



Holo Toolkit 2.0 Deploy VCF VLC GUI

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Holo Toolkit 2.0 Deploy VCF VLC GUI

Deploy VCF With VLC GUI

Overview

This section demonstrates the deployment of the VLC-Holo-Site-1 nested lab using the VLC GUI

Prerequisites

- IP address for your ESXi host or vCenter Server instance managing your ESXi host. DNS services are not available inside the Holodeck environment until VLC deploys an instance of Cloud Builder.

Note: This task can only be performed from the Holo-Console deployed inside the environment. They can be carried out by directly accessing the Holo-Console via the ESXi console option, or via RDP to the Holo-Router IP address.

Update VCF configuration file for VCF 4.5 deployment (Optional)

This step configures the VCF main json to support VCF 4.5.

- On the Holo-Console, use the Windows File Manager to navigate to C:\VLC\VLC-Holo-Site-1
- Open Holo-Site-1-vcf-ems-public.json for editing
- Update dvSwitchVersion to "7.0.0" and save the file



```

106     "datastoreName": "vcf-vsan"
107   },
108   "dvSwitchVersion": "8.0.0",
109   "dvSwitchSpecs": [
110     {
111       "dvsName": "mgmt-vds01",
112       "vcenterId": "vcenter-1",
113       "vmnics": [
114         "vmnic0",
115         "vmnic1"
116       ],
117       "mtu": 8940,
118       "networks": [
119         "MANAGEMENT",
120         "VMOTION",
121         "VSAN"
122       ],
123       "nIOCSpecs": [
124         {
125           "trafficType": "VSAN",
126           "value": "HIGH"
127         },
128         {
129           "trafficType": "VMOTION",

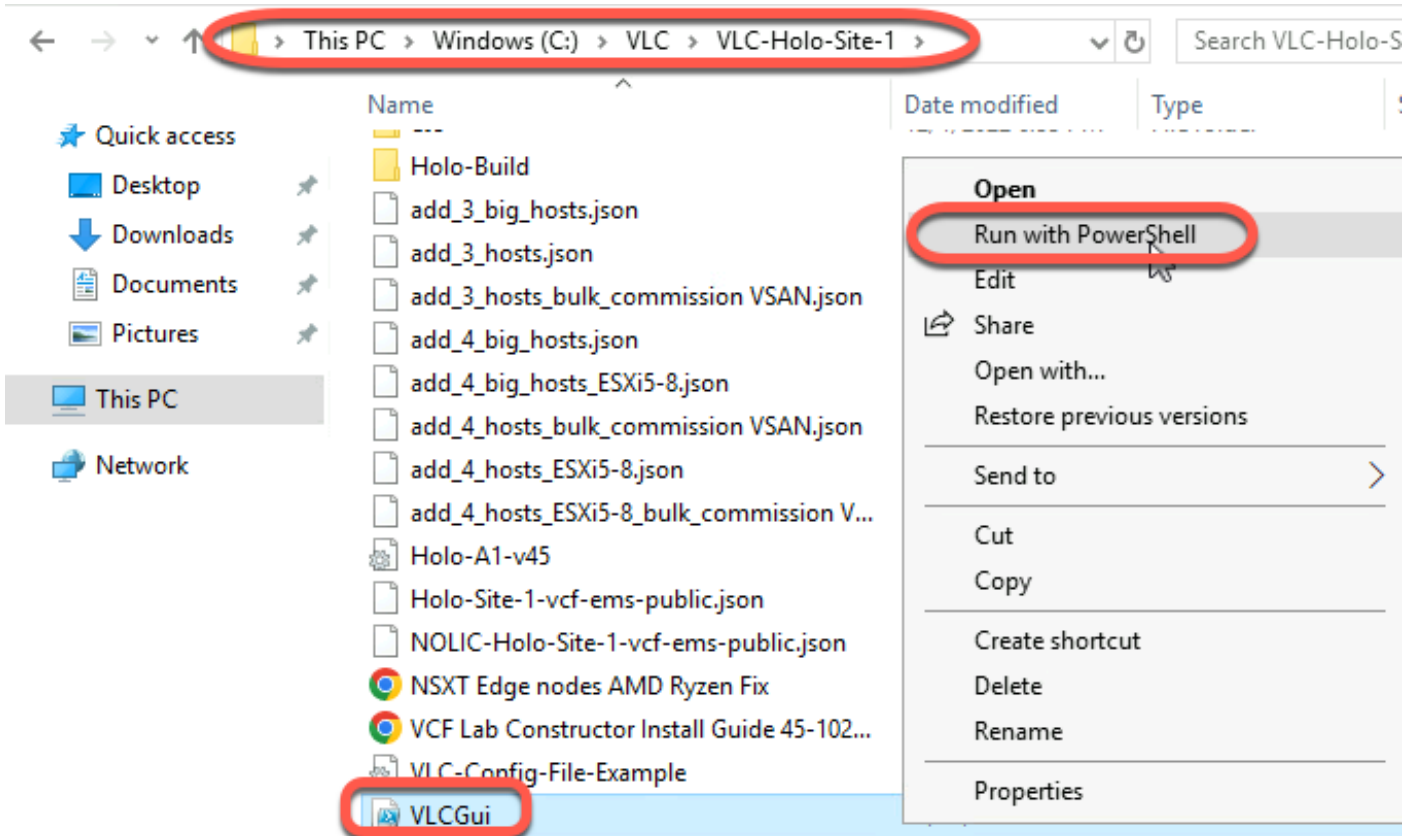
```

Deploy VCF using VLC GUI method

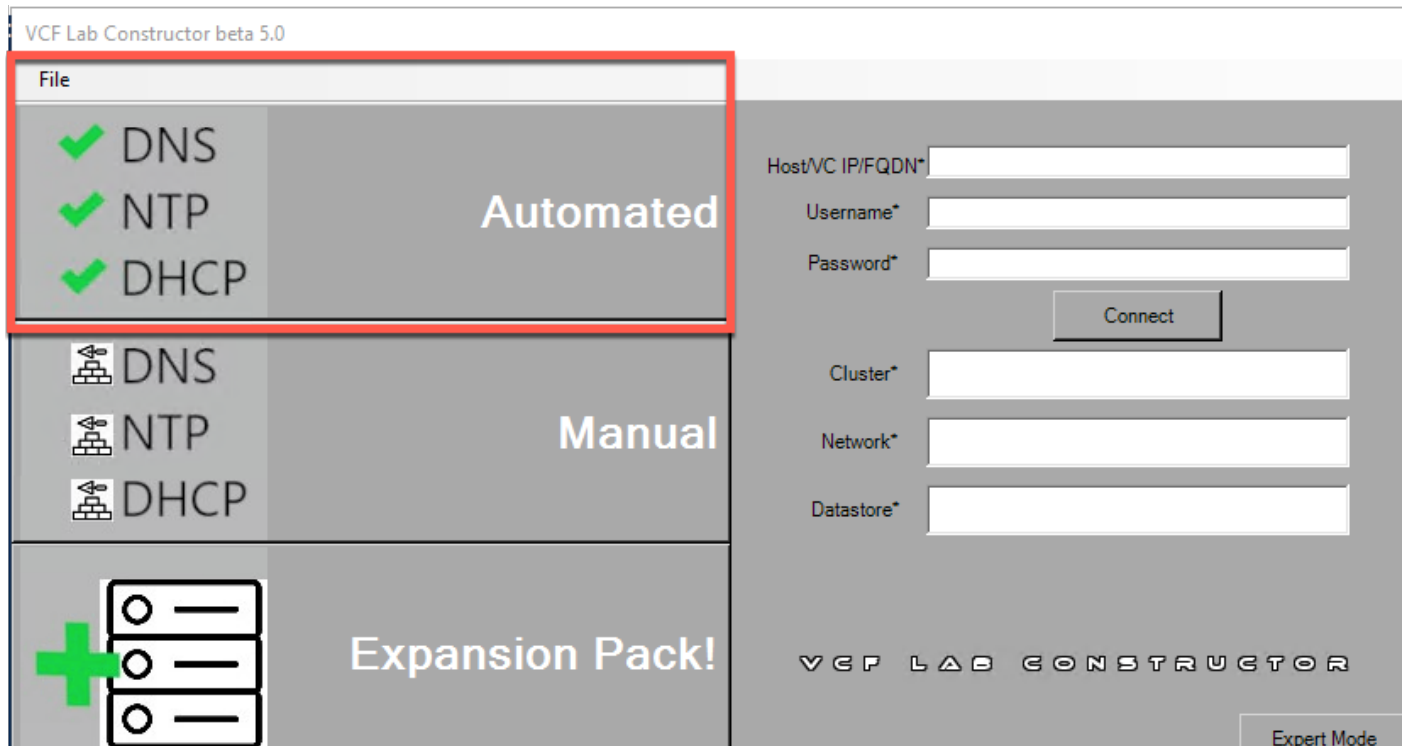
This task demonstrates using the VLC GUI to perform the Holodeck deployment.

Run VLC

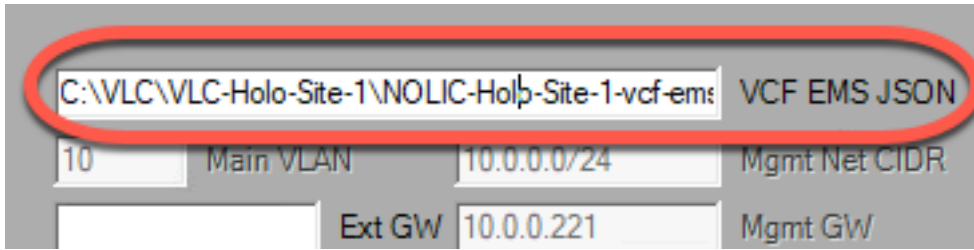
- Using the vSphere client, open a console window to the Holo-Console VM created earlier.
- Login as Administrator with a password of **VMware123!**
- Using Windows File Manager, navigate to C:\VLC\VLC-Holo-Site-1
- Right click on VLCGui.ps1 and click **Run with PowerShell**



- E. Wait for the VLC UI to be displayed.
- F. Click **Automated** on the VLC UI

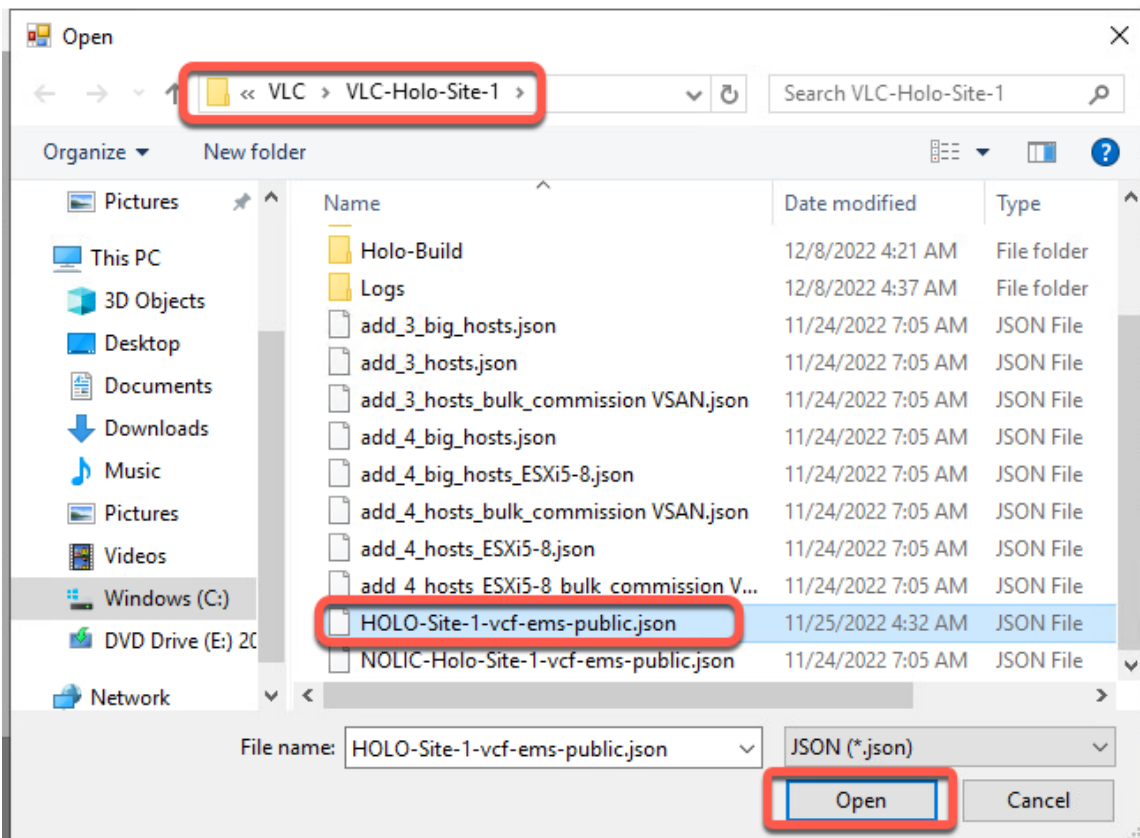


- G. Click on the **VCF EMS JSON** field

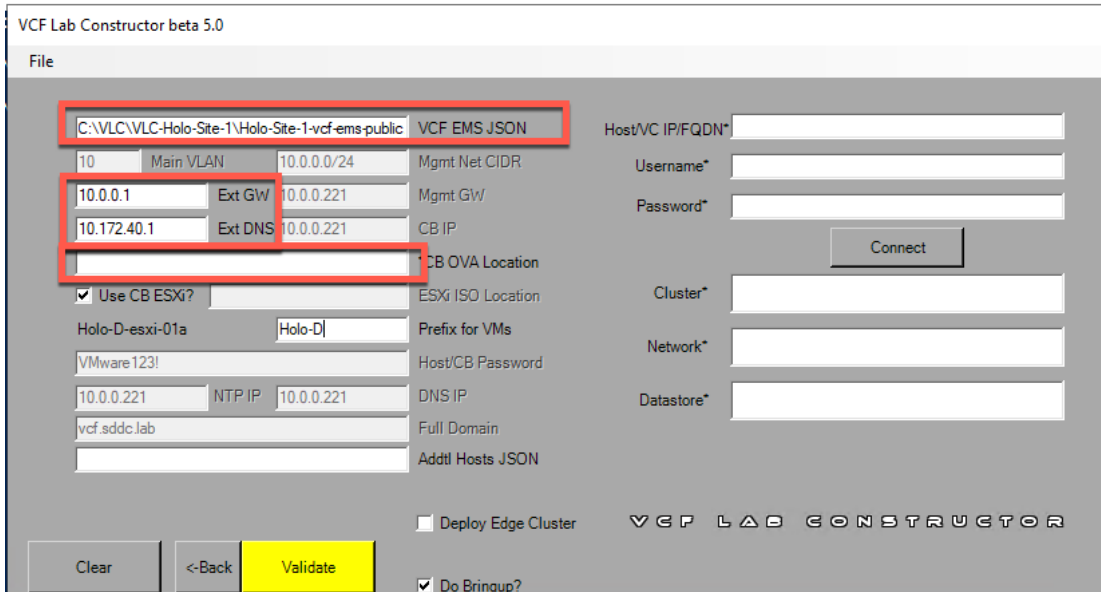


H. Select the C:\VLC\VLC-Holo-Site-1\Holo-Site-1-vcf-ems-public.json, then click **Open**

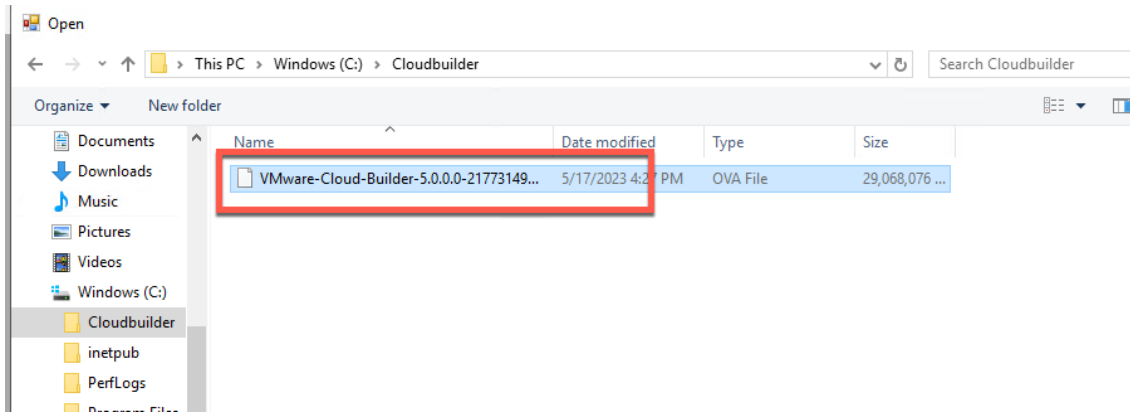
VCF Lab Constructor beta 4.5



- I. Enter **10.0.0.1** for the address of the gateway in the Ext GW field
- J. If your lab requires use of DNS other than 8.8.8.8, enter in Ext DNS
- K. Click on the input field for **CB OVA Location**



L. Select the appropriate Cloud Builder OVA (This example uses a developmental 5.0 build) and click **Open**



M. Add a unique name in the Prefix for VMs field. This allows for easy identification of the resources deployed for a given lab. This example uses the prefix of Holo-D. Best practice naming is use a common letter designator for the physical ESXi host port group, Holo-Console, Holo-Router and VM Prefix. Here we are using Holo-D-Console, Holo-D-Router and VM Prefix Holo-D, all running on port group VLC-D-PG

VCF Lab Constructor beta 5.0

File

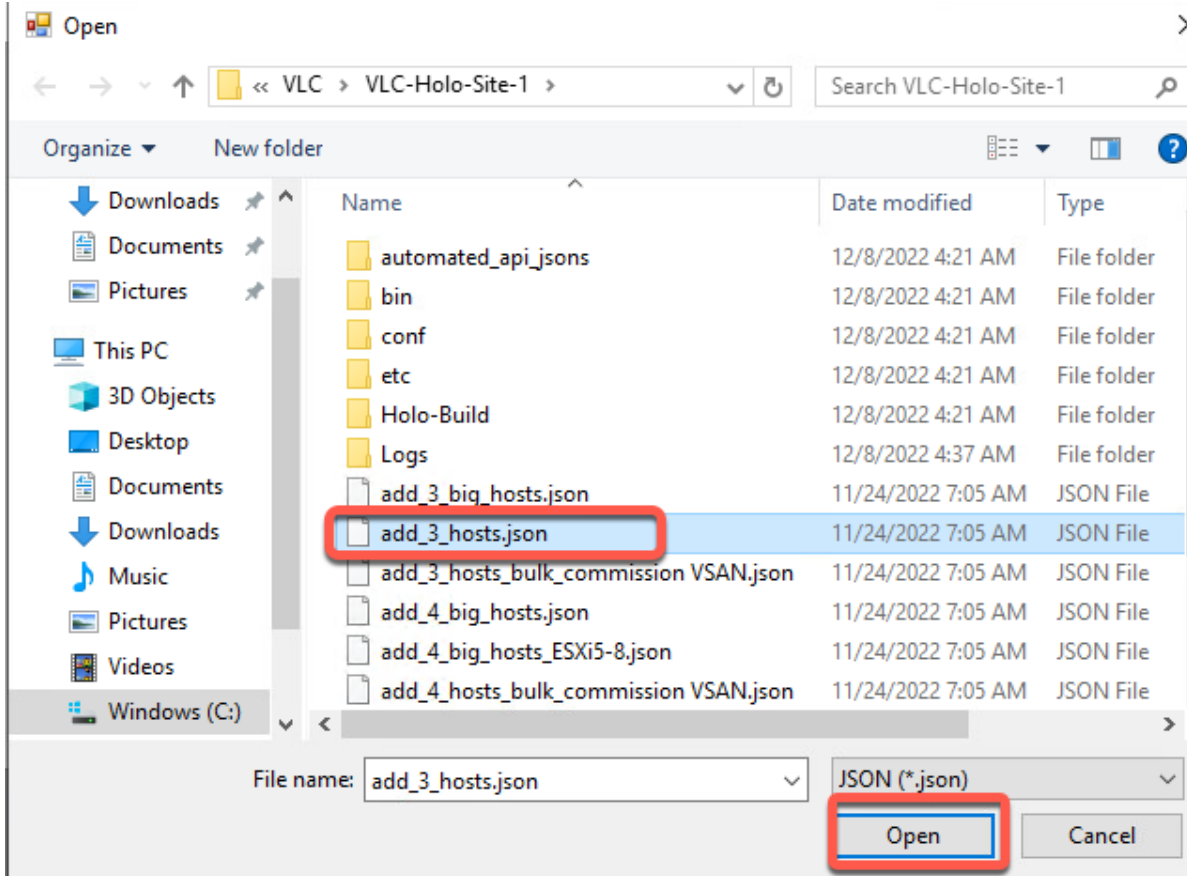
C:\VLC\VLC-Holo-Site-1\Holo-Site-1-vcf-ems-public	VCF EMS JSON		
10	Main VLAN	10.0.0.0/24	Mgmt Net CIDR
10.0.0.1	Ext GW	10.0.0.221	Mgmt GW
10.172.40.1	Ext DNS	10.0.0.221	CB IP
C:\Cloudbuilder\VMware-Cloud-Builder-5.0.0.0-2177	*CB OVA Location		
<input checked="" type="checkbox"/> Use CB ESXi?	ESXi ISO Location		
Holo-D-esxi-01a	Holo-D	Prefix for VMs	
VMware123!	Host/CB Password		
10.0.0.221	NTP IP	10.0.0.221	DNS IP
vcf.sddc.lab	Full Domain		
	Addtl Hosts JSON		

Deploy Edge Cluster

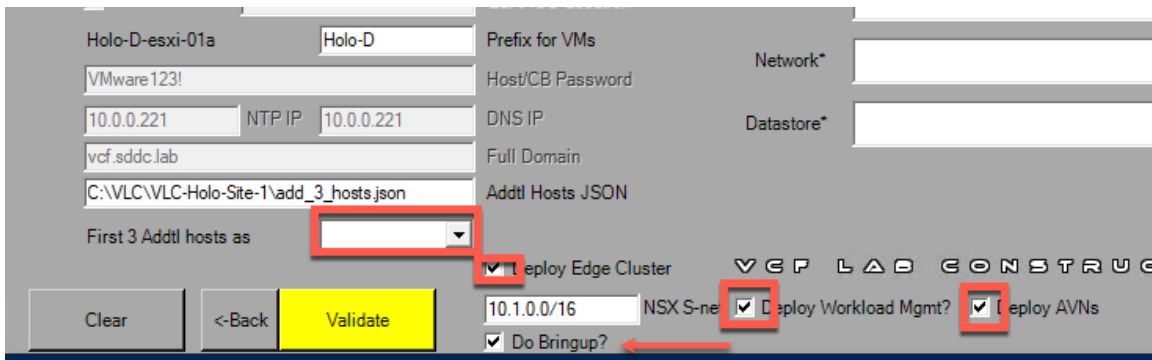
Clear <-Back Validate

Do Bringup?

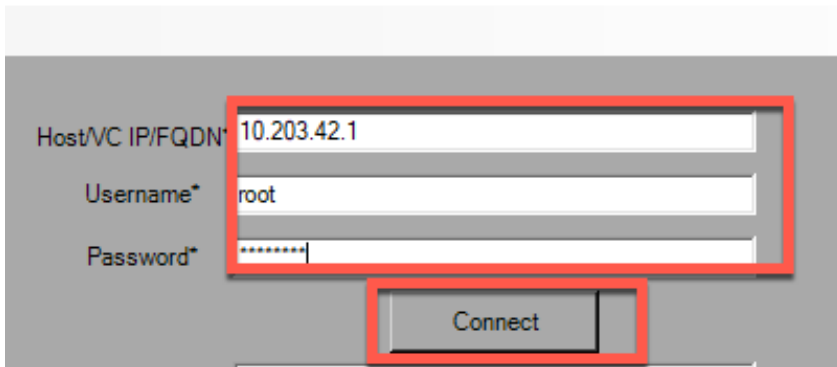
N. Click on **Addl Hosts JSON** and select the file C:\VLC\VLC-Holo-Site-1\add_3_hosts.json and click **Open**



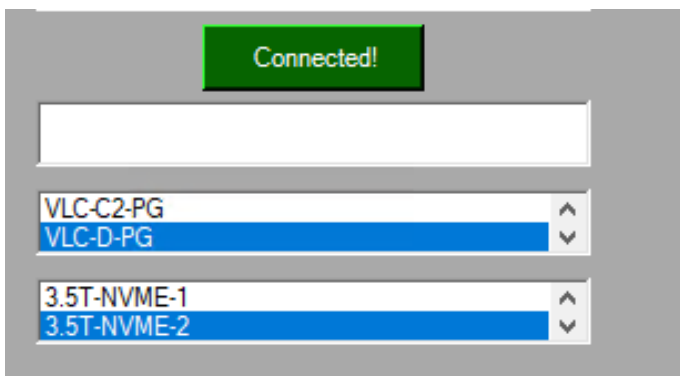
- O. Leave First 3 Addl hosts as blank
- P. Check **Deploy Edge Cluster**
- Q. Select **Deploy Workload Mgmt?**
- R. Select **Deploy AVNs**
- S. Leave Do Bringup? checked



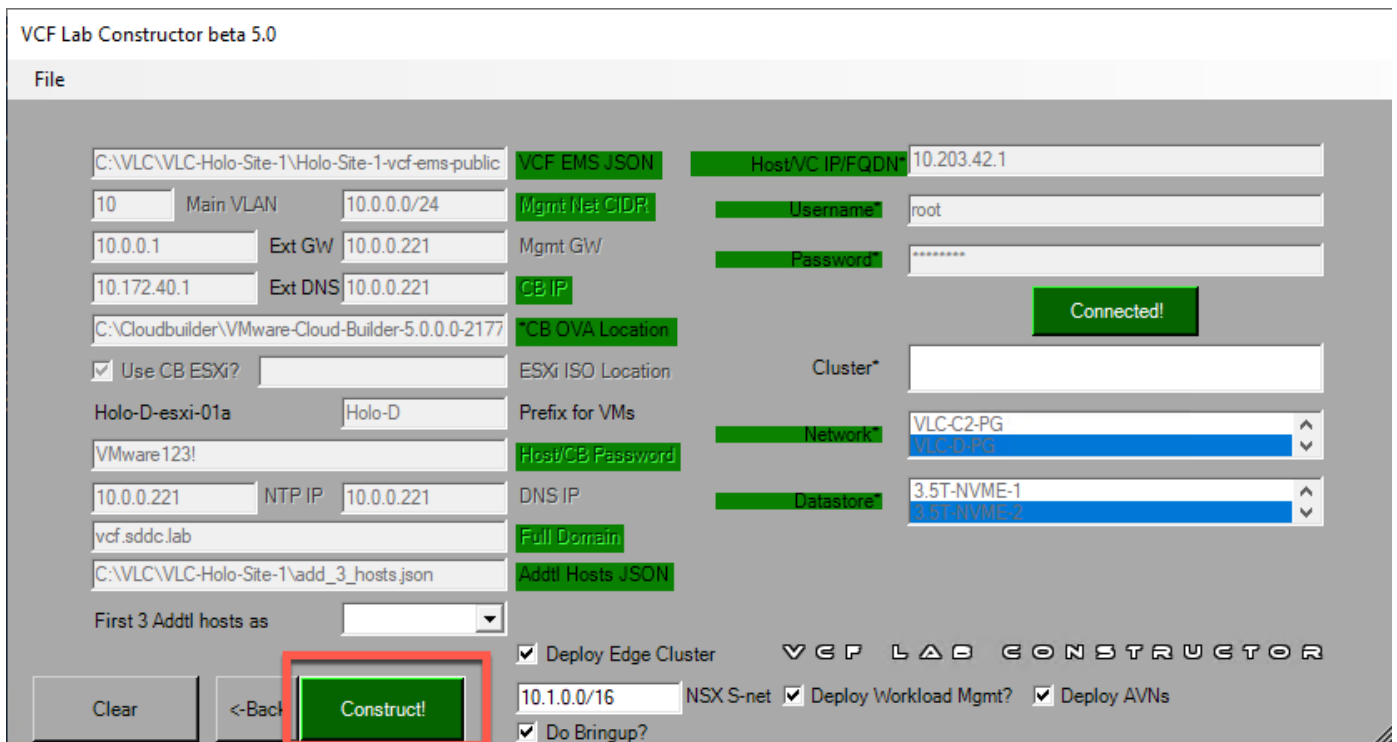
- T. Enter the IP address of the ESXi host in the Host/VC IP/FQDN field.
- U. Specify the username and password for the ESXi host in the Username and Password fields



- V. Click the **Connect** button
- W. Select the port group and datastore to be used for this deployment. In this example **VLC-A-PG** is used



- X. Click **Validate**
- Y. Wait for the validation to complete and the Validate button to change to **Construct!**



Z. Click **Construct!**

AA. VLC will begin to deploy the VCF environment. This process takes about three hours

```

VLC Logging window
VCF LAB CONSTRUCTION
01:53:24 -> Connecting to VI, please wait..
01:53:27 -> Creating a test VM and setting the SCSI controller as it's the only reliable way to determine VC Control of
a host
01:53:33 -> vSwitch0 MTU of 1500 is not valid for VLC, must be 8940 or higher.
01:53:33 -> Networks from this switch will not be available as deploy target until corrected
01:54:30 -> Connecting to VI, please wait..
01:54:31 -> Validating Free Space on Datastore 800GB or more for deployment, 300GB or more for Expansion.
01:54:31 -> Current free space on datastore 3.5T-NVME-2 is 2252GB. Validation Passed.
01:54:31 -> Validation complete, all checks passed!
01:55:11 -> -----Inputs-----5.0-----
01:55:11 -> addHostsJson C:\VLC\VLC-Holo-Site-1\add_3_hosts.json
01:55:11 -> bringupAfterBuild True
01:55:11 -> buildOps
01:55:11 -> cbIPAddress 10.0.0.221
01:55:11 -> cbISOLoc C:\Cloudbuilder\VMware-Cloud-Builder-5.0.0.0-21773149_OVF10.ova
01:55:11 -> cbName CB-01a
01:55:11 -> cluster
01:55:11 -> deployAVNs True
01:55:11 -> deployEdgeCluster True
01:55:11 -> deployWldMgmt True
01:55:11 -> dnsServer 10.0.0.221
01:55:11 -> ds 3.5T-NVME-2
01:55:11 -> esxhost 10.203.42.1
01:55:11 -> guestOS vmkernel65guest
01:55:11 -> internalSvcs True
01:55:11 -> labDNS 10.172.40.1
01:55:11 -> labGateway 10.0.0.1
01:55:11 -> masterPassword VMware123!
01:55:11 -> mgmtNetCidr 24
01:55:11 -> mgmtNetGateway 10.0.0.221
01:55:11 -> mgmtNetSubnet 10.0.0.0/24
01:55:11 -> mgmtNetVlan 10
01:55:11 -> nestedVMPrefix Holo-D-
01:55:11 -> netName VLC-D-PG
01:55:11 -> nsxSuperNet 10.1.0.0/16
01:55:11 -> ntpServer 10.0.0.221
01:55:11 -> password H01@123!
01:55:11 -> Typeguestdisk Thin
01:55:11 -> useCBIso True
01:55:11 -> username root
01:55:11 -> vcfDomainName vcf.sddc.lab
01:55:11 -> vcfEMSFile C:\VLC\VLC-Holo-Site-1\Holo-Site-1-vcf-ems-public.json
01:55:11 -> vsphereISOLoc
01:55:11 -> -----END-Inputs-----
01:55:11 -> Importing CloudBuilder OVF

```

AB. When complete, VLC will advise the user to press **Enter** to end the VLC process and provides information on how to access the SDDC Manager UI. Notice that it took right at 3 hours to deploy a complete SDDC.

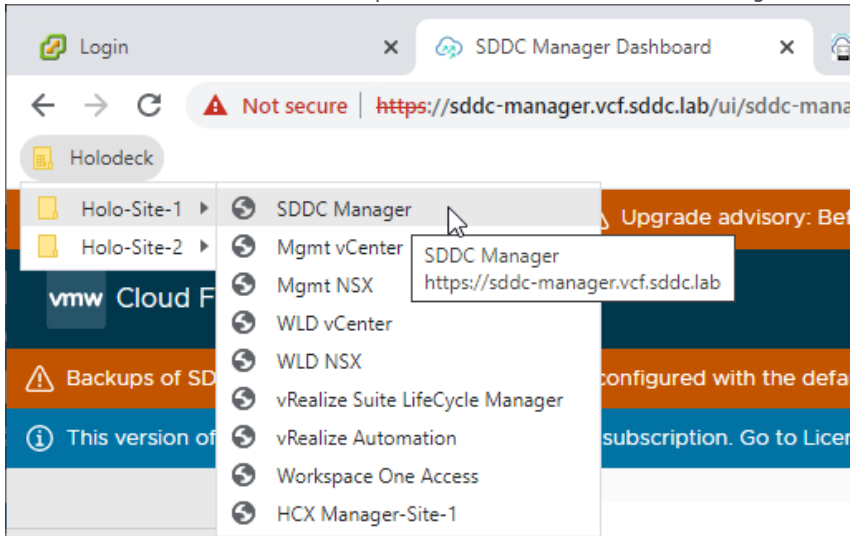
```

07:51:46 -> Obtaining deployed Edge Cluster ID
07:51:46 -> Token Expired 07:51:46
07:51:47 -> Token Expired 07:51:47
07:51:50 -> Loading AVN API JSON - NSX_AVN_API.json
07:51:50 -> Adding Edge Cluster ID: 78fb1dca-80d2-4412-ac89-6e43110887da
07:51:50 -> Calling AVN creation API - this takes < 5 minutes
07:52:00 -> Current task: Create Overlay AVN Segment in NSX-T
07:52:10 -> Complete!
07:52:10 -> Commissioning additional hosts
07:52:10 -> Obtaining Network Pool Id
07:52:10 -> Loading Additional Host file selected - C:\VLC\VLC-Holo-Site-1\add_3_hosts.json
07:52:10 -> Creating Bulk Commission Host file to match API for HostSpecs of first 3 hosts
07:52:10 -> Calling Host Commission API - this takes < 15 minutes
07:52:12 -> Current task: AcquireResoureLocksIfResourcesExistsAction
07:52:22 -> Current task: ValidateHostsAction
07:52:32 -> Current task:
07:52:42 -> Current task: InstallTemporaryESXiCertificateAction
07:53:43 -> Current task: ConfigureNtpAction
07:54:23 -> Current task: FetchHostsAttributesAction
07:54:33 -> Current task: RotateHostSshKeysAction
07:54:53 -> Current task: Add ESXi Root Credentials to SDDC Manager Credentials Store
07:55:03 -> Complete!
07:55:03 -> Cleaning up Temp Directory
07:55:04 -> Total RunTime: 03:00:22.8168452
07:55:04 -> Please open a browser and navigate to https://sddc-manager.vcf.sddc.lab
Your VCF SDDC setup is complete. Press enter to continue!

```

Test VLC Deployment

A. From the Holo-Console, open Chrome and click on the Managed bookmarks and select the SDDC Manager



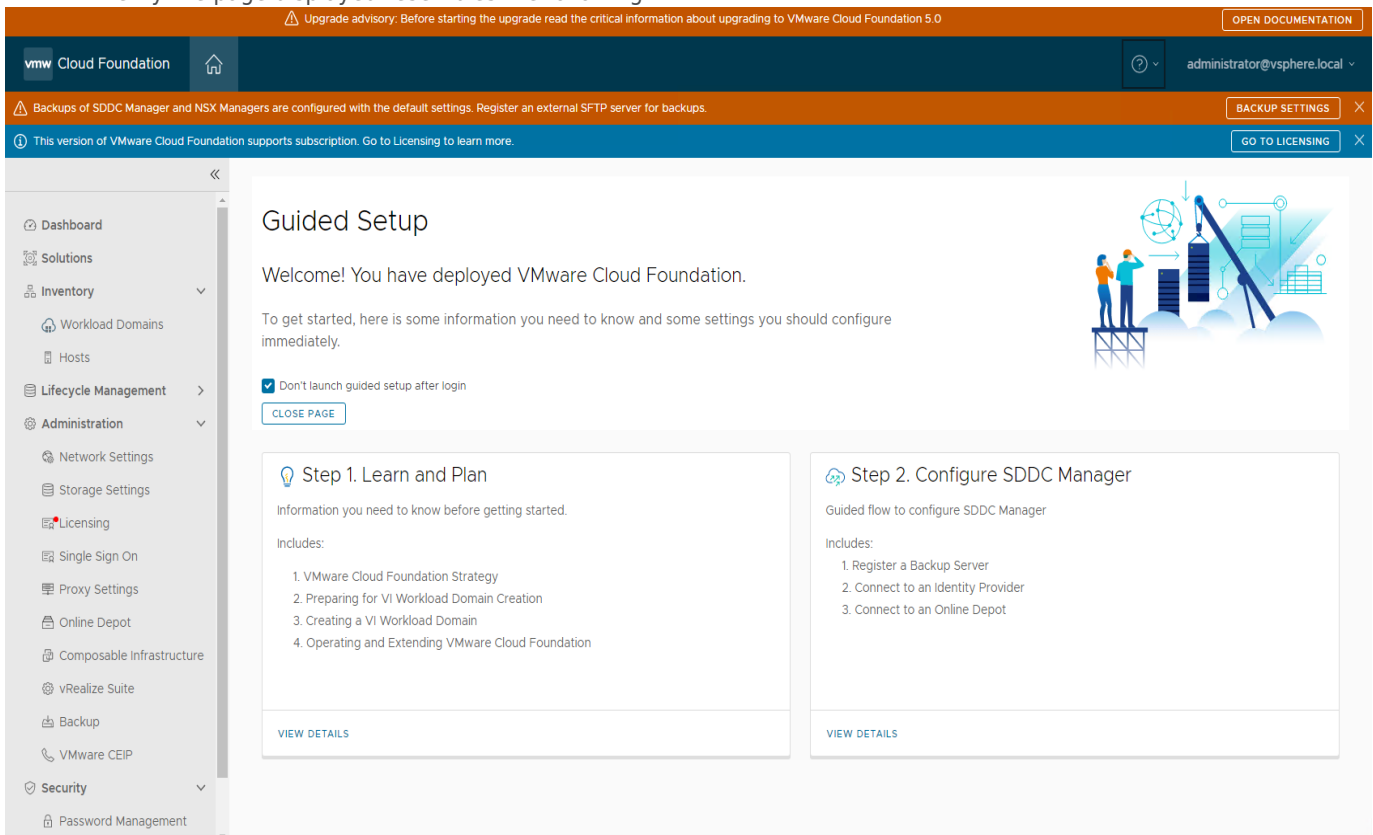
B. Acknowledge the security warning by clicking on **Advanced** followed by **Proceed to sddc-manager.vcf.sddc.lab (unsafe)**

C. Acknowledge the second security warning by clicking on **Advanced** followed by **Proceed to vcenter-mgmt.vcf.sddc.lab (unsafe)**

D. Login as the user **administrator@vsphere.local** with the password **VMware123!**

E. Uncheck the VMware CEIP box

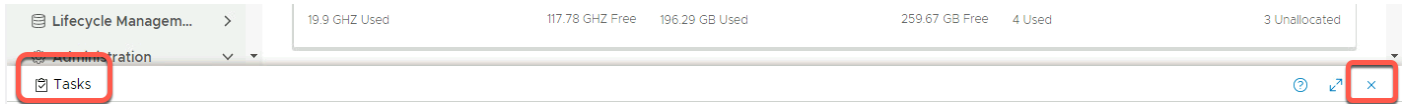
F. Verify the page displayed resembles the following



G. On the first time accessing SDDC Manager, you can check “Don’t launch guided setup after login”

H. Click on hosts

I. Close the Tasks pane



J. Notice the four host VCF Management domain and the three additional unassigned hosts

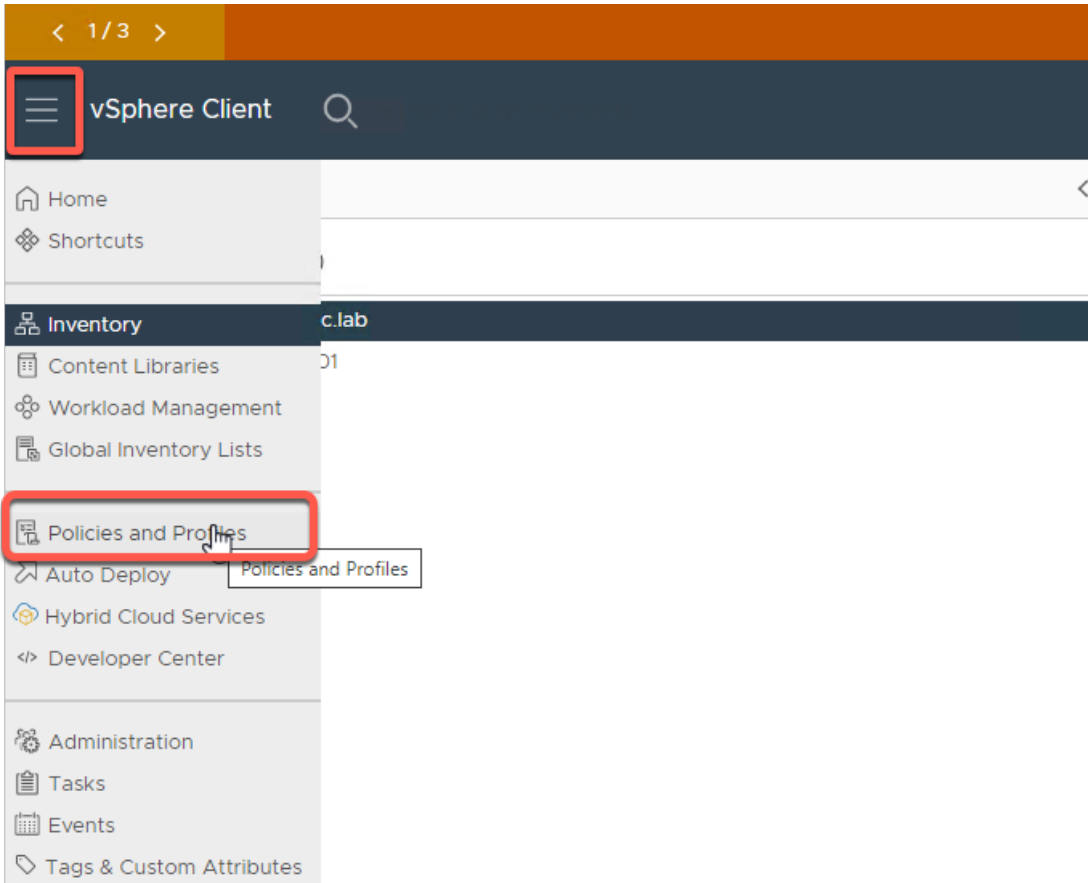
Displays all hosts in VMware Cloud Foundation inventory.

FQDN	Host IP	Network Pool	Configuration Status	Host State	Cluster	CPU Usage	Memory Usage	Storage Type
esxi-1.vcf.sddc.lab	10.0.0.101	mgmt-networkpool	Active	Assigned (mgmt-domain)	mgmt-cluster-01	18%	53%	All Flash
esxi-2.vcf.sddc.lab	10.0.0.102	mgmt-networkpool	Active	Assigned (mgmt-domain)	mgmt-cluster-01	9%	45%	All Flash
esxi-3.vcf.sddc.lab	10.0.0.103	mgmt-networkpool	Active	Assigned (mgmt-domain)	mgmt-cluster-01	22%	57%	All Flash
esxi-4.vcf.sddc.lab	10.0.0.104	mgmt-networkpool	Active	Assigned (mgmt-domain)	mgmt-cluster-01	23%	44%	All Flash
esxi-10.vcf.sddc.lab	10.0.0.110	mgmt-networkpool	Active	Unassigned	-	1%	7%	All Flash
esxi-11.vcf.sddc.lab	10.0.0.111	mgmt-networkpool	Active	Unassigned	-	1%	7%	All Flash
esxi-12.vcf.sddc.lab	10.0.0.112	mgmt-networkpool	Active	Unassigned	-	1%	7%	All Flash

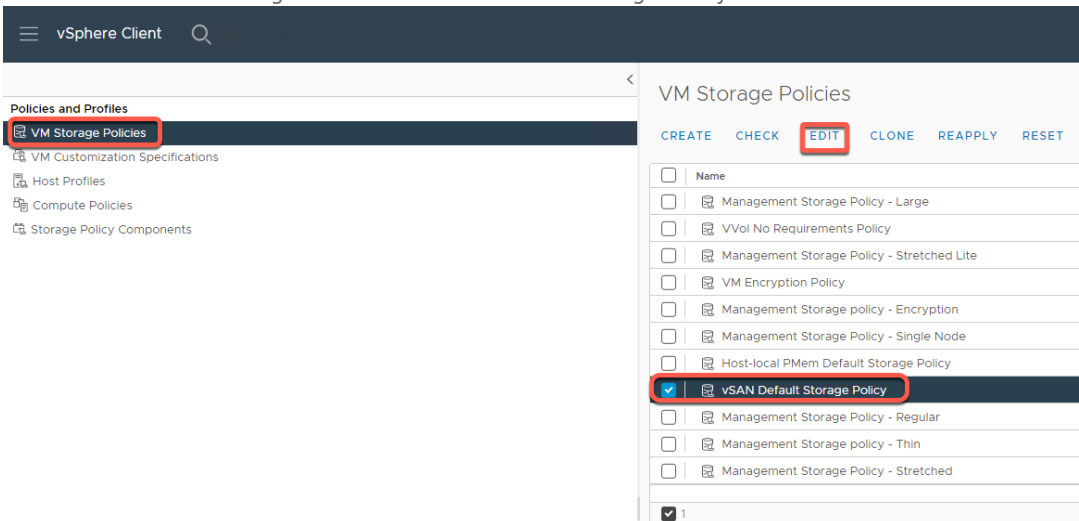
Set FTT=0 on Nested VSAN datastore. (Optional)

The following step is recommended to reduce out of space issues on the nested environment. As this is a lab environment, and running on underlying SSD, it is typically acceptable to reduce redundancy in the nested environment

- A. Using the vSphere Web Client, click to expand the menu, then click Policies and Profiles



B. Select VM Storage Policies -> vSAN Default Storage Policy -> Edit



C. Leave Name and Description as is and click Next

D. On the vSAN Availability tab, set Failures to Tolerate to No Data Redundancy then click Next

Edit VM Storage Policy

1 Name and description

2 vSAN

3 Storage compatibility

4 Review and finish

vSAN

Availability Storage rules Advanced Policy Rules Tags

Site disaster tolerance None - standard cluster

Failures to tolerate

- 1 failure - RAID-1 (Mirroring)
- No data redundancy**
- No data redundancy with host affinity
- 1 failure - RAID-1 (Mirroring)
- 1 failure - RAID-5 (Erasure Coding)
- 2 failures - RAID-1 (Mirroring)
- 2 failures - RAID-6 (Erasure Coding)
- 3 failures - RAID-1 (Mirroring)

E. Click next on Storage Compatibility

Edit VM Storage Policy

1 Name and description

2 vSAN

3 Storage compatibility

4 Review and finish

Storage compatibility

COMPATIBLE INCOMPATIBLE

Expand datastore clusters

Compatible storage 2.34 TB (1.8 TB free)

Name	Datacenter	Type	Free Space	Capacity	Warnings
vcf-vsan	mgmt-datacenter-01	vSAN	1.80 TB	2.34 TB	

F. Review setting and click Finish

Edit VM Storage Policy

1 Name and description

2 vSAN

3 Storage compatibility

4 Review and finish

Review and finish

General

Name vSAN Default Storage Policy

Description Storage policy used as default for vSAN datastores

vCenter Server vcenter-mgmt.vcf.sddc.lab

vSAN

Availability

Site disaster tolerance None - standard cluster

Failures to tolerate **No data redundancy**

Storage rules

Encryption services No preference

Space efficiency No preference

Storage tier No preference

Advanced Policy Rules

Number of disk stripes per object 1

IOPS limit for object 0

Object space reservation Thin provisioning

Flash read cache reservation 0%

Disable object checksum No

Force provisioning No

G. Select Now when prompted on Reapply to VM's, then Yes

VM Storage Policy in Use

The VM storage policy is in use by 16 virtual machine(s). Changing the VM storage policy will make it out of sync with those 16 virtual machine(s).

⚠ Reapply the VM storage policy to those 16 virtual machine(s) to make it in sync. This action might take significant time and system resources.

Reapply to VMs: **Now** ▾

Save changes?

Reboot Holo-Console VM

- A. Using the vSphere Web Client, select the **Holo-D-Console** and click **Restart** to reboot the VM. NOTE: This step is required to clear temporary Holo-Console network routing. After reboot Holo-Console receives routing, DNS, NTP, etc from Cloud Builder within the pod.

The screenshot shows the VMware ESXi vSphere Web Client interface. On the left is the 'Navigator' pane with a tree view showing 'Host', 'Virtual Machines' (32), and 'Storage' (5). The 'Virtual Machines' section is expanded to show 'Holo-D-Console' (Monitor) and 'Holo-C-Console' (More VMs...). The main pane displays the 'Holo-D-Console' VM details, including a console window (black) and a 'General Information' section. The 'Restart' button is highlighted with a red box, and a tooltip indicates 'Restart this virtual machine'. Other buttons like 'Console', 'Monitor', 'Power on', 'Shut down', 'Suspend', 'Edit', and 'Refresh' are also visible.

Holo-D-Console	
Guest OS	Microsoft Windows Serv
Compatibility	ESXi 7.0 U2 virtual mact
VMware Tools	Yes
CPUs	2
Memory	4 GB
Host name	vcfad.vcf.holo.lab

