Installing vRealize Automation with vRealize Easy Installer

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vRealize Automation 8.6

vmware®

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https://docs.vmware.com/

Contents

What does vRealize Easy Installer do

The VMware vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager helps you install vRealize Automation and Workspace ONE Access in less time than it would take to install individual products.

The procedures in this guide provide the step-by-step process for installing and deploying vRealize Automation, vRealize Suite Lifecycle Manager, and Workspace ONE Access by using the vRealize Easy Installer.
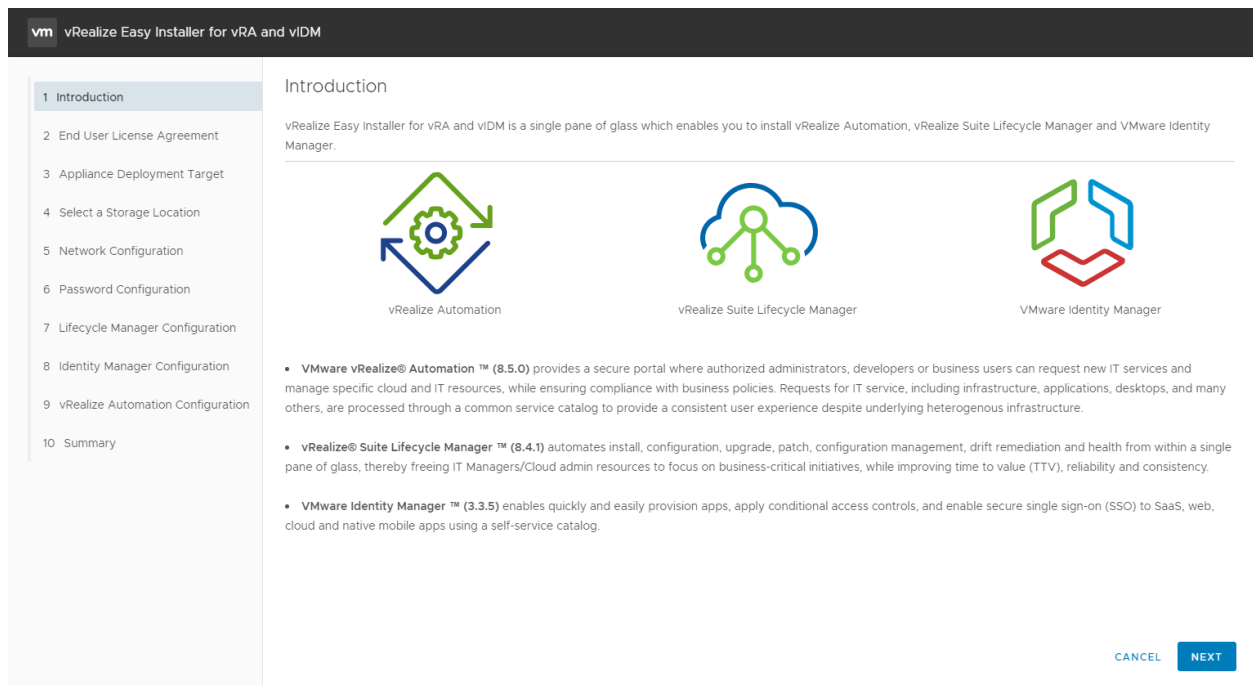
vRealize Automation

vRealize Automation is a modern infrastructure automation platform that enables private and multi-cloud environments on VMware Cloud infrastructure. It delivers self-service automation, DevOps for infrastructure, configuration management and network automation capabilities that help you increase business and IT agility, productivity, and efficiency. Integrate, streamline, and modernize traditional, cloud-native, and multi-cloud infrastructures with vRealize Automation and simplify IT while preparing for the future of your business.

vRealize Automation is installed, configured, managed, and upgraded only through vRealize Suite Lifecycle Manager.

vRealize Suite Lifecycle Manager

vRealize Suite Lifecycle Manager delivers a comprehensive application lifecycle and content management solution for the vRealize Suite, accelerating time to value, minimizing ongoing management, and improving end-user productivity.

The vRealize Easy Installer also allows you to migrate vRealize Suite Lifecycle Manager instances.

VMware Identity Manager

VMware Identity Manager (also known as Workspace One) integrates access control, application management and multi-platform endpoint management into a single platform and is available as a cloud service or on-premises deployment.

Note   You can skip to the individual installations of Workspace ONE and vRealize Automation by selecting the Skip Installation button at the top of their Configuration tabs.

This chapter includes the following topics:

- System Requirements
- SaltStack Config Requirements

System Requirements

The following system resources are required to install vRealize Automation and VMware Identity Manager.

vRealize Easy Installer supports

- vRealize Automation 8.0.0 and later.
- vRealize Suite Lifecycle Manager 8.0.0 and later
- VMware Identity Manager 3.3.1 (for import only) and later.

Note   vRealize Automation 8 does not support nested virtual environments, such as ESX > ESX > vRA.

Requirements	vRealize Suite Lifecycle Manager	VMware Identity Manager	vRealize Automation	
			Medium Profile	Extra Large Profile
Total Disk Size	78 GB	100 GB	246 GB (Only for single node Installation)	246 GB (Only for single node Installation)
Virtual CPU	2	8	12	24
Memory/RAM Size	6 GB	16 GB	42 GB	96 GB

Requirements	vRealize Suite Lifecycle Manager	VMware Identity Manager	vRealize Automation	
Maximum Network Latency			5 ms between each cluster node	5 ms between each cluster node
Maximum Storage Latency			20 ms for each disk IO operation from any vRA node	20 ms for each disk IO operation from any vRA node

Note The system requirements for vRA are for single node environments. For 3 node HA vRA environments, multiply the requirement by 3.

For more information on configuration limits, see the VMware Configuration Maximums tool.

Hardware Requirements

Specifications for Workspace ONE Access are based on the number of users in the directories. For more information, see System and Network Configurations Requirements.

Note To learn more about the hardware resizing of Workspace ONE Access through Lifecycle Manager, see Hardware Sizing for Workspace ONE Access.

Load Balancer Requirements

- NSX LB - For more information, see vRealize Automation Load Balancing

- F5 LB - For more information, see vRealize Automation Load Balancing

- Citrix NetScaler LB - For more information, see vRealize Automation Load Balancing.

Network Requirements

vRealize Automation requires:

- Single, static IPv4 and Network Address

- Reachable DNS server set manually

- Valid, Fully qualified domain name, set manually that can be resolved both forward and in reverse through the DNS server

Note IP address change or hostname change after installation is not supported and results in a broken setup that is not recoverable.

Ports and Protocols Requirements

vRealize Automation is accessed over port 443. The 443 port is secured with a self-signed certificate that is generated during the installation. When using an external load balancer, it must be set up to balance on port 443. The table provides an overview of the Ports and Port number used for vRealize Automation. For more information on Ports and Protocols for vRealize Automation where you can view port information of various VMware products in a single dashboard and also export an offline copy of the selected data, see VMware Ports and Protocols.

Protocol	Port Number
TCP	80
TCP	443
TCP	2379
TCP	2380
TCP	6443
TCP	8008
TCP	10250
TCP	16000
TCP	20849
TCP	30333
TCP	30821
TCP	31090
UDP	500
UDP	4500
UDP	8285
ESP	
AH	

Table 1-1. Requirement for Ports for Product and Integration Communications

Product or Integration	TCP Port Number
vRealize Automation Appliance	5480, 443, 22
Identity Manager Appliances	8443, 443, 9999, 9898, 9000, 9694 (Use these for a cluster)
vCenter Server Instances	443
ESXi Host Instances	443

For more information on ports, see vRealize Suite Lifecycle Manager Ports

SaltStack Config Requirements

Before you can use SaltStack Config with your vRealize Automation environment, you must follow these requirements.

The use of SaltStack Config with your vRealize Automation environment is optional.

With SaltStack Config, you can provision, configure, and deploy software to your virtual machines at any scale using event-driven automation. You can also use SaltStack Config to define and enforce optimal, compliant software states across your entire environment. For more information on SaltStack Config, see Using SaltStack Config in vRealize Automation.

To use SaltStack Config:

- In vRealize Automation, disable FIPS mode for SaltStack integrations.

- Deploy SaltStack from vRealize Suite Lifecycle Manager. For more information on configuring and deploying SaltStack from LCM, see Configure Product Details and Create a New Private Cloud Environment Using the Installation Wizard.

How to run the vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager

2

The vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager is downloadable from the My VMware download page.

Procedure

1 Download the vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager executable file from the My VMware download page.

2 After you download the file, mount the `vra-lcm-installer.iso` file.

3 Browse to the folder `vrlcm-ui-installer` inside the CD-ROM.

4 The folder contains three subfolders for three operating systems. Based on your operating system, browse to the corresponding operating system folder inside the `vrlcm-ui-installer` folder.

5 Click the installer file in the folder.

Operating System	File Path
Windows	`lcm-installer\vrlcm-ui-installer\win32`
Linux	a Log in to Linux VM. b Run `apt-get` install p7zip-full. c Run `7z x vra-lcm-installer.iso.` d Run `chmod +x vrlcm-ui-installer/lin64/installer` e Run `chmod +x ./vrlcm/ovftool/lin64/ovftool*` f Run `apt install libnss3` (required only if the libnss3 component is not installed.) g Run `vrlcm-ui-installer/lin64/installer.`
Mac	`vrlcm-ui-installer/mac/Installer`

The vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager UI is specific to the operating system. Ensure that you are using the valid UI folder path to run the installer.

Results

You can now install your applications using the vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager.

If the vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager fails to launch, and you see this error message "`A problem occurred during installation.Check the installer logs and retry`", it is because:

- A host rebooted during installation. Select the Host to return to a healthy state.

- The datastore was 100% full during installation. Clear the datastore memory and retry launching the Easy Installer.

- The vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager could not connect to the ESXI host. Add target vCenter Server and all cluster associated ESXI servers DNS FQDN entries to the system host's file: `C:\Windows\System32\drivers\etc\hosts`. For Linux and Mac, `/etc/hosts`.

Installing vRealize Suite Lifecycle Manager with Easy Installer for vRealize Automationand VMware Identity Manager

You can install vRealize Suite Lifecycle Manager using vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager.

Watch the vRealize Suite Lifecycle Manager Installation with Easy Installer video.

Prerequisites

You must meet these prerequisites before you can install vRealize Suite Lifecycle Manager:

- Ensure you have a vCenter Server set up and access to the credentials.

- Ensure you have the network configuration details for vRealize Automation

- Ensure you know the Lifecycle VA deployment details

Procedure

1 Click **Install** on the **vRealize Easy Installer** window.

2 Click **Next** after reading the introduction.

3 Accept the License Agreement and click **Next**. Read the **Customer Experience Improvement Program** and select the checkbox to join the program.

4 To specify vCenter Server details, enter these details on the Appliance Deployment Target tab.

   a Enter the **vCenter Server Hostname**.

   b Enter the **HTTPs Port** number.

   c Enter the **vCenter Server Username**, and **Password.**

5 Click **Next** and you are prompted with a Certificate Warning, click **Accept** to proceed.

6 You must specify a location to deploy virtual appliances.

   a Expand the vCenter Server tree.

   b Expand to any data center and map your deployment to a specific VM folder.

7 Specify a resource cluster on the Select a Compute Resource tab.

   a Expand the data center tree to an appropriate resource location and click **Next**.

8 On the Select a Storage Location tab, select a datastore to store your deployment and click **Next**.

9 On the Network Configuration and Password Configuration tabs, set up your **Network** and **Password configuration** by entering the required fields, and clicking **Next**.

   a For a vRealize Suite Lifecycle Manager VM, enter the **NTP Server** for the appliance and click **Next**.

   The network configurations provided for all products are a one time entry for your configuration settings. The password provided is also common for all products and you need not enter the password again while you are installing the products.

   Password should have minimum one upper case, one lower case, one number and one special character. Special characters can be !@#$%^&*(). Colon(:) is not supported in the password for vRealize Automation 8.0 and 8.0.1.

10 Set up vRealize Suite Lifecycle Manager configuration settings,

   a Enter a **Virtual Machine Name**, **IP Address**, and **Hostname**.

   b Provide configuration information. Enter the **Data Center Name**, **vCenter Name** and **Increase the Disk Space** fields.

   c Enable or disable the **FIPS Mode Compliance**, as required.

   d Click **Next**.

What to do next

You can now start installing Workspace ONE Access.

How do I set up a VMware Lifecycle Manager instance on VMware Cloud

Using the easy installer, you can set up an LCM instance on a VMware Cloud, such as AWS.

By default, VMware Cloud includes one vCenter with clusters and objects. You can use the easy installer to set up an LCM instance on your VMC. You can use VMware cloud to set up a software defined data center. By default, only the Compute-ResourcePool, and the Management VMs and Workloads folders are available. To deploy VMs, configure all deployments under the Workloads folder and on the WorkloadDatastore.

Note The Easy Installer does not support migration for LCM to 8.2 on a VMC vCenter. You must install and configure a new LCM instance.

Procedure

1   Navigate to the Appliance Deployment Target tab of the easy installer.

2   Enter the details of your VMC vCenter, using the cloud admin account as your username click **Next**.

   Note The required user role and privileges are highlighted on screen.

   Note By default, the VMC vCenter cloud admin account is the only user account with access the vCenter inventory.

3   On the Select a Location tab, select Workloads and click **Next**.

4   Select a cluster under Select a Compute Resource and click **Next**.

5   Select WorkloadDatastore as the storage location and click **Next**.

6   On the Network Configuration and Password Configuration tabs, set up your **Network** and **Password configuration** by entering the required fields, and clicking **Next**.

   a   For a vRealize Suite Lifecycle Manager VM, enter the **NTP Server** for the appliance and click **Next**.

   The network configurations provided for all products are a one time entry for your configuration settings. The password provided is also common for all products and you need not enter the password again while you are installing the products.

   Password should have minimum one upper case, one lower case, one number, and one special character. Special characters can be !@#$%^&*(). Colon(:) is not supported in the password for vRealize Automation 8.0 and 8.0.1.

7 Set up vRealize Suite Lifecycle Manager configuration settings,

    a   Enter a **Virtual Machine Name**, **IP Address**, and **Hostname**.

    b   Provide configuration information. Enter the **Data Center Name**, **vCenter Name** and **Increase the Disk Space** fields.

    c   Enable or disable the **FIPS Mode Compliance**, as required.

    d   Click **Next**.

Results

A LCM instance is successfully configured on VMC. However, if configuration fails ensure these settings are correct and retry configuration:

- User role and permissions are not correct. Refer to vCenter Permissions for information on what roles and permissions are required.

- The selected resources are not correct. You can only select and use ComputeResourcePool, the Workload folder, and Workload Datastore in your configuration.

Install and Configure vRealize Identity Manager

You can install a new instance of vRealize Identity Manager or import an existing instance when you are configuring vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and vRealize Identity Manager.

If you want to customize your VMware Identity Manager configuration, which can include deployment of VMware Identity Manager in a standard or a cluster mode, customized mode of Network, storage, you can skip the installation of VMware Identity Manager. If you have skipped, you are still prompted to configure the VMware Identity Manager on the vRealize Suite Lifecycle Manager UI. With vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager, you either import an existing VMware Identity Manager into vRealize Suite Lifecycle Manager or a new instance of VMware Identity Manager can be deployed. For more information on Hardware re-sizing for VMware Identity Manager, see Re-sizing Hardware.

Prerequisites

Verify that you have a static IP address before you begin your configuration.

Procedure

1 To install a new instance, select **Install new vIDM**.

2 Enter the required text boxes under **Virtual Machine Name**, **IP Address**, **Hostname**, and **Default Configuration Admin**.

> **Note** The vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager creates the Default Configuration Admin user as a local user in VMware Identity Manager and the same user is used to integrate products with VMware Identity Manager.

3 To import an existing instance, select **Import Existing vIDM**.

a Enter the **Hostname**, **Admin Password**, **System Admin Password**, **SSH User Password**, **Root Password**, **Default Configuration Admin**, and **Default Configuration Password**.

b Select the **Sync group members to the Directory when user want to sync group member** while adding a group for the global configuration of VMware Identity Manager.

With vRealize Easy Installer for vRealize Automation and VMware Identity Manager 8.4	VMware Identity Manager supported version	Description
New installation of vRealize Suite Lifecycle Manager	3.3.4 only	
Import vRealize Suite Lifecycle Manager	3.3.1, 3.3.2, or 3.3.4	
Deploy vRealize Automation	3.3.2	**Note** If you import VMware Identity Manager 3.3.1 and install vRealize Automation 8.2 or later, the installation fails.

Note VMware Identity Manager will be supported if the scenarios are one of the following:

- Single or cluster instance with embedded Postgres database.

- VMware Identity Manager 3.3.2 and 3.3.3 with the given deployment type.

Note VMware Identity Manager will not be supported if the scenarios are one of the following:

- Single or cluster instance having external Database (Postgres/MSSQL and so on).

- Single or cluster instance with additional connectors (Windows and external connectors) other than the embedded ones.

- Earlier versions of VMware Identity Manager. (3.3.0 and earlier version)

Note If the older version of vRealize Suite Lifecycle Manager does not have VMware Identity Manager, it can either be installed or imported.VMware Identity Manager Lifecycle and extended day-2 functionalities are not supported from the vRealize Suite Lifecycle Manager if the imported VMware Identity Manager not in supported form factor:

Upgrade support from an older VMware Identity Manager version (3.3.0 and earlier) to the latest is only available if it is a single instance or a node vRealize Identity Manager with embedded postgres database.

Else you can upgrade outside vRealize Suite Lifecycle Manager. Once upgraded, it can any time be reimported by triggering Inventory Sync in vRealize Suite Lifecycle Manager .

4 Click **Next**.

If you cannot deploy vRealize Suite Lifecycle Manager VMware Identity Manager or vRealize Automation in VMC vCenter Server using vRealize Suite Lifecycle Manager Easy Installer for vRealize Automation and VMware Identity Manager, then use the vCenter Server that has an administrator privilege to deploy products.

Install and Configure vRealize Automation

The vRealize Easy Installer provides you with an option to install vRealize Automation with minimum steps. Installation of vRealize Automation is an optional procedure and you can skip this step if you do not want to install a new instance of vRealize Automation.

To upgrade vRealize Automation using Lifecycle Manager, see Upgrade vRealize Automation 8.x with vRealize Suite Lifecycle Manager.

The easy installer provides you with minimal or a clustered deployment options before you start your vRealize Automation configuration.

Note Starting with 8.1, you have the option to skip the installation of Workspace ONE Access. If you have skipped, then you cannot configure vRealize Automation. To configure vRealize Automation, you can either go back and configure Workspace ONE Access or complete the installation and configure vRealize Automation in vRealize Suite Lifecycle Manager UI.

vRealize Automation installation is optional and it can be deployed in a standard or a cluster mode. Standard supports a single node vRealize Automation and cluster mode supports three node vRealize Automation installation.

Prerequisites

- Verify that you have the static IP address of the VM, host name, and VM name. vRealize Automation requires Workspace ONE Access 3.3.2 for an import or a new installation. Manual installation of vRealize Automation through OVA is not supported.

- Verify that you have an external load balancer configured for cluster deployments.

Procedure

1 Enter the vRealize Automation **Environment Name**.

2 Under the vRealize Automation license, enter the **License Key**.

3 After configuring your Workspace ONE Access settings, you have the option to install vRealize Automation. For a standard deployment with a master node, enter the **Virtual Machine Name**, **IP Address**, and **FQDN Hostname** of vRealize Automation. Skip to step 6.

4   For a cluster deployment with three nodes, you are required to enter the **Load Balancer IP address** and **FQDN**.

> **Note**   If the SSL is terminated at load-balancer, select the **SSL terminated at load-balancer** check box. Deselect the check box, if the SSL pass-through is enabled in the load-balancer. If a wrong value is provided for the property, then vRealize Automation deployment to fails.

5   For a cluster deployment, create a master node by using step 2 as a guideline.

6   For a cluster deployment, create secondary nodes, enter the required text boxes, and proceed.

7   (Optional) In the Advanced Configuration for vRealize Automation section, you can manually enter K8S Cluster and Service IP ranges by selecting Configure internal pods and service subnets (For example, 10.221.0.0/22 and 10.221.21.0/22). If left unselected, vRealize Automation uses the default values: 10.244.0.0/22 and 10.244.4.0/22.

8   Click **Next**.

9   Read the Summary page with the entered data and click **Submit**.

For example, the installation time depends on copying binaries from the source machine to vRealize Suite Lifecycle Manager VA for Workspace ONE Access and vRealize Automation deployment, which varies based on the network speed.

Results

After submitting your details, the installer takes about 30 minutes to install the vRealize Suite Lifecycle Manager, copy binaries, and then start the installation process which depends on the network speed. After the vRealize Automation installation, you can also start configuring vRealize Log Insight. For more information, see How do I configure log forwarding to vRealize Log Insight in *Administering vRealize Automation*.

Migrate vRealize Suite Lifecycle Manager

Using the Easy Installer you can migrate your vRealize Suite Lifecycle Manager.

Watch the vRealize Suite Lifecycle Manager Migration with Easy Installer video:

Migration of vRealize Suite Lifecycle with Easy Installer (http://link.brightcove.com/services/player/bcpid2296383276001? bctid=ref:video_LCM_migrate)

Procedure

1   Click **Install** on the **vRealize Easy Installer** window.

2   Click **Next** after reading the introduction.

3   Accept the License Agreement and click **Next**. Read the **Customer Experience Improvement Program** and select the check box to join the program.

4   To specify vCenter Server details, enter these details on the Appliance Deployment Target tab.

   a   Enter the **vCenter Server Hostname**.

   b   Enter the **HTTPs Port** number.

   c   Enter the **vCenter Server Username**, and **Password.**

5   Click **Next** and you are prompted with a Certificate Warning, click **Accept** to proceed.

6   You must select a location to deploy virtual appliances.

   a   Expand the vCenter Server tree.

   b   Expand to any data center and map your deployment to a specific VM folder.

7   Specify a resource cluster on the Select a Compute Resource tab.

   a   Expand the data center tree to an appropriate resource location and click **Next**.

8   On the Select a Storage Location tab, select a datastore to store your deployment, and click **Next**.

9   On the Network Configuration and Password Configuration tabs, set up your **Network** and **Password configuration** by entering the required fields, and clicking **Next**.

   a   For a vRealize Suite Lifecycle Manager VM, enter the **NTP Server** for the appliance and click **Next**.

10   Set up vRealize Suite Lifecycle Manager configuration settings,

   a   Enter a **Virtual Machine Name**, **IP Address**, and **Hostname**.

   b   Provide configuration information. Enter the **Data Center Name**, **vCenter Name** and **Increase the Disk Space** fields.

   c   Click **Next**.

11   One the Migration Details tab, provide your source environment details and click **Next**

12   Select either **Install New VMware Identity Manager** or **Import Existing VMware Identity Manager**.

   a   If installing a new VMware Identity Manager, enter the VMware Identity Manager configuration and click **Next**.

   b   If importing an existing VMware Identity Manager, review the notes about using an existing VMware Identity Manager and click **Next**.

   Note   After importing your existing VMware Identity Manager, you must upgrade it to version 3.3.2 to make it compatible with vRealize Automation 8.2 components.

13   Review the Summary and click **Submit**.

Results

Your vRealize Suite Lifecycle Manager is migrated.

How do I launch my installed applications

3

After using the easy installer to install your applications, you can view the deployed applications and their dashboards.

You can open the vRealize Suite Lifecycle Manager and vRealize Automation applications by clicking the IP addresses on the installation process window.

Note If the Easy Installer was launched with a Linux OS, clicking the links in the Installation Process window might not open a browser. Manually copy and paste the url into a browser to access the desired application.

vRealize Suite Lifecycle Manager
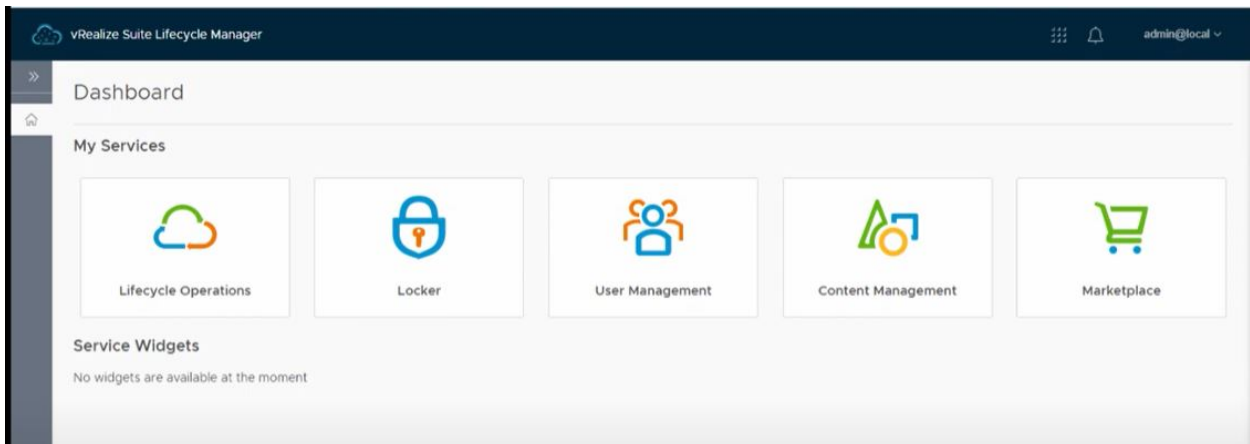
After clicking the IP address from the installation process window, login using the same credentials that you entered in the vRealize Easy Installer. To view requests, click **Lifecycle Operations** and click on the request to open its details. At the request level, you can view the different stages of the request along with the time each stage took.

To view information on your Workspace ONE Access and vRealize Automation applications, click **Environments** and select the appropriate application tile.
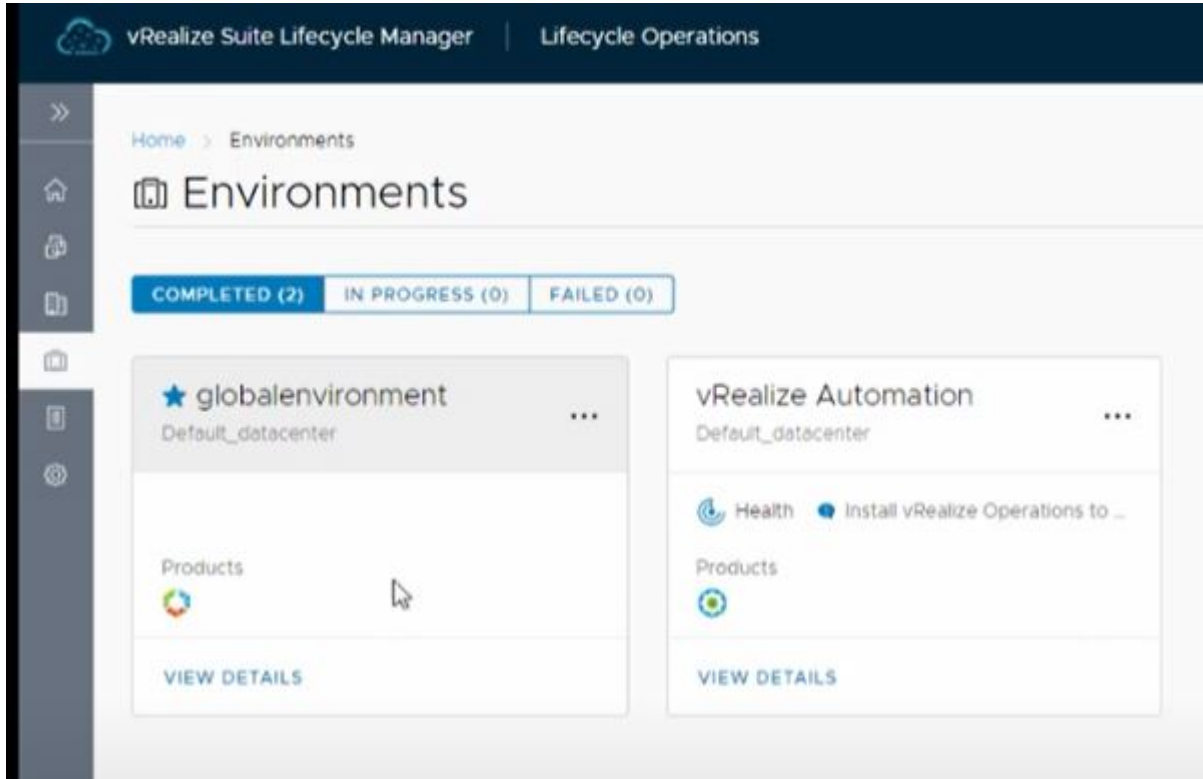
You can also monitor request statuses from vRealize Suite Lifecycle Manager by clicking **Request** from the left pane. If an application request fails, click the failed status to view more details. After identifying and correcting reasons for failure, click **Retry** to retry request or **Redeploy** to redeploy the environment.

Post-Installation Tasks

4

After installing your applications using the vRealize Easy Installer, you can perform these post-installation tasks in vRealize Suite Lifecycle Manager.

Depending on the needs and configuration of your system, you might have to perform these post-installation tasks:

- Configure vRealize Automation license. For more information on License Configuration for vRealize Automation through vRealize Suite Lifecycle Manager, see Configure License within Locker.

- Generate a certificate for products deployed in vRealize Suite Lifecycle Manager. For more information, see Generate Certificate within Locker.

- Configure Active Directory Groups in vRealize Suite Lifecycle Manager. For more information, seeAdd Active Directory with Integrated Windows Authentication Active Directory over LDAP.

- Configure vRealize Suite Lifecycle Manager appliance root password outside vRealize Easy Installer. For more information, see Configure your Password within Locker.

- Configure and replace license for vRealize Automation. For more information, see Replacing of License.

- Perform an Inventory Sync after installing vRealize Automation to identify the current state of vRealize Automation deployment.