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# VMware vRealize Orchestrator 8.1 Release Notes

vRealize Orchestrator Appliance 8.1 | 14 April 2020 | Build 15995344

Check frequently for additions and updates to these release notes.

## What's in the Release Notes

The release notes cover the following topics:

- [What's New in vRealize Orchestrator 8.1](#)
- [Deploying the VMware vRealize Orchestrator 8.1 Appliance](#)
- [Upgrading and Migrating to vRealize Orchestrator 8.1](#)
- [Root Password Expiry Extension](#)
- [Plug-ins Installed with vRealize Orchestrator 8.1](#)
- [Internationalization Support](#)
- [How to Provide Feedback](#)
- [Prior Releases of vRealize Orchestrator](#)
- [Resolved Issues](#)
- [Known Issues](#)

## Important

**Upgrade failure after performing steps in KB 87120**

Performing the instructions used to address the CVE-2021-44228 and CVE-2021-45046 log4j vulnerabilities described in KB 87120 can cause upgrade failures for vRealize Automation and vRealize Orchestrator 8.6.2 or earlier. For a workaround, see [KB 87794](#).

## What's New in vRealize Orchestrator 8.1

**Enhanced Ease of Use, and DevOps Automation**
vRealize Orchestrator 8.1 delivers powerful feature enhancements, that improve the productivity, efficiency, and effectiveness of IT/Cloud admins and DevOps admins, who are modernizing their data center infrastructure using vCloud Suite, and VMware Cloud Foundation. Key features include:

- **Tree view of hierarchical folders.** vRealize Orchestrator 8.1 reintroduces support for tree views of hierarchical folders, so users can organize, view, and browse their vRealize Orchestrator objects in a hierarchical tree view. The Tree View allows for easier

management of objects at scale, giving users a global view of all organized content. See [Create a Folder or Subfolder in the vRealize Orchestrator Client](#)

- **Run and debug actions.** Users can run and debug an action without having to add the action to a workflow and then having to perform a workflow run. Each action can be unit tested prior to running the associated workflow, enabling accelerated workflow development. See [Running and Debugging Actions](#).

- **Debug workflow schema.** Users can debug a workflow by setting breakpoints on specific elements in the workflow schema. See [Debug Workflows by Schema Element](#).

- **Push change sets to Git branches.** When versioning content in a Git repository, vRealize Orchestrator allows users to select, configure, and push change sets to different branches from a Git repository. This enables users to promote vRealize Orchestrator content through standard Git operations. See [How Can I Use Git Branching to Manage My vRealize Orchestrator Object Inventory](#).

- **Multiple Scripting Languages: PowerShell, Node.js, Python.** vRealize Orchestrator 8.1 introduces support for following scripting languages: PowerShell, Node.js, and Python. This makes vRealize Orchestrator more accessible and easier to use for non-JavaScript users. See [Core Concepts for Python, Node.js, and PowerShell Scripts](#).

- **Syslog support.** You can configure a logging integration to one or more remote syslog servers. See [Create or Overwrite a Syslog Integration in vRealize Orchestrator](#)

- **vSphere 6.7 plug-in API update.** The vSphere plug-in API has been updated to support version 6.7.

# [Important] Feature and Support Notices

- Python, Node.js, and PowerShell script languages are available only for vRealize Orchestrator instances that use a vRealize Automation license.
- The duplicate option for vRealize Orchestrator objects, such as workflows, actions, policies, configurations, and resources is not available in Tree View. You can duplicate objects from the Card View.
- Preinstalled vRealize Orchestrator actions cannot be duplicated. To duplicate such actions, create a new action and manually copy the relevant script, input parameters, and return type.
- vRealize Orchestrator internal content synchronization might delay the service startup with few minutes. This can lead to the vRealize Orchestrator service being unavailable during failover events or during cluster node failures.
- vRealize Orchestrator 8.x introduces a new procedure for adding a JDBC connector for the SQL plug-in. See [Adding a JDBC Connector for the vRealize Orchestrator SQL Plug-In](#)

## Deploying the VMware vRealize Orchestrator 8.1 Appliance

The vRealize Orchestrator Appliance is VMware PhotonOS-based appliance distributed as an OVA file. It is prebuilt and preconfigured with an internal PostgreSQL database, and it can be deployed with vCenter Server 6.0 or later.

The vRealize Orchestrator Appliance is a fast, easy to use, and more affordable way to integrate

the VMware cloud stack, including vRealize Automation and vCenter Server, with your IT processes and environment.

For instructions about deploying the vRealize Orchestrator Appliance, see[Download and Deploy the vRealize Orchestrator Appliance](#).

For information about configuring the vRealize Orchestrator Appliance server, see[Configuring a Standalone vRealize Orchestrator Server](#).

# Upgrading and Migrating to vRealize Orchestrator 8.1

You can upgrade a standalone or clustered vRealize Orchestrator 8.0 or 8.0.1 deployment to the latest product version by using a mounted ISO image.

For more information about upgrading the vRealize Orchestrator Appliance, see[Upgrading vRealize Orchestrator](#).

You can migrate a standalone vRealize Orchestrator 7.3 to 7.6 instance authenticated with vSphere to vRealize Orchestrator 8.1. The migration of clustered vRealize Orchestrator 7.x deployments or deployments authenticated with vRealize Automation is not supported.

For more information about migrating the vRealize Orchestrator Appliance, see[Migrating vRealize Orchestrator](#).

# Root Password Expiry Extension

**Important**: For security reasons, the password expiry of the root account of the vRealize Orchestrator Appliance is set to 365 days. To increase the expiry time for an account, log in to the vRealize Orchestrator Appliance as root, and run the following command:

passwd -x *number_of_days name_of_account*

To make your vRealize Orchestrator Appliance root password last forever, run the following command:

passwd -x 99999 root

# Plug-Ins Installed with vRealize Orchestrator 8.1

The following plug-ins are installed by default with vRealize Orchestrator 8.1

- vRealize Orchestrator vCenter Server Plug-In 6.5.0
- vRealize Orchestrator Mail Plug-In 7.0.1
- vRealize Orchestrator SQL Plug-In 1.1.4
- vRealize Orchestrator SSH Plug-In 7.1.1
- vRealize Orchestrator SOAP Plug-In 2.0.1
- vRealize Orchestrator HTTP-REST Plug-In 2.3.5
- vRealize Orchestrator Plug-In for Microsoft Active Directory 3.0.10
- vRealize Orchestrator AMQP Plug-In 1.0.4

- vRealize Orchestrator SNMP Plug-In 1.0.3
- vRealize Orchestrator PowerShell Plug-In 1.0.14
- vRealize Orchestrator Multi-Node Plug-In 8.1.0
- vRealize Orchestrator Dynamic Types 1.3.5
- vRealize Orchestrator vCloud Suite API (vAPI) Plug-In 7.5.1

# Internationalization Support

vRealize Orchestrator 8.1 provides multi-language support for the vRealize Orchestrator Control Center and the vRealize Orchestrator Client.

# How to Provide Feedback

Your active feedback is appreciated. Provide your feedback by using one of the following methods:

- Support Requests (SRs)
- [The vRealize Orchestrator Community Forum](#)

**Support Requests**

File all issues that you find as Support Requests (SRs), even if you report them to VMware by other means.

For more information on VMware Support and instructions on how to file SRs, please visit[the official VMware Support Offerings page](#).

Include log files in your SRs.

To generate your vRealize Orchestrator logs:

1. Log in to the vRealize Orchestrator Appliance command line as **root**.

2. Run the *vracli log-bundle* command.

**Result:** The log bundle is generated in the root folder of the vRealize Orchestrator Appliance.

# Earlier Releases of vRealize Orchestrator

Features and issues from earlier releases of vRealize Orchestrator are described in the release notes for each release. To review release notes for earlier releases of vRealize Orchestrator, click one of the following links:

- [vRealize Orchestrator 8.0.1](#)
- [vRealize Orchestrator 8.0](#)
- [vRealize Orchestrator 7.6.0](#)
- [vRealize Orchestrator 7.5.0](#)
- [vRealize Orchestrator 7.4.0](#)

# Resolved Issues

- **Unable to validate an SSH address when configuring a GitLab integration.**
  Adding an SSH address and clicking on the validation button causes the following error: *Error: org.bouncycastle.util.io.pem.PemGenerationException: unknown object passed - can't encode*.

- **After migrating vRealize Orchestrator 7.x to 8.0.1, Active Directory takes a long time to show all plug-in folders in the inventory.**
  This issue is not consistently observed, but in rare cases after migration the Active Directory inventory does not appear immediately in the vRealize Orchestrator Client.

- **Workflow Designers cannot run policies created by them in the vRealize Orchestrator Client.**
  After creating a policy, the Workflow Designer clicks **Run**. Navigating to the **Policy Runs** page shows that the policy run initiated by the Workflow Designer is in the Stopped state.

- **Receiving a 401 Unautherized Error after joining a single node to a vRealize Orchestrator High Availability (HA) environment.**
  After joining a node to a vRealize Orchestrator HA environment, you receive a 401 error when trying to access the vRealize Orchestrator Client. This error only appears if the vRealize Orchestrator node is authenticated with vRealize Automation.

- **Increasing the size of vRealize Orchestrator Appliance disks is not reflected on the Operating System (OS) level.**
  After increasing the size of any of the discs of a vRealize Orchestrator 8.0.1 Appliance, the changes are not reflected in the OS. New disc space is not accessible even after auto resize is triggered manually with the *vracli disk-mgr resize* command

# Known Issues

The known issues are grouped as follows.

- Configuration Issues
- Migration/Upgrade issues
- Web client
- Miscellaneous Issues
- Previously known issues

**Configuration Issues**

- **The vRealize Orchestrator Control Center container fails to start and cannot be opened in the browser.**
  This issue is caused by an error in the in /data/vco/usr/lib/vco/configuration/log/catalina.log file.

  **Workaround:**

  1. Restart the vco-app pod that got stuck by performing the following command:

     kubectl -n prelude delete pod vco-app[id]

  2. After a few seconds, the pod is destroyed and a new pod is deployed.
  * vco-app-[id_new_deployment]         3/3   Running    30       4d6h

- **Deploying or upgrading a High Availabiity environment with vRealize Suite Lifecycle Manager might fail on boot, because of constraint violations when initializing vRealize Automation.**
  After deploying or upgrading, you see the following error messege in the vco-control-center container log:
  <log_date><log_time>[localhost-startStop-1] ERROR {} [DbConfigurationInitializator] Failed to create the initial configuration data. Reason: query did not return a unique result: 2;

  **Workaround:**

  1. Scale the vco-app replicas to 0.

     kubectl -n prelude scale deployment vco-app --replicas=0

  2. By running the vracli dev command, verify that there are more than one record in vmo_contentversioncontrol where repositorytype = 'INTERNAL'.

     vracli dev psql

     \c vco-db

     select count(*) from vmo_contentversioncontrol where repositorytype = 'INTERNAL' group by location;

     select * from vmo_contentversioncontrol where repositorytype = 'INTERNAL';

  3. Delete any additional records and leave only one record in vmo_contentversioncontrol performing the following sql query where {extra_record_id} has to be replaced with the id of the record that has to be deleted.

     delete from vmo_contentversioncontrol where id='{extra_record_id}';

  4. Exit the psql interactive terminal.

  5. Scale the vco-app replicas to 1

```
kubectl -n prelude scale deployment vco-app --replicas=1
```

6. Wait for the vro pod to be ready and to have 3/3 ready containers for the pod and then scale vco-app replicas to 3. Two more pods have to be deployed.

```
kubectl -n prelude scale deployment vco-app --replicas=3
```

**Migration/Upgrade issues**

- **Duplicated folders appear in Tree View in an embedded vRealize Orchestrator Client after upgrading a High Availability (HA) vRealize Automation 8.0.1 environment.**
  After upgrading to vRealize Automation 8.1, multiple folders with identical names appear in the Tree View of the embedded vRealize Orchesreator Client. One of the folders is used while the other folders might be empty. A similar issue can also occur with fresh HA vRealize Automation 8.1 deployments.

  **Workaround:** See KB 78958.

**Web client**

- **Failure when pushing commits to a protected Git branch.**
  If the configured Git branch is protected, the push operation fails consistently, but the received message indicates that the push is successful.

  No workaround.

- **Unable to load more than 20 object cards from Card View.**
  If you configure your display to use a 2K resolution and above, or a custom resolution that is more than 1080 pixels in height, the Card View cannot load more than 20 cards.

  **Workaround:** Configure your display to the 1920×1080 resolution at the highest. Alternatively, if you want to use other resolutions, resize the browser window, so a scrollbar appears.

- **Missing Duplicate button in Tree View.**
  In Tree View, when selecting folders or individual objects, there is a missing duplicate button.

  **Workaround:** If you must duplicate items or folders, switch to the Card View and select Duplicate from the actions menu.

- **Workflow validation errors persist for workflows even after resolving the errors.**
  Validation errors do not disappear from the workflow schema after resolving the errors and saving the validated workflow.

  No workaround.

- **Pull and push operations take a long time to finish.**
  In some cases, pull and push operations from the vRealize Orchestrator Client to the integrated Git server continue for 2 minutes.

No workaround. Wait for the pull or push operation to finish.

- **Executing a workflow with a legacy presentation validation always fails when the ognl uses the "__current" variable.**
  Workflows created in the Orchestrator Legacy Client that use the "__current" variable in their OGNL custom validation script fail to start from the vRealize Orchestrator Client when the field value is an sdk object.

  **Workaround:** Replace the "__current" variable with the actual variable name in the workflow XML.

- **Receiving errors when running custom decision element script with the new runtimes.**
  Runtimes other that JavaScript do not support custom decision element scripts.

  **Workaround:** Do not add custom decision scripts to Python, Node.js, or PowerShell scripts.

- **Users can discard Git changes to content they do not have access to.**
  Users with workflow designer rights can discard Git changes to content they do not have access to from the **Git History** page.

  No workaround.

- **Policy templates and configuration elements from plug-ins are unlocked and can be edited.**
  Plug-in specific policy templates and configuration elements are unlocked, and the user can edit the objects without duplicating them.

  No workaround.

- **Properties and Array/Properties types cannot have default external source values.**
  Using external values for Properties and Array/Properties types in the workflow input form does not show the correct actions. Even if you are able to set the correct action, the input form is populated with invalid values during validation.

  **Workaround:** Use Composite Type input parameters.

- **Preinstalled actions cannot be duplicated.**
  If you edit actions that come with the standard vRealize Orchestrator library, you must first duplicate the relevant action. You are unable to duplicate the action because the Duplicate button is missing from the action card.

  **Workaround:** Create an empty action with same inputs parameters, return type, and script.

- **Breakpoints are enabled in visual diff view in Version History.**
  The user can place element and scriptable task breakpoints in the visual diff view.

  **Workaround:** Do not place breakpoints in the visual diff view, as they are not supported for use in that view.

- **In the vRealize Orchestrator Client, you see tags containing underscore characters in the name.**
  The vRealize Orchestrator Client does not support tag names with less than three characters or names containing white-space characters. All tags auto-generated from objects with shorter names will be suffixed with "underscore". All white-space characters will also be replaced with "underscore".

  Example: The workflow located in "/Library/project A/app/DR/backup" in the Orchestrator Legacy Client, will have the following auto-generated tags in the vRealize Orchestrator Client: "Library", "project_A", "app", "DR_"

  **Workaround:** Follow the presented tagging conventions when creating new content in the vRealize Orchestrator Client.

- **The Version History page displays inaccurate data for the current version. After performing a push operation, the last change made to the content disappears.**
  This error can occur when multiple object editors are open at the same time and one or more users are making changes. For example, a user might make changes to a vRealize Orchestrator workflow and a vRealize Orchestrator action in separate tabs in their browser. After several changes to both the workflow and the action, the user saves their changes. After saving the changes to the workflow, the user pushes the updated workflow to the integrated Git repository. After pushing the workflow changes to the Git repository, the previously saved changes to the action are lost.

  **Workaround:** Reopen editors after pushing or pulling content to and from your Git repository. If there are local changes not made by you, do not push from the **Git History** page. Check if your local changes match the last changes to the content before pushing.

- **Scheduled workflow runs are triggered at a different than the expected time with the time offset to UTC time.**
  When you schedule workflow runs through scripting by using the *workflow.scheduleRecurrently()* function, scheduled workflows are always triggered in UTC time. There is a discrepancy between the vRealize Orchestrator Client UI and the function behavior, because the UI adds the time zone of your browser to the recurrence pattern. However, the time zone is not included in the recurrence pattern when using the function and the calculations of the time to the trigger the workflow runs are done on the server side in UTC time.

  **Workaround**: When you schedule workflow runs in scripting, use time values in UTC time.

- **Unable to select an action as an external source in input forms because of a return type issue.**
  In the vRealize Orchestrator Client **Input Form** tab, you are unable to select an action that has a return type of either Any or Array/Any for a default value or value option.

  **Workaround:**

  1. Log in to the vRealize Orchestrator Client.
  2. Select your workflow and navigate to the **Input Form** tab.
  3. Set the action with the return type expected from the widget default value or value option

and save the changes.
4. Select the default value or value option action, save the workflow, and revert the action to previous version or change the return type back to the Any type.

- **Duplicated workflows created in Orchestrator Legacy Client might display a constant instead of an external action in their value options.**
  When editing the input parameters of a workflow that is designed in the Orchestrator Legacy Client, and duplicated in the vRealize Orchestrator Client, the value options might be set as a constant instead of an external action.

  **Workaround:** Navigate to the **Input Form** tab and edit the input parameter presentation to include the required external action.

**Miscellaneous Issues**

- **The vCenter Server plug-in does not support policies.**
  The vCenter Server plug-in for vRealize Orchestrator does not support using policies to monitor for events that are issued by the managed vCenter Server instance.
- **Importing a package created in a newer vRealize Orchestrator version into an older version of vRealize Orchestrator can cause an error.**
  Compatibility issues between vRealize Orchestrator versions lead to the inability to import packages created in newer product versions into older vRealize Orchestrator deployments.

# Previously known issues

To view a list of previous known issues, click here.