. Login as applmgr/applmgr_password
3. Verify on each node that there are no applmgr processes running

```
ps ef | grep applmgr
```

4. Start Oracle Apps

```
cd /u04/appl/bbadmin/bin
./appsctrl.all.sh start
```

5. Verify on each node that applmgr processes started

```
ps ef | grep applmgr
```

6. Login to single sign-on (Oracle Applications)
   - Choose Oracle tab at the top of bunnynet.
   - Use your network id and password to login to Single Sign-on.
   - Verify that apps are working correctly.

NOTE

Troubleshooting

One Node Start/Stop

- Shut down one node

Shut down listeners on all nodes

- Log onto Node you want to stop

```
cd $UTIL_TOP/bin
./gsmctrl.sh stop
```

Shut down all processes on one node

- Log onto the vm that you want to shut down

```
cd /u04/appl/comn/admin/scripts
./adstrtal.sh
```

Start listeners on all nodes

- Log onto the Node you stopped

```
cd $UTIL_TOP/bin
./gsmctrl.sh start
```

Bounce Concurrent Managers

- Log onto Admin Node

```
cd /u04/appl/comn/admin/scripts
./adcmctl.sh stop
 - Enter apps/<appspass> when prompted
```

- Verify that concurrent managers started on all nodes

Mobile Start/Stop

- Stop Mobile Applications
  - Log into the Mobile Node (WBBPRD/plxvm103)

```
cd $UTIL_TOP/bin
./mwactrl.sh stop
```

- Verify mobile ports shut down
  - Start Mobile Applications
- Log into the Mobile Node (WBBPRD/plxvm103)

```
cd $UTIL_TOP/bin
./mwactrl.sh start
```

- Verify mobile started

L19 | CRON SCHEDULER (plv019cron) | 05 MIN

IMPORTANT	Tier 0 must be completed before this step.

plv019cron (172.23.5.14) | COLD

CRON server (Services Datastore, Applications Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L20 | ASRS DB (plv005emsdb) | 05 MIN

IMPORTANT	Tier 0, L19 must be completed before this step.

plv005emsdb (172.23.5.38) | COLD

ASRS DB (EMSPRD Datastore, Database Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L21 | EDI (plv018ectrans, plv018eccom) | 05 MIN

IMPORTANT	Tier 0 must be completed before this step.

plv018eccom (172.23.6.101) | COLD

EDI (EDI-Prod Datastore, Applications Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.
- It should autostart. If not:

```
ssh root@plv018edi

su - powere -c /powere/wellsscripts/startup_edi.sh
```

L22 | WEBPRD DB (plv003webdb) | 15 MIN

IMPORTANT	Tier 0 must be completed before this step.

plv003webdb (172.26.1.17) | COLD

WEBPRD (Database) (WEBPRD Datastore, DMZ Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.
- Database should autostart

L23 | Operations DB (plv060adfdb) | 10 MIN

IMPORTANT	Tier 0, L15 must be completed before this step.

plv060adfdb (172.23.5.61) | COLD

OPSPRD (Database)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L24 | Operations Application (plv060adfapp) | 5 MIN

IMPORTANT	Tier 0, L15, L23] must be completed before this step.

plv060adfapp (172.23.5.62)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L25 | Operations Web (plv060adfweb) | 5 MIN

IMPORTANT	Tier 0, L15, L23] must be completed before this step.

plv060adfweb (172.23.5.85)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Windows

W12 | RING CENTRAL FOR BUSINESS (DWV088SFB1, DWV088SFB2, DWV088SFB3, DWV051SFBE1, DWV051SFBE2) | 20 MIN

IMPORTANT	W01, W02 must be completed before this step.

- dwv088sfb1 (172.27.98.111)
- dwv088sfb2 (172.27.98.112)
- dwv088sfb3 (172.27.98.113)
- dwv051sfbe1 (172.27.98.92)
- dwv051sfbe2 (172.27.98.93)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W13 | Exchange 2016 (PWV011MAIL, PWV001OFFONLINE, PWV051MRELAY) | 60 MIN

IMPORTANT	W01, W02 must be completed before this step.

NOTE	*Note* PWV001DC10 setup must be completed before Exchange can be fully functional. RDP may not work - Access server through the Console

Exchange 2016

- PWV011MAIL (172.23.10.250)
- PWV051OFFLINE COLD (172.26.1.224)
- PWV051RELAY COLD (172.26.1.151)
  - Highlight server name in Failover Cluster Manager
  - Right click then click "Start"

W14 | Delivery Tickets (PWV002REPORA) | 05 MIN

IMPORTANT	W01, W02, L17 must be completed before this step.

PWV002REPORA (172.23.110.193)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W15 | DMZ SQL DB (PWV051DBEXT) | 05 MIN

PWV051DBEXT COLD (172.26.1.169)

- For https://www.bluebunny.com
  - Highlight server name in Failover Cluster Manager
  - Right click then click "Start"

W16 | Process Controls RSAssetCentre (PWV011ASSETCTR) | 05 MIN

IMPORTANT	W01, W02, W10, W13 must be completed before this step.

PWV001ASSETCTR COLD (172.23.110.146)

- RSAssetCentre

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W17 | Process Controls Engine Room (PWV045ER*) | 30 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV045ERDA1 (172.22.120.12)
- PWV045ERDA2 (172.22.120.13)
- PWV045ERENG (172.22.120.10)
- PWV045ERFTD (172.22.120.11)
- PWV045ERHMI1 (172.22.120.14)
- PWV045ERHMI2 (172.22.120.15)
- PWV045ERRD1 (172.22.120.16)
- PWV045ERRD2 (172.22.120.17)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W18 | Process Controls Software Monitoring for Power in Buildings (PWV002POWER) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv002power (172.23.110.225)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W19 | Process Controls Freezer (PWV045FRZ*) | 30 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV045FRZDA1 (172.22.120.25)
- PWV045FRZDA2 (172.22.120.26)
- PWV045FRZENG (172.22.120.23)
- PWV045FRZFTD (172.22.120.24)
- PWV045FRZHMI1 (172.22.120.27)
- PWV045FRZHMI2 (172.22.120.28)
- PWV045FRZRD1 (172.22.120.29)
- PWV045FRZRD2 ()172.22.120.30

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W20 | Process Controls Line (PWV045LINE*) | 30 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV045LINEDA1 (172.22.120.58)
- PWV045LINEDA2 (172.22.120.59)
- PWV045LINEHMI1 (172.22.120.60)
- PWV045LINEHMI2 (172.22.120.61)
- PWV045LINERD1 (172.22.120.62)
- PWV045LINERD2 (172.22.120.63)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W21 | Process Controls Mix (PWV045MIX*) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV045MIXDA1 (172.22.120.38)
- PWV045MIXDA2 (172.22.120.39)
- PWV045MIXHMI1(172.22.120.40)
- PWV045MIXHMI2 (172.22.120.41)
- PWV045MIXPHMI1 (172.22.120.49)
- PWV045MIXPHMI2 (172.22.120.50)
- PWV045MIXPRD1 (172.22.120.51)
- PWV045MIXPRD2 (172.22.120.52)
- PWV045MIXRD1 (172.22.120.42)
- PWV045MIXRD2 (172.22.120.43)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W22 | IGNITION SYSTEM (PWV001IGN, PWV002IGN, PWV003IGN) PWV004IGN) | 15 MIN

IMPORTANT	W01, W02, L15, L16 must be completed before this step.

- pwv001ign (172.23.110.116),

- pwv002ign (172.23.110.117)
- pwv003ign (17.23.110.9)
- pwv004ign (172.23.110.10)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W23 | Engineering Workstation (PWV045PENG) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv045peng (172.22.120.36)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W24 | Factory Talk Directory (PWV045PFTD) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv045pftd (172.22.120.37)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W25 | Label View (PWV001LABEL) | 5 MIN

IMPORTANT	W01, W02, W11 must be completed before this step.

- pwv001label (172.23.110.65)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W26 | Ecolab CIP Diagnostics (PWV001CIPDIAG) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv001cipdiag (172.23.120.130)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W27 | ASRS Application - Cranes (PWV001EMS) | 05 MIN

IMPORTANT	W01, W02, L20 must be completed before this step.

- PWV001EMS COLD 172.23.110.138
  - ASRS – Highrise freezer

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Tier 1B | 8-12 Hours

Linux

L26 | PGP (PLV017PGP - 172.23.5.36) | 05 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PLV017PGP (172.23.5.36)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Windows

W28 | Print Server (PWV001PRINT) | 05 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001PRINT COLD 172.23.10.159
  - Highlight server name in Failover Cluster Manager
  - Right click then click "Start"

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W29 | Internal Web App (PWV001WEBINT1, PWV001WEBINT2) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001WEBINT1 (172.23.10.180)
- PWV001WEBINT2 (172.23.10.181)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W30 | Bunnynet/Sharepoint (PWV001SP1, PWV001SP2, PWV001SP3) | 35 MIN

> **IMPORTANT** W01, W02, W10 must be completed before this step.

- PWV001SP1 (172.23.10.216)
- PWV001SP2 (172.23.10.145)
- PWV001SP3 (172.23.10.218) COLD

Bunnynet - Sharepoint

- Highlight server name in Failover Cluster Manager
- Right click then click "Start"
- WBBPRD requires Sharepoint be running before the link for Oracle apps is available. Sharepoint is slow to start until Microsoft SQL database is online.

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W31 | Remote Desktop Servers (PWV001RDS1, PWV001RDS2) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001RDS1 (172.23.10.144)
- PWV001RDS2 (172.23.10.145) COLD (client for DSI)
  - Highlight server name in Failover Cluster Manager
  - Right click then click "Start"

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W32 | EXTERNAL WEBSITES - (PWV051EXTWEB1, PWV051EXTWEB2, PWV001WEBSVC) | 10 MIN

IMPORTANT	W01, W02, W15 must be completed before this step.

- PWV051WEBEXT1 (172.23.10.145)
- PWV051WEBEXT2 (172.26.1.129)
- PWV001WEBSVC (172.23.10.182) COLD

Bluebunny / Bombpops / Etc.

- Highlight server name in Failover Cluster Manager
- Right click then click "Start"

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W33 | Internal / External transfer.bluebunny.com (PWV051FTP, PLV017PGP) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv051ftp (172.26.1.158)
- pwv017pgp (172.23.5.36)
  - logon to https://transfer.bluebunny.com If that is accessible that should suffice for this test.

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W34 | GUI for Networking (PWV011NETBRAIN) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv011netbrain (172.23.120.131)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W35 | Door Security Access Control Server (PWV003LENEL) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- pwv002lenel (172.23.110.227)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Tier 1C | 12-24 Hours

Linux

L27 | Prescient (PLV011PRSDB) | 10 MIN

IMPORTANT	Tier 0 must be completed before this step.

- plv011prsdb (172.23.5.35)
- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L28 | HR DB (PLV014HRDB) | 10 MIN

IMPORTANT	W02, L02, S01 must be completed before this step.

- plv014hrdb COLD (172.23.5.40)

HR/Lawson DB Server (HRPRD Datastore, Quad CPU Cluster)

- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

NOTE

Startup Notes

The production HR environment has a special startup process.

1. If possible, verify that these CIFS shares in the /etc/fstab file on plv014hrdb are commented out. If not, the server takes considerable time booting since it's looking for 3 files that are shared from PWV001HRPR.
    - #//pwv001hrpr/WEI-HRPR /WEI-HRPR
    - #//pwv001hrpr/photos /photos
    - #//pwv004file/Apps-E/OracleHCM /OracleHCM
2. Start the Linux VM = PLV014HRDB
3. Have the HRPRD database started and verified.
4. When the HRPRD database is started, power on PWV001HRPR
5. Then mount the CIFS shares from PWV014HRDB (mount /CIFS name works; mount -a did have issues which should be resolved)

L29 | KRONOS DB (PLV017KRNSDB) | 5 MIN

IMPORTANT	W02, L02, S01 must be completed before this step.

- plv017krndb COLD (172.23.5.73)
- Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L30 | BI Metadata Repository (PLV087RPODB) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- plv087rpodb (172.23.6.160)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Windows

W36 | Prescient (PWV011PRESC) | ETC | 05 MIN

IMPORTANT	W01, W02, L02, L27 must be completed before this step.

- PWV011PRESC (172.23.10.11)
- PRESCD01 - (Remote desktop used to connect to any production environment)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W37 | Lawson (PWV001HRPR) | 05 MIN

IMPORTANT	W01, W02, L28 must be completed before this step.

NOTE	*Note* This server is still utilized in payroll preparations/processing

- PWV001HRPR COLD (172.23.110.130)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Startup Notes

1. Once PLV014HRDB is up and the HRPRD database is available, PWV001HRPR can be started.

```
ssh@root plv014hrdb
vi /etc/fstab
```

2. Remove the # symbol in from of the WEI-HRPR and work cifs lines
3. Save your changes:

```
:wq
```

4. Once the file is saved enter this command: mount Mount each CIFS file individually with the 'mount' command.
5. Verify that the file systems are mounted by entering:

```
df -h
```

NOTE

6. If they are mounted you will see. //pwv001hrpr/WEI-HRPR and //pwv001hrpr/photos at the bottom of the df -h listing
7. When this is complete:

```
vi /etc/fstab
```

8. Put the # symbol in front the of the WEI-HRPR and work cifs lines in the /etc/fstab file.
   a. Use the letter 'i' to insert the # sign. Be careful. Use the lettter 'j' to navigate down.
   b. At the WEI-HRPR line hit the letter 'i' to insert.
   c. Hit 'shift-3' to put a # sign as the beginning character on that line
   d. Hit the Esc button
   e. To save your changes:

```
:wq
```

W38 | Lawson Reports (PWV002REPLAW) | 05 MIN

IMPORTANT	W01, W02, W37 must be completed before this step.

- PWV002REPLAW COLD (172.23.110.176)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Database is started manually

W39 | Kronos (PWV001KRONOSAPP, PWV002KRONOSCLK, PWV003KRONOSMBL, PWV004KRONOSARC) | 05 MIN

IMPORTANT	W01, W02, W37 must be completed before this step.

- PWV001KRONOSAPP (172.23.110.118)
- PWV002KRONOSCLK (172.23.110.122)
- PWV003KRONOSMBL (172.23.110.174) COLD

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W40 | WHIMS / Plant Floor Data Collections (PWV001OPSLEG) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001OPSLEG (172.23.10.188)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W41 | Interactive Voice Response System (PWV002IVR) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV002IVR (172.23.10.136)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W42 | Enterprise Asset Management Scheduling (PWV011SCHED) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV011SCHED (172.23.110.147)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W43 | Internal Wing FTP (PWV001TRANSFER) | 5 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001TRANSFER (172.23.120.83)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W44 | Rights Management Server (secure documents/emails) (PWV011RMS) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV011RMS (172.23.10.127)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W45 | Autodesk License Server (PWV001LIC) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001LIC (172.23.120.83)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W46 | Production / Development Programs (ASTECH04) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- ASTECH04 (172.23.110.22)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Tier 2 | 24-48 Hours

Linux

L31 | Demantra Database Server (PLV020DMTRDB) | 10 MIN

> **IMPORTANT** W02 must be completed before this step.

- PLV020DMTRDB (172.23.5.200)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L32 | Demantra Engine Server (PLV020DMTREN01) | 10 MIN

> **IMPORTANT** W02, L31 must be completed before this step.

- PLV020DMTREN01 (172.23.5.201)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L33 | Demantra Engine Server (PLV020DMTREN02) | 10 MIN

> **IMPORTANT** W02, L31 must be completed before this step.

- PLV020DMTREN02 (172.23.5.202)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L34 | Demantra Middle Tier Server (PLV020DMTRMID) | 10 MIN

> **IMPORTANT** W02, L31 must be completed before this step.

- PLV020DMTRMID (172.23.5.203)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L35 | Demantra Web Server (PLV027DMTRWEB) | 10 MIN

> **IMPORTANT** W02, L31 must be completed before this step.

- PLV027DMTRWEB (172.23.5.41))

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L36 | IMGPRD Docfinity (PLV099IMGDB) | 15 MIN

IMPORTANT	Tier 0 must be completed before this step.

- plv099imgdb COLD (172.23.5.27)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

- Database does not autostart.

L37 | Kofax Database Server (PLV071KFXDB) | 10 MIN

IMPORTANT	Tier 0, L16, L18 must be completed before this step.

- PLV071KFXWEB (172.23.22.69)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L38 | Kofax Middleware Server (PLV071KFXMID) | 10 MIN

IMPORTANT	Tier 0, L16, L18, L37 must be completed before this step.

- PLV071KFXMID (172.23.22.68)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L39 | Kofax Web Server (PLV071KFXWEB) | 10 MIN

IMPORTANT	Tier 0, L16, L18, L37 must be completed before this step.

- PLV071KFXWEB (172.23.22.69)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Windows

W47 | DOCFINITY (PWV001IMGSQL, PWV011IMGSO, PWV011IMGFO, PWV011IMGCAP, PWV011IMGOCR) | 5 MIN

IMPORTANT	W01, W02, L36 must be completed before this step.

NOTE	*Note* Start these in order. Let each server come up before starting the next one.

- PWV001IMGSQL (172.23.10.111)
- PWV011IMGBO (172.23.120.253)
- PWV011IMGFO (172.23.120.252)
- PWV011IMGCAP (172.23.120.60)
- PWV011IMGOCR (172.23.120.254)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W48 | Camera System (PWV001CAM*, PWV002CAM*, PWV003CAM, PWV004CAM, PWV005CAM, PSV001CAMMGMT, PWV006CAM*) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

NOTE	*Note* Remove data disks that aren't getting replicated before starting the VM

- PWV001CAMREC (camera recording server)
- PWV001CAMREC2 (failover milestone recording server)
- PWV002CAMREC
- PWV002CAMWEB

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W49 | Network Software (PWV001SOLARW) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001SOLARW (172.23.110.246)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W50 | VMW Fuel Master (PWV001FUEL) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001FUEL (172.23.110.134)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W51 | Demantra Administration Console (PWV001DMADMCON) | 5 MIN

IMPORTANT	W01, W02, L31 must be completed before this step.

- PWV001DMADMCON (172.23.10.99)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W52 | Production Capture and Output (PWV001KOFAXcap) | 10 MIN

IMPORTANT	W01, W02, L37 must be completed before this step.

- PWV001KOFAXCAP (172.23.120.141)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W53 | Production Mail Flow Services (PWV001KOFAXTRAN) | 10 MIN

IMPORTANT	W01, W02, L37 must be completed before this step.

- PWV001KOFAXTRAN (172.23.22.68)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W54 | Production Batch Validation for Invoices (PWV001KOFAXVAL) | 10 MIN

IMPORTANT	W01, W02, L37 must be completed before this step.

- PWV001KOFAXVAL (172.23.22.69)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W55 | Genesis Plant Printing (PW001GENPRINT) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001GENPRINT (172.23.10.98)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W56 | Genesis Product Label Information (PWV001PLI, PWV002PLI) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001PLI (172.23.120.26)
- PWV002PLI (172.23.120.84)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Tier 3 | 7 Days

Linux

L40 | Service Desk DB (PLV009SDMDB) | 15 MIN

IMPORTANT	Tier 0 must be completed before this step.

- plv009sdmdb COLD (172.23.5.71)

SDM (Database) (SDMPRD Datastore, Database Cluster)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L41 | Hyperion Database Server (PLV041HYPDB) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PLV041HYPDB (172.23.5.95)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L42 | STAT (PLV016STATDB) | 10 MIN

IMPORTANT	Tier 0 must be completed before this step.

- PLV016STATDB (172.23.5.119)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

L43 | Red Hat Network (PLV001RHN6) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PLLV001RHN6 (172.23.5.238)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Windows

W57 | SDM (PWV001SDM) | 05 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001SDM COLD (172.23.10.28)

Service Desk

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W58 | Sensory Statistical Software (PWV001SPSS) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001SPSS (172.23.120.65)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W59 | Sensory Survey Software (PWV001SNAP) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001SNAP (172.23.10.114)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W60 | System Center 2012 - Configuration Manager (PWV001SCCM) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWS001SCCM (172.23.10.93)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W61 | System Center 2012 - Operation Manager (PWV0002SCOM1, PWV002SCOM2, PWV002SCOMSQL) | 15 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV0002SCOM1 (172.23.110.141)
- PWV002SCOM2 (172.23.110.142)
- PWV002SCOMSQL (172.23.110.245)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W62 | STEP Software (PWV001STEP) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001STEP (172.23.110.236)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W63 | Enterprise Vulnerability Scanner (PAV010NEXPOSE) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PAV010NEXPOSE (172.23.5.25)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W64 | Mediasite Servers (PWV011MSITE, PWV012MSITE) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV011MSITE (172.23.10.118)
- PWV012MSITE (172.23.10.119)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W65 | DSD Manager (PWV011DSDMGR) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV011DSDMGR (172.23.10.43)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W66 | Oracle User Productivity Kit Website (PWV001UPKWEB) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001UPKWEB (172.23.110.112)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W67 | Object Management Group (PWV001OMG) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001OMG (172.23.10.224)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W68 | Data Center Monitoring System (PWV011WEBCTRL) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV011WEBCTRL (172.23.10.63)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W69 | Customer Service Web Application (PWV001ASNET) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001ASNET (172.23.10.186)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W70 | WEB JOB (PWV001WEBJOBS) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001WEBJOBS (172.23.10.125)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W71 | Office Telemetry (PWV001OFFICETEL) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001OFFICETEL (172.23.120.42)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W72 | Condition Monitoring (PWV001DMSI, PWV001DMSIRDS) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001DMSI (172.23.120.63)
- PWV001DMSIRDS (172.23.120.64)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W73 | Adept application Server (PWV011ADEPT) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV011ADEPT (172.23.120.222)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W74 | IT Operations WEB (PWV001OPSWEB) | 5 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV001OPSWEB (172.23.10.129)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W75 | Hyperion (PWV011HYP, PWV012HYP, PWV013HYPB, PWV014HYPTOOLS) | 10 MIN

IMPORTANT	W01, W02 must be completed before this step.

- PWV011HYP (172.23.110.49)

- PWV012HYP (172.23.110.50)
- PWV013HYPB (OVM)
- PWV014HYPTOOLS (172.23.110.52)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W76 | Tableau (PWV001TABLEAU) | 10 MIN

> **IMPORTANT** W01, W02 must be completed before this step.

- PWV001TABLEAU (172.23.120.77)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

W77 | STAT APP (PWV002STAT) | 5 MIN

> **IMPORTANT** W01, W02, L41 must be completed before this step.

- PWV002STAT (172.23.110.54)

Refer to Appendix A02 on starting a VM server and finding the vCenter where it lives.

Appendix

A01 | Appendix 01 (Manual Recovery of WBBPRD from RMAN)

Create an initWBBPRD.ora file for database

Specify values for the following parameters:

1. Control files and location
2. archive log dest_1
3. default Undo tablespace
4. DB_NAME

Entries required

```
control_files='+DATA/wbbprd/controlfile/current.290.762526295','+GRID/wbbprd/controlfi
le/current.256.762533981'
undo_tablespace='UNDOTBS1'
db_name=WBBPRD

db_recovery_file_dest=+DATA
db_recovery_file_dest_size=515396075520
```

Run the following RM commands as the oracle account:

```
$ . ./.profile_11db
$ rman target /    catalog rman/*****@rmprd startup force nomount
pfile=/u01/app/oracle/product/11.2.0.2/db_1/dbs/initWBBPRD.ora

RMAN>run {
allocate channel 'dev_0' type 'sbt_tape'
parms='ENV=(OB2BARTYPE=Oracle8,OB2APPNAME=WBBPRD,OB2BARLIST=plxvm050a-wbbprd)';
restore CONTROLFILE from autobackup; }

RMAN>run {
allocate channel 'dev_1' type 'sbt_tape'
parms='ENV=(OB2BARTYPE=Oracle8,OB2APPNAME=WBBPRD,OB2BARLIST=plxvm050a-wbbprd)';
restore spfile fro autobackup; }

RMAN>run {
allocate channel 'dev_2' type 'sbt_tape'
parms='ENV=(OB2BARTYPE=Oracle8,OB2APPNAME=WBBPRD,OB2BARLIST=plxvm050a-wbbprd)';
restore database;
recover database;
alter database open resetlogs; }
```

NOTE	You may have to set the SCN for this recovery to work. You will have to query the RM catalog to determine the SCN to use. Here is an example of the steps to be executed to obtain an scn number from the rman catalog.

EXAMPLE:

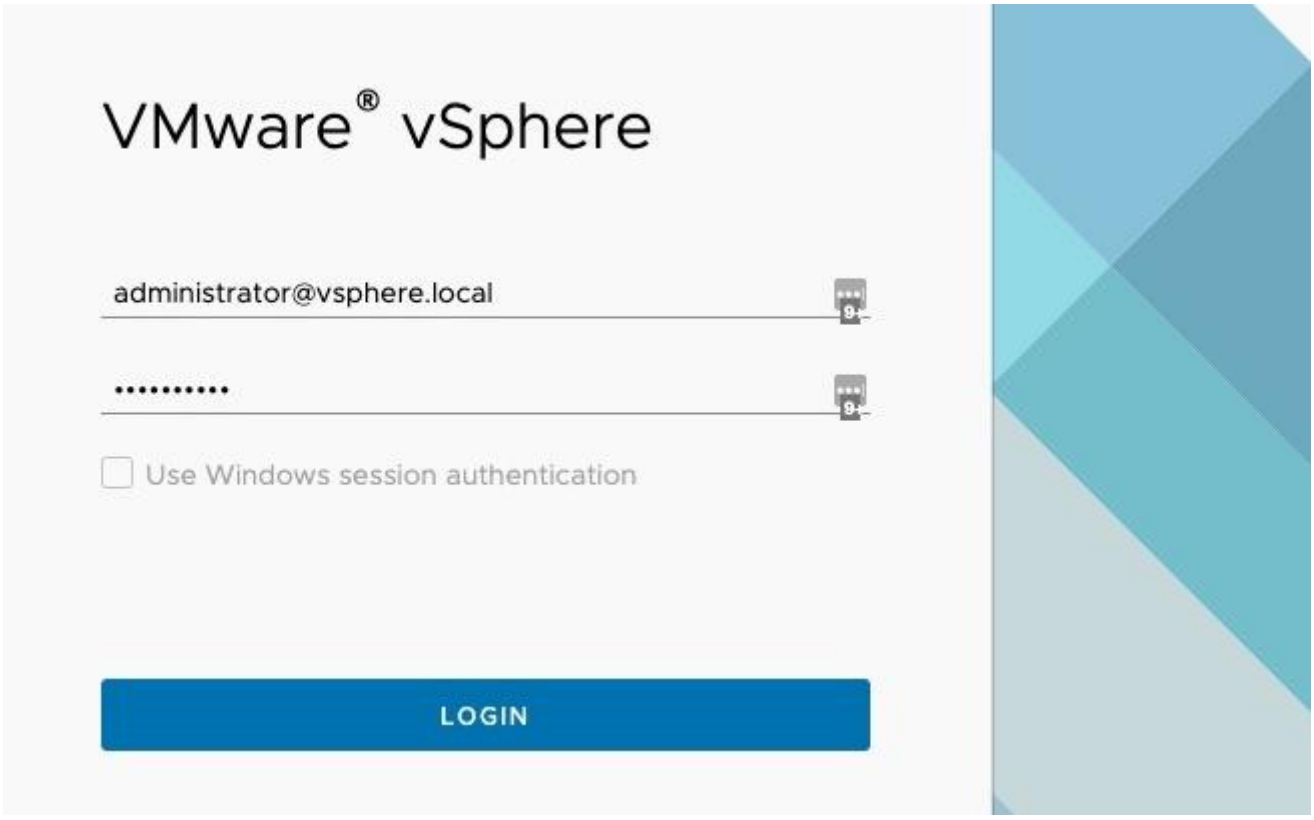
```
$ . ./.profile_11db
$ export NLS_DATE_FORMAT="DD-MON-YYYY:HH24:MI:SS"
$ rman
Recovery Manager: Release 10.2.0.4.0 - Production on Thu Nov 20 15:55:18 2008
Copyright (c) 1982, 2007, Oracle.  All rights reserved.
MAN> connect target /
nnected to target database: WBBPRD (DBID=80828776)
RMAN> connect catalog rman/******@rmnprd
connected to recovery catalog database
RMAN>list backup;
BS Key  Type LV Size       Device Type Elapsed Time Completion Time
------- ---- -- ---------- ----------- ------------ -------------------
25256   Incr 0  645.57G    SBT_TAPE    01:29:49     08-DEC-2008:10:30:12
        BP Key: 25259   Status: AVAILABLE  Compressed: NO  Tag: TAG20081208T210022
        Handle: paxcl23a-wbbprd<WBBPRD_33536:672958823:1>.dbf   Media:
  List of Datafiles in backup set 25256
  File LV Type Ckp SCN    Ckp Time             Name
  ---- -- ---- ---------- -------------------- ----
  1    0  Incr 74957868547 08-DEC-2008:09:00:24
+DATA_GRP1/wbbprd/datafile/system.277.670931163
  2    0  Incr 74957868547 08-DEC-2008:09:00:24
+DATA_GRP1/wbbprd/datafile/undotbs1.282.670935367
  3    0  Incr 74957868547 08-DEC-2008:09:00:24
+DATA_GRP1/wbbprd/datafile/sysaux.269.670931555
```

Change the rman recovery code on after allocating the tape channel, specify the SCN with 'SET UNTIL SCN=78630611816;'

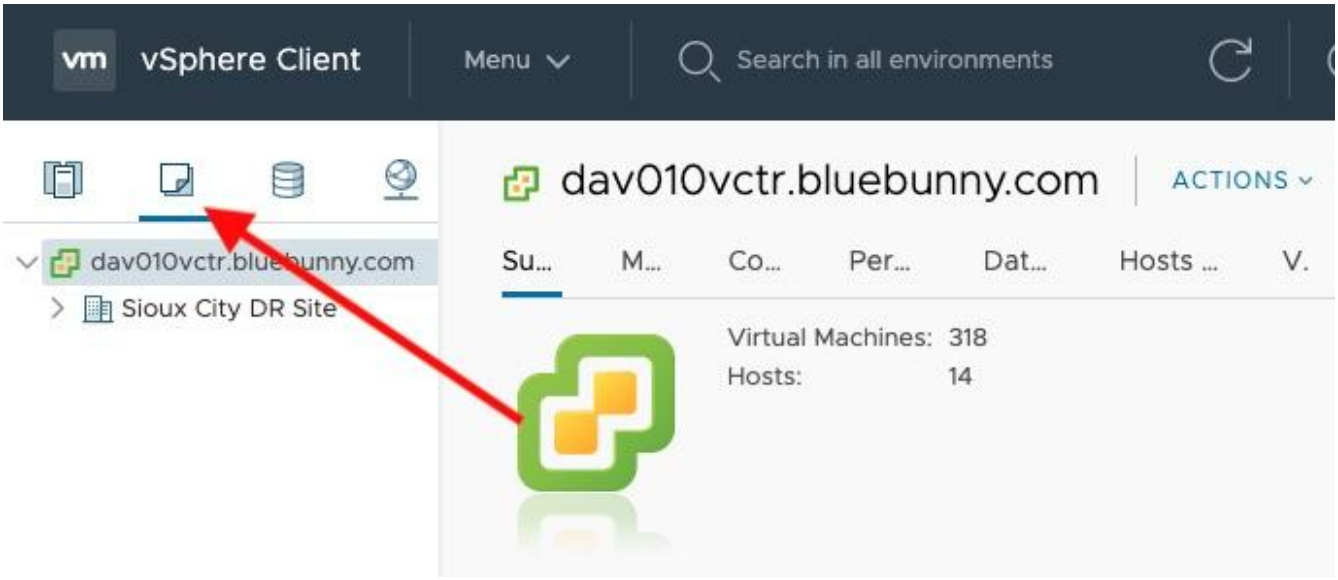
A02 | Appendix 02 (VMware VM Server Start Process and vCenter Location)

Boot VM

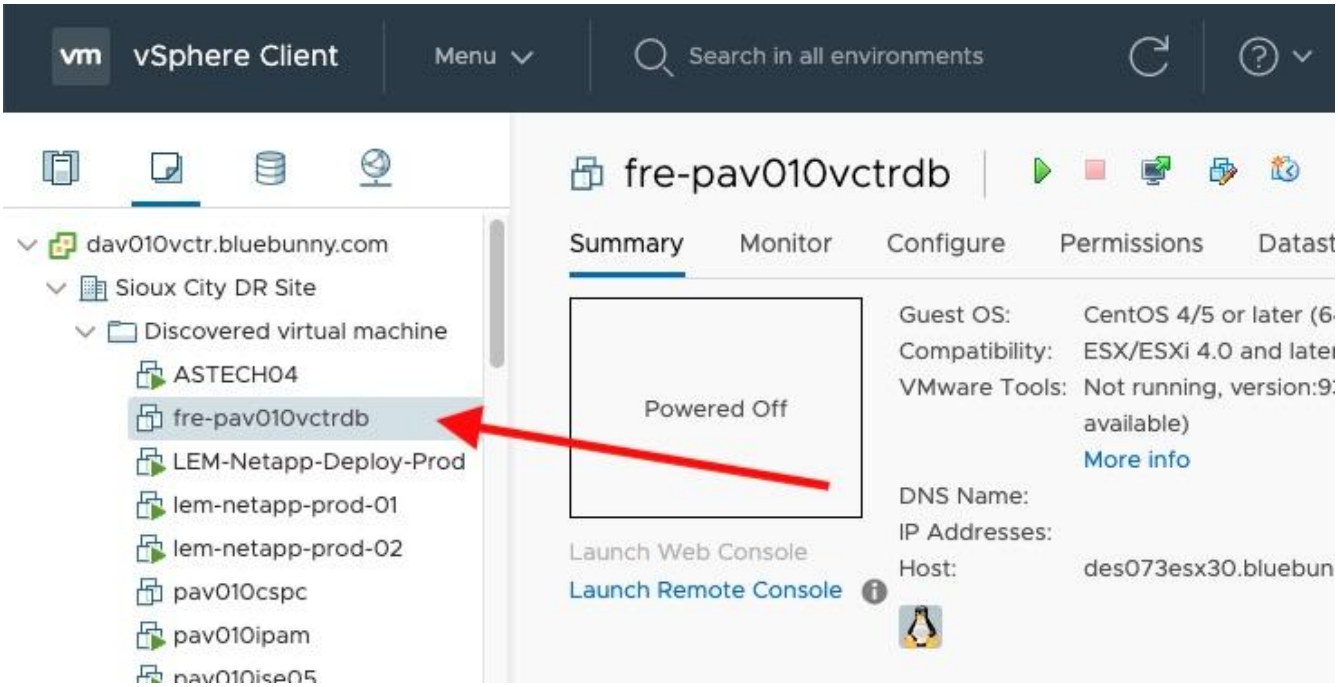
1. Open a browser go to https://dav010vctr.bluebunny.com/ui or https://172.27.97.12/ui and login as the administrator@vsphere.local user.



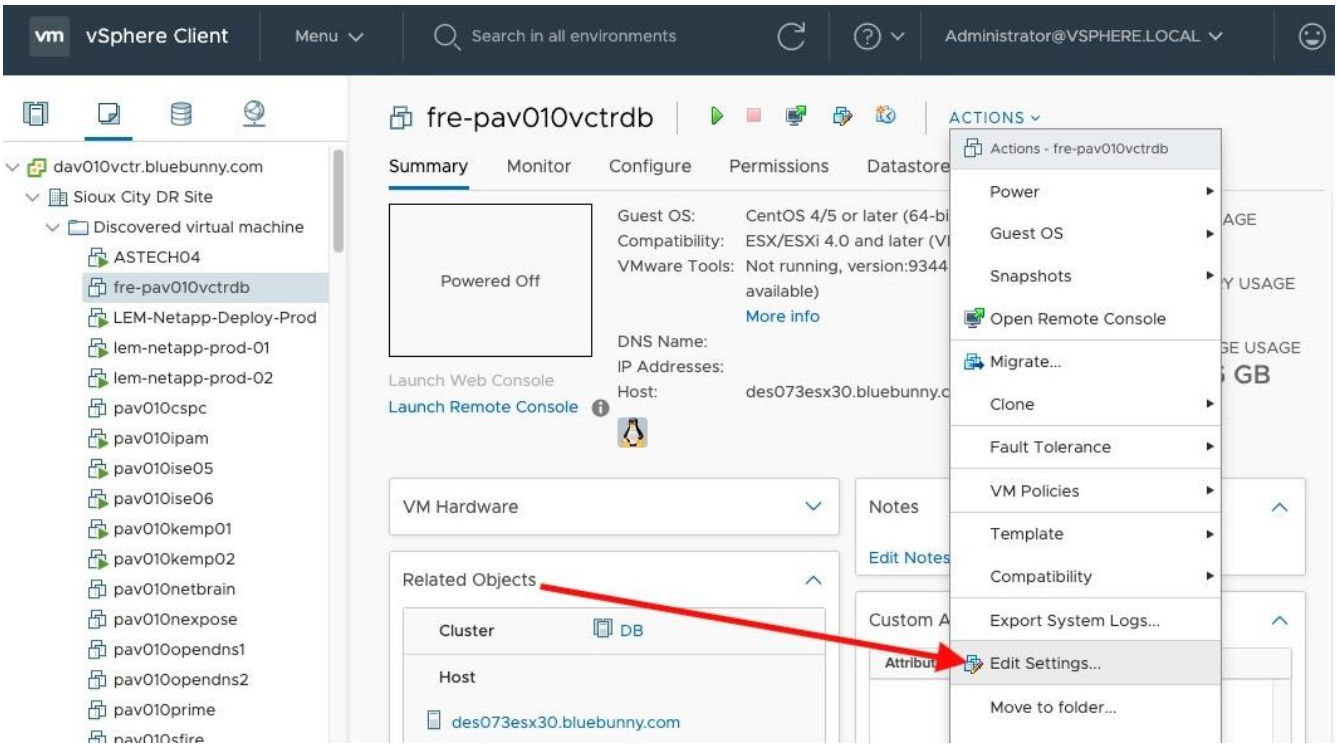
2. Click on the "VMs and Templates" view icon.



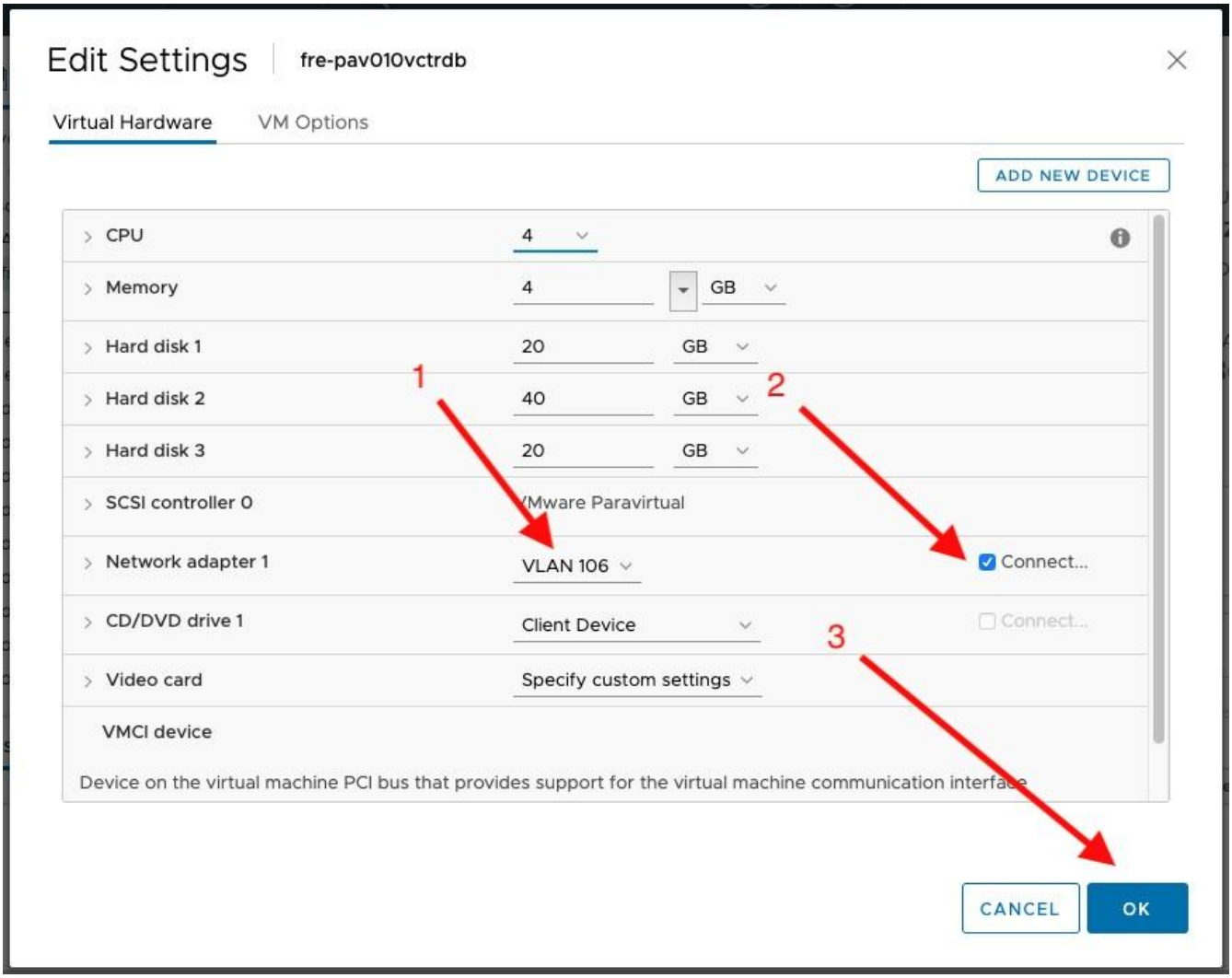
3. Navigate the tree in the left pane to the VM to be booted.



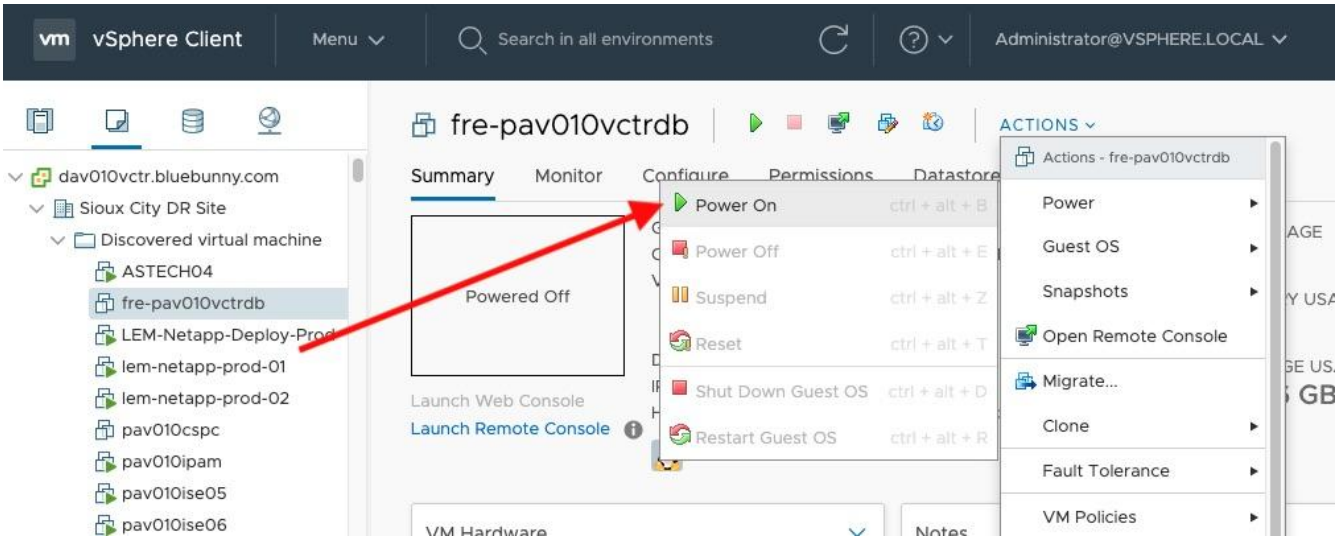
4. Click on the "Actions" menu and select "Edit Settings...".



5. Verify that the Network adapter(s) has the VLAN set and it is correct. Then verify the Connect checkbox is checked and click the OK button.

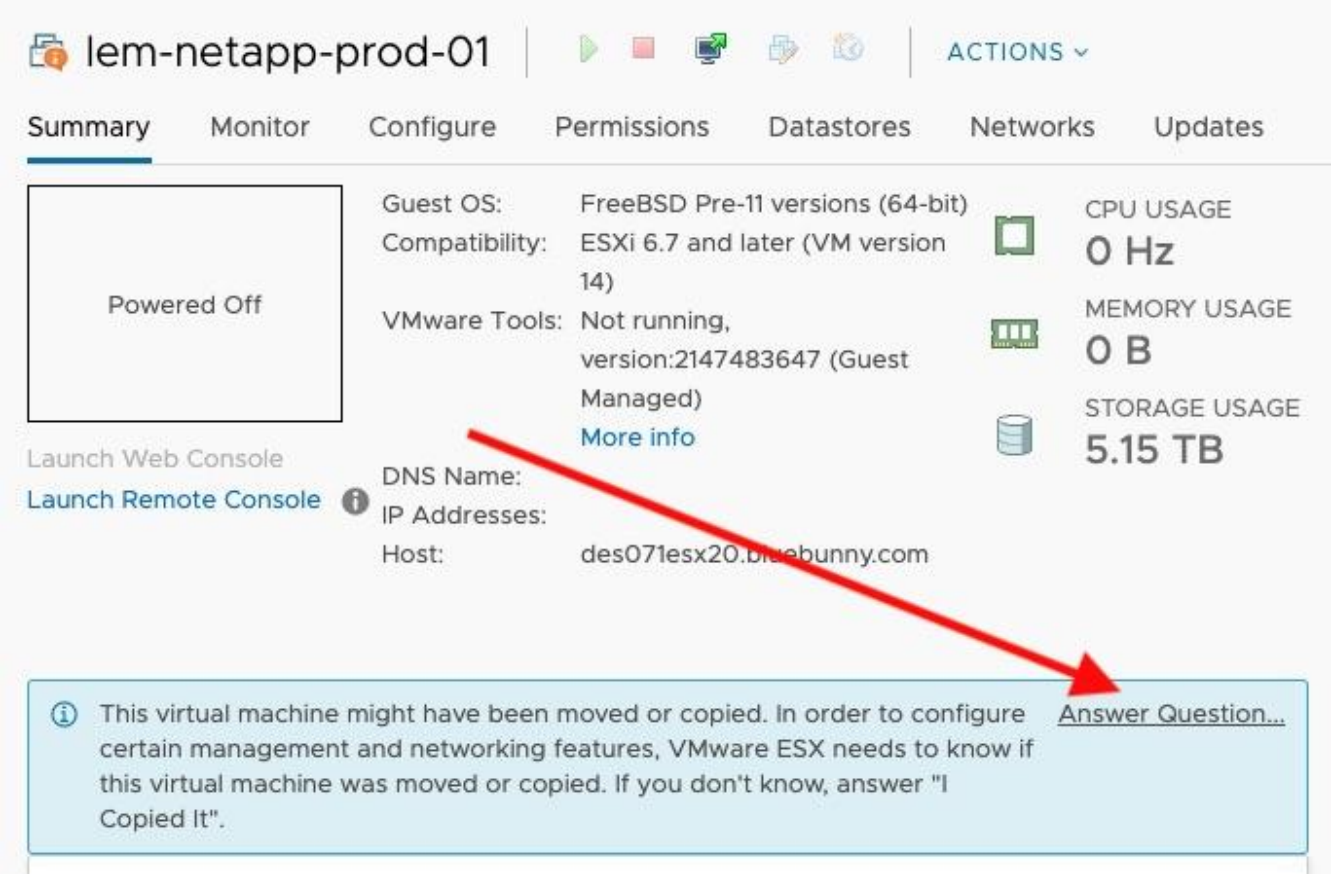


6. To boot the VM click on the "Actions" menu select "Power" then select "Power On".

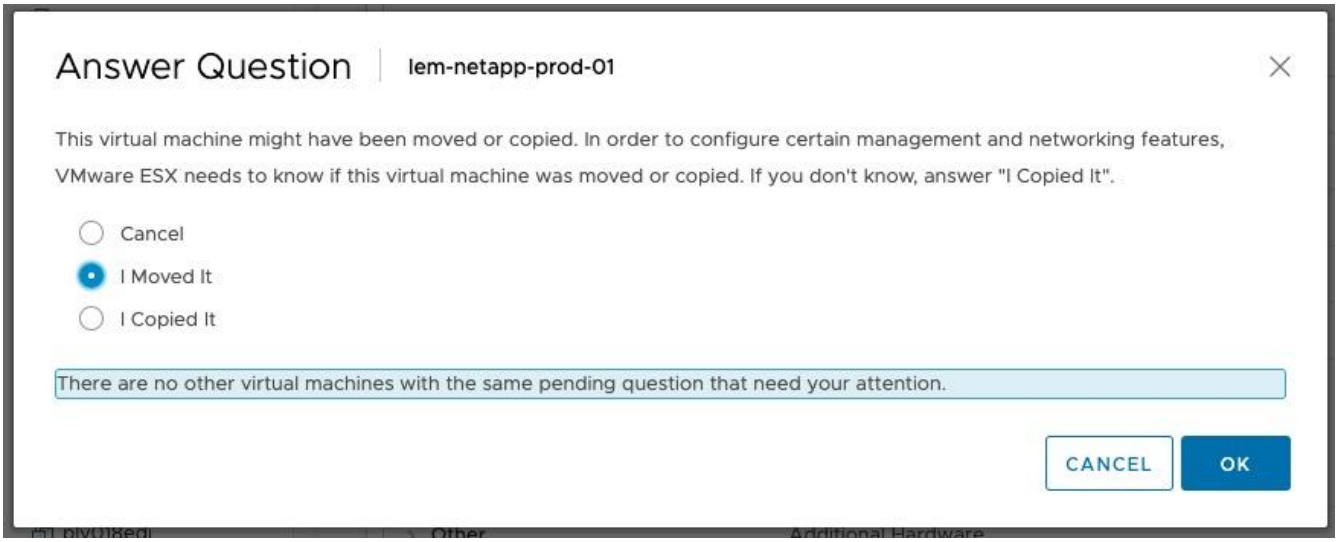


Replicated, Copied or Moved VMs

1. If the VM was replicated, copied or moved, you may see the message below.

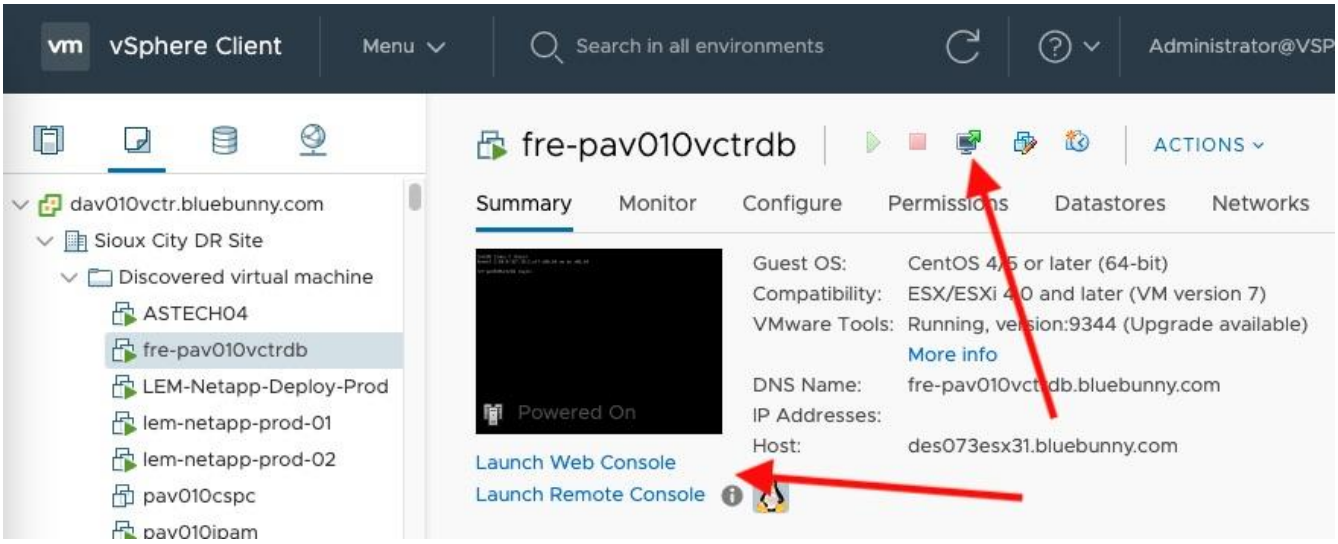


2. In the "Answer Question" window, you should select "I Moved It"

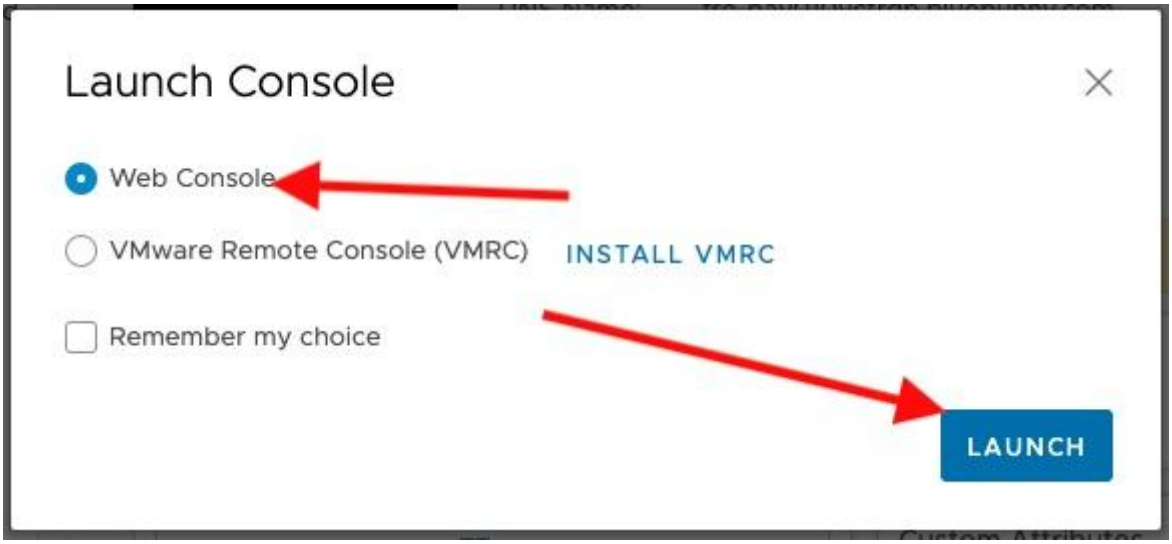


Console Access

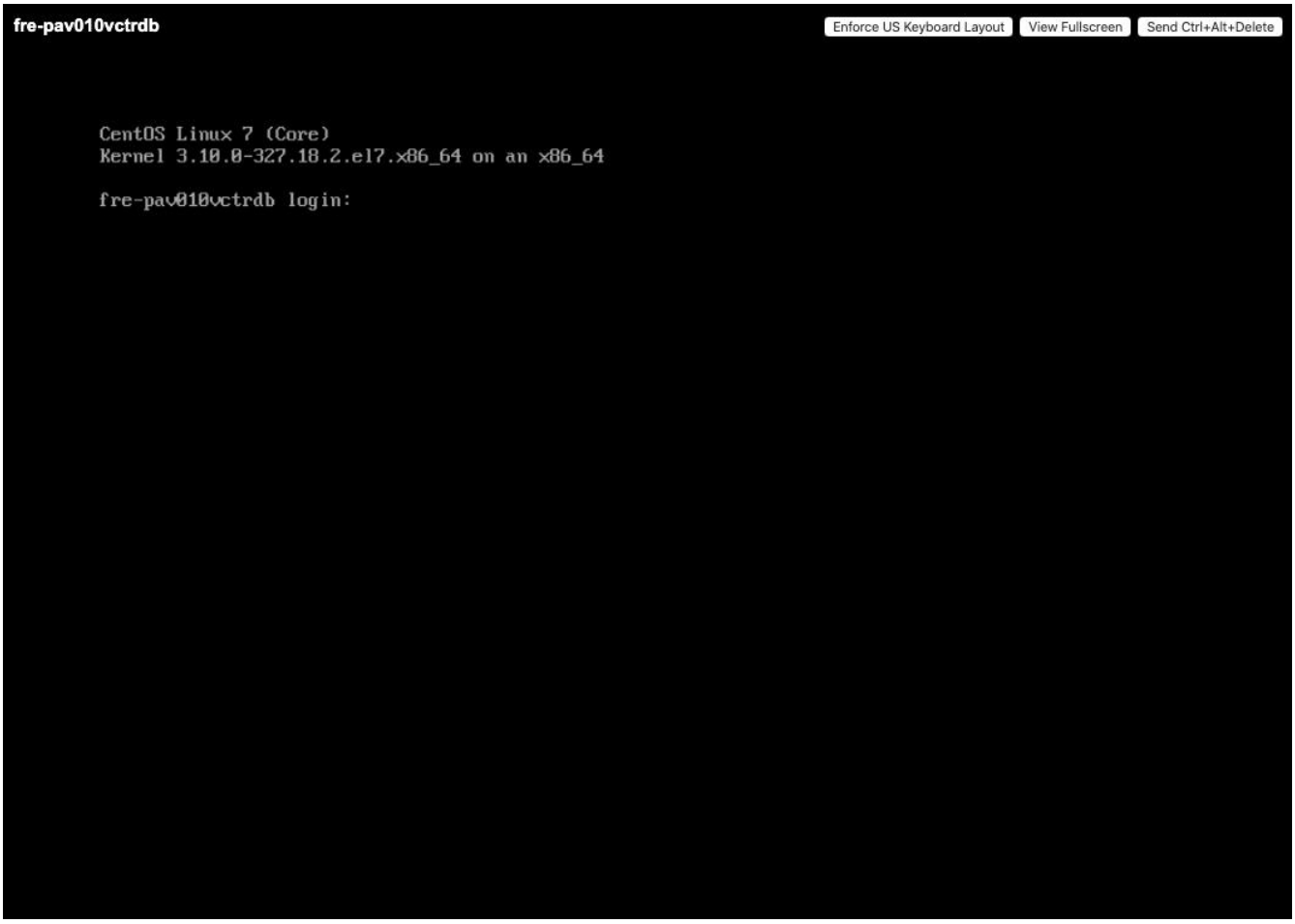
1. To monitor the VM as it is booting you can access the console by clicking on the console icon at the top or clicking on the console links.



2. Select "Web Console" and click the "Launch" button in the "Launch Console" window.



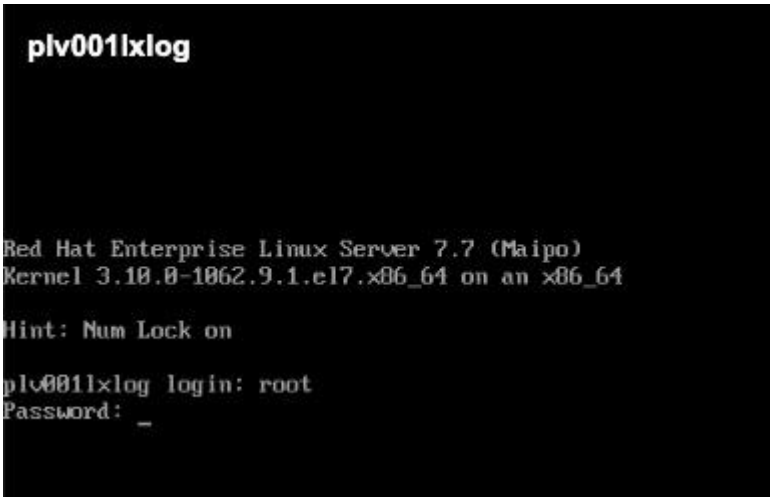
3. A console screen should pop up in another browser tab or window.



Setting Correct DNS in resolv.conf File

The servers we use for DNS resolution at the corporate office are different than the servers we use at DR so we need to point the VM to the DR DNS servers. To do this you need to edit the /etc/resolv.conf file. This change will not persist through a reboot. If you need to reboot the VM you will need to make the change again.

1. Login to the console as the root user.



2. Open the /etc/resolv.conf file with the vi editor.

```
# vi /etc/resolv.conf
```

The file should look like this:

```
# Generated by NetworkManager
search bluebunny.com
nameserver 172.23.10.113
nameserver 173.27.98.101
nameserver 172.23.10.69
options attempts: 2
options timeout: 1
# NOTE: the libc resolver may not support more than 3 nameservers.
# The nameservers listed below may not be recognized.
nameserver 172.27.98.102
```

3. Use the "j" key to move down to the first nameserver line. Then type "dd" to delete the line. The first name server listed should be 172.27.98.101.

If the "nameserver 172.27.98.101" line does not exist use the "j" key to move down to the first nameserver line. Type "i" to enter input mode. Then type "nameserver 172.27.98.101<ENTER>". Press the <ESC> key to get out of input mode.

4. Save the file by type ":wq"

*5. Type "exit" to logout.

```
# exit
```

A03 | Appendix 03 (Manual Data Recovery)

Restore the Unix Servers

The following steps may be necessary if data is not SAN protected or lost

- Veeam restore
- RMAN (Oracle database restore)

RMAN Recovering from Failure

This process would be used as a last resort to recover a database if it's been corrupted or because of a total disk/hardware failure.

By default, RMAN restores archive logs to the log_archive_dest directory of the instances to which it connects as specified in the init.ora file. If you are using multiple nodes to restore and recover, the archive logs may be restored to any of the nodes doing the restore and recover. The node that will actually read the restored logs and perform the roll-forward is the target node to which it is initially

connected. For recovery to use these logs, you must ensure that the logs are on a mount point readable from that node. When you invoke this script, RMAN identifies the most appropriate backup from which to restore, requests the required tape volumes, and restores the data files. If an incremental-backup strategy is in place, then it will restore a combination of levels 0 and above. RMAN then determines which archive logs are required for rolling forward to the current point in time, requests that they are restored from tape, and recovers the database. Recovery throughput is related to the number of channels and the number of distinct backup sets that RMAN must read in order to perform the recovery.

```
RMAN> run {
allocate channel t1 type 'sbt_tape';
restore database;
recover database;
release channel t1;
 }
```

Control Files Restore and Recovery Script

This process would be used as a last resort to recover if the database has been corrupted or because of a total disk/hardware failure.

Startup the target database in no-mount mode and set the following variables: export NLS_LANG=american export NLS_DATE_FORMAT='Mon DD YYYY HH24:MI:SS' Run the following script to restore the control file and copy this restored file to each location indicated in the control files parameter in the init.ora file. After all the control files are restored, the database is mounted and opened with resetlogs.

```
run {
allocate channel ca type disk;
restore controllable to '/oracle/oradata/snap/control01.ctl;
replicate control file from '/opt/oracle/snap/contro.ctll;
sql "alter database mount";
recover database;
sql "alter database open resetlogs";
release channel c1;
}
```

After the script is run, the database can be opened with resetlogs (outside of RMAN). A reset database must be invoked within RMAN.

```
RMAN>reset database;
```

Full recovery of the DATA1 tablespace following loss of its supporting data file: The instance is still accessible, and transactions that do not need to access DATA1 continue unaffected.

```
RMAN run {
allocate channel t1 type 'sbt_tape';
sql "alter tablespace data1 offline immediate";
restore tablespace data1;
recover tablespace data1;
sql "alter tablespace data1 online";
release channel t1;
}
```

Full-database recovery to a previous point in time:

```
RMAN run {
allocate channel t1 type 'sbt_tape';
allocate channel t2 type 'sbt_tape';
set until time '28-MAY-1999 12:32';
restore database;
recover database;
sql "alter database open resetlogs";
release channel t1;
release channel t2;
}
RMAN reset database;
```

NOTE	The date format in the SET UNTIL clause must match the date format of the NLS_DATE_FORMAT environment setting. If you have opened the database with RESETLOGS, you must register this fact in the recovery catalog, using the RESET DATABASE; command.

A05 | Appendix 05 (Domain Controllers and DNS Servers)

Domain Controllers and DNS Servers

Production	
PWV001DC1	172.23.10.113
PWV001DC2	172.23.10.115
PWV001DC3	172.23.10.69
PWV001DC4	172.23.10.150

DR	
DWV088DC1	172.27.98.101
DWV088DC2	172.27.98.102
DWV088DC3	172.27.98.103
DWV088DC4	172.27.98.104

A09 | Appendix 09 | Active Directory test steps for seizing roles, authoritative restore and time | 45-60 Minutes

NOTE Must use domain admin to complete these steps.

Use copy of DR Domain Controllers

Bring online mirror copy of the Domain Controller Hot VMs from DWS088HV1 to DWS088HV2

1. Shutdown DR hot VMs on dws088hv1
2. On HUSVM split pairs between dws088hv1 and dws088hv2 - make writable (linux admins)
3. On dws088hv2 import dwv088dc1, dwv088dc2, dwv088dc3, dwv088dc4 in hyper-v manager on dws088hv2
4. Change vlan on network adapters from vlan98 to vlan198

Import VMs w/ Copy

Rename VMs in Hyper-V for DR TEST only

Seize roles on dwv088dc1

1. Click Start, click Run, type ntdsutil in the Open box, and then click OK.
2. Type "roles", and then press ENTER.
3. Type "connections", and then press ENTER.

4. Type "connect to server dwv088dc1", and then press ENTER, where servername is the name of the domain controller that you want to assign the FSMO role to.
5. At the server connections prompt, type q, and then press ENTER.
6. Type seize role, where role is the role that you want to seize. For a list of roles that you can seize, type ? at the fsmo maintenance prompt, and then press ENTER, or see the list of roles at the start of this article. For example, to seize the RID master role, type seize rid master. The one exception is for the PDC emulator role, whose syntax is seize pdc, not seize pdc emulator.
7. At the fsmo maintenance prompt, type q, and then press ENTER to gain access to the ntdsutil prompt. Type q, and then press ENTER to quit the Ntdsutil utility.

Set NTP settings on dwv088dc1, PDC emulator is the main NTP server for the domain

```
w32tm /config /manualpeerlist:"0.us.pool.ntp.org 1.us.pool.ntp.org 2.us.pool.ntp.org"
/syncfromflags:manual /reliable:yes /update

net stop w32time & net start w32time
```

Then start dwv088dc2, dwv088dc3, dwv088dc4 then run the following commands on each DC - dwv088dc2,then dwv088dc3, dwv088dc4

```
w32tm /config /syncfromflags:DOMHIER /update

net stop w32time & net start w32time

w32tm /resync /force
```

Run the next commanod on dwv088dc2, dwv088dc3, dwv088dc4 to verify they are getting their source from dwv088dc1

```
w32tm /query /status
```

To verify AD replication, run this powershell command:

```
get-adreplicationpartnermetadata -target dwv088dc1.bluebunny.com | fl
server,partner,lastreplicationattempt,lastreplicationresult,lastreplicationsuccess
```

A10 | Appendix 10 (NETWORK - DR-TEST ONLY STEPS)

NOTE	*PRE-TEST* **Shutdown ALL services on Solarwinds01 For DR Devices**

FAIL OVER TO TEST STATE

1. Shutdown Vlan198 on DR-N9k
2. Physical task on DR-WAN-RTR unplug interface G0/1 (1G connection to Lemars) (ON BACK)
3. Physical task on DR-WAN-RTR (unplug connection to MPLS network S1/1:1.64) (FORNT PORT1)
4. Physical task on DR-ASA unplug G0/0 (30M connection to the internet)
5. Console into (Cisco console cable using USB → DB9 connector) and Login to DRN9K (might need to used CW2k creds)
    - “IP Route 172.26.1.0 255.255.255.0 172.27.96.10” (DMZ-ROUTING)
    - Bring up interface E130/1/21 via no shut
    - Bring up interface E130/1/22 via no shut
    - Verify routing table "sho ip rou" and "sho ip rou vrf DR-VRF" sho int vlan 60, sho int vlan 61
    - You should now see 172.23.5,6,10,110,150.x networks in the routing table.
6. Bring up the Switch in the class room.
    - DRN9k int E140/1/23 no shut
    - DRN9k int E140/1/24 no shut
7. Bring UP DMZ
    - Connect to DR-ASA-A / Bring up DMZ
    - DR-ASA-A<CONFIG>#int gig 0/3 <enter>
    - DR-ASA-A<CONFIG-IF>#no shut <enter>
    - DR-ASA-A<CONFIG-IF>#int gig 0/0 <enter>
    - ip address 204.126.23.130 255.255.254.0
    - Connect Micro-switch from int g0/0 on DR-ASA-A (int g0/0 is currenty in DR-BBGTW g0/1)
    - Assign testing ip addresses to users (204.126.22.x/23) NOTES:
        - Outside addresses for DMZ testing: 204.126.22.55-65 or 204.126.23.55-65
        - DR-USER DHCP Scope is in VLAN1

Return to N01

Return to Normal STATE (NON_DR_TEST)

1. Login in to DR-ASA-A
    - Shut down Interface GigabitEthernet0/3 "DMZ"
    - interface GigabitEthernet0/0 ip address 204.126.23.130 255.255.255.128
    - disconnect Micro-switch from int g0/0 on DR-ASA-A and move back to DR-BBGTW g0/1

2. Login to DR-ASW-A
    - Shut Down interface E 130/1/21
    - Shut Down interface E 130/1/22
    - Shut Down interface E 1/40/1/23 (DR Classroom switch port)
    - Shut Down interface E 1/40/1/24 (DR Classroom switch port)
    - No IP Route 172.26.1.0 255.255.255.0 172.27.96.10
    - CLEAR IP ROUTE *
    - Bring UP interface VLAN198
3. Login to DR-WAN-RTR
    - CLEAR IP ROUTE *
    - Verify the routes are correct
4. “Physical task on DR-WAN-RTR patch in interface G0/1 (200M to Le Mars) (ON BACK)
5. Physical task on DR-WAN-RTR patch in interface for S1/1:1.64 for MPLS (FRONT PORT1)
6. Physical task on DR-ASA patch in G0/0 (30M connection to the internet)
7. Verify the routes are correct
8. Ping Corp Devices
    - Ping 172.23.10.1
    - Ping spscdsw01
    - Ping npmcdsw01
9. VPN to Corp and ping
    - Ping draswa
    - Ping drwanrtr
    - Check email for tickets or issues.

NOTE	*Post-Test* Start Services on Solarwinds01

A11 | Appendix 11 | WIN DR-TEST ONLY STEPS | 15 MIN

NOTE	If this is a YEARLY DR Test, shutdown these VM’s at DR and export them to the sandbox environment.

- DWV001BNA
- DWV001DHCP
- DWV001FAXB

- DWV001LYNC1
- DWV001LYNC2
- DWV001MAIL1 - HOT
- DWV001MAIL2
- DWV001OFFWEB
- DWV001SQL - HOT
- DWV051LYNCEDGE1
- DWV052LYNCEDGE2 - HOT
- DWV088VMM
- DWV088DC1
- DWV088DC2
- DWV088DC3
- DWV088DC4,
- DWV011V6SEC - HOT

1. Open up Hyper-V Manager.
2. Connect to DWS088hv1.
3. Right click on each VM.
4. Choose Shutdown.

A17 | Appendix 17 (Stop Server Paging)

1. Open Putty → double click on plv001lxadm if it is in the Saved Sessions field or enter plv001lxadm in the Host Name field at the top
2. If the name doesn't resolve use the IP address - 172.23.5.241
3. log in as an authorized user → sudo -s for root access
4. type crontab -e to enter the scheduling editor
5. scroll down to the ## Make sure all servers are up section by hitting the J letter to move down
6. on these 2 lines put an # in the first position. 0-59/10 * * * * /sysop/bin/check_servers.sh -d 1>/dev/null 2>&1 0-59/10 * * * * /sysop/bin/check_servers.sh -e 1>/dev/null 2>&1
7. position the cursor on the first position → hit the i key to insert → hit the # key → the # should be the first character in the line
8. hit the escape key → hit the J to move to the next line → hit the i key to insert → hit the # key → hit escape
9. hit the :wq! keys to save and write the file
10. to verify that the file has been changed enter crontab -l → scroll down to the section just edited → there should be a # key as the first character in the 2 lines