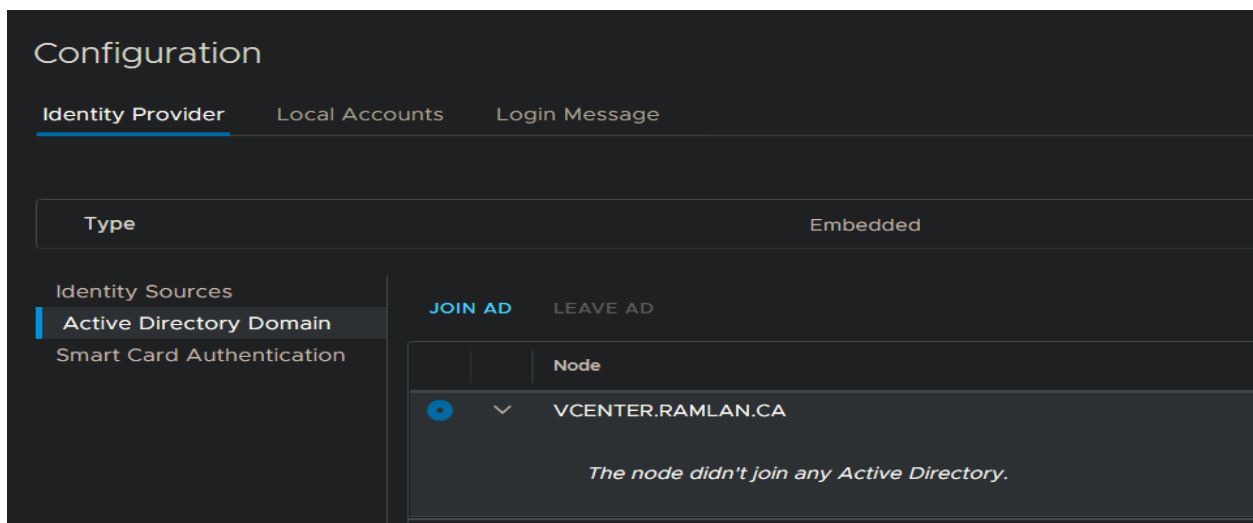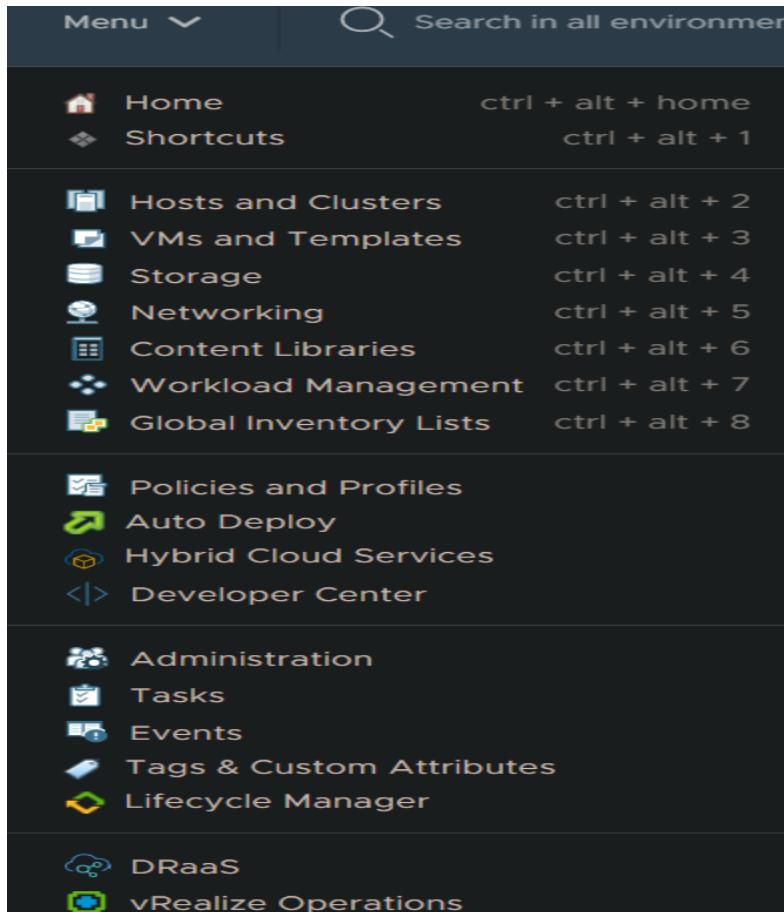# Post Configuration for vCenter Server 7 Appliance

In the last post we installed vCenter Server 7 Appliance. Now it is time to do the following:

1. Add vCenter to Domain
2. Add Administrator to VADMIN Security Group
3. Install Root Certificate
4. Explore other features within vCenter

Join vCenter to AD:

Join Active Directory Domain

Domain	RAMLAN.CA
Organization Unit (optional)	
Username	administrator
Password	•••••••••

ⓘ Reboot the node to apply changes.

CANCEL   JOIN

Configuration

Identity Provider   Local Accounts   Login Message

CHANGE IDENTITY PROVIDER ⓘ

Type	Embedded

Identity Sources
Active Directory Domain
Smart Card Authentication

ⓘ Node VCENTER.RAMLAN.CA has joined the active directory successfully. Reboot the node to apply changes.   Acknowledge

JOIN AD   **LEAVE AD**

	Node	▼
⦿ ∨	VCENTER.RAMLAN.CA	
	Active Directory RAMLAN.CA	
	Organization Unit	

1 items

Reboot vCenter Server 7 Appliance. No need to reboot ESX1 and ESX2.

Configuration

Identity Provider   Local Accounts   Login Message

CHANGE IDENTITY PROVIDER ⓘ

Type	Embedded

Identity Sources
Active Directory Domain
Smart Card Authentication

JOIN AD   **LEAVE AD**

	Node	▼
⦿ ∨	VCENTER.RAMLAN.CA	
	Active Directory RAMLAN.CA	
	Organization Unit	

1 items

Configuration

Identity Provider | Local Accounts | Login Message

CHANGE IDENTITY PROVIDER ⓘ

Type	Embedded

Identity Sources
Active Directory Domain
Smart Card Authentication

ADD   EDIT   SET AS DEFAULT   REMOVE

Name ▼	Server URL ▼	Type ▼	Domain ▼	Alias ▼
--	--	System Domain	vsphere.local	--
--	--	Local OS (Default)	localos	--

2 items

Configuration

Identity Provider | Local Accounts | Login Message

Add Identity Source ✕

Identity Source Type   Active Directory (Integrated Windows Authentication) ⌄

Domain name * ⓘ   RAMLAN.CA

◉ Use machine account
◯ Use Service Principal Name (SPN)

CANCEL   ADD

Configuration

Identity Provider | Local Accounts | Login Message

CHANGE IDENTITY PROVIDER ⓘ

Type	Embedded

Identity Sources
Active Directory Domain
Smart Card Authentication

ADD   EDIT   SET AS DEFAULT   REMOVE

Name ▼	Server URL ▼	Type ▼	Domain ▼	Alias ▼
--	--	System Domain	vsphere.local	--
--	--	Local OS (Default)	localos	--
--	--	Active Directory (Integrated Windows Authentication)	RAMLAN.CA	--

3 items

From Access Control – Global Permissions – We will add VADMIN group that, I created in ADUC earlier and grant Administrator level access to vCenter Server.

👥 VADMIN	Security Group - Global	vCenter Admins

Administration

Access Control
  Roles
  Global Permissions
Licensing
  Licenses
Solutions

Global Permissions

Permissions provider:

+ ✎ ✕

User/Group ↑

Add Permission | **Global Permission Root**

Domain: RAMLAN.CA
User/Group: Q VADMIN
Role: Administrator
☑ Propagate to children

CANCEL OK

vm vSphere Client   Menu ∨   🔍 Search in all environments

VCENTER.RAMLAN.CA   ACTIONS ∨

Summary Monitor Configure Permissions Datacenters Hosts & Clusters VMs Datastores Networks Linke

User/Group ↑	Role	Defined In
RAMLAN\VADMIN	Administrator	Global Permission

Now logout of vCenter and login as AD Administrator

VMware® vSphere

ramlan\administrator

••••••••

☐ Use Windows session authentication

LOGIN

vm vSphere Client   Menu ∨   🔍 Search in all environments   Administrator@RAMLAN.CA ∨

VCENTER.RAMLAN.CA   ACTIONS ∨

Summary Monitor Configure Permissions Datacenters Hosts & Clusters VMs Datastores Networks Linked vCenter Server Systems ...

Version: 7.0.0
Build: 16386335

Clusters: 1
Hosts: 2
Virtual Machines: 1

CPU   Free: 14.39 GHz
Used: 2.96 GHz   Capacity: 17.36 GHz
Memory   Free: 7.27 GB
Used: 14.59 GB   Capacity: 21.85 GB
Storage   Free: 1.5 TB
Used: 38.78 GB   Capacity: 1.53 TB

Custom Attributes

Attribute	Value

No items to display

Health Status

Overall Health   ⊘ Good

vCenter HA

Mode   --
State --

vMotion:

If you want to move machine from one host to another host, we have to use vMotion and it requires physical or virtual adapter for configuration. Since, I have only ONE physical adapter per host, I will use the same for vMotion. Here is the configuration.
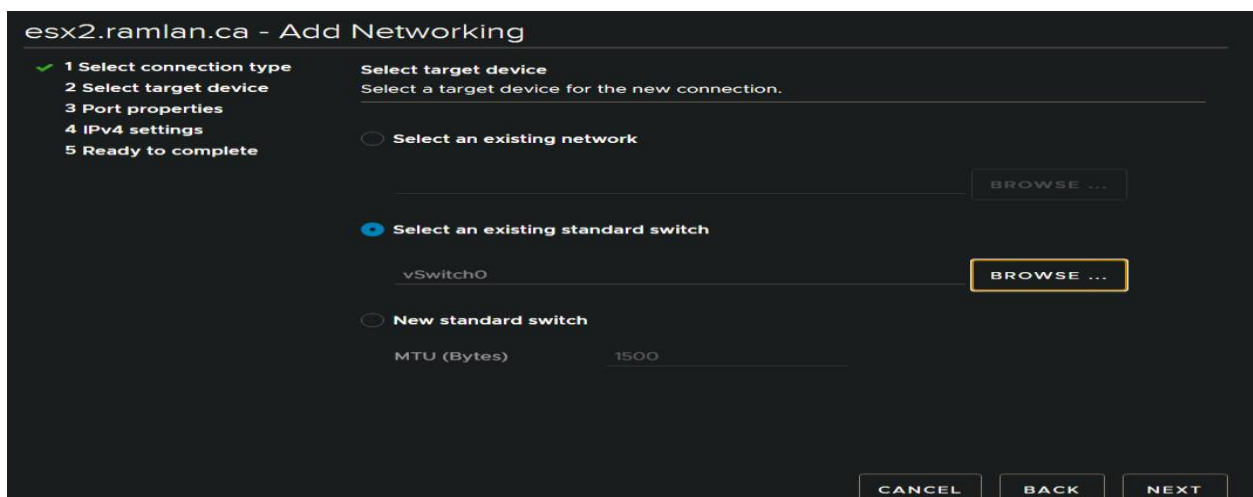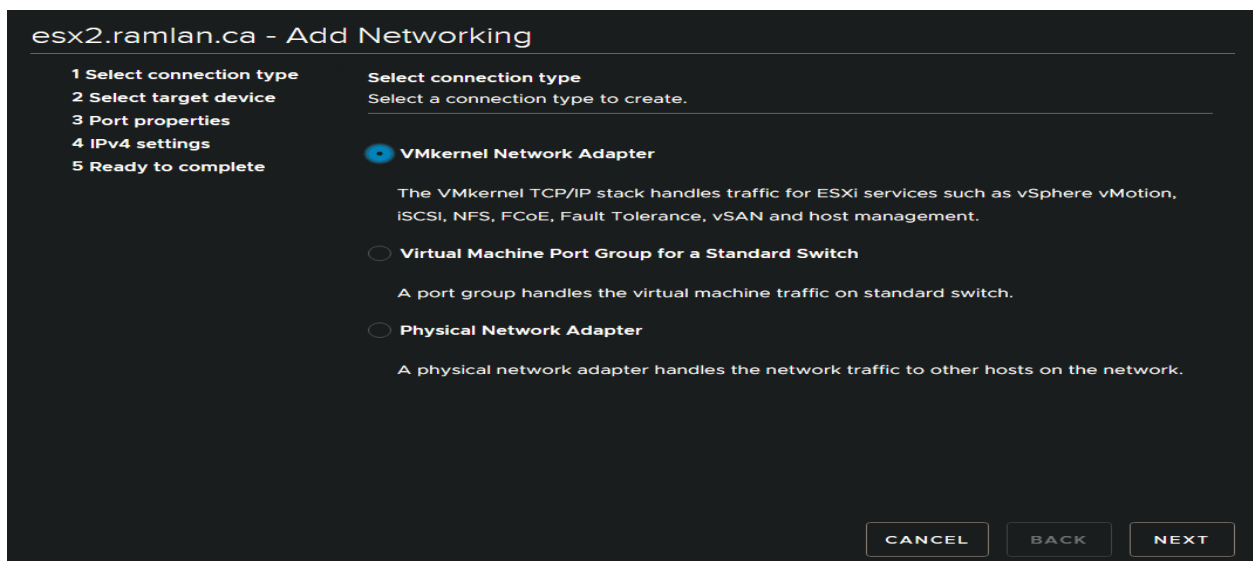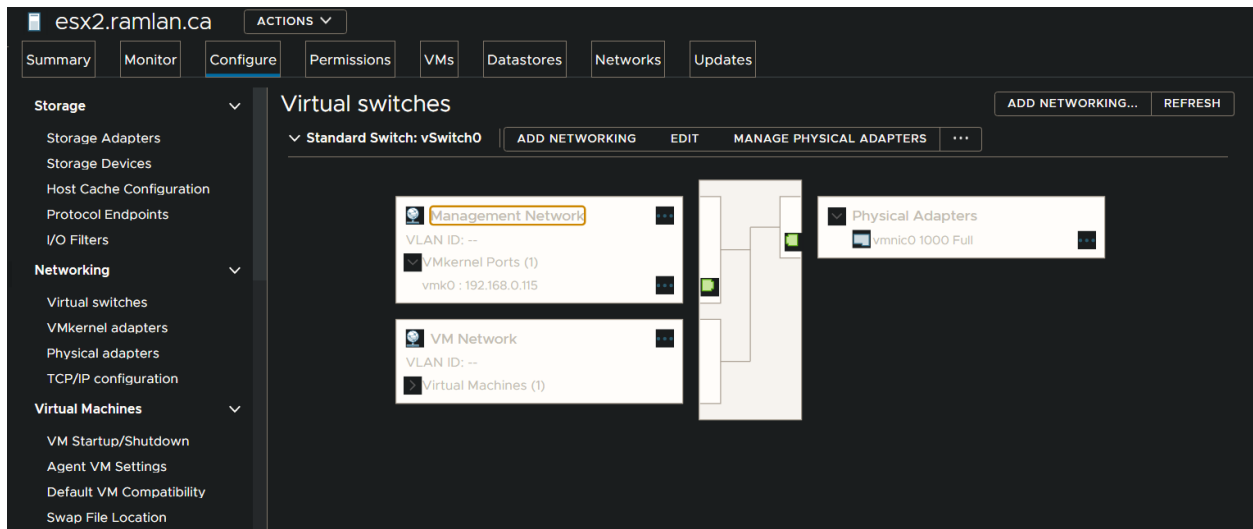
esx2.ramlan.ca - Add Networking

✓ 1 Select connection type
✓ 2 Select target device
   3 Port properties
   4 IPv4 settings
   5 Ready to complete

Port properties
Specify VMkernel port settings.

VMkernel port settings

Network label	vMotion ESX2
VLAN ID	None (0) ⌄
MTU	Get MTU from switch 1500
TCP/IP stack	Default

Available services

Enabled services   ☑ vMotion
   ☐ Provisioning
   ☐ Fault Tolerance logging
   ☐ Management
   ☐ vSphere Replication
   ☐ vSphere Replication NFC
   ☐ vSAN

CANCEL   BACK   NEXT

---

esx2.ramlan.ca - Add Networking

✓ 1 Select connection type
✓ 2 Select target device
✓ 3 Port properties
   4 IPv4 settings
   5 Ready to complete

IPv4 settings
Specify VMkernel IPv4 settings.

○ Obtain IPv4 settings automatically

● Use static IPv4 settings

IPv4 address	192.168.0.118
Subnet mask	255.255.255.0
Default gateway	☐ Override default gateway for this adapter
	192.168.0.1
DNS server addresses	192.168.0.2

CANCEL   BACK   NEXT

---

esx2.ramlan.ca - Add Networking

✓ 1 Select connection type
✓ 2 Select target device
✓ 3 Port properties
✓ 4 IPv4 settings
   5 Ready to complete

Ready to complete
Review your settings selections before finishing the wizard.

New port group	vMotion ESX2
Standard switch	vSwitch0
VLAN ID	None (0)
vMotion	Enabled
Provisioning	Disabled
Fault Tolerance logging	Disabled
Management	Disabled
vSphere Replication	Disabled
vSphere Replication NFC	Disabled
vSAN	Disabled

NIC settings

MTU	1500
TCP/IP stack	Default

IPv4 settings

IPv4 address	192.168.0.118 (static)
Subnet mask	255.255.255.0

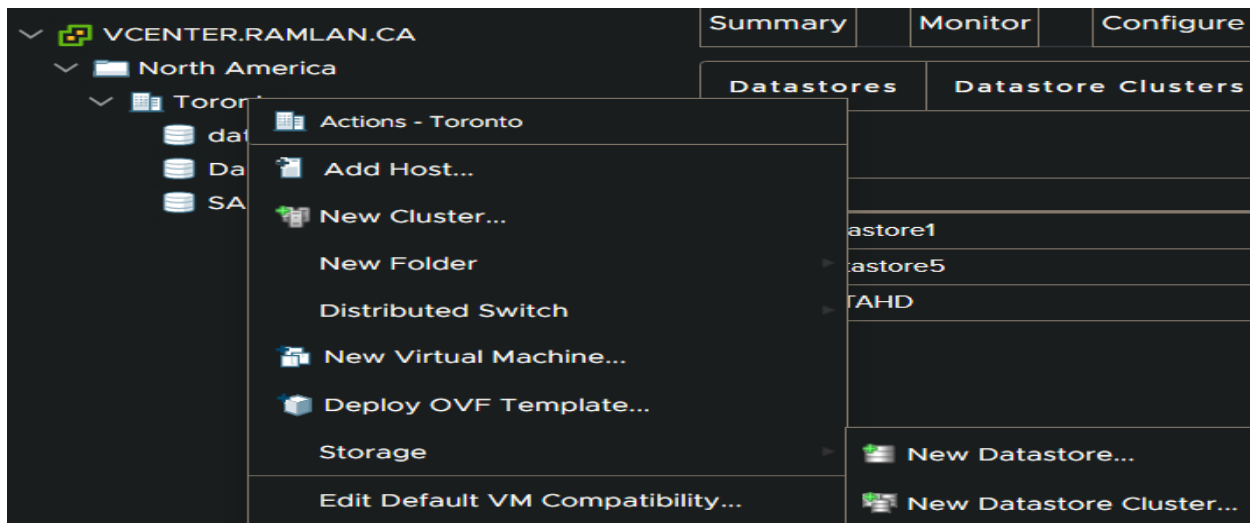CANCEL   BACK   FINISH

Virtual switches

ADD NETWORKING...   REFRESH

Management Network
VLAN ID: --
VMkernel Ports (1)
  vmk0 : 192.168.0.115

VM Network
VLAN ID: --
Virtual Machines (1)

vMotion ESX2
VLAN ID: --
VMkernel Ports (1)
  vmk1 : 192.168.0.118

Physical Adapters
  vmnic0 1000 Full

---

esx1.ramlan.ca   ACTIONS ∨

Summary | Monitor | Configure | Permissions | VMs | Datastores | Networks | Updates

Storage   ∨
  Storage Adapters
  Storage Devices
  Host Cache Configuration
  Protocol Endpoints
  I/O Filters
Networking   ∨
  Virtual switches
  VMkernel adapters
  Physical adapters
  TCP/IP configuration
Virtual Machines   ∨
  VM Startup/Shutdown
  Agent VM Settings
  Default VM Compatibility
  Swap File Location

Virtual switches

ADD NETWORKING...   REFRESH

Management Network
VLAN ID: --
VMkernel Ports (1)
  vmk0 : 192.168.0.114

VM Network
VLAN ID: --
Virtual Machines (0)

vMotion ESX1
VLAN ID: --
VMkernel Ports (1)
  vmk1 : 192.168.0.116

Physical Adapters
  vmnic0 10000 Full

---

esx2.ramlan.ca   ACTIONS ∨

Summary | Monitor | Configure | Permissions | VMs | Datastores | Networks | Updates

Storage   ∨
  Storage Adapters
  Storage Devices
  Host Cache Configuration
  Protocol Endpoints
  I/O Filters
Networking   ∨
  Virtual switches
  VMkernel adapters
  Physical adapters
  TCP/IP configuration
Virtual Machines   ∨
  VM Startup/Shutdown
  Agent VM Settings
  Default VM Compatibility
  Swap File Location

Virtual switches

ADD NETWORKING...   REFRESH

Management Network
VLAN ID: --
VMkernel Ports (1)
  vmk0 : 192.168.0.115

VM Network
VLAN ID: --
Virtual Machines (1)

vMotion ESX2
VLAN ID: --
VMkernel Ports (1)
  vmk1 : 192.168.0.118

Physical Adapters
  vmnic0 1000 Full

Datastore Cluster:

New Datastore Cluster

Storage DRS Runtime Settings

I/O Metric inclusion	☑ Enable I/O metric for SDRS recommendations
	Select this option if you want I/O metrics considered as a part of any SDRS recommendations or automated migrations in this data store cluster
I/O latency threshold	Dictates the minimum I/O latency for each datastore below which I/O load balancing moves are not considered.
	5 ms ──○──── 100 ms 15 ms
Space threshold	Runtime thresholds govern when Storage DRS performs or recommends migrations (based on the selected automation level).
	● Utilized space
	50 % ────○──── 100 % 80 %

CANCEL   BACK   NEXT

New Datastore Cluster

Select Clusters and Hosts

Filter Selected (1)

Clusters   Standalone Hosts

▼ Filter

☑	Name ↑	Available CPU	Available Memory	
☑	🗔 Lab	15.05 GHz	7.26 GB	

1 Items

CANCEL   BACK   NEXT

New Datastore Cluster

Select Datastores

Show datastores connected to all hosts ⌄

Filter Selected (1)

▼ Filter

☑	Name ↑	Host Connection Status	Capacity	
☑	🗄 Datastore5	✔ All Hosts Connected	999.75 GB	

1 Items

CANCEL   BACK   NEXT

Roles & Privileges & Permissions:

From here you can create new roles and add the privileges/permissions user will get on vCenter to manage Host within the environment.

Install Root Certificate

Fix https not secure error: Check this link https://kb.vmware.com/s/article/2108294

https://vcenter.ramlan.ca
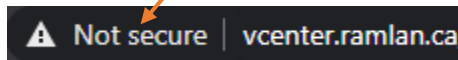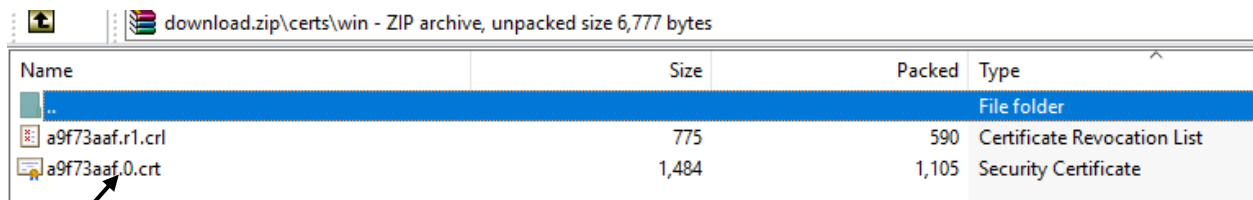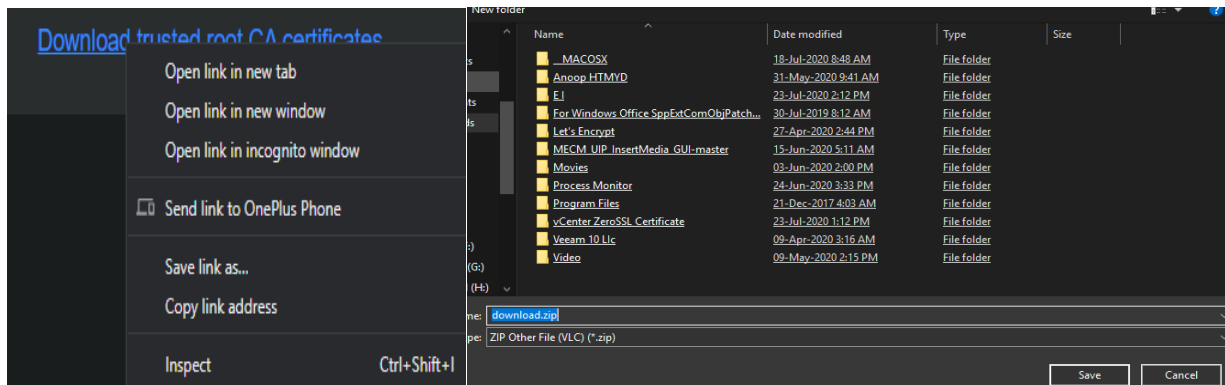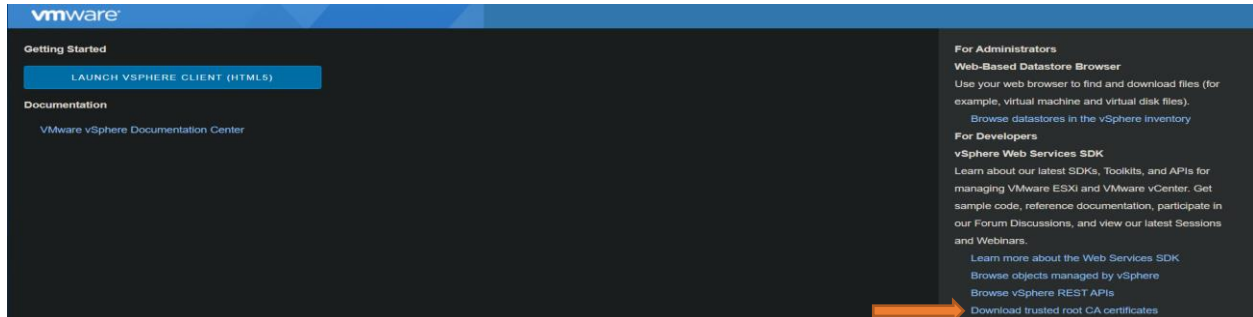
Open MMC – Certificate – Computer Account – Certificates – Trusted Root Certificate – Import above .crt. Logout and login to vCenter – the error should disappear.

Enable DRS & HA

You can enable DRS and HA for the cluster. Here are the details. There is a lot you can play around.

Edit Cluster Settings | Lab

vSphere DRS ⊙

Automation   **Additional Options**   **Power Management**   **Advanced Options**

DPM ⓘ   ☐ Enable

Automation Level   Manual   ⌄

DPM Threshold   Conservative (Less   Aggressive (More
                         Frequent vMotions)   Frequent vMotions)

vCenter Server will apply power-on recommendations produced to meet vSphere
HA requirements or user-specified capacity requirements. Power-on
recommendations will also be applied if host resource utilization becomes higher
than the target utilization range. Power-off recommendations will be applied if
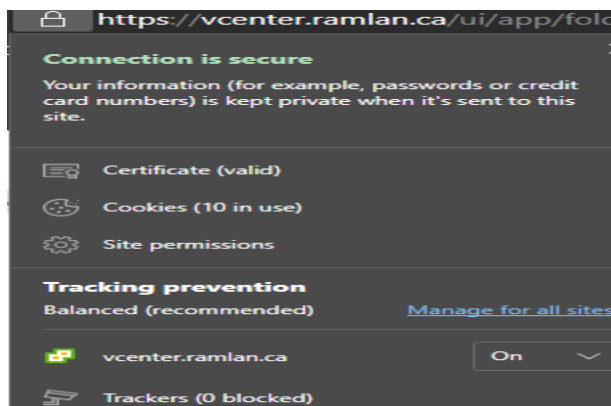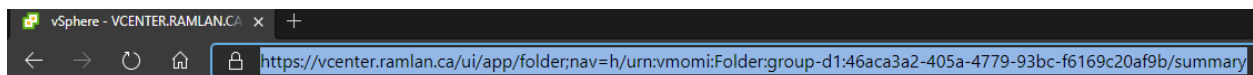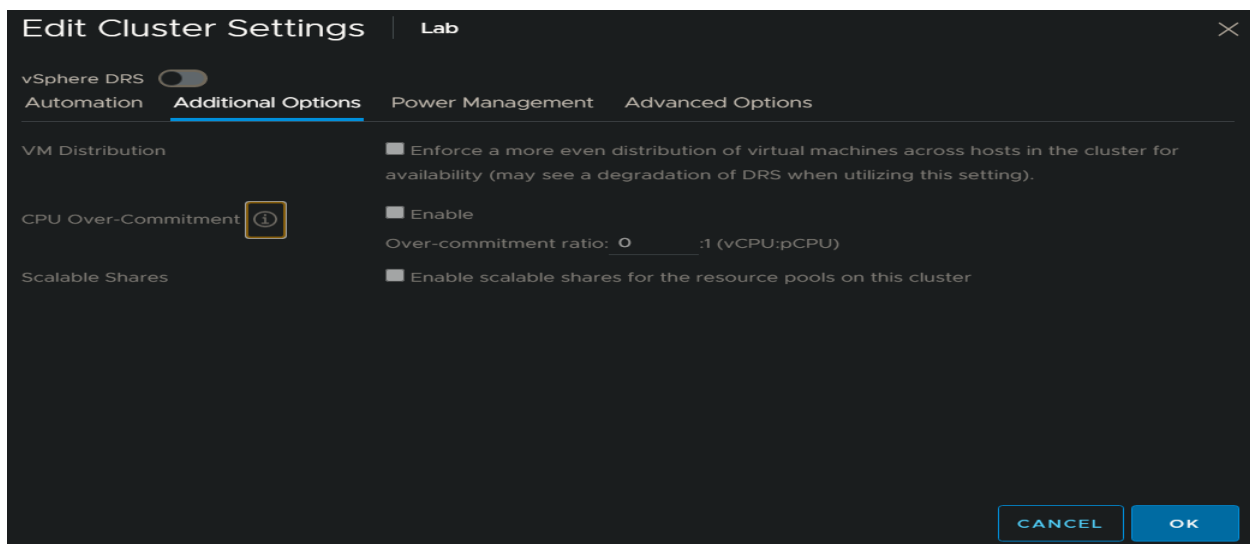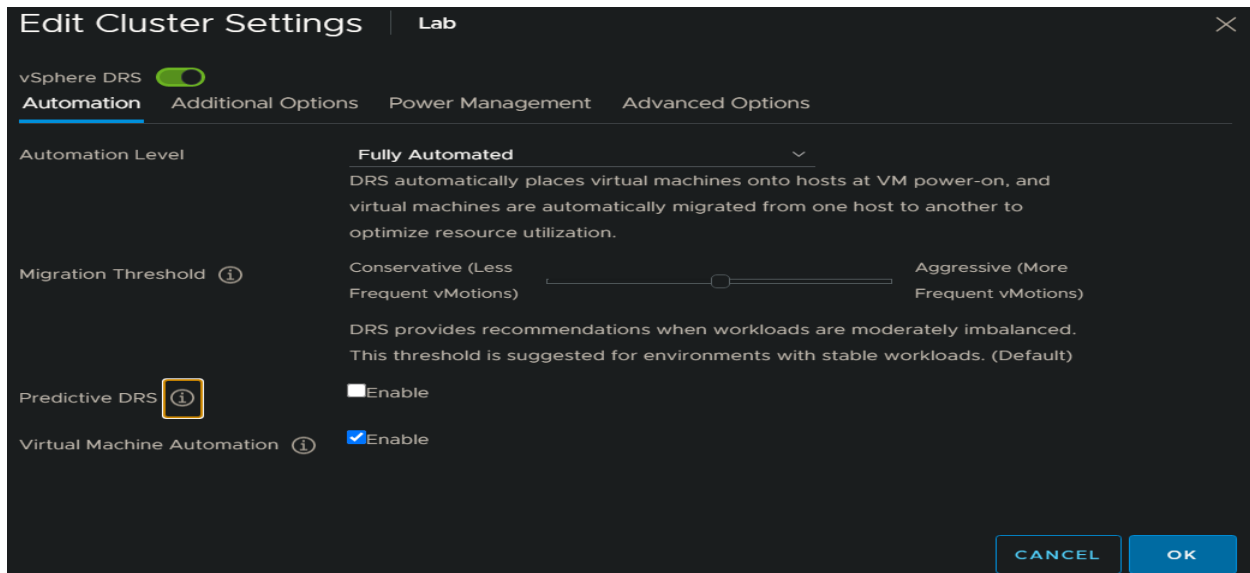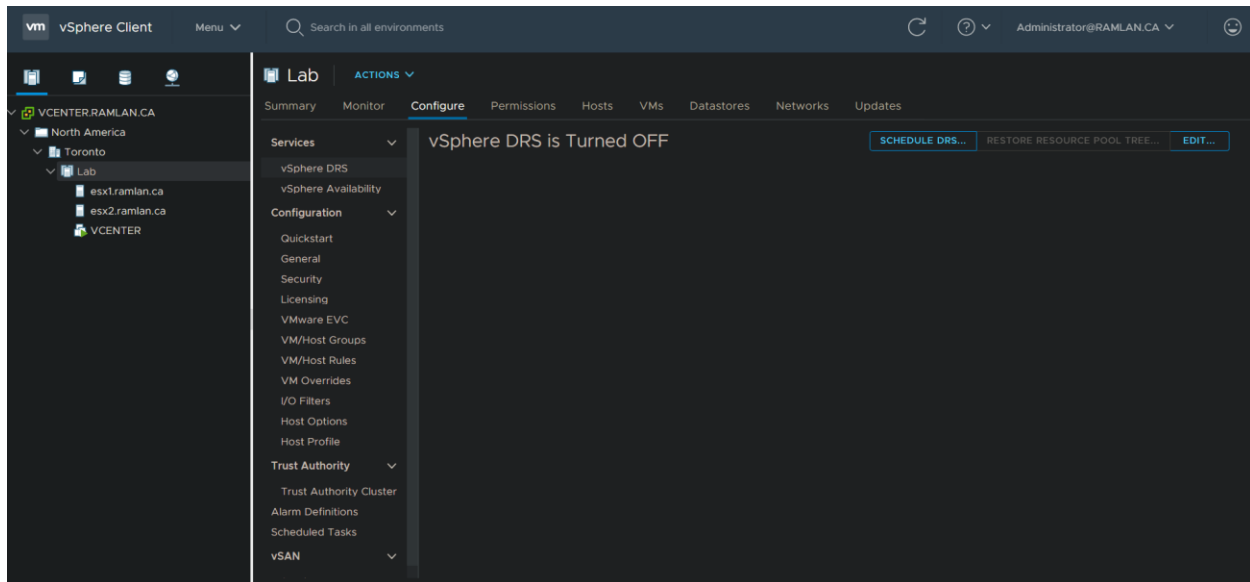host resource utilization becomes very low in comparison to the target utilization
range.

                                                        CANCEL   OK

Edit Cluster Settings | Lab

vSphere DRS ⊙

Automation   **Additional Options**   **Power Management**   **Advanced Options**

Configuration Parameters

➕ Add   ✖ Delete

Option	Value

No items to display

                                                        CANCEL   OK

---

vSphere DRS is Turned ON

                                    SCHEDULE DRS...   RESTORE RESOURCE POOL TREE...   EDIT...

› DRS Automation	Fully Automated
› Additional Options	Expand for policies
› Power Management	Off
› Advanced Options	None

---

vSphere HA is Turned OFF   EDIT...

Runtime information for vSphere HA is reported under vSphere HA Monitoring

Proactive HA is Turned OFF   EDIT...

Failure conditions and responses

Failure	Response	Details
Host failure	❗ Disabled	vSphere HA disabled. VMs are not restarted in the event of a host failure.
Proactive HA	❗ Disabled	Proactive HA is not enabled.
Host Isolation	❗ Disabled	vSphere HA disabled. VMs are not restarted in the event of a host failure.
Datastore with Permanent Device Loss	❗ Disabled	vSphere HA disabled. VMs are not restarted in the

› Admission Control	Expand for details
› Datastore for Heartbeating	Expand for details
› Advanced Options	None

Edit Cluster Settings | Lab ✕

vSphere HA 🟢

Failures and responses   Admission Control   Heartbeat Datastores   Advanced Options

You can configure how vSphere HA responds to the failure conditions on this cluster. The following failure conditions are supported: host, host isolation, VM component protection (datastore with PDL and APD), VM and application.

Enable Host Monitoring ⓘ 🟢

> **Host Failure Response**	Restart VMs ▾
> **Response for Host Isolation**	Disabled ▾
> **Datastore with PDL**	Power off and restart VMs ▾
> **Datastore with APD**	Power off and restart VMs - Conservative restart policy ▾
> **VM Monitoring**	Disabled ▾

CANCEL   **OK**

Edit Cluster Settings | Lab ✕

vSphere HA ⚪

Failures and responses   **Admission Control**   Heartbeat Datastores   Advanced Options

Admission control is a policy used by vSphere HA to ensure failover capacity within a cluster. Raising the number of potential host failures will increase the availability constraints and capacity reserved.

Host failures cluster tolerates   1

Maximum is one less than number of hosts in cluster.

Define host failover capacity by   Cluster resource Percentage ▾

☐ Override calculated failover capacity.

Reserved failover CPU capacity: 0   % CPU

Reserved failover Memory capacity: 0   % Memory

Performance degradation VMs tolerate   100   %

Percentage of performance degradation the VMs in the cluster are allowed to tolerate during a failure. 0% - Raises a warning if there is insufficient failover capacity to guarantee the same performance after VMs restart. 100% - Warning is disabled.

CANCEL   **OK**

Edit Cluster Settings | Lab   ✕

vSphere HA ⬤

Failures and responses   **Admission Control**   **Heartbeat Datastores**   **Advanced Options**

vSphere HA uses datastores to monitor hosts and virtual machines when the HA network has failed. vCenter Server selects 2
datastores for each host using the policy and datastore preferences specified below.

Heartbeat datastore selection policy:

○ Automatically select datastores accessible from the hosts

○ Use datastores only from the specified list

◉ Use datastores from the specified list and complement automatically if needed

Available heartbeat datastores

	Name	Datastore Cluster	Hosts Mounting Datastore ↓
☐	🗄 Datastore5	🖷 NA DatastoreCluster	2

<div align="right">

CANCEL   OK

</div>

Edit Cluster Settings | Lab   ✕

vSphere HA ⬤

Failures and responses   **Admission Control**   **Heartbeat Datastores**   **Advanced Options**

You can set advanced options that affect the behavior of your vSphere HA cluster.

➕ Add   ✕ Delete

Option	Value

<div align="right">No items to display</div>

<div align="right">

CANCEL   OK

</div>

With this we have completed some of the post configuration on vCenter Server 7 Appliance. I will add more blogs later when, I get time to explore more.

Thanks

Ram Lan
24th July 2020