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Lab Overview - HOL-1906-01-CMP - VMware vRealize Suite Lifecycle Manager - Getting Started
Lab Guidance

Note: It may take more than 90 minutes to complete this lab. You should expect to only finish 2-3 of the modules during your time. The modules are independent of each other so you can start at the beginning of any module and proceed from there. You can use the Table of Contents to access any module of your choosing.

The Table of Contents can be accessed in the upper right-hand corner of the Lab Manual.

You will explore how to use vRealize Suite Lifecycle Manager to create and manage an environment consisting of several of the vRealize Suite solutions.

Lab Module List:

- **Module 1 - Introduction to vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager and the process of creating an environment including managed deployments of vRealize Suite components.
- **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface and manage an existing vRealize Suite component.
- **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade the vRealize Suite** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.
- **Module 4 - Using vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components and install extensions directly.
- **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.
- **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.
- **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.
- **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

Lab Captains:
• Module 1 - Kerry Holton, Staff Solution Engineer, US
• Module 2 - Kerry Holton, Staff Solution Engineer, US
• Module 3 - Kerry Holton, Staff Solution Engineer, US
• Module 4 - Kerry Holton, Staff Solution Engineer, US
• Module 5 - Kerry Holton, Staff Solution Engineer, US
• Module 6 - Kerry Holton, Staff Solution Engineer, US
• Module 7 - Jimmy Alvarez, Staff Architect, US
• Module 8 - Jimmy Alvarez, Staff Architect, US

This lab manual can be downloaded from the Hands-on Labs Document site found here:

http://docs.hol.vmware.com

This lab may be available in other languages. To set your language preference and have a localized manual deployed with your lab, you may utilize this document to help guide you through the process:


**Location of the Main Console**

1. The area in the RED box contains the Main Console. The Lab Manual is on the tab to the Right of the Main Console.
2. A particular lab may have additional consoles found on separate tabs in the upper left. You will be directed to open another specific console if needed.
3. Your lab starts with 90 minutes on the timer. The lab can not be saved. All your work must be done during the lab session. But you can click the EXTEND to
increase your time. If you are at a VMware event, you can extend your lab time twice, for up to 30 minutes. Each click gives you an additional 15 minutes. Outside of VMware events, you can extend your lab time up to 9 hours and 30 minutes. Each click gives you an additional hour.

Alternate Methods of Keyboard Data Entry

During this module, you will input text into the Main Console. Besides directly typing it in, there are two very helpful methods of entering data which make it easier to enter complex data.

Click and Drag Lab Manual Content Into Console Active Window

You can also click and drag text and Command Line Interface (CLI) commands directly from the Lab Manual into the active window in the Main Console.

Accessing the Online International Keyboard

You can also use the Online International Keyboard found in the Main Console.

1. Click on the Keyboard Icon found on the Windows Quick Launch Task Bar.
Click once in active console window

In this example, you will use the Online Keyboard to enter the "@" sign used in email addresses. The "@" sign is Shift-2 on US keyboard layouts.

1. Click once in the active console window.
2. Click on the Shift key.

Click on the @ key

1. Click on the "@ key".

Notice the @ sign entered in the active console window.
**Activation Prompt or Watermark**

When you first start your lab, you may notice a watermark on the desktop indicating that Windows is not activated.

One of the major benefits of virtualization is that virtual machines can be moved and run on any platform. The Hands-on Labs utilizes this benefit and we are able to run the labs out of multiple datacenters. However, these datacenters may not have identical processors, which triggers a Microsoft activation check through the Internet.

Rest assured, VMware and the Hands-on Labs are in full compliance with Microsoft licensing requirements. The lab that you are using is a self-contained pod and does not have full access to the Internet, which is required for Windows to verify the activation. Without full access to the Internet, this automated process fails and you see this watermark.

This cosmetic issue has no effect on your lab.

**Look at the lower right portion of the screen**
Please check to see that your lab has finished all the startup routines and is ready for you to start. If you see anything other than "Ready", please wait a few minutes. If after 5 minutes you lab has not changed to "Ready", please ask for assistance.
Module 1 - Introduction to vRealize Suite Lifecycle Manager (30 minutes)
Introduction

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and updates to these components.

Rainpole's data center admins will begin by deploying vRealize Operations and vRealize Log Insight in the Rainpole development environment, located in a data center in Palo Alto, California. In order to simplify this process, Rainpole's data center admins will begin by deploying and configuring vRealize Suite Lifecycle Manager.

In this lab exercise, you will walk through the initial configuration of vRealize Suite Lifecycle Manager, including downloading installation media for other vRealize Suite components, configuration of a data center, and creation of an environment consisting of new deployments of vRealize Operations and vRealize Log Insight.
Introducing vRealize Suite Lifecycle Manager

In this exercise, you will learn more about vRealize Suite Lifecycle Manager and how it can be used to automate Day 0 to Day 2 operations of the entire vRealize Suite, enabling a simplified operational experience for customers.

What is vRealize Suite Lifecycle Manager?

VMware vRealize® Suite Lifecycle Manager™ comes free with VMware vRealize Suite in all three editions. The vRealize Suite Lifecycle Manager automates install, configuration, upgrade, patch, configuration management, drift remediation and health from within a single pane of glass, thereby freeing IT Managers/Cloud admin resources to focus on business-critical initiatives, while improving time to value (TTV), reliability and consistency.

In addition to streamlining and simplifying the deployment and upgrade processes, vRealize Suite Lifecycle Manager also allows for installation of extensions via an online marketplace and automated configuration drift management and remediation with health monitoring.
Organizations can also apply DevOps principles such as continuous development, continuous testing and continuous release and deployment by using the automated infrastructure content management and pre-built content pipelines that are part of vRealize Suite Lifecycle Manager.

**vRealize Suite Lifecycle Manager Benefits**

- **Rapid Installation:** Simple and flexible deployment model with product and solution based installation supported. Automated environment replication and validation process.
- **Easy Ongoing Management:** Automated configuration management and drift management with health monitoring capabilities
- **One-Click Upgrade:** Simplified upgrade and patching process with environment snapshot function.
- **DevOps for Infrastructure Contents:** Out-of-the-box pipelines automate the capture, version control, testing and deployment of vRealize contents across multiple users and different environments.
- **In-Product Marketplace:** Integration with VMware Solution Exchange (VSX) marketplace enables easy access and consumption of curated contents and out-of-the-box building blocks provided by VMware and ecosystem partners.
- **Best Practice Implementation:** Easy alignment with VMware recommended reference architecture and validated design (VVD) through pre-defined settings.

**vRealize Suite Lifecycle Manager Concepts**

- **Data Center:** A location consisting of one or more vCenter Servers. Data Centers will be displayed on the world map in the Data Centers view, and vCenter Servers in each data center can be categorized for management systems, general workloads, or a combination of the two.
- **Environment:** A grouping of one or more vRealize Suite components including vRealize Operations, vRealize Automation, vRealize Log Insight and vRealize Business managed by vRealize Suite Lifecycle Manager. Environments can consist of newly deployed components deployed by vRealize Suite Lifecycle Manager upon environment creation, existing deployments of vRealize Suite components discovered automatically by vRealize Suite Lifecycle Manager, or a combination of both.
- **Content Management:** Build and run infrastructure content as applications through pre-built content pipelines allowing IT teams to adopt the same DevOps approach that development teams commonly leverage.
Hands-on Labs Interactive Simulation: Installing vRealize Suite Lifecycle Manager and Creating an Environment

This part of the lab is presented as a **Hands-on Labs Interactive Simulation**. This will allow you to experience steps which are too time-consuming or resource intensive to do live in the lab environment. In this simulation, you can use the software interface as if you are interacting with a live environment.

1. **Click here to open the interactive simulation.** It will open in a new browser window or tab.
2. When finished, click the “Return to the lab” link to continue with this lab.

The lab continues to run in the background. If the lab goes into standby mode, you can resume it after completing the module.
Conclusion

In this module, you learned about vRealize Suite Lifecycle Manager. In addition, you observed the initial configuration process and the creation of a new environment consisting of new deployments of vRealize Operations as well as vRealize Log Insight.

You've finished Module 1

Congratulations on completing Module 1!

If you are looking for additional information on vRealize Suite Lifecycle Manager, try one of these:

- Go to vRealize Suite Lifecycle Manager Solution Overview
- Or use your smart device to scan the QR Code

Proceed to any module below which interests you most.

- **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
- **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade vRealize Suite Components** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.
- **Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.
• **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration, and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.

• **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.

• **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.

• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

### How to End Lab

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite (30 minutes)
Introduction to Lab Scenario

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and updates to these components.

With the Rainpole Dev data center in Palo Alto defined, and an environment created consisting of new deployments of vRealize Log Insight and vRealize Operations, Rainpole is able to manage these components holistically. However, in the Rainpole Dev data center, Rainpole's virtual admins have already installed vRealize Automation and have made progress in automating IT processes.

In this lab exercise, you will view the existing vRealize Automation deployment that has been added to the Rainpole Dev environment, and you will view the options within vRealize Suite Lifecycle Manager to manage the different vRealize components in the Rainpole Dev environment.
Navigating the vRealize Suite Lifecycle Manager Interface

In this exercise, you will discover the primary components of the vRealize Suite Lifecycle Manager user interface.

Open Chrome Browser

1. Double-click the Chrome icon on the desktop. If the browser window is already open following completion of the previous module, open a new tab in the browser instead (not shown.)
Navigate to vRealize Suite Lifecycle Manager and Log In

1. Click the vRealize Suite Lifecycle Manager bookmark
2. If presented with the login screen, log in to vRealize Suite Lifecycle Manager as admin@localhost with the password VMware1!
3. Click LOG IN
vRealize Suite Lifecycle Management Home Screen

Upon logging in, the Home screen will be displayed. Specific sections of the user interface are available on the left, including:

**Home**: Return to this screen

**Create Environment**: Configure a new environment managed by vRealize Suite Lifecycle Manager, consisting of one or more vRealize Suite components

**Manage Data Centers**: Define data centers in multiple geographical locations, and manage vCenter Servers in each location

**Requests**: View running and previously completed requests

**Marketplace**: View extensions to vRealize Suite components, including Log Insight content packs and vRealize Operations dashboards

**Content Management**: Build and run infrastructure content through prebuilt content pipelines

**Settings**: Modify vRealize Suite Lifecycle Manager global settings
Next, we will review each section of the interface in more detail.

1. Click the **Manage Environments** pane to view environments managed by vRealize Suite Lifecycle Manager

**Manage Environments**

![Manage Environments](image)

In the Manage Environments section, you can view and modify existing environments managed by vRealize Suite Lifecycle Manager. Note the existing **Rainpole Dev** environment. This environment includes vRealize Automation, vRealize Log Insight and vRealize Operations.

1. Click **VIEW DETAILS**
All of the vRealize Suite components have already been configured and added to this environment. Here we can see the details of each of the Realize components.

1. Click on **VIEW DETAILS** for vRealize Automation
View the Details for vRealize Automation

Here we can see that the 7.4.0 version of vRealize Automation exists in the Rainpole Dev Data Center and in the Rainpole Dev Environment.

1. Click **Data Centers** from the navigation menu on the left
Manage Data Centers

In the Data Centers section, you can view and define data centers globally, and configure vCenter servers in each data center location to integrate with vRealize Suite Lifecycle Manager.

1. Note the existing data center, which was defined in module 1
2. Click **Requests** to proceed to the next section
Requests

Previously completed and currently running requests can be viewed in the Requests section. Additional information on specific requests can be viewed by clicking on the entry in the State column.

1. Click Marketplace to proceed to the next section.
Marketplace

The vRealize Suite Lifecycle Manager marketplace allows administrators to get the out-of-the-box solutions developed by VMware and its ecosystem partners. vRealize Suite Lifecycle Manager integrates the marketplace into its platform and lets customers have a direct access to relevant and product-compatible content, including vRealize Operations management packs, vRealize Log Insight content packs, vRealize Automation blueprints and vRealize Orchestrator plug-ins. Administrators can browse, download and deploy the content to enhance their vRealize environments to accomplish tasks such as speeding up 3rd party integration or quickly deploying complex applications and will get notified when a new version of downloaded content becomes available.

Note that you will see the message "Unable to retrieve any content from Marketplace" because we do not have a My VMware account connected in the lab environment.

The Marketplace will be covered in additional detail in Module 4 - Using vRealize Suite Lifecycle Manager Marketplace.

1. Click **Content Management** to proceed to the next section.
The vRealize Suite Lifecycle Manager Content Management menu expands the navigation menu to show additional options under Content Management. Content Management will be covered in detail in Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines.

1. Click the << to collapse the menu
2. Click Settings to proceed to the next section.
The Settings section allows for modification of various vRealize Suite Lifecycle Manager configuration, including:

- **System Settings**: Settings specific to the vRealize Suite Lifecycle Manager appliance
- **Product Binaries**: Source for virtual appliance files for vRealize Suite component installation and upgrades. These files can be stored locally on the vRealize Suite Lifecycle Manager appliance, on a local NFS share, or downloaded directly from your My VMware account.
- **User Management**: Define a new Identity Manager appliance used by vRealize Suite Lifecycle Manager for component integration, or leverage an existing Identity Manager appliance
- **My VMware**: Define My VMware credentials. These credentials will be used by vRealize Suite Lifecycle Manager to download vRealize Suite component installation and upgrade media, and to manage available vRealize Suite licenses
- **Logs**: Manage vRealize Suite Lifecycle Manager log data, or download logs for troubleshooting
- **Update**: Check for and install updates to vRealize Suite Lifecycle Manager
- **Certificate**: Manage the certificate used by vRealize Suite Lifecycle Manager in newly created environments
• **Features**: Enable or disable Content Lifecycle Management to capture and deploy content from endpoints

• **Log Agent Configuration**: Set properties and collect event log of the Log Insight agents that reside on your vRealize Suite Lifecycle Manager deployment

• **NTP Servers**: Configure NTP Servers for deploying products in environments

• **SNMP Configurations**: Configure SNMP settings for vRealize Network Insight data sources

**Continue to Manage Environments Section**

After reviewing the available settings in the Settings section, proceed to the Manage Environments section for the next section of this lab exercise.

1. Click **Environments** to proceed
Managing a vRealize Suite Lifecycle Manager Environment

In this exercise, we will explore the existing environment that has been added to vRealize Lifecycle Manager that allows the management of the vRealize Automation, vRealize Log Insight and vRealize Operations Manager components.

View the Existing Environment

Note the **Health OK** message for the environment. The VMware SDDC Management Health Management Pack monitors the health of VMware SDDC components in the SDDC stack and can be downloaded from the VMware Solution Exchange. The management pack monitors the following components:

VMware vCenter Server
1. Click the vertical ellipsis to view the available options for the Rainpole Dev environment. Click the ellipsis again to remove it.

2. Click on View Details

View Details for the Rainpole Dev Environment

We can view the details for each of the vRealize components that have already been added to our Rainpole Dev environment, and we'll look at the vRealize Operations details.

1. Click VIEW DETAILS for vRealize Operations
View Details for vRealize Operations

1. Click on the **arrow** next to master under Components to expand all of the information
2. Click **Return** to go back to the environment overview
After a component has been added to an environment, there are multiple actions you can take on that component.

1. Click on the **vertical ellipsis** to see the options for the vRealize Automation component
View the Configuration Drift Report for vRealize Automation

There are multiple actions that you can take, including:

- **Add Components** to add additional vRealize components to an environment
- **Create Snapshot** to take a snapshot of the component before doing an upgrade
- **View Compatibility Matrix** to see the compatibility matrix of the selected vRealize component
- **Upgrade** to upgrade the component to an available later release
- **Patches** to install patches to vRealize Suite components

vRealize Suite Lifecycle Manager not only manages upgrades, but it also manages configuration drift and remediation for all components of the vRealize Suite.

1. Click **Show Report** under Configuration Drift
We see that the configuration for vRealize Automation has not drifted since it's been added to the environment. Managing configuration drift is covered in detail in Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift.

1. Click RETURN to return back to the Rainpole Dev environment
Return to the Home Screen

1. Click the **Home** icon to return to the Home screen.
Conclusion

In this module, you learned more about the vRealize Suite Lifecycle Manager user interface. In addition, through the Manage Environments section you were able to see the options you have for adding components, upgrading components and viewing compatibility matrices for vRealize components.

You've finished Module 2

Congratulations on completing Module 2!

If you are looking for additional information on managing environments in vRealize Suite Lifecycle Manager, try one of these:

• Go to Managing vRealize Suite Products in a Private Cloud
• Or use your smart device to scan the QR Code

Proceed to any module below which interests you most.

• Module 1 - Introduction to vRealize Suite Lifecycle Manager (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
• Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade the vRealize Suite (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.
• **Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.

• **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration, and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.

• **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.

• **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.

• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

### How to End Lab

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 3 - Using vRealize Suite Manager to Upgrade the vRealize Suite (30 minutes)
Introduction to Lab Scenario

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and updates to these components.

In addition to deploying the vRealize Suite components during environment creation, vRealize Suite Lifecycle Manager allows for several Day 2 operations, including upgrades.

In this lab, as a Rainpole data center admin you will view available operations on the existing Rainpole Dev environment, and then leverage vRealize Suite Lifecycle Manager to upgrade vRealize Log Insight to a new version.
vRealize Suite Lifecycle Management Concepts

Environments in vRealize Suite Lifecycle Manager consist of one or more vRealize Suite components, including:

- vRealize Automation
- vRealize Business for Cloud
- vRealize Operations Manager
- vRealize Log Insight

Module 1 demonstrated the creation of a vRealize Suite Lifecycle Manager environment consisting of new deployments of vRealize Log Insight and vRealize Operations. During environment creation, both components were deployed automatically by vRealize Suite Lifecycle Manager. Click here to review the environment creation process in module 1.

Module 2 demonstrated viewing an environment that had an existing deployment of vRealize Automation added to the Rainpole Dev environment. This vRealize Automation instance was installed separately, but vRealize Suite Lifecycle Manager can still be used to manage its lifecycle in addition to the lifecycle of the solutions deployed automatically during environment creation. Click here to review the process for viewing the existing vRealize Automation instance added to the Rainpole Dev environment.

In addition to environment creation and adding existing vRealize Suite components to an environment, additional vRealize Suite Lifecycle Management concepts will be discussed in this module as well as subsequent modules.

Open Chrome Browser

1. Click the Chrome icon in the Windows Quick Launch Task Bar. (This step may be skipped if the browser window is already open from a previous module.)
Navigate to vRealize Suite Lifecycle Manager and Log In

1. Click the vRealize Suite Lifecycle Manager bookmark
2. Log in to vRealize Suite Lifecycle Manager as admin@localhost with the password VMware1!
3. Click LOG IN
View the Rainpole Dev Environment

1. Click **Manage Environments** on the left to view existing environments within vRealize Suite Lifecycle Manager.
View Environment Options

Several options exist within a defined environment. These include:

**Download Logs**: download log bundles for all vRealize Suite components in this environment, for support and troubleshooting. Product logs generated through this process are available on the vRealize Suite Lifecycle Manager appliance in the /data/support-bundle directory.

**Delete Environment**: delete the defined environment. This process allows to keep the deployed vRealize Suite components or to delete them.

**View Patch History**: view the history of the patches applied to vRealize Suite components thru vRealize Suite Lifecycle Manager
**Last Install Pre Check Result:** shows the generated report that indicates whether the pre-validation is in a PASS or FAIL state.

**Disable Healthcheck:** disables the Healthcheck management pack

**Export Configuration:** save the configuration used to define this environment, in JSON format. The exported configuration can be leveraged to quickly duplicate this environment as needed.

**Configuration Drift - Save Baseline:** track and manage the configuration of vRealize Suite components in this environment. Configuration drift will be covered in Module 5.

**Organic Growth - Add Products:** add existing vRealize Suite components to an environment, or expand existing components. Organic growth is covered in Module 2.

1. Click the **vertical ellipsis** to open the environment menu to see the options
2. Click the **vertical ellipsis** once more to close the menu

### View Details of Components Within Environment

1. Click **VIEW DETAILS** to view more information on the individual vRealize Suite components in the Rainpole Dev environment.
Note the installed vRealize Suite components within this environment. For each component, you can view the current version, installation date, and additional details.

1. View additional detail on one of the installed vRealize Suite components in this environment by clicking **VIEW DETAILS**.

2. To return to the list of components in the Rainpole Dev environment, click the **RAINPOLE DEV** link in the navigation menu. (Note: the RAINPOLE DEV text will be a different color when viewing an individual component, but clicking on it will still return you to the list of components.)

This exercise is complete. In the next exercise, you will leverage vRealize Suite Lifecycle Manager to update the deployed vRealize Log Insight component.
Hands-on Labs Interactive Simulation: Upgrade vRealize Log Insight Using vRealize Suite Lifecycle Manager

This part of the lab is presented as a Hands-on Labs Interactive Simulation. This will allow you to experience steps which are too time-consuming or resource intensive to do live in the lab environment. In this simulation, you can use the software interface as if you are interacting with a live environment.

1. Click here to open the interactive simulation. It will open in a new browser window or tab.
2. When finished, click the “Return to the lab” link to continue with this lab.

The lab continues to run in the background. If the lab goes into standby mode, you can resume it after completing the module.
Conclusion

In this module, you performed an upgrade to vRealize Log Insight using vRealize Suite Lifecycle Manager.

You've finished Module 3

Congratulations on completing Module 3!

If you are looking for additional information on upgrading vRealize Suite products, try one of these:

• Go to Upgrade a vRealize Suite Product
• Or use your smart device to scan the QR Code

Proceed to any module below which interests you most.

• Module 1 - Introduction to vRealize Suite Lifecycle Manager (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
• Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
• Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.
• **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration, and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.

• **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.

• **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.

• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

**How to End Lab**

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 4 - Using vRealize Suite Lifecycle Manager Marketplace (30 minutes)
Introduction to Lab Scenario

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and updates to these components.

In addition to managing the deployment of vRealize Suite components, vRealize Suite Lifecycle Manager integrates with the VMware Marketplace (also known as the VMware Solution Exchange) to download and install extensions to managed components. The VMware Marketplace provides access to content packs for vRealize Log Insight, management packs for vRealize Operations, blueprints for vRealize Automation and plug-ins for vRealize Orchestrator. Administrators can browse, download and deploy content to enhance their vRealize environments to accomplish tasks such as speeding up 3rd party integration or quickly deploying complex applications and will get notified when a new version of downloaded content becomes available.

In this lab exercise, you will download a vRealize Log Insight content pack from the VMware Marketplace using vRealize Suite Lifecycle Manager, and install the content pack into the existing Rainpole Dev environment.
**Hands-on Labs Interactive Simulation: Using the vRealize Suite Lifecycle Manager Marketplace**

This part of the lab is presented as a **Hands-on Labs Interactive Simulation**. This will allow you to experience steps which are too time-consuming or resource intensive to do live in the lab environment. In this simulation, you can use the software interface as if you are interacting with a live environment.

1. **Click here to open the interactive simulation.** It will open in a new browser window or tab.
2. When finished, click the “Return to the lab” link to continue with this lab.

The lab continues to run in the background. If the lab goes into standby mode, you can resume it after completing the module.
Conclusion

In this module, you leveraged vRealize Suite Lifecycle Manager to download a vRealize Suite component extension from the VMware Marketplace (in this case, a vRealize Log Insight content pack,) and install it automatically into the existing environment. With the available VMware Marketplace integration, vRealize Suite Lifecycle Manager provides additional extensibility and management of vRealize Suite components.

You've finished Module 4

Congratulations on completing Module 4!

If you are looking for additional information on adding and managing content from the VMware Marketplace, try one of these:

- Go to Adding and Managing Content from Marketplace
- Or use your smart device to scan the QR Code

Proceed to any module below which interests you most.

- **Module 1 - Introduction to vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
- **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
• **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade vRealize Suite Components** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.

• **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration, and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.

• **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.

• **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.

• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

**How to End Lab**

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift (30 minutes)
Introduction to Lab Scenario

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and updates to these components.

With the Rainpole Dev data center in Palo Alto defined and an environment created consisting of new deployments of vRealize Log Insight and vRealize Operations, Rainpole is able to manage these components holistically. However, in the Rainpole Dev data center, Rainpole's virtual admins have already installed vRealize Automation and have made progress in automating IT processes.

In this lab exercise, your team has noticed that the vRealize Operations database is having data retention issues. You will use vRealize Suite Lifecycle Manager to determine the cause of this issue and fix it.
Hands-on Labs Interactive Simulation: Verifying & Remediating Configuration Drift of vRealize Suite Components

This part of the lab is presented as a Hands-on Labs Interactive Simulation. This will allow you to experience steps which are too time-consuming or resource intensive to do live in the lab environment. In this simulation, you can use the software interface as if you are interacting with a live environment.

1. [Click here to open the interactive simulation.](#) It will open in a new browser window or tab.
2. When finished, click the “Return to the lab” link to continue with this lab.

The lab continues to run in the background. If the lab goes into standby mode, you can resume it after completing the module.
Conclusion

In this module, you used vRealize Suite Lifecycle Manager to fix a configuration drift issue in vRealize Operations.

You've finished Module 5

Congratulations on completing Module 5!

If you are looking for additional information on managing vRealize Suite product configuration drift, try one of these:

- Go to Configuration Drift
- Or use your smart device to scan the QR Code

Proceed to any module below which interests you most.

- **Module 1 - Introduction to vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
- **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
- **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade vRealize Suite Components** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.
• **Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.

• **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.

• **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.

• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

**How to End Lab**

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines (45 minutes)
Introduction to Lab Scenario

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage content from vRealize Suite components across different environments.

Using vRealize Suite Lifecycle Manager Content Management, the Rainpole admins will be able to build and run infrastructure content as applications. Through pre-built content pipelines, the admin team can adopt the same DevOps approach as the Rainpole dev team and can work collaboratively with the dev team to achieve higher speed, quality and consistency across dev, test and production environments.

vRealize Suite Lifecycle Manager Content Management provides:

- **Pre-built content pipelines**: IT teams can automate the end-to-end content management workflow including automated content capture, test and release for vRealize Automation blueprints and vRealize Orchestrator workflows. Support for automated tests ensures correct configuration before deployment.
- **Source control integration and versioning**: Built-in support for check-in and check-out of content (with dependencies) to source control allowing multiple teams to collaborate with a common repository of version controlled content.
- **Content dependency support**: Content with dependencies can be managed, developed and released independently while still maintaining consistent links to other content providing visibility into complex content architecture and flexibility to tackle individual components.
In this lab exercise, you will explore the Content Management capabilities of vRealize Suite Lifecycle Manager. You will capture a blueprint as content from vRealize Automation in the Rainpole Dev environment, and you will check that captured content in to GitLab.
Configure Source Control Integration

1. Click on the Chrome icon on the desktop to open a browser window

Navigate to vRealize Suite Lifecycle Manager and Log In

1. Click the vRealize Suite Lifecycle Manager bookmark
2. If presented with the login screen, log in to vRealize Suite Lifecycle Manager as admin@localhost with the password VMware1!
3. Click **Log In**

**Navigate to Content Management**

1. Click on the **Content Management** icon from the navigation menu
Navigate to Content Settings

When you click on Content Management, the menu expands to show additional menu options for content management. We'll start by taking a look at our settings which is where we configure integration with GitLab.

1. Click on **Content Settings** from the navigation menu
The first tab in the Content Settings is Pipeline Stubs. The pipeline stubs display the status of each action whenever a content is captured.

1. Click on **Source Control Access** to look at our GitLab integration
A Source Control Server Endpoint has already been configured in vRealize Lifecycle Manager.

1. Click on the pencil next to the configured source control server endpoint

View Source Control Server Endpoint

1. Note that only GitLab is supported as a Source Control Type for this version of vRealize Suite Lifecycle Manager. When configuring source control access, you
will need to supply your GitLab server name and log in to GitLab and generate an access token for your user with all scopes enabled.

2. We have already set up the GitLab server with the necessary Access Key, so click **Cancel**
Capture vRealize Automation Blueprint

Let's begin capturing content by viewing the configured content endpoints. A content endpoint is an infrastructure endpoint in the software-defined data center (SDDC), such as an instance of vRealize Automation, that is targeted for the capture, test, and release of managed content. You add a content endpoint to an environment to capture, test, deploy or check-in software-defined content in the form of a content package. A content package is a file that contains definitions for software-defined services, such as blueprints, templates, workflows, and so on. Each content endpoint can support more than one type of content package. For example, a vRealize Automation content endpoint can support both composite blueprints and software.

You use content endpoints to capture one or more content packages, test one or more content packages in a staging environment, and/or release one or more tested content packages to a production environment.

1. Click **Endpoints**
2. Click the **New Endpoint** button to see the types of endpoints you can configure
View the Different Types of Endpoints

Five types of content endpoints can be created.

**vCenter Server** content endpoint allows management of vSphere endpoints, release automation for vSphere and customization specifications of content types where they are closely integrated with vCenter's Content Library.

**vRealize Automation** content endpoint allows capture, test, deploy or check-in of vRealize Automation content such as blueprints and software.

**vRealize Orchestrator** endpoint is required to create vRealize Automation endpoints and to capture content. If you are using the vRealize Orchestrator endpoint for unit testing, verify that the vRealize Orchestrator instance has been configured as a unit test server.

**vRealize Operations** content endpoint supports a first-class content with a dependency discovery for Dashboards, Reports, View, Alerts, Symptoms, Recommendations, Text, Topology, and Resource Kind Metrics.

**GitLab** endpoint represents a project (repository) and branch in GitLab

1. All of the endpoints have already been configured, so click the X to close
View the vRA Dev Endpoint

Since the endpoints have already been configured in the environment, we'll view the details for the vRealize Automation content endpoint.

1. Click the **vertical ellipsis** next to the **vRA Dev** content endpoint
2. Click **Edit**
Here we can see all of the information regarding the vRealize Automation endpoint that exists in our environment that we can capture, test, deploy and check in content from.

1. Note that there are **tags** associated with this endpoint. Using tags allows you to deploy content to multiple endpoints at the same time. When you deploy content, you can select a tag instead of individual content endpoint names, and the content deploys to all endpoints that have that tag.

2. Click the **scroll bar** to scroll down to see the rest of the endpoint details.
1. Click the **Test Connection** button to test connectivity between the vRealize Suite Lifecycle Manager server and the vRA Dev endpoint that we are viewing the details for.
2. When the test completes, click **Next**
View the Policy Settings

There are four policy settings that you can apply to the content endpoint:

**Mark as a source content endpoint to capture content:** Allows capture of content from this endpoint such as a vRealize Automation blueprint

**Allow unit tests to run on this Content Endpoint:** Allows content to be tested on this endpoint and acts as a unit test server where vRealize Orchestrator workflows test content.

**Mark as Production Content Endpoint:** Allows releasing content packages to this endpoint and deploying content to production

**Source Control Enabled:** Allows check in and check out of SDDC content

1. Click **Next**
View Summary

Endpoints

View the Summary of the Endpoint Details

1. Click **Submit**

You can go thru the same edit process to view the details for the vRealize Orchestrator and Source Control endpoints.
Now that we have taken a look at our endpoints, we'll capture content from our vRA Dev endpoint.

1. Click **Content**
We see that some content has already been captured, including some composite blueprints and a property group. Let's take a look at the captured Windows Server 2012 composite blueprint.

1. Click on the Windows Server 2012 content
We can see some details about the Windows Server 2012 blueprint content that has been captured. We can also initiate another capture to capture any edits that have been made to this blueprint or we can deploy this content to release it to a production environment.

1. Navigate back to the list of captured content by clicking on the **List of all the captured content** link from the top navigation menu.
1. Click the **Add Content** button to initiate a new capture
Add Content Wizard

We will capture content, but we will also use our integration with GitLab to check-in our content

1. Turn on the **Check In** checkbox
2. Click **Proceed**
We have made some final changes to our Windows Server 2012 blueprint, so we will capture our production ready version. Enter and select the following as depicted in the above screenshot:

1. Capture Endpoint: Select **vRA Dev**
2. Get the latest content checkbox: **UNCHECK** (Turning this checkbox on will do a pull from the capture endpoint for any new content that exists in the endpoint - i.e. any new blueprints that have been added to vRealize Automation)
3. Content Type: Select **Automation-CompositeBlueprint**
4. Content: Select **Windows Server 2012**
5. Tags: Type **production**, hit **Enter** and click away from the list to continue to the next step (Note that previously entered tags that you can select from will be displayed in the dropdown list box)
6. Include all dependencies checkbox: **CHECK**
7. Mark this version as production ready: **CHECK**
8. Comments: **Production version**
9. Click **Next**
Enter Add Content Check-In Details

1. Select **GitLabSourceControl** for our source control endpoint that has been configured
2. Click **Next**
View Add Content Summary & Submit Capture

Review the information we've provided for our content capture and submit the request:

1. Click **Submit**
1. Click **Content Pipelines** to monitor the pipeline execution for the content capture request
Pre-built content pipelines automate the end-to-end content management workflow, including automated content capture, test and release for vRealize Automation blueprints and vRealize Orchestrated workflows.

We can monitor the status of the execution.

1. Click on the **Actions** option for the Content_Pipeline (hovering over the pipeline name will show you the full name)
2. Click on **Executions**
Content Pipelines continued

We can view the different stages of the content capture execution

1. Click **down arrow** for **Actions** next to the first pipeline (Note that your pipeline may still be in a running state)
2. Click **View Execution**
We can see the details of the pipeline execution (Note that it may take several minutes for the execution to complete, so your execution may still be in a running status). You can expand each section to view further about the execution of the content capture.

Upon completion of all phases of the pipeline, the status will change from RUNNING to COMPLETED. It is not necessary to wait until the pipeline has completed before moving on to the next step.

1. Click **Content** from the navigation menu
1. Click on the **Windows Server 2012** composite blueprint content
We see that we now have a third version of our Windows Server 2012 blueprint that is marked as production ready. If we have an additional environment that we want to deploy this blueprint to, we can simply choose to deploy it from within vRealize Suite Lifecycle Manager.
Conclusion

In this module, you used vRealize Suite Lifecycle Manager to build and run infrastructure content through pre-built content pipelines. You saw how you can set up product endpoints such as vRealize Automation, vRealize Orchestrator and GitLab for content management. You walked thru capturing a new version of a vRealize Automation blueprint and checked it in to GitLab. You also looked at the pre-built content pipelines that are provided as part of vRealize Suite Lifecycle Manager.

You've finished Module 6

Congratulations on completing Module 6!

If you are looking for additional information on managing the lifecycle of vRealize Suite content, try one of these:

- Go to Content Lifecycle Management
- Or use your smart device to scan the QR Code

Proceed to any module below which interests you most.

- **Module 1 - Introduction to vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
- **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
• **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade vRealize Suite Components** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.

• **Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.

• **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration, and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.

• **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.

• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.

**How to End Lab**

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager (30 minutes)
Introduction to Lab Scenario

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and patch these components.

In this lab exercise, your team has noticed that there is a new Patch available for vRealize Operations. You will use vRealize Suite Lifecycle Manager to deploy this hotfix.
Hands-on Labs Interactive Simulation: Patching vRealize Operations

This part of the lab is presented as a Hands-on Labs Interactive Simulation. This will allow you to experience steps which are too time-consuming or resource intensive to do live in the lab environment. In this simulation, you can use the software interface as if you are interacting with a live environment.

1. Click here to open the interactive simulation. It will open in a new browser window or tab.
2. When finished, click the “Return to the lab” link to continue with this lab.

The lab continues to run in the background. If the lab goes into standby mode, you can resume it after completing the module.
Conclusion

In this module, you used vRealize Suite Lifecycle Manager to patch vRealize Operations with vRealize Suite Lifecycle Manager.

You've finished Module 7

Congratulations on completing Module 7!

If you are looking for additional information on managing vRealize Suite product configuration drift, try one of these:

• Go to Patching of vRealize Suite Products

Proceed to any module below which interests you most.

• **Module 1 - Introduction to vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
• **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
• **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade vRealize Suite Components** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.
• **Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.
• **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.
• **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.
• **Module 8 - Certificate Management with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to generate and replace certificates for the vRealize products being managed.
How to End Lab

If you would like to end your lab instead of continuing on with another module, click on the **END** button.
Module 8 - Certificate Management with vRealize Suite Lifecycle Manager (30 Minutes)
**Introduction to Lab Scenario**

As Rainpole Systems begins to incorporate components of the vRealize Suite into their data center management processes, they will use vRealize Suite Lifecycle Manager to manage deployment and updates to these components.

In this lab exercise, your team will use vRealize Suite Lifecycle Manager to generate and replace certificates of the vRealize products being managed. We will focus on vRealize Operations in this example, but certificate management applies to all of the most recent versions of the products that can be managed in vRealize Suite Lifecycle Manager.
This part of the lab is presented as a **Hands-on Labs Interactive Simulation**. This will allow you to experience steps which are too time-consuming or resource intensive to do live in the lab environment. In this simulation, you can use the software interface as if you are interacting with a live environment.

1. **Click here to open the interactive simulation.** It will open in a new browser window or tab.
2. When finished, click the “Return to the lab” link to continue with this lab.

The lab continues to run in the background. If the lab goes into standby mode, you can resume it after completing the module.
Conclusion

In this module, you used vRealize Suite Lifecycle Manager to generate, import and replace certificates for the vRealize Suite of products using vRealize Lifecycle Manager.

You've finished Module 8

Congratulations on completing Module 8!

If you are looking for additional information on managing vRealize Suite product configuration drift, try one of these:

- Go to Certificate Management

Proceed to any module below which interests you most.

- **Module 1 - Introduction to vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Walk through the installation of vRealize Suite Lifecycle Manager, and the process of creating an environment including managed deployments of vRealize Suite components.
- **Module 2 - Using vRealize Suite Lifecycle Manager to Manage the vRealize Suite** (30 minutes) (Basic) Navigate the vRealize Suite Lifecycle Manager interface, and manage an existing vRealize Suite component.
- **Module 3 - Using vRealize Suite Lifecycle Manager to Upgrade vRealize Suite Components** (30 minutes) (Basic) Perform an upgrade of an existing vRealize Suite component using vRealize Suite Lifecycle Manager.
- **Module 4 - Using the vRealize Suite Lifecycle Manager Marketplace** (30 minutes) (Advanced) Explore the vRealize Suite Lifecycle Manager Marketplace for extensions to vRealize Suite components, and install extensions directly.
- **Module 5 - Using vRealize Suite Lifecycle Manager to Manage Configuration Drift** (30 minutes) (Advanced) Capture a snapshot of an existing environment configuration and correct configuration drift of vRealize Suite components using vRealize Suite Lifecycle Manager.
- **Module 6 - Enabling Automated Infrastructure Content Management with Pre-Built Content Pipelines** (30 minutes) (Basic) Walk through vRealize Lifecycle Manager Content Management to build and run infrastructure content through prebuilt content pipelines.
- **Module 7 - Patching vRealize Operations with vRealize Suite Lifecycle Manager** (30 minutes) (Basic) Use vRealize Suite Lifecycle Manager to deploy a hotfix to vRealize Operations Manager.
How to End Lab

If you would like to end your lab instead of continuing on with another module, click on the END button.
Conclusion

Thank you for participating in the VMware Hands-on Labs. Be sure to visit http://hol.vmware.com/ to continue your lab experience online.

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