



# VMware vRealize Orchestrator 8.4 Release Notes

vRealize Orchestrator Appliance 8.4 | 15 April 2021 | Build 17874360

vRealize Orchestrator Update Repository 8.4 | 15 April 2021 | Build 17874360

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 8.4](#)
- [Federal Information Processing Standards \(FIPS\) Support](#)
- [Deploying the VMware vRealize Orchestrator 8.4 Appliance](#)
- [Upgrading and Migrating to vRealize Orchestrator 8.4](#)
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## 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 8.4

### VMware vRealize Orchestrator plug-in for vRealize Automation

The VMware vRealize Orchestrator Plug-in for vRealize Automation allows interaction between vRealize Orchestrator and vRealize Automation.

The preconfigured workflows provided with the plug-in help you deploy and manage resources in vRealize Automation. In addition to the provided workflows, you can create and run custom workflows. Newly provided content in vRealize Orchestrator that is compatible with vRealize Automation, provide solutions to the main customer use cases to create and run workflows for

the main functions in vRealize Automation, such as managing projects and users, using custom types, manage VMs, etc.

The current release of the plug-in supports:

- Host management and CRUD operations for on-prem and cloud vRealize Automation hosts.
- Out-of-the-box workflows for host management.
- Preserved Authentication to the hosts and dynamic host creation.
- A REST client that can be used for requests to vRealize Automation.

**Note:** If you are using the embedded vRealize Orchestrator instance in vRealize Automation, the plug-in is available out-of-the-box. To use the plug-in for external standalone vRealize Orchestrator deployments, you must download and install it from the [VMware Marketplace](#).

### Restore deleted objects

You can restore deleted objects, such as workflows, actions, policies, configuration elements, and resource elements, from the **Deleted Items** page of the vRealize Orchestrator Client.

## Federal Information Processing Standards (FIPS) Support

vRealize Orchestrator now ships with cryptographic modules that have successfully passed NIST FIPS 140-2 Cryptographic Module Validation Program (CMVP) testing. When these modules are configured to run in 'FIPS-mode', they will cover all cryptographic operations in the product that perform a security function and/or process sensitive data.

**NOTE:** Users will be able to choose whether to be in FIPS-mode **only** during installation and before content in vRealize Orchestrator is generated. Also, FIPS mode will be available only for greenfield vRealize Orchestrator environments.

For information on enabling FIPS-mode, see step 13 in [Download and Deploy the vRealize Orchestrator Appliance](#).

For information on upgrade and migration considerations for FIPS-mode, see **FIPS compliance considerations** in [Migrating vRealize Orchestrator](#).

## Deploying the VMware vRealize Orchestrator 8.4 Appliance

The vRealize Orchestrator Appliance is a VMware Photon OS-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 8.4

You can upgrade a standalone or clustered vRealize Orchestrator 8.x 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 instance authenticated with vSphere or vRealize Automation to vRealize Orchestrator 8.4. Product versions of vRealize Orchestrator 7.x supported for migration include versions 7.3 to 7.6. The migration of clustered vRealize Orchestrator 7.x deployments is not supported.

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

## Inclusive Language Notice

At VMware, we value inclusion. To foster this principle within our customer, partner, and internal community, we removed non-inclusive language from documentation.

## Plug-Ins Installed with vRealize Orchestrator 8.4

The following plug-ins are installed by default with vRealize Orchestrator 8.4.

- vRealize Orchestrator vCenter Server Plug-In 6.5.0
- vRealize Orchestrator Mail Plug-In 8.0.0
- vRealize Orchestrator SQL Plug-In 1.1.6
- vRealize Orchestrator SSH Plug-In 7.3.0
- vRealize Orchestrator SOAP Plug-In 2.0.4
- vRealize Orchestrator HTTP-REST Plug-In 2.3.9
- vRealize Orchestrator Plug-In for Microsoft Active Directory 3.0.11
- vRealize Orchestrator AMQP Plug-In 1.0.5
- vRealize Orchestrator SNMP Plug-In 1.0.3
- vRealize Orchestrator PowerShell Plug-In 1.0.19
- vRealize Orchestrator Multi-Node Plug-In 8.4.0
- vRealize Orchestrator Dynamic Types 1.3.6
- vRealize Orchestrator vCloud Suite API (vAPI) Plug-In 7.5.2

## 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 8.3](#)
- [vRealize Orchestrator 8.2.1](#)
- [vRealize Orchestrator 8.2](#)
- [vRealize Orchestrator 8.1](#)
- [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

- **Using the vRealize Orchestrator scripting to create and update configurations or resources can lead to incorrect or missing version history.**  
When you update configurations and resources through the vRealize Orchestrator scripting API without explicitly calling the `saveToVersionRepository` method, version history is not generated for that content. This can cause issues if an external Git integration is added after upgrading.
- **Unable to create or edit content in vRealize Orchestrator.**  
When trying to create or edit vRealize Orchestrator content, the requests fail. The `/services-logs/prelude/vco-app/file-logs/vco-server-app.log` file displays the following messages:  
{code:java}  
ch.dunes.util.DunesServerException: com.vmware.o11n.service.version.ContentVersionException:  
java.lang.RuntimeException: java.lang.RuntimeException: org.eclipse.jgit.api.errors.TransportException:  
/usr/lib/vco/app-server/data/git/\_\_SYSTEM.git: internal server error  
{code}
- **User interaction contains an input field for an already deleted variable. When a workflow reaches such a user interaction, it fails when you answer the interaction.**  
If a user interaction has a binding to a deleted variable, the user interaction binding is not removed, and this causes the workflow to fail when it reaches the user interaction.
- **Incorrect line of failure is displayed in the scripting error message.**  
The vRealize Orchestrator scripting log displays an incorrect line of failure in the error stack trace.

## Known Issues

The known issues are grouped as follows.

- [Install/Migration/Upgrade issues](#)
- [Web client issues](#)
- [Miscellaneous Issues](#)
- [Previously known issues](#)

## Install/Migration/Upgrade issues

- **The following exception errors are thrown in install\_rpms container: [ERROR] ERROR: duplicate key value violates unique constraint "uk\_vmoreselt".**

In clustered environments, the vco-app pods do not start, because the initialization container fails and the pods stay in the Init:CrashLoopBackOff state.

### Workaround:

1. Scale the vco-app pods to 0 replicas.
2. Log in to the vco-db by running the `"*vracli dev psql vco-db"` command and find all duplicated resource elements with an SQL query:

```
select name, count(name) from vmo_resourceelement group by name having count(name) > 1;
```

3. Delete each second resource element that is a duplicate of the first one and leave only one in the database.
4. Scale the vco-app pods to 1 replica and wait until it is up and running.
5. Scale the vco-app pods to 3 replicas.

**Note:** If the vco-app pods start, but you have problems accessing vRealize Automation while also receiving a 404 Service not found error in your browser, run the deployment script:

1. `deploy.sh --onlyClean`
2. `deploy.sh`

- **Custom content is not available on the Git History page after migrating vRealize Orchestrator 7.5 to vRealize Orchestrator 8.x.**

After migrating vRealize Orchestrator 7.5 to vRealize Orchestrator 8.x, when you configure your Git integration, custom content is not available on the **Git History** page.

**Workaround:** To see all migrated content as local changes in Git, manually edit and save custom content to convert it to an 8.x-compatible format before you make an initial push to the repository. After that, you can push all migrated content to your Git repository.

- **After upgrading to vRealize Orchestrator or vRealize Automation 8.x, some resource elements in the vRealize Orchestrator Client might appear changed or reverted to an older version.**

This issue occurs with resource elements that were previously updated in the vRealize Orchestrator Client by using a different source file. After upgrading your vRealize Orchestrator or vRealize Automation deployment, these resource elements can be replaced by an older version. This is an intermittent issue.

### Workaround:

1. Log in to the vRealize Orchestrator Client.
  2. Navigate to **Assets>Resources**.
  3. Select the resource element affected by the issue.
  4. Select the **Version History** tab and restore the element to the appropriate version.
  5. Repeat for all affected resource elements.
- **When you create a log bundle after migrating from vRealize Orchestrator 7.x to a vRealize Orchestrator 8.x, the migration logs are not included in the bundle.**  
The log bundle created after migration does not contain the migration log file. This issue is encountered in clustered vRealize Orchestrator environments.

**Workaround:** The migration logs can be found in the `/data/vco/usr/lib/vco` directory on the secondary nodes of the clustered environment. If the logs are not there, they can be found in the `/var/log/vmware/prelude` directory on the node where the migration process is started.

## Web client issues

- **You cannot find the action dependencies of duplicate workflows.**  
When you duplicate a workflow and then search for dependencies, actions used in the workflow input form are not found.  
  
No workaround.
- **The token replay tree does not show inner workflow elements.**  
After running a workflow which has some inner workflow elements (such as a workflow element, nested workflow element, or others), the token replay tree does not show the activities of the nested workflows and they cannot be selected to see the variable changes.  
  
No workaround.
- **When saving a workflow edit, you receive an internal server error after selecting a folder where a workflow with the same name already exists.**  
When you edit a workflow and select a new folder to place it and save the changes, an internal server error is reported in vRealize Orchestrator Client.  
  
**Workaround:** Rename the workflow or select different folder.
- **Local changes are not available after duplicating and deleting a workflow.**  
You duplicate a workflow and then delete it. In the **Git History** page, there is no local change for the deleted workflow.  
  
No workaround.
- **Users can discard Git changes to content they do not have access to.**  
Users with workflow designer rights can discard Git changes to content that they do not have access to from the **Git History** page.  
  
No workaround.
- **Pushing commits to a protected Git branch fails.**  
If the configured Git branch is protected, the push operation fails consistently, but the message that appears indicates that the push is successful.

No workaround.

- **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 that are auto-generated from objects with shorter names are suffixed with underscore characters. All white-space characters will also be replaced with underscores. For example, a workflow located in `/Library/project A/app/DR/backup` in the Orchestrator Legacy Client, when migrated, has the following auto-generated tags in the vRealize Orchestrator Client: "Library", "project\_A", "app", "DR\_".

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

- **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.

- **Inconsistent coloration of variables bound in scriptable tasks.**

Only the first match of a bound variable included in the code of a workflow scriptable task has coloration.

No workaround.

- **Unable to select an action as a default value for a Properties type input parameter.**

An action that returns an `Array/Properties` cannot be selected as a default value for a `Properties` type input parameter.

**Workaround:** Change the return type of the action to a `Properties` type, select it as a default value and then change it back to `Array/Properties`.

- **Multiple workflows or actions are pushed to the assigned Git repository despite only one object being selected or versioned.**

This issue occurs after you reset your Git repository to a previous change set and choose to keep the local changes. The local changes will go into the Git repository together regardless of which object is selected for the push operation.

**Workaround:** Make sure to either push or discard the local changes in your Git repository before resetting the branch to an old change set.

- **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.

- **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.

## Miscellaneous Issues

- **Running the Run SSH command workflow in the Multi-node plug-in causes the workflow to fail.**

Attaching a remote vRealize Orchestrator instance using the Multi-node plug-in, and running the **Run SSH command** workflow, which is synchronized from the remote repository, causes the workflow to fail.

**Workaround:** To make the workflow pass successfully, rename the local variable in the generated workflow for the **Run SSH Command** final scripting element. The following script is an example fix:

```
var r = remoteToken.getOutputParameters();
result = r.get("result");
errorText = r.get("errorText");
outputText = r.get("outputText");
```

- **vRealize Orchestrator database size is very large because of the vmo\_tokenreplay table.**

The vmo\_tokenreplay table is very large in size.

**Workaround:** Log in to Control Center as **root**. Under **Extension Properties**, select the token replay extension and disable the **Record replay for all workflow runs** property.

- **Importing a package created in a newer vRealize Orchestrator version into an earlier 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 earlier vRealize Orchestrator deployments.

No workaround.

- **Unable to log in to the vRealize Orchestrator Control Center or the vRealize Orchestrator Appliance.**

Using backslash ("\") characters in the root password of your deployment can cause issues when trying to log in to the vRealize Orchestrator Control Center or the vRealize Orchestrator Appliance over a SSH session.

**Workaround:** Do not use backslash ("\") characters in the root password of your vRealize Orchestrator deployment.

## Previously known issues

To view a list of previous known issues, click [here](#).

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