



# Lenovo XClarity Integrator for VMware vRealize Orchestrator User's Guide

*Version 1.0*





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*Version 1.0*

**Note**

Before using this information and the product it supports, read the information in "Notices" on page 11.

**Edition notice**

This edition applies to Lenovo XClarity Integrator for VMware vRealize Orchestrator, v1.0 and to all subsequent releases and modifications until otherwise indicated in new editions.

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## About this publication

This user's guide provides the latest information about Lenovo XClarity Integrator for VMware vRealize Orchestrator .vmoapp plug-in, a plug-in to the VMware vRealize Orchestrator that provides workflows that interact with Lenovo XClarity Administrator (LXCA).

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## Conventions and terminology

This publication uses conventions and special terms that will aid in your use of the information.

Paragraphs that start with a bold **Note**, **Important**, or **Attention** are notices with specific meanings that highlight key information.

**Note:** These notices provide important tips, guidance, or advice.

**Important:** These notices provide information or advice that might help you avoid inconvenient or difficult situations.

**Attention:** These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

### Frequently used terms

*Table 1. Frequently used terms and acronyms*

Term/acronym	Definition
LXCA	Lenovo XClarity Administrator
LXCI	Lenovo XClarity Integrator
vRO	VMware vRealize Orchestrator



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## Information resources

You can find additional information about Lenovo XClarity Integrator for VMware vRealize Orchestrator in the product documentation and on the World Wide Web.

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### PDF files

View or print documentation that is available in Portable Document Format (PDF).

#### Downloading Adobe Acrobat Reader DC

You need Adobe Acrobat Reader DC to view or print these PDF files. You can download a copy from the Adobe website.

#### Viewing and printing PDF files

You can view or print any of the PDF files located on the web. The most current version of each document is available on the product download page. Click the following link to locate documentation for Lenovo XClarity Integrator for VMware vRealize Orchestrator: [Lenovo XClarity Integrators page](#).

#### Saving PDF files

To save a PDF file, complete the following steps:

1. Right-click the link to the PDF in your browser.
2. Perform one of the following tasks.

Web browser	Command
For Internet Explorer	Click <b>Save Target As</b> .
For Mozilla	Click <b>Save Link As</b> .

3. Navigate to the directory in which you want to save the PDF file.
4. Click **Save**.

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### World Wide Web resources

You can find additional information about Lenovo XClarity Integrator for VMware vRealize Orchestrator in the product documentation and on the World Wide Web.

#### Lenovo XClarity Integrators site

Locate documentation for Lenovo XClarity Integrators, including Lenovo XClarity Integrator for VMware vRealize Orchestrator.

- [Lenovo XClarity Integrators site](#)

#### VMware vRealize Orchestrator Documentation site

Locate documentation in several formats to assist you with installing, using, and developing with VMware vRealize Orchestrator.

- [VMware vRealize Orchestrator Documentation page](#)

## **Lenovo XClarity Integrator for VMware vCenter site**

Locate the latest downloads for the Lenovo XClarity Integrator for VMware vCenter.

- [Lenovo XClarity Integrator for VMware vCenter](#)

## **System Management with Lenovo XClarity Solution**

This website provides an overview of the Lenovo XClarity solution, which integrates with System x M5 and X6 rack servers, as well as Flex System, to provide system management capability.

- [Lenovo XClarity site](#)

## **VMware vCenter product family site**

This website provides general information about the VMware family of products.

- [VMware vCenter Products page](#)

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# Chapter 1. Overview of the Lenovo XClarity Integrator for VMware vRealize Orchestrator

The Lenovo XClarity Integrator for VMware vRealize Orchestrator .vmoapp plug-in is a plug-in to the VMware vRealize Orchestrator.

It provides workflows that interact with Lenovo XClarity Administrator (LXCA) to automate management, such as server configuration and OS deployment, of Lenovo Flex System and System x servers.

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## Software requirements

This section describes software requirements for Lenovo XClarity Integrator for VMware vRealize Orchestrator.

### Supported versions of VMware vRealize Orchestrator

Lenovo XClarity Integrator for VMware vRealize Orchestrator supports the following VMware vRealize Orchestrator releases:

- VMware vRealize Orchestrator 6.0

### Supported versions of Lenovo XClarity Administrator

Lenovo XClarity Integrator for VMware vRealize Orchestrator leverages Lenovo XClarity Administrator for server management and supports the following Lenovo XClarity Administrator releases:

- Lenovo XClarity Administrator 1.0

### Supported versions of Lenovo XClarity Integrator for VMware vCenter

Lenovo XClarity Integrator for VMware vRealize Orchestrator has a dependency on Lenovo XClarity Integrator for VMware vCenter. The following versions of Lenovo XClarity Integrator for VMware vCenter are supported:

- Lenovo XClarity Integrator for VMware vCenter 4.1

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## Hardware requirements

The following table lists the minimum and the recommended hardware requirements for Lenovo XClarity Integrator for VMware vCenter.

*Table 2. Hardware requirements for Lenovo XClarity Integrator for VMware vCenter*

Component	Specification
Memory	<ul style="list-style-type: none"><li>• Minimum: 1 GB of RAM</li><li>• Recommended: 2 GB of RAM</li></ul>
Disk space	Minimum: 1 GB of available disk space
Processor	<ul style="list-style-type: none"><li>• Minimum: one processor</li><li>• Recommended: two processors</li></ul>

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## Supported hardware

Lenovo XClarity Integrator for VMware vRealize Orchestrator supports all Flex System and System x servers that Lenovo XClarity Administrator supports.

For a complete server list, refer to Supported endpoints.

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## Chapter 2. Getting started

This section covers the prerequisites and the installation procedure for the .vmoapp plug-in.

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### Installing the plug-in

This topic lists the prerequisites for installing the .vmoapp plug-in and the steps for installing the plug-in.

#### Before you begin

You must install VMware vRealize Orchestrator. For instructions on installing VMware vRealize Orchestrator, see the VMware vRealize Orchestrator Documentation.

#### Procedure

1. Log on to the VMware vRealize Orchestrator Configuration page.
2. On the left pane, click Plug-ins.
3. In the Install new plug-in area, click on the browse icon.
4. Navigate to the folder where you have saved the .vmoapp file and select the .vmoapp file.
5. Click **Open**.
6. Click **Upload and Install**.
7. On the Startup Options tab, click **Restart service** to complete the plug-in installation.



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## Chapter 3. Using the plug-in

The plug-in runs via the vRealize Orchestrator client, which is automatically installed with the VMware vRealize Orchestrator package.

The client enables you to:

- Run workflows
- Schedule workflows
- Manage user permissions
- Develop workflows and actions

Ensure that you have met the “Prerequisites” for using the plug-in.

For more information about using vRealize Orchestrator client, refer to the "Using the VMware vRealize Orchestrator Client" document on the VMware vRealize Orchestrator Documentation page.

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### Prerequisites

This topic lists prerequisites for using the plug-in.

- Install VMware vRealize Orchestrator
- Ensure that VMware vCenter is available and has been added to vRealize Orchestrator.

You can do this from the Library tab by clicking **Library > vCenter > configuration > Add a vCenter server instance workflow**.

- Ensure that Lenovo XClarity Integrator for VMware vCenter is installed and registered as the plug-in for VMware vCenter.
- Ensure that Lenovo XClarity Administrator instances are available and are registered within Lenovo XClarity Integrator for VMware vCenter.

Refer to the "Configuring Lenovo XClarity Administrator" section in the *Lenovo XClarity Integrator for VMware vCenter Installation and User's Guide* for detailed steps. You can download the user's guide from the Lenovo XClarity Integrator for VMware vCenter.

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### Using the plug-in Inventory

Lenovo XClarity Integrator for VMware vRealize Orchestrator shows all servers in Lenovo XClarity Administrator instances that are connected in the Inventory view.

#### About this task

You can use the Inventory view to add authorization elements or to run workflows on LXCA managed server objects.

You can enable the Use contextual menu in the Inventory option to display the workflows that are available for an Inventory object. When the option is enabled and you right-click an object in the Orchestrator inventory, all available workflows for the object are displayed.

## Procedure

1. Run and log into the vRealize Orchestrator client as an administrator.
2. Click the Inventory view in the vRealize Orchestrator client.
3. In the hierarchical list, select **Library > Lenovo XClarity Integrator** and expand the selection.

**Note:** You must select and run the "Get XClarity Administrators associated to a vCenter" workflow in order to view registered LXCA instances and LXCA managed servers in the Inventory view. Follow the prompts on the wizard to run the workflow.

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## Using the plug-in Workflow library

This section describes the Workflow library that the plug-in provides.

### About this task

The Workflow library contains workflows that allow you to run automated processes related to the management of Lenovo XClarity Administrator instances.

### Procedure

1. Run and log into the vRealize Orchestrator client as an administrator.
2. Click the Workflows view in the Orchestrator client.
3. In the hierarchical list, select **Library > Lenovo XClarity Integrator** and expand the selection.
4. Right-click the workflow you want to run, click **Run**, and follow the prompts on the wizard. For a list of workflows and their descriptions, refer to "Workflows."

## Workflows

This topic lists workflows that combine multiple actions to perform a task.

You can use the workflows as building blocks for creating complex custom solutions. By combining standard workflows, you can automate multistep processes.

*Table 3. Standard workflow names and descriptions*

Workflow name	Description
Get XClarity Administrators associated to a vCenter	Retrieve a list of LXCA instances that have been associated with a vCenter.
Get available servers	Retrieve a list of servers that have not been added to the vCenter.
Get server patterns	Retrieve all server patterns that have been created in LXCA instances.
Assign a configuration pattern	Assign a configuration pattern to a server.
Deassign a configuration pattern	Unassign a configuration pattern from a server.
Deploy EXSi server	Install EXSi on the server.
Deploy EXSi server with static IP	Install EXSi on the server with specified IP address.
Get server MAC addresses	List a server's MAC addresses.

*Table 4. Sample workflow names and descriptions*

<b>Workflow name</b>	<b>Description</b>
Provision a new server	Deploy a server pattern and then deploy EXSi on the server.
Provision a new server and add to vCenter	Deploy a server pattern on the server, then deploy EXSi and add it to a vCenter cluster.



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## Chapter 4. Troubleshooting

This section provides troubleshooting information that will help you to resolve problems with Lenovo XClarity Integrator for VMware vRealize Orchestrator.

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### Logging

vRealize Orchestrator provides an extensive logging facility for troubleshooting issues.

Refer to the following document on the VMware vRealize Orchestrator Documentation page for details on how to enable logging, how to change log levels, and where to access the log files: *Installing and Configuring VMware vRealize Orchestrator*.

The Lenovo XClarity Integrator for VMware vRealize Orchestrator supports the following log levels:

- INFO
- DEBUG
- ERROR



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## Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

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