



VMware DATA CENTER VIRTUALIZATION - CORE TECHNICAL SKILLS



Lab 01: Navigating the vSphere Interfaces

Document Version: 2021-10-15

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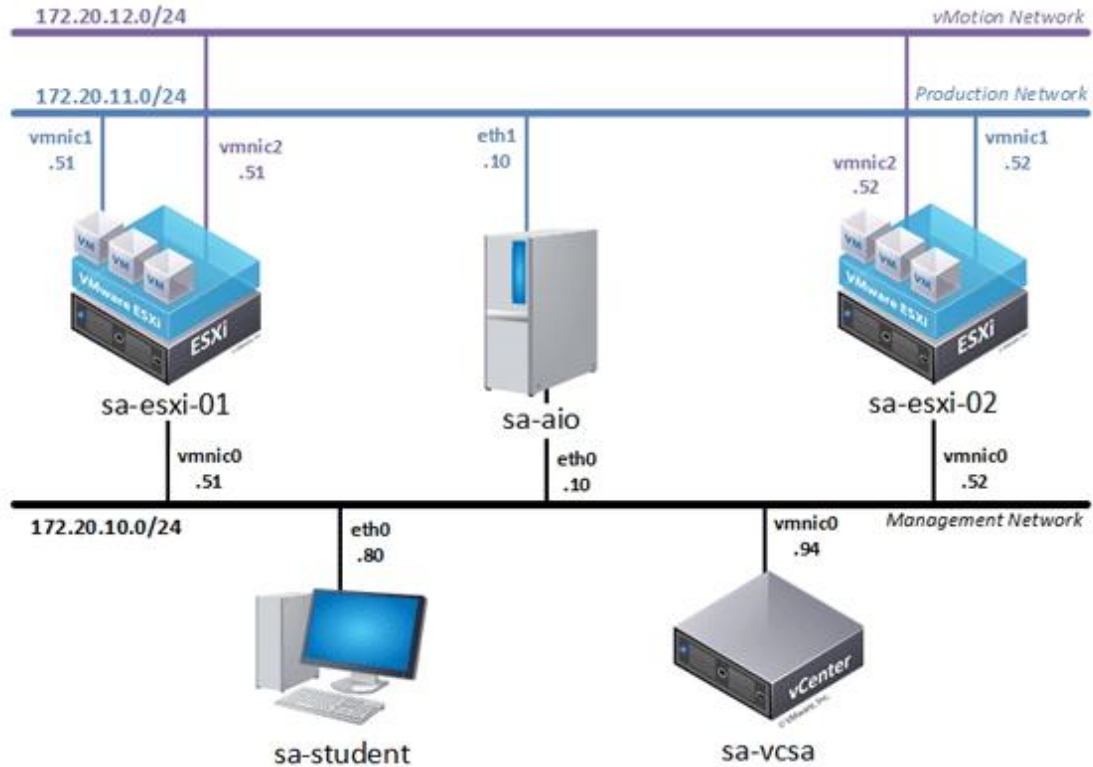
Introduction

In this lab, you will become familiar with the *vSphere Client Interface*, *vCenter Server Management Interface (VAMI)*, and the *vSphere Host Client*.

Objectives

-) Explore the vSphere Client Interface
-) Explore the vCenter Server Management Interface
-) Explore the VMware Host Client Interface

Lab Topology



Lab Settings

The information in the table below will be needed to complete the lab. The task sections below provide details on the use of this information.

Virtual Machine	IP Address	Account	Password
sa-esxi-01	eth0: 172.20.10.51	root	Train1ng\$
sa-esxi-02	eth0: 172.20.10.52	root	Train1ng\$
sa-aio	eth0: 172.20.10.10	sysadmin	vmware123
sa-student	eth0: 172.20.10.80	sysadmin	vmware123
sa-vcsa	eth0: 172.20.10.94	sysadmin@vclass.local	vmware123

1 Exploring the vSphere Client Interface

In this task, you will explore the vSphere Client Interface, identify the available options, identify the version and build number.

1. Launch the **sa-student** virtual machine to access the graphical login screen.

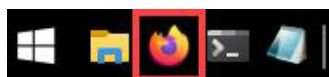


To launch the console window for a virtual machine, you may access by either clicking on the machine's graphic image from the topology page or by clicking on the machine's respective tab from the navigation bar.

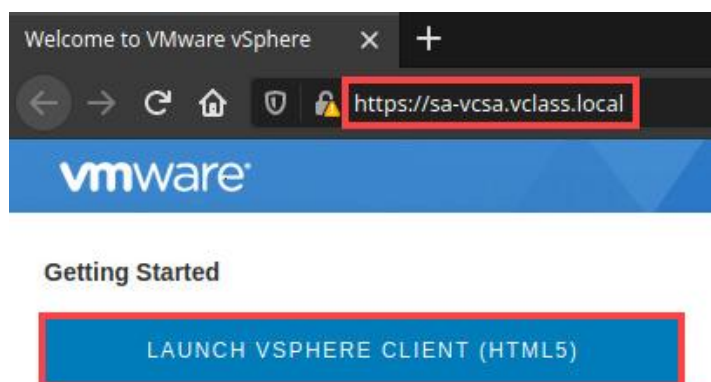
2. Log in as **sysadmin** using the password **vmware123**.



3. Launch the **Mozilla Firefox** web browser by clicking on the icon shortcut found on the bottom toolbar.



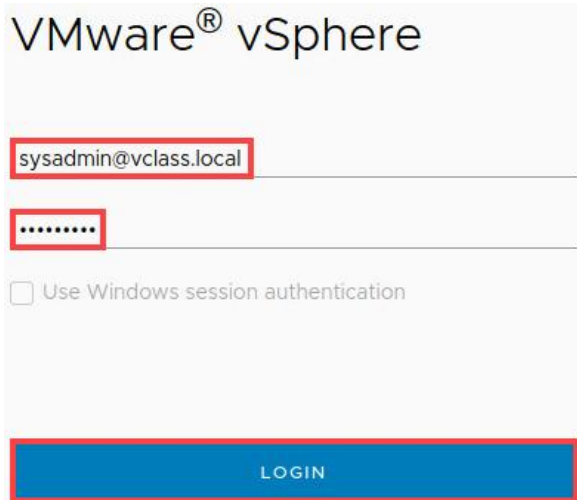
4. Notice the homepage is automatically configured to load the URL address of the *VMware vCenter Server Appliance (sa-vcsa virtual machine)*. Click on the **LAUNCH VSPHERE CLIENT (HTML5)** button to launch the *vSphere Client*.





If you cannot successfully load the *VMware Getting Started* webpage, then please **wait an additional 3-5 minutes** and refresh the page to continue. During this time, the *vCenter Server Appliance* is still booting up and requires extra time to initialize.

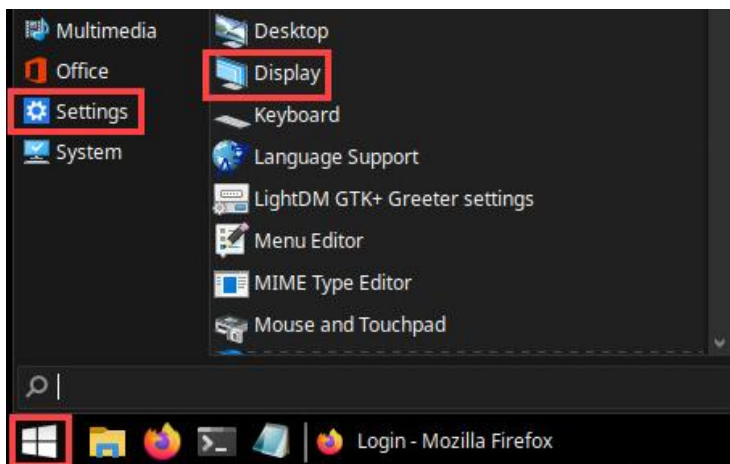
5. In the *Username* text field, type `sysadmin@vclass.local` and in the *Password* text field, type `vmware123`. Click on **Login**.



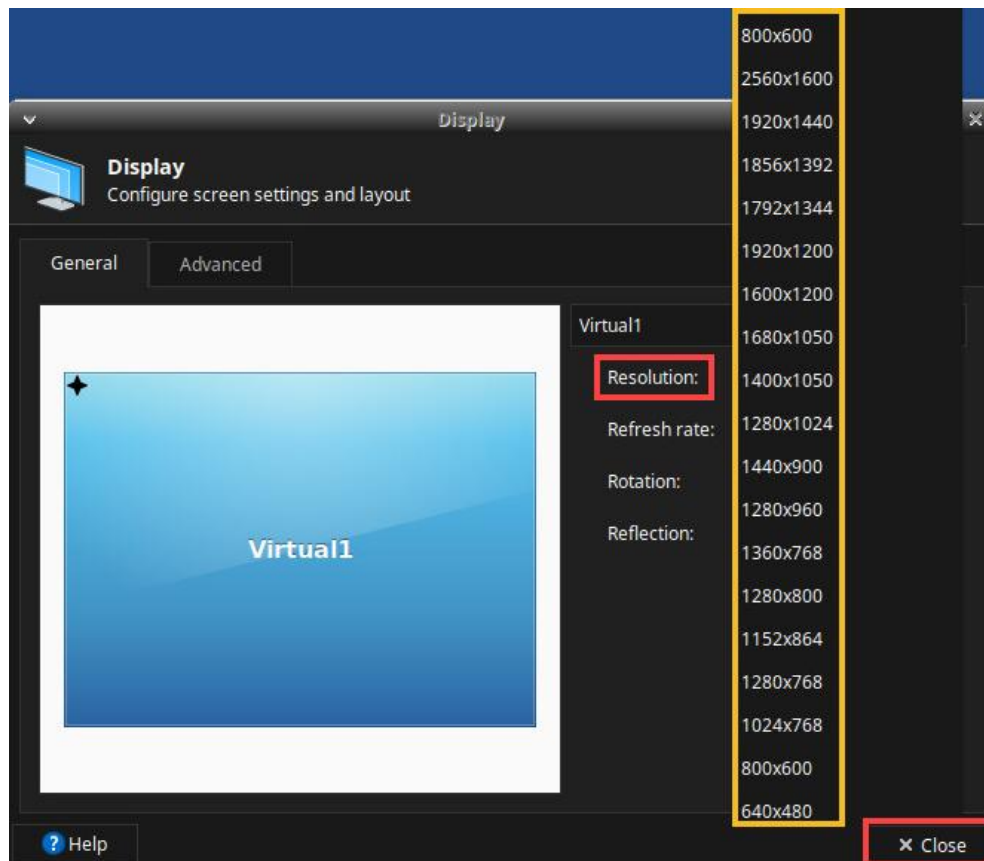
Please Note

You may ignore the “*browser-OS combination*” warning message presented on the *VMware vCenter Single Sign-On* page and continue moving forward with the lab.

6. For this *VMware VCTA* lab set, adjust the *Display resolution* at the beginning of each lab depending on your screen size. Click the **Start** button, go to **Settings > Display**.



7. In the *Display* window, the default *Resolution* is automatically set to **1280x960** for each new lab reservation. Open the **Resolution** dropdown menu and choose the resolution that best fits your screen.



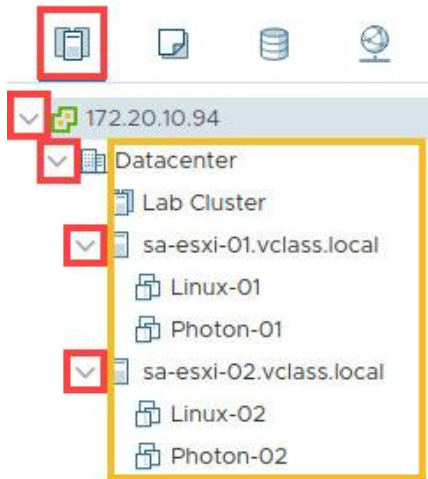
**Please
Note**

This is the only lab with these instructions; in each new lab reservation the default screen resolution will be set to **1280x960**. If you have difficulties viewing the lab environment throughout the *VMware VCTA* lab set, refer to steps **6** and **7** of **Lab 1**.

8. Notice that in the *navigation* pane, there are four tabs: the *Hosts and Clusters* tab, *VMs and Templates* tab, *Storage* tab, and *Networking* tab.

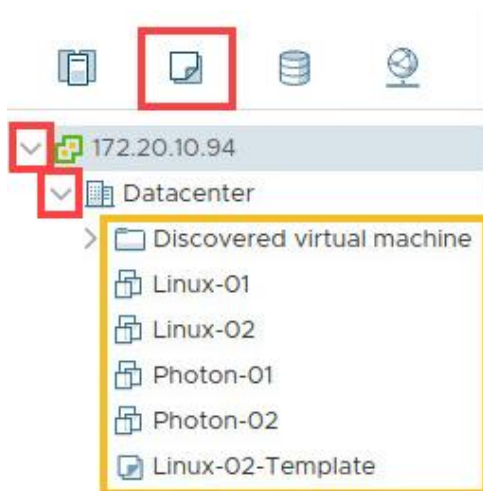


9. Ensure that you are viewing the **Hosts and Clusters** tab. Proceed with clicking the **arrow** next to each object to expand the view completely.



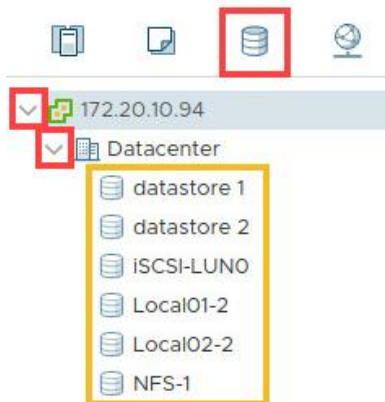
The *Hosts and Clusters* tab will show you all the inventory objects being managed by vCenter. This view will show your *ESXi* hosts and virtual machines.

10. Click on the **VMs and Templates** tab. Proceed with clicking the **arrow** next to each object to expand the view completely.



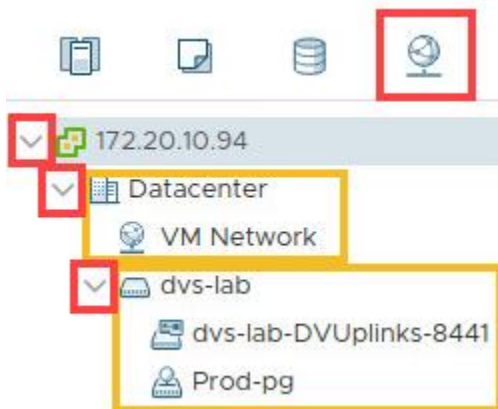
The *VMs and Templates* tab will show you all the virtual machines and templates that are managed on an *ESXi* host.

11. Click on the **Storage** tab. Proceed with clicking the **arrow** next to each object to expand the view completely.



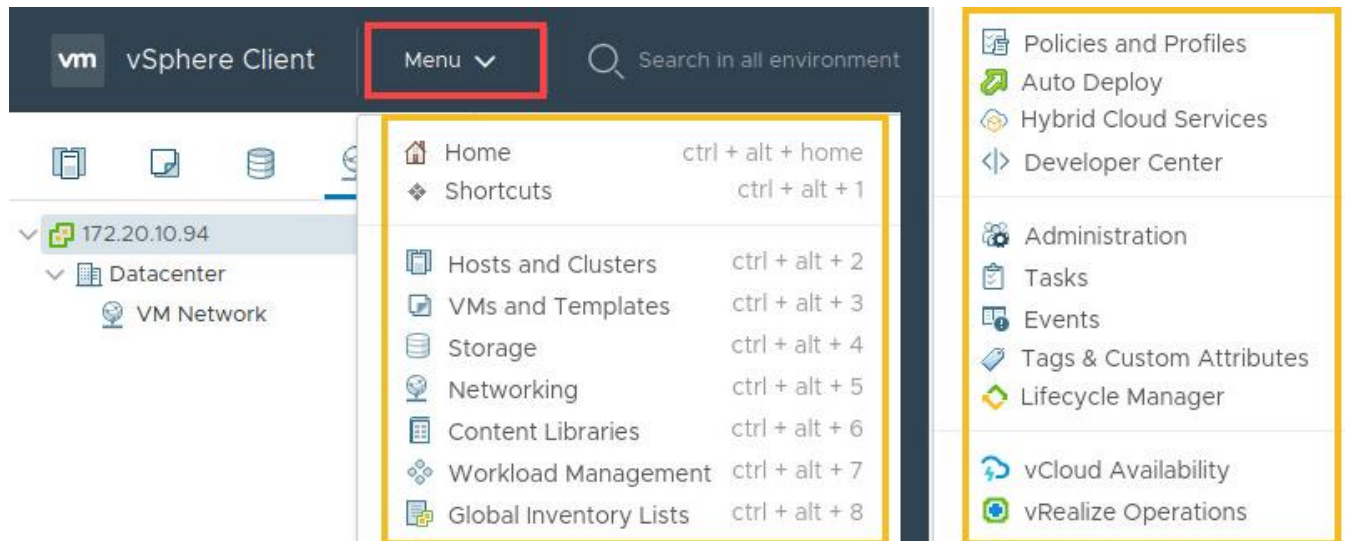
The *Storage* tab will show you all the datastores directly attached to an *ESXi* host or network attached within the *vSphere* environment.

12. Click on the **Networking** tab. Proceed with clicking the arrow next to each object to expand the view completely.



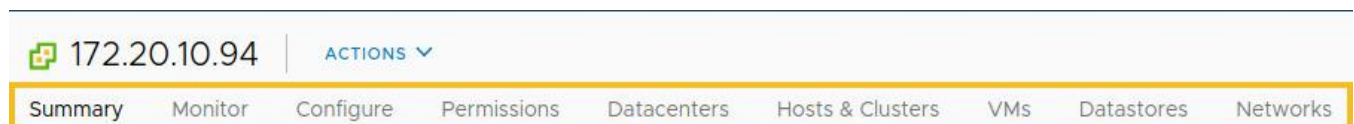
The *Networking* tab will show you all the networks being managed by an *ESXi* host and utilized by virtual machines.

13. In the *vSphere Client*, click on the vSphere main **Menu**. Click **Menu** again to close the *Menu*.

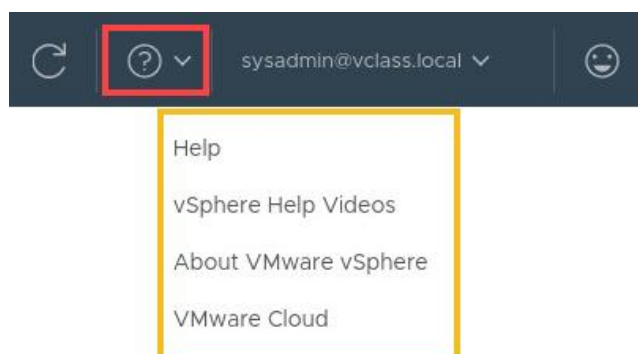


The *vSphere* main menu allows administrators to get an overall view of what options are available and what can be configured in a *vSphere* environment.

14. Notice the tabs located in the *172.20.10.94* main workspace. These tabs also allow administrators the ability to manage and have a more detailed view of all the inventory objects within the vSphere environment.



15. Click on the **vSphere Help** icon located at the top-right of the *vSphere Client*. This lab does not have internet access; therefore, you will not be able to view the *Help*, *vSphere Help Videos*, and the *VMware Cloud* links.





vSphere Help allows administrators quick access to *vSphere* technical documents, tips, tricks, features, *vSphere Client* version, and access to the documentation on the *VMware Cloud*.

16. To identify the *vSphere Client* version, click **About VMware vSphere**.



17. In the new pop-up window, notice the version of the *vSphere Client*. Click **X** to close the window.

VMware® vSphere®

vSphere Client version 7.0.0.10100



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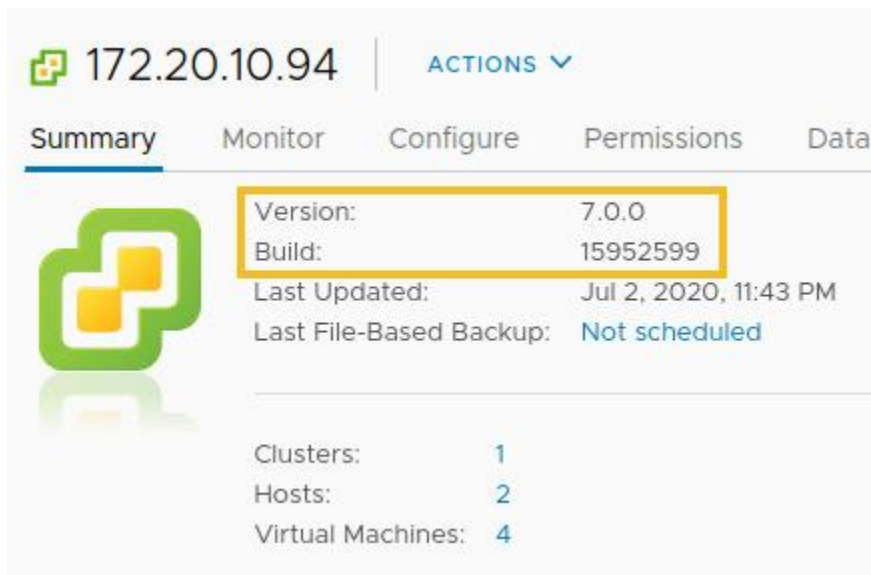
18. In the *Navigator* pane, select **172.20.10.94** to return to the top of the navigation tree.



Please Note

For this lab, you will notice that the IP address of vCSA is being utilized in the *navigator* pane within the *vSphere Client*. When you log on to vCSA via *Firefox*, you will use the *FQDN* of *sa-vcsa.vclass.local*.

19. In the `172.20.10.94` main workspace, you can also locate the **Version** and **Build** information of the *vSphere Client*.



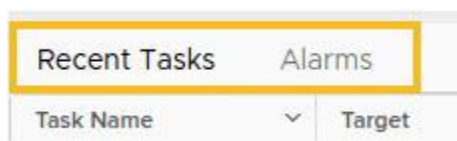
172.20.10.94 ACTIONS

Summary Monitor Configure Permissions Data

Version: 7.0.0
Build: 15952599
Last Updated: Jul 2, 2020, 11:43 PM
Last File-Based Backup: Not scheduled

Clusters: 1
Hosts: 2
Virtual Machines: 4

20. At the bottom of the *vSphere Client*, locate the **Recent Tasks** and **Alarms** pane.



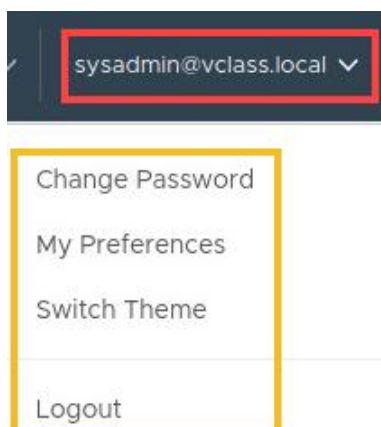
Recent Tasks Alarms

Task Name	Target
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The *Recent Tasks* tab will show administrators current and past tasks that were initiated by an administrator. The *Alarms* tab will show an administrator what alarms were triggered in the *vSphere* environment at an any given time.

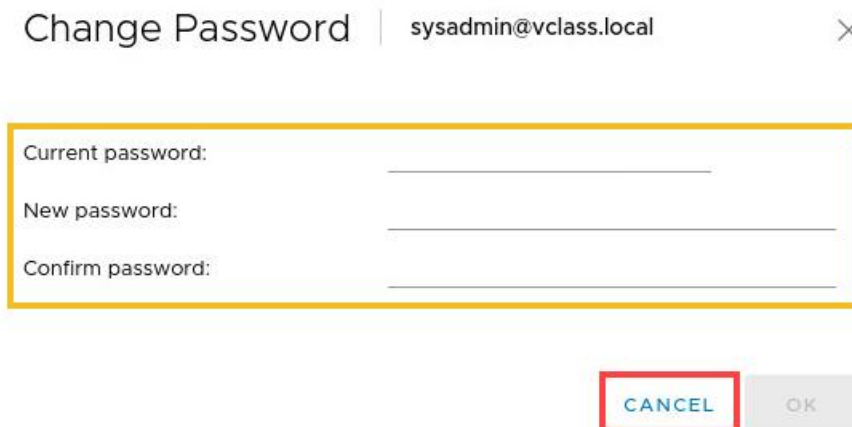
21. Navigate to the top-right of the *vSphere Client* and click on **sysadmin@vclass.local**. Notice the options when you select the username that is logged into the *vSphere Client*.



sysadmin@vclass.local

- Change Password
- My Preferences
- Switch Theme
- Logout

22. Click **Change Password**. An administrator may change the password to the *vSphere Client* by typing in the current password and then the new desired password. For this lab, click **Cancel**.



Change Password | sysadmin@vclass.local X

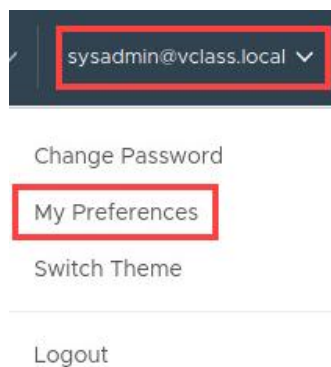
Current password: _____

New password: _____

Confirm password: _____

CANCEL OK

23. Click **sysadmin@vclass.local** and select **My Preferences**.



sysadmin@vclass.local ▼

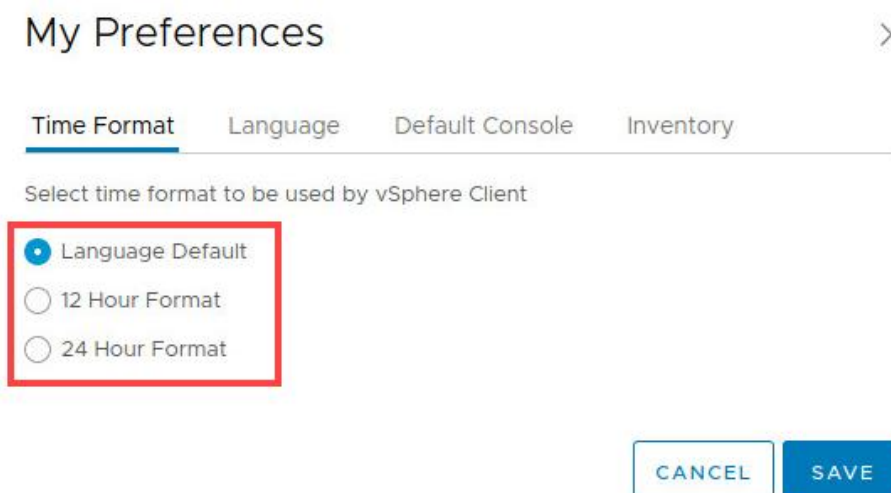
Change Password

My Preferences

Switch Theme

Logout

24. In the *My Preferences* window, ensure you are on the **Time Format** tab and notice the options to change the time format for the *vSphere Client* to the **default**, **12 Hour Format**, or **24 Hour Format**.



My Preferences X

Time Format Language Default Console Inventory

Select time format to be used by vSphere Client

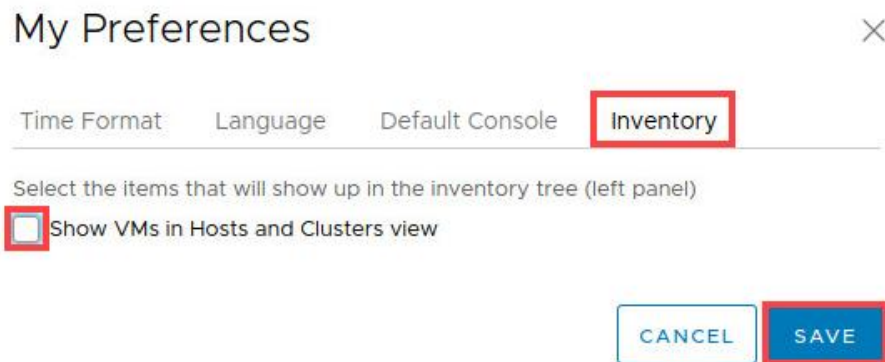
☒ Language Default

☐ 12 Hour Format

☐ 24 Hour Format

CANCEL SAVE

25. In the *My Preferences* window, click the **Inventory** tab. Deselect **Show VMs in Hosts and Clusters view**. Lastly, click **Save**.



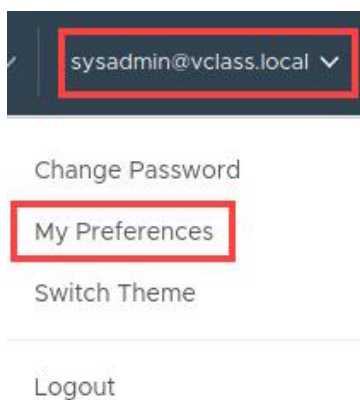
Please Note

When you deselect *Show VMs in Hosts and Clusters view*, it will not show the virtual machines in the *navigation* pane. It will only show the main objects that the virtual machines reside on.

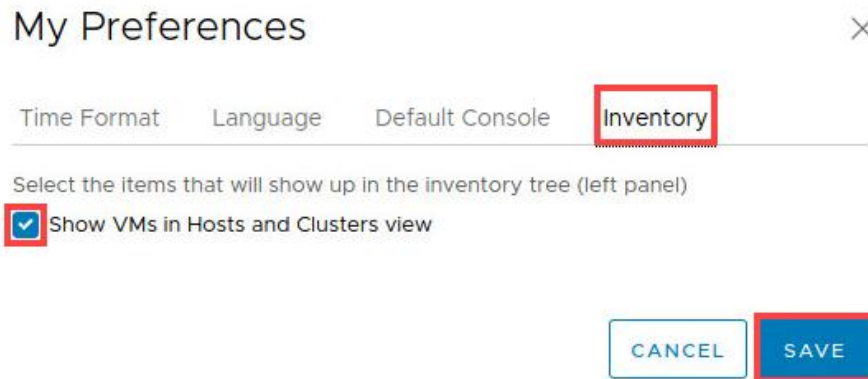
26. Change focus back to the *navigation* pane. Ensure you are on the *Hosts and Clusters* tab and notice there are no *virtual machines* present for *sa-esxi-01.vclass.local* and *sa-esxi-02.vclass.local*.



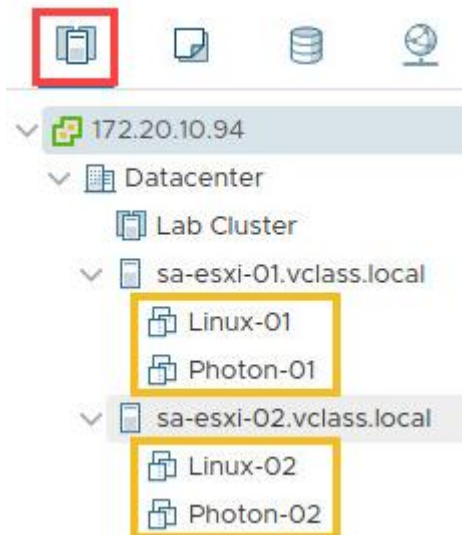
27. Click **sysadmin@vclass.local** and select **My Preferences**.



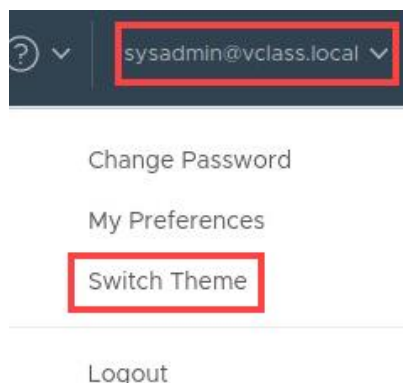
28. In the *My Preferences* window, click the **Inventory** tab. Select **Show VMs in Hosts and Clusters view**. Lastly, click **Save**.



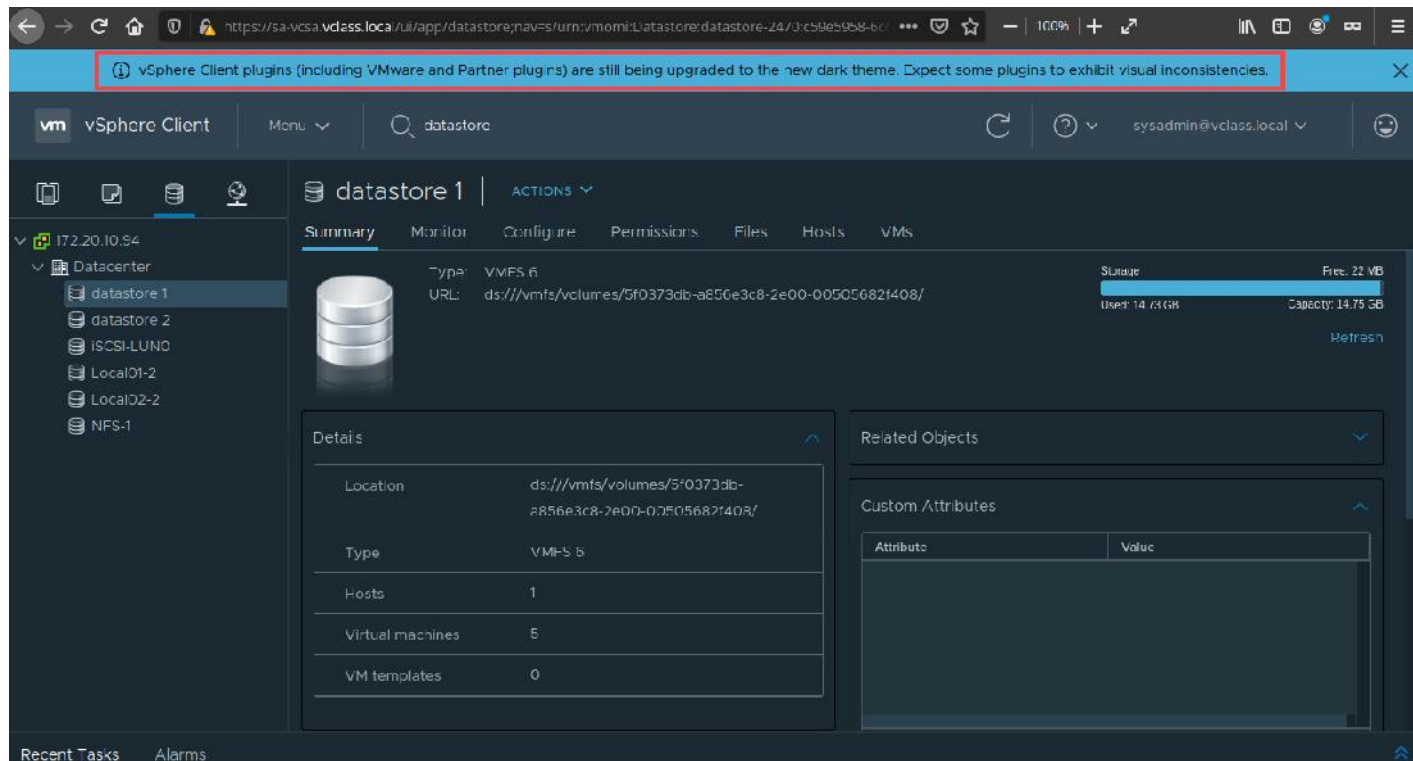
29. Change focus back to the *navigation* pane. Ensure you are on the *Hosts and Clusters* tab and notice the virtual machines are now present for *sa-esxi-01.vclass.local* and *sa-esxi-02.vclass.local*.



30. To change the theme for the *vSphere Client* UI, click on the username, **sysadmin@vclass.local**, located at the top of the page, and click on **Switch Theme**.



31. Notice the theme colors changed to a dark mode.

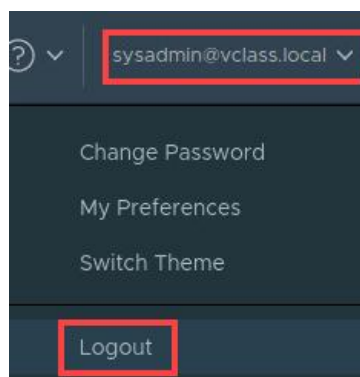


Please Note

When switching to dark mode, if a note pops up, observe the note. *vSphere Client* plugins (including *VMware* and *Partner* plugins) are still being upgraded to the new dark theme. Expect some plugins to exhibit visual inconsistencies.

Depending on the plugin you are utilizing within your environment, you may experience visual errors. To fix the visual errors, you may need to switch back to the default theme.

32. To log out of the *vSphere Client*, click **sysadmin@vclass.local**. Click **Logout** and continue to the next task.



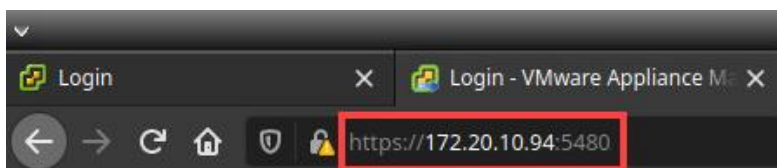
2 Exploring the vCenter Server Management Interface

In this task, you will explore the *vCenter Server Management Interface (VAMI)* and identify the version and build number.

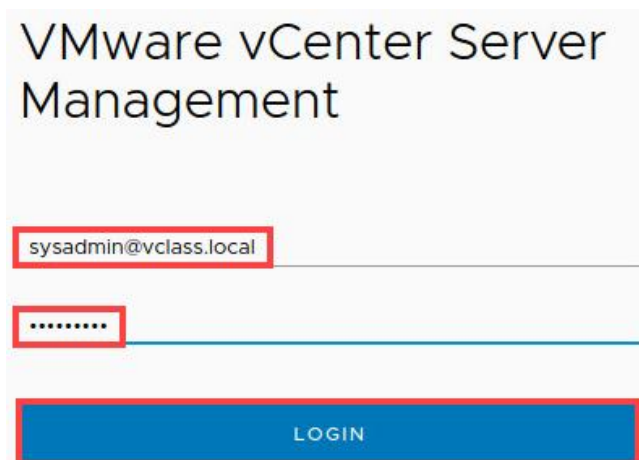
1. Launch a **new tab** in *Mozilla Firefox*.



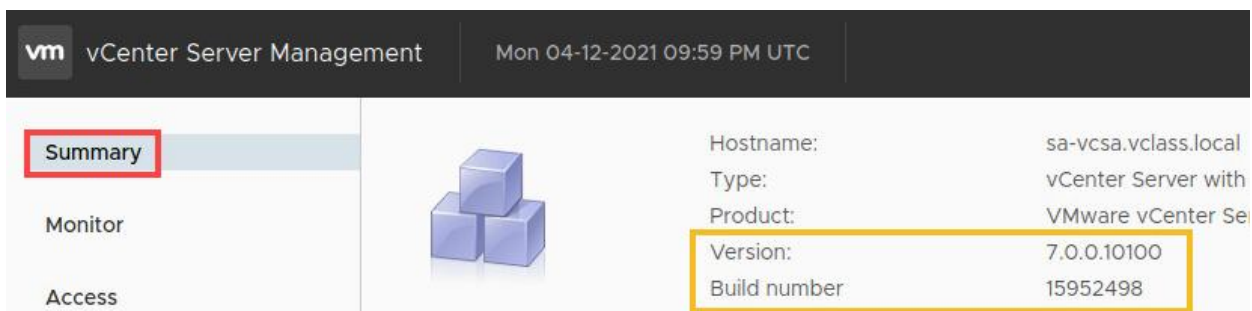
2. On the *new tab* in the *Mozilla Firefox* web browser, you will access the *VMware vCenter Management Interface* by typing `https://172.20.10.94:5480`. Click **Enter**.



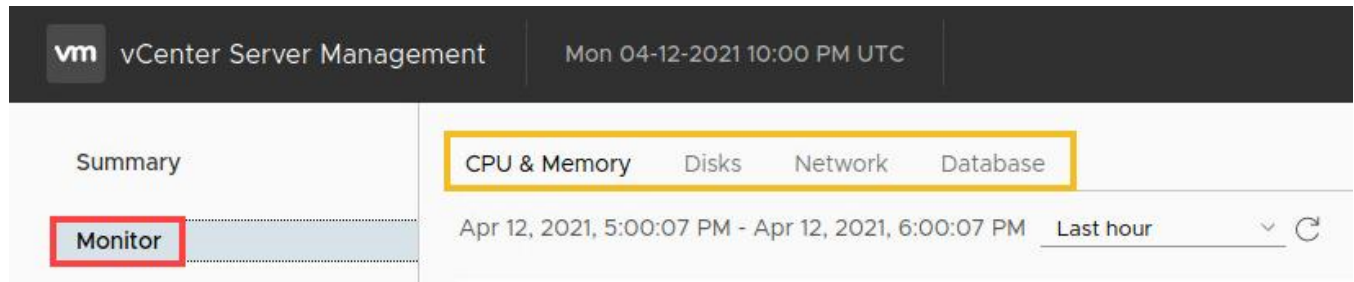
3. In the *Username* field, type `sysadmin@vclass.local` and in the *Password* text field, type `vmware123`. Click **Login**.



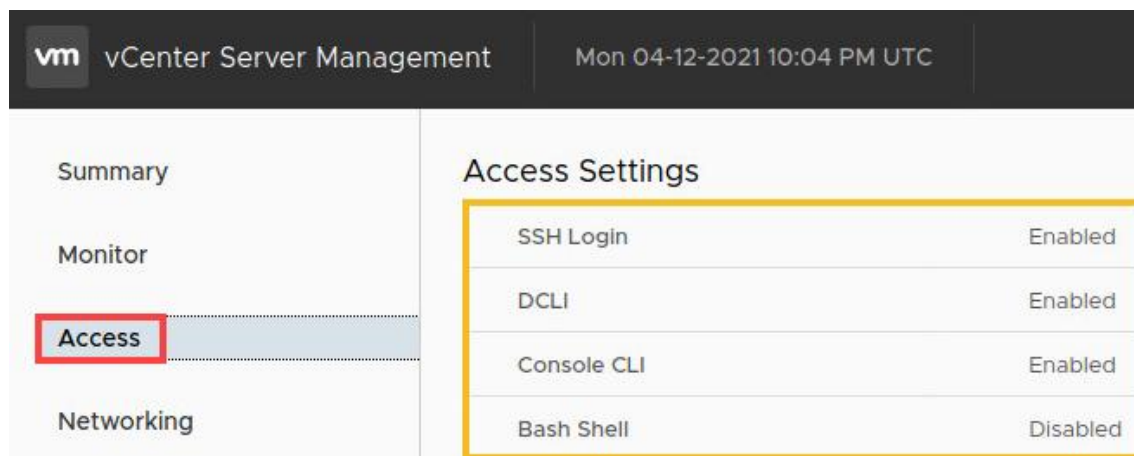
4. In the *vCenter Server Management* interface, ensure you are on the **Summary** tab. In the *Summary* main workspace, you can also view the **Version** and **Build number** of the *vCenter Server Appliance*.



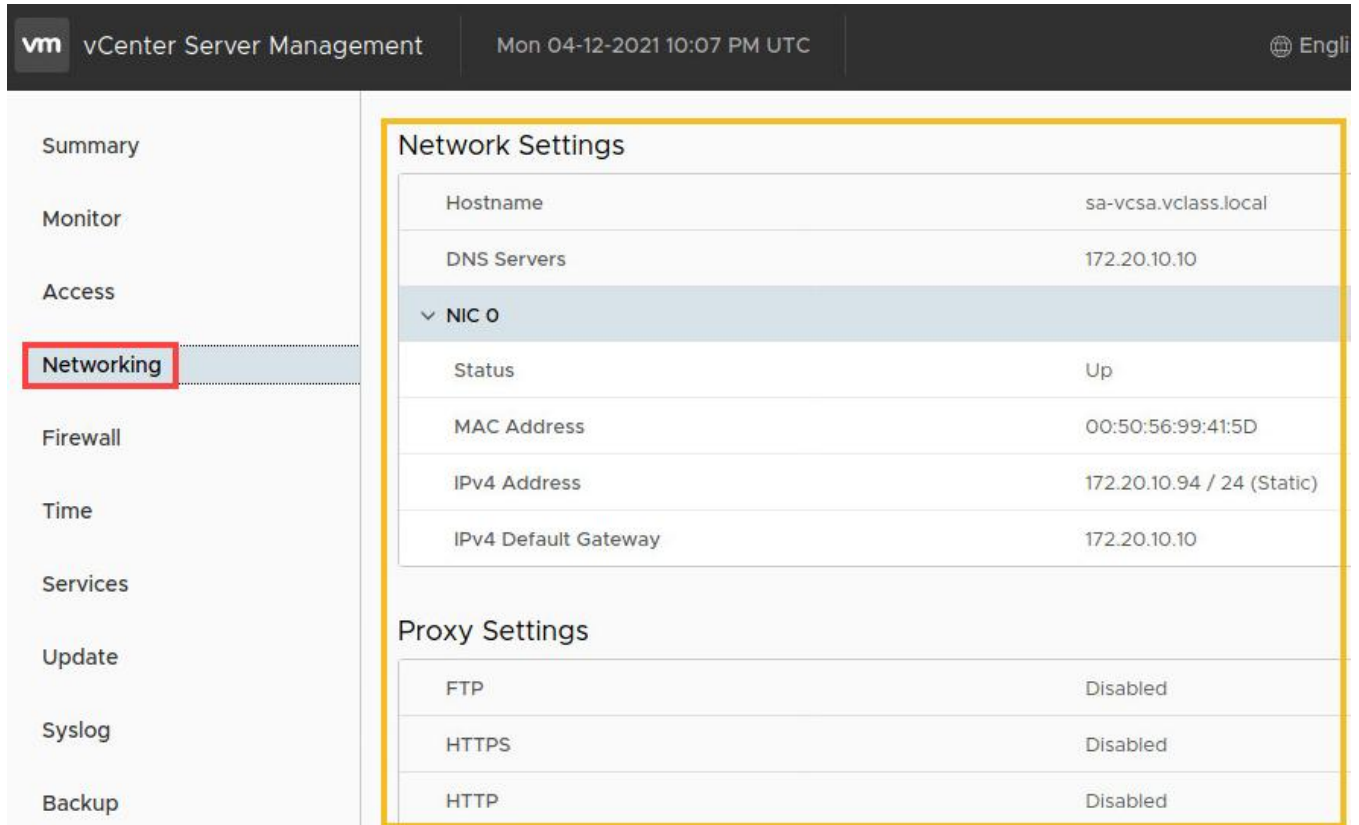
5. In the *vCenter Server Management* interface, click **Monitor**. The *Monitor* link allows administrators to monitor the *CPU & Memory*, *Disks*, *Network*, and *Database* of the *vCenter Server*.



6. In the *vCenter Server Management* interface, click **Access**. The *Access* link allows administrators to enable or disable *SSH*, *Bash Shell*, *Direct Console Line Interface (DCLI)*, and the *Console CLI*.



7. In the *vCenter Server Management* interface, click **Networking**. The **Networking** link allows administrators to *view* and *edit* the *Network* settings of the *vCenter Server Appliance*.



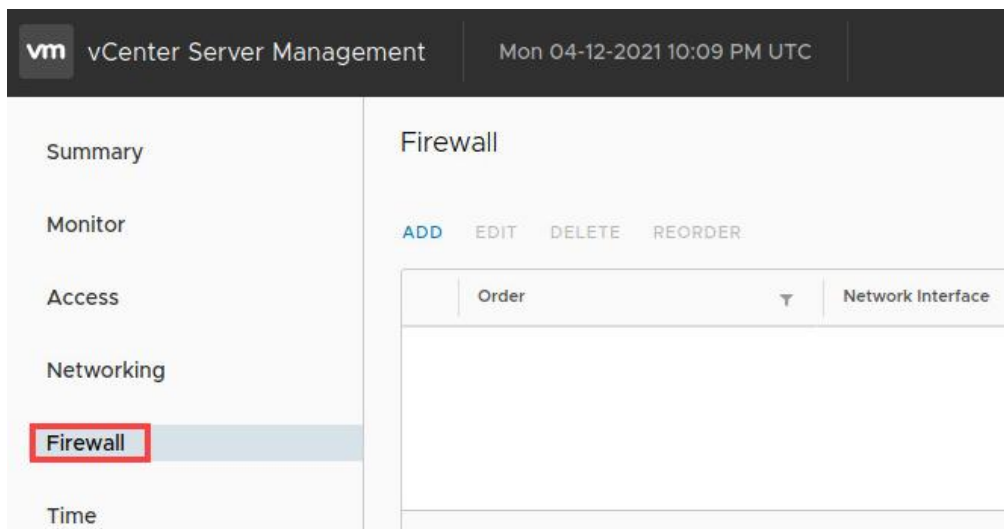
The screenshot shows the vCenter Server Management interface. The left sidebar contains a menu with the following items: Summary, Monitor, Access, **Networking** (highlighted with a red box), Firewall, Time, Services, Update, Syslog, and Backup. The main content area is titled "Network Settings" and contains the following information:

Network Settings	
Hostname	sa-vcsa.vclass.local
DNS Servers	172.20.10.10
▼ NIC 0	
Status	Up
MAC Address	00:50:56:99:41:5D
IPv4 Address	172.20.10.94 / 24 (Static)
IPv4 Default Gateway	172.20.10.10

Below the Network Settings section is the "Proxy Settings" section:

Proxy Settings	
FTP	Disabled
HTTPS	Disabled
HTTP	Disabled

8. In the *vCenter Server Management* interface, click **Firewall**. The *Firewall* link allows administrators to edit the *Firewall* settings of the *vCenter Server Appliance*.

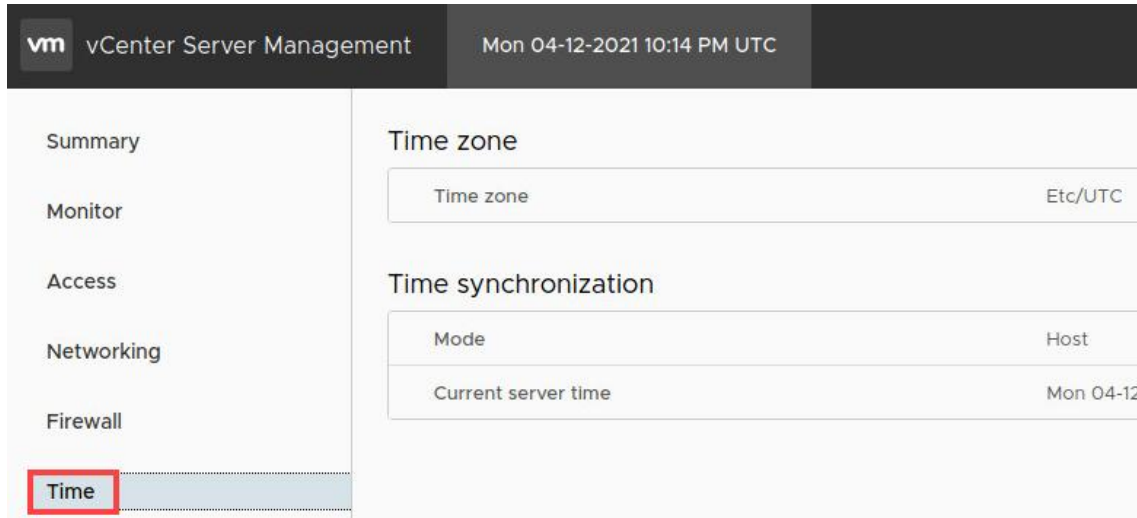


The screenshot shows the vCenter Server Management interface with the Firewall settings page. The left sidebar contains a menu with the following items: Summary, Monitor, Access, Networking, **Firewall** (highlighted with a red box), and Time. The main content area is titled "Firewall" and contains the following information:

ADD EDIT DELETE REORDER

Order	Network Interface
-------	-------------------

9. In the *vCenter Server Management* interface, click **Time**. The *Time* link allows administrators to edit the *Time* settings, such as the zone and mode of the *vCenter Server Appliance*.



vm vCenter Server Management Mon 04-12-2021 10:14 PM UTC

Summary
Monitor
Access
Networking
Firewall
Time

Time zone

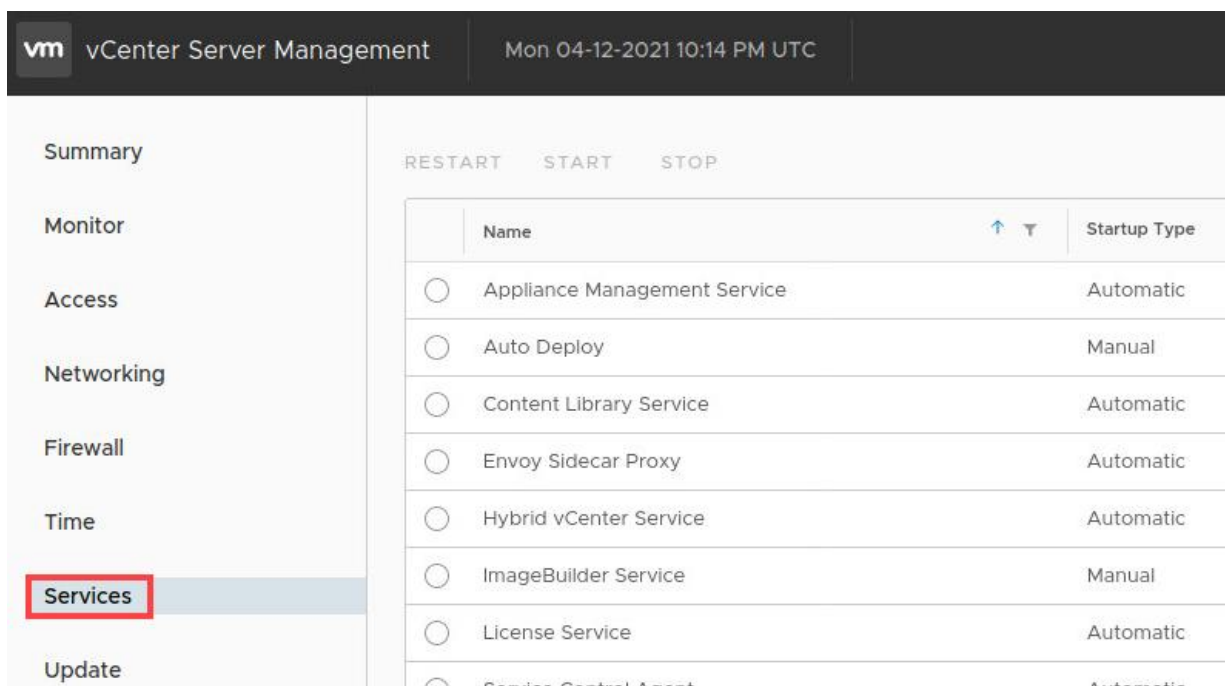
Time zone Etc/UTC

Time synchronization

Mode Host

Current server time Mon 04-12-

10. In the *vCenter Server Management* interface, click **Services**. The *Services* link allows administrators to edit and view all of the current services the *vCenter Server Appliance* is utilizing.



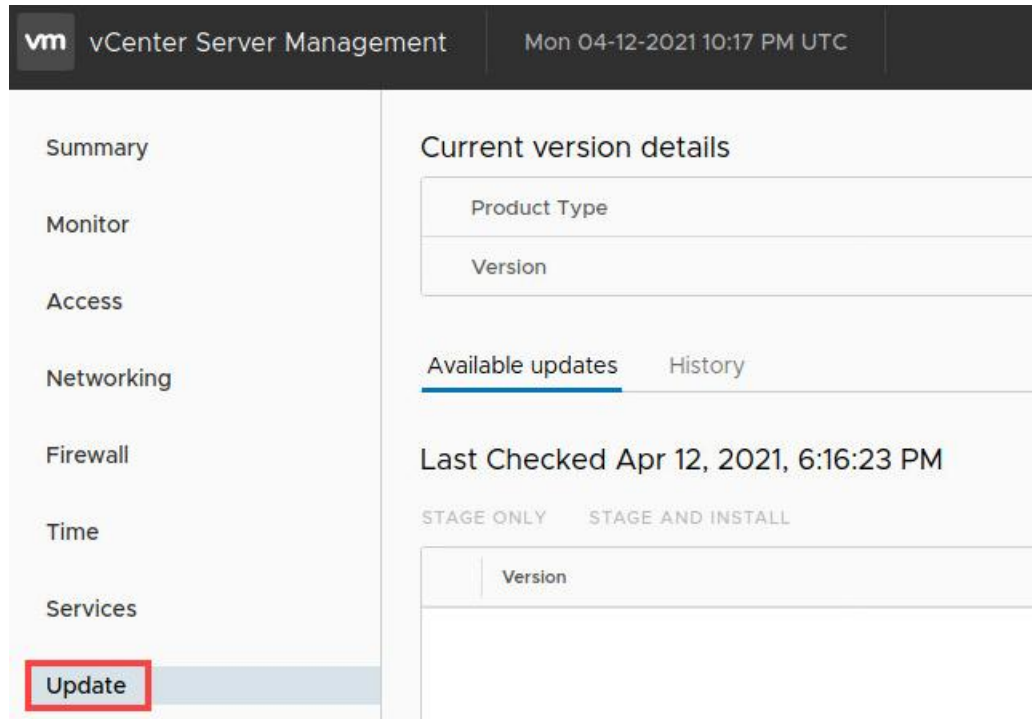
vm vCenter Server Management Mon 04-12-2021 10:14 PM UTC

Summary
Monitor
Access
Networking
Firewall
Time
Services
Update

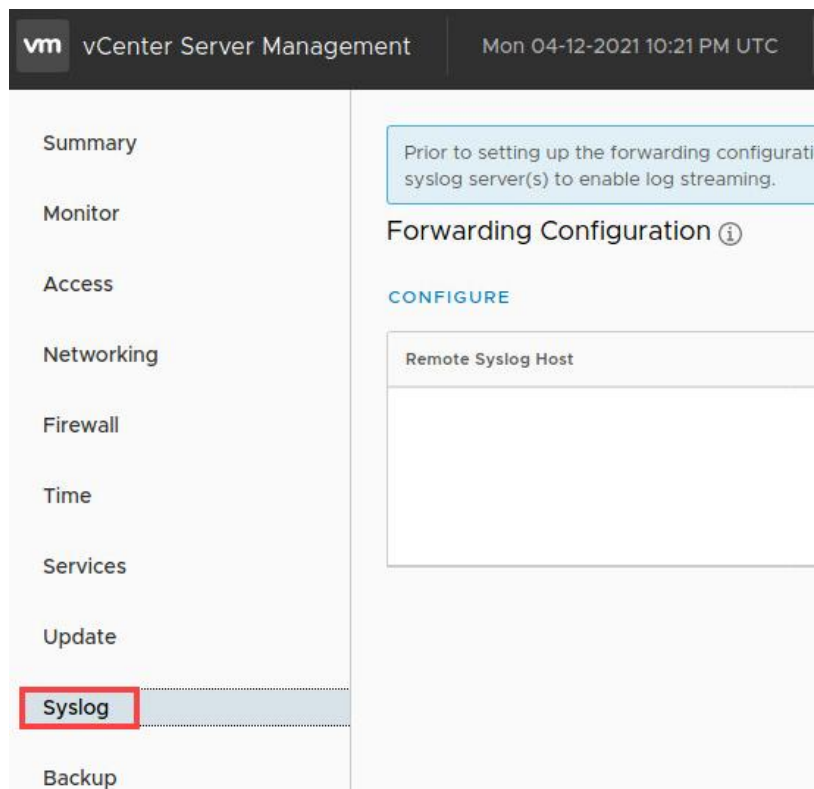
RESTART START STOP

	Name	Startup Type
<input type="radio"/>	Appliance Management Service	Automatic
<input type="radio"/>	Auto Deploy	Manual
<input type="radio"/>	Content Library Service	Automatic
<input type="radio"/>	Envoy Sidecar Proxy	Automatic
<input type="radio"/>	Hybrid vCenter Service	Automatic
<input type="radio"/>	ImageBuilder Service	Manual
<input type="radio"/>	License Service	Automatic
<input type="radio"/>	Service Control Agent	Automatic

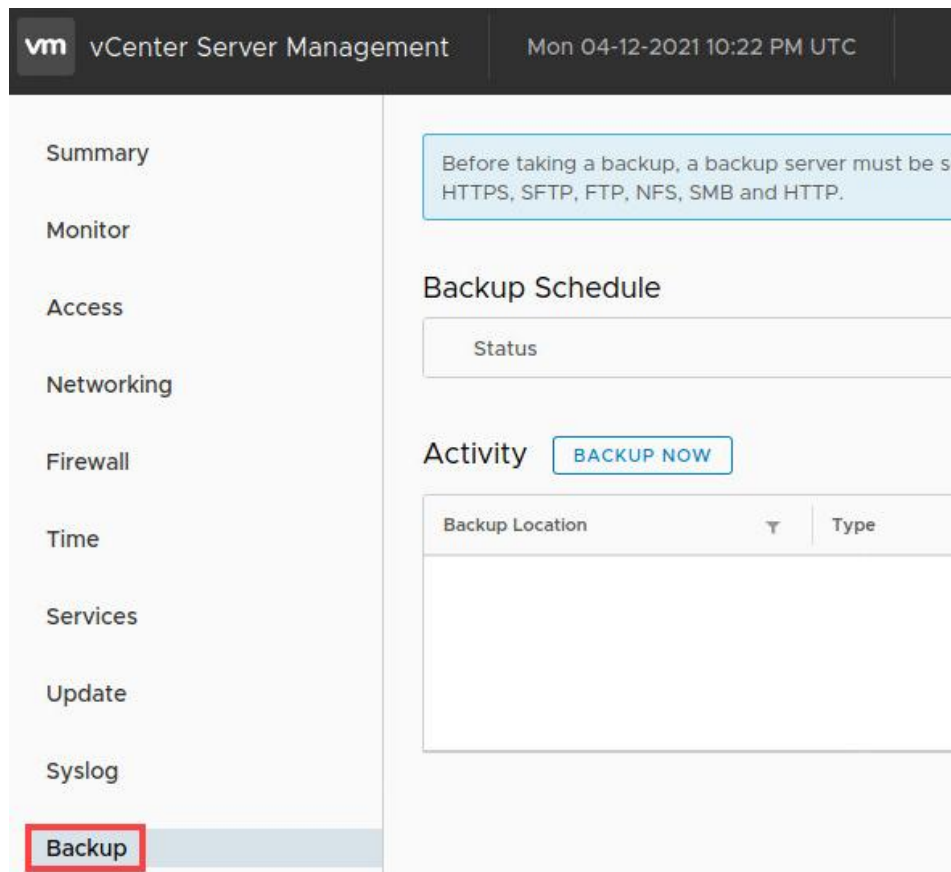
11. In the *vCenter Server Management* interface, click **Update**. The *Update* link allows administrators to check for updates related to the *vCenter Server Appliance*. The *Update* link also can show what version of *vCenter* is being utilized in the *vSphere* environment.



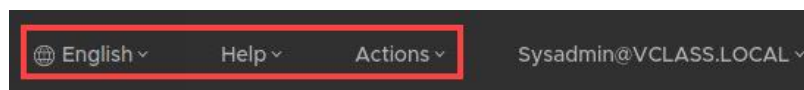
12. In the *vCenter Server Management* interface, click **Syslog**. The *Syslog* link allows administrators to forward syslogs to a remote syslog host of their choice related to the *vCenter Server Appliance*.



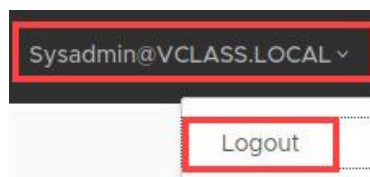
13. In the *vCenter Server Management* interface, click **Backup**. The *Backup* link allows administrators to back up the *vCenter Server Appliance* to a remote location over *FTPS, HTTPS, SFTP, FTP, NFS SMB, and HTTP*.



14. While logged into the *vCenter Server Management Interface (VAMI)*, notice the options located at the top-right. *English* allows administrators to change the language, *Help* provides information about the *vCenter Server Appliance*, and *Actions* allow administrators to *Reboot, Shutdown, Create Support Bundles* and change the theme to *dark* or *light*.



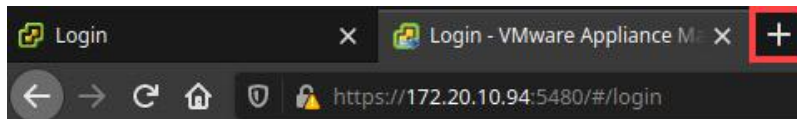
15. Click **sysadmin@vclass.local**. Click **Logout** and continue to the next task.



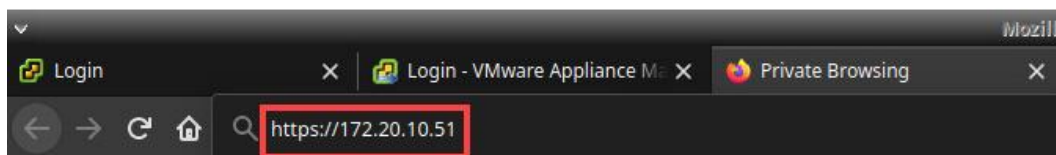
3 Exploring the VMware Host Client Interface

In this task, you will explore the VMware Host Client Interface and Identify the Host Client Version and build.

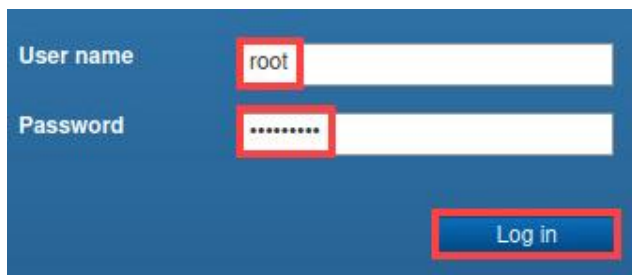
1. Launch a **new tab** in *Mozilla Firefox*.



2. On the *new tab* in the *Mozilla Firefox* web browser, you will access the *VMware vCenter Management Interface* by typing `https://172.20.10.51`. Click **Enter**.



3. In the *Username* field, type `root`, and in the *Password* text field, type `Train1ng$`. Click **Log in**.



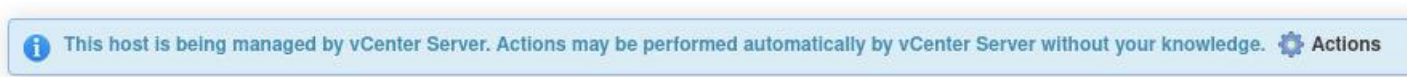
4. In the *Navigator* pane of *sa-esxi-01.vclass.local*, notice the *VMware Host Client* opens directly with the host selected. You can view the *version* and *build* that the host is running in the *sa-esxi-01.vclass.local* main workspace.






5. In the *Navigator* pane, administrators can view specific information related to the *Virtual Machines*, *Storage*, and *Networking* associated only with the host you are logged into with the *VMware Host Client*.



6. On *sa-esxi-01.vclass.local* main workspace, you will notice an informational message that *This host is being managed by vCenter Server. Actions may be performed automatically by vCenter Server without your knowledge.* This message is advising that the host is active on *vCenter Server*, and there may be automated actions being performed outside of the *VMware Host Client* view.



7. Ensure the **Host** tab is still selected and view the **Hardware** pane. The *Hardware* pane shows administrators the configurations of the physical server *ESXi* is running on. The physical hardware consists of the *CPU*, *Memory*, and *Storage*.

▼ Hardware					
Manufacturer	VMware, Inc.				
Model	VMware7,1				
▶ CPU	2 CPUs x Intel(R) Xeon(R) D-2146NT CPU @ 2.30GHz				
Memory	8 GB				
▶ SGX	0 B / 0 B				
▶ Virtual flash	0 B used, 0 B capacity				
▼ Networking					
Hostname	sa-esxi-01.netlab.local				
IP addresses	1. vmk0: 172.20.10.51				
DNS servers	1. 172.20.10.10 2. 172.20.11.10				
Default gateway	172.20.10.10				
IPv6 enabled	No				
Host adapters	3				
Networks	<table> <tr> <th>Name</th><th>VMs</th></tr> <tr> <td> VM Network</td><td>2</td></tr> </table>	Name	VMs	 VM Network	2
Name	VMs				
 VM Network	2				

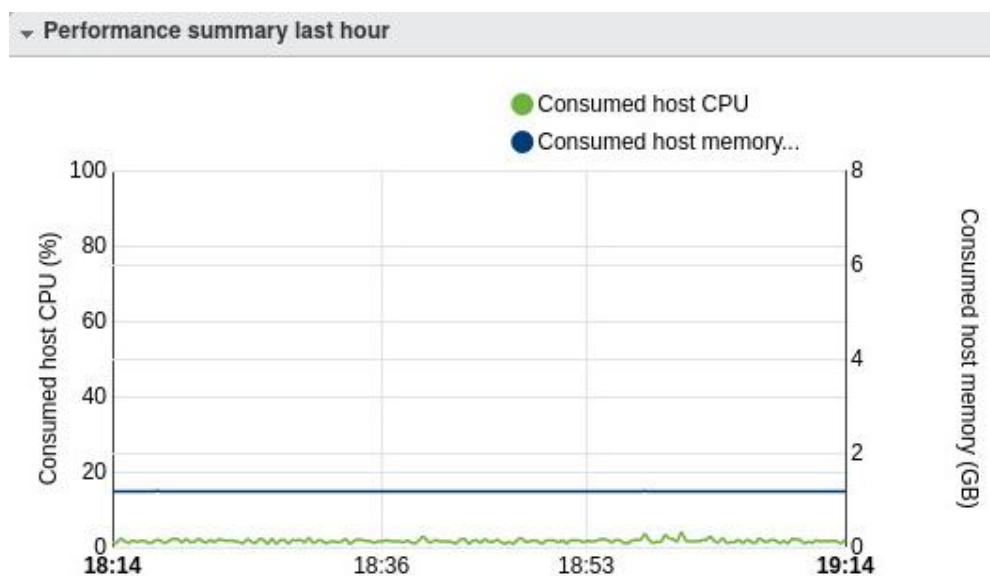
8. Ensure the **Host** tab is still selected and view the **Configuration** pane. The *Configuration* pane shows administrators the current *Image Profile* of *ESXi*, *vSphere High Availability state*, and if *vMotion* is supported on the *ESXi* host.

▼ Configuration	
Image profile	ESXi-7.0.0-15843807-standard (VMware, Inc.)
vSphere HA state	Not configured
▶ vMotion	Supported

9. Ensure the **Host** tab is still selected and view the **System Information** pane. The *System information* pane shows administrators the system status. It will show when *ESXi was installed*, the *date and time on the host*, *Serial number*, and *BIOS version*.

▼ System Information	
Date/time on host	Monday, April 12, 2021, 23:14:43 UTC
Install date	Monday, July 06, 2020, 17:50:37 UTC
Asset tag	No Asset Tag
Serial number	VMware-42 19 b4 71 fe 40 ba 74-74 b7 a1 95 03 b1 fb 96
BIOS version	VMW71.00V.0.B64.1607292324
BIOS release date	Thursday, July 28, 2016, 20:00:00 -0400

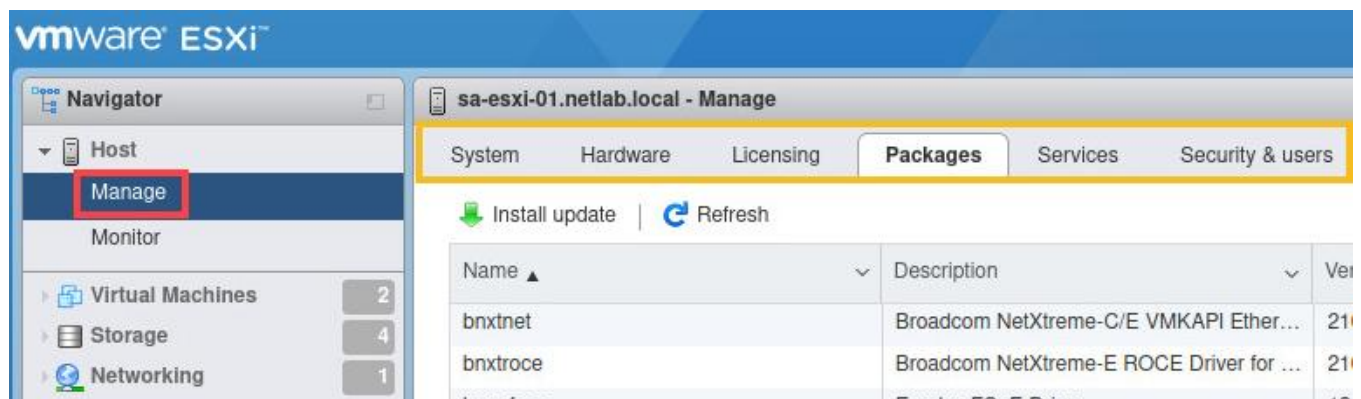
10. Ensure the **Host** tab is still selected and view the **Performance summary last hour** pane. The *Performance summary last hour* pane shows administrators the *past hour* of the *CPU and Memory* usage.



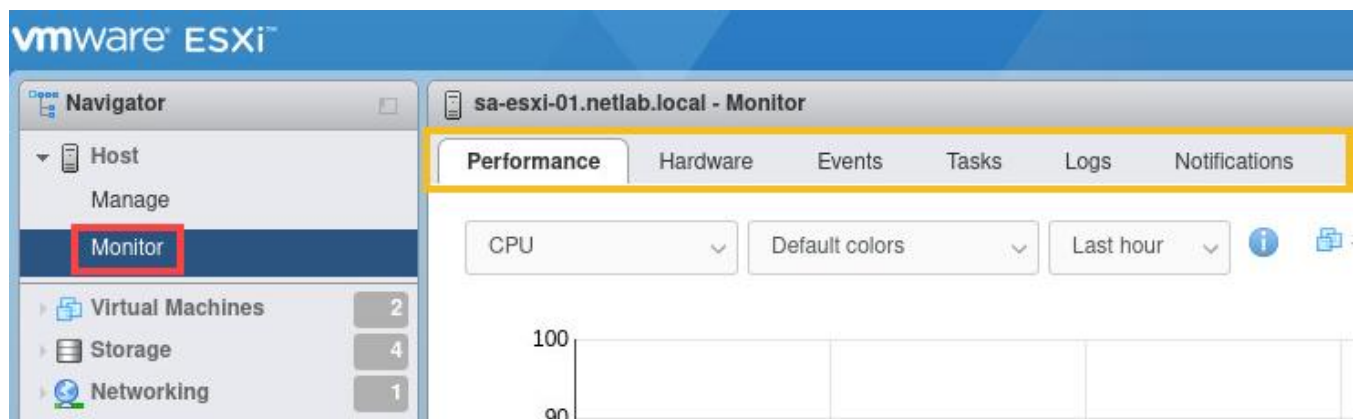
11. Notice the *CPU*, *Memory*, and *Storage* information is available as it was in *vCenter Server* while the *host* is still selected.



12. In the *Navigator* pane, click the **Manage** tab. This view allows administrators to view and edit *System information*, *Hardware*, *License*, *Packages to update*, *Services running on ESXi*, and *Security & Users*.



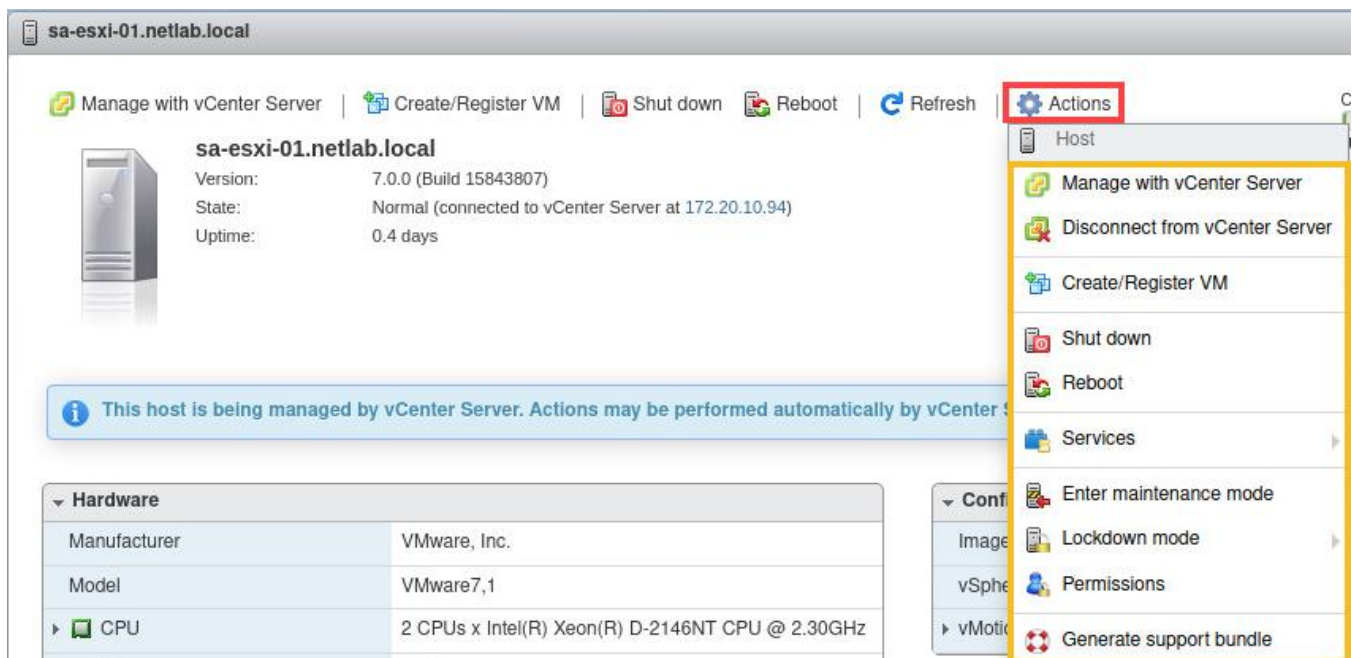
13. In the *Navigator* pane, click the **Monitor** tab. This view allows administrators to view specific items such as *Performance*, *Hardware issues*, *Events*, *Tasks*, *Logs*, and *Notifications* with the *ESXi host* logged into.



14. In the *Navigator* pane, select **Host**.

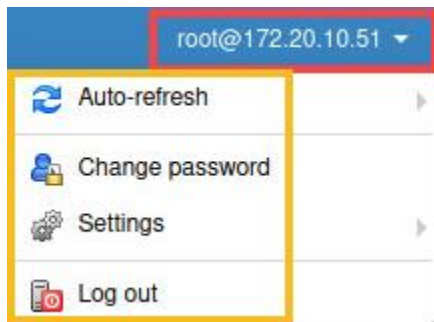


15. In the main workspace of *sa-esxi-01.vclass.local* click **Actions** and notice the available options.



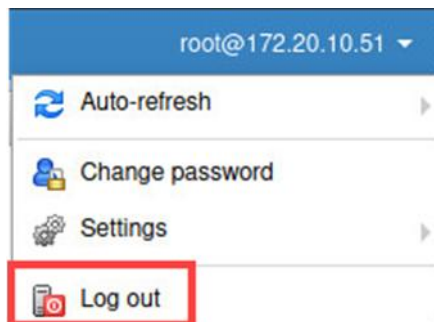
Actions allow an administrator to create and register a virtual machine, shutdown and reboot the *ESXi* host logged into, *Enter maintenance mode*, *Lockdown mode*, assign *Permissions* to users associated to the *ESXi* host logged into and *Generate support bundle* for *VMware* support. If an administrator were to click on *Manage with vCenter Server*, it would open a direct link to the *vCSA* that was managing the *ESXi* host, and the administrator can disconnect the *ESXi* host logged into from the *vCenter*.

16. Click on **root@172.20.10.51** notice the available options.



Auto refresh allows administrators to have the *ESXi* host to refresh every 15, 30, or 60 seconds, or turn off. *Change password* allows *ESXi* administrators to change the password of the *ESXi* host. The *Settings* allow administrators to modify the Language setting, Console settings, and the Application timeout of idle time before the Host Client will automatically log out.

17. To end the session associated with the *ESXi* host logged into, click **Log out**.



18. The lab is now complete; you may end your reservation.