

# Configuring the vRealize Automation Plug-in for ServiceNow

Release 5



vmware®

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# Configuring the vRealize Automation Plug-in for ServiceNow

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Configuring the vRealize Automation Plug-in for ServiceNow describes installation and configuration information for the vRealize Automation plug-in for ServiceNow. In addition, it provides information about working with the plug-in.

The vRealize Automation plug-in for ServiceNow enables ServiceNow users to deploy virtual machines and perform day 2 actions on CMDB resources using vRealize Automation catalog and governance capabilities.

## Intended Audience

This information is intended for ServiceNOW system administrators and other users who install, configure, and use the plug-in.

## VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to <http://www.vmware.com/support/pubs>.

# Installing and Upgrading the vRealize Automation Plug-in for ServiceNow

# 2

You can install the vRealize Automation plug-in for ServiceNow, or you can upgrade your current plug-in to the latest version.

This chapter includes the following topics:

- [Preparing for Installation of the vRealize Automation Plug-In for ServiceNow](#)
- [Install vRealize Automation Plug-in for ServiceNow](#)
- [Set up Users for the vRealize Automation Plug-in for ServiceNow](#)
- [Update the vRealize Automation Workflow for Requested Items](#)
- [Set up the Integration User](#)
- [Configuring Optional Functionality](#)
- [Configure and Run Scheduled Import Jobs](#)
- [Troubleshooting the vRealize Automation plug-in for ServiceNow](#)

## Preparing for Installation of the vRealize Automation Plug-In for ServiceNow

With the vRealize Automation plug-in for ServiceNow, you can deploy virtual machines and perform day 2 actions on CMDB resources using vRealize Automation catalog and governance capabilities.

The following tables show a version compatibility between the vRealize Automation plug-ins for ServiceNow, vRealize Automation, and applicable ServiceNow releases.

**Table 2-1. ServiceNow Plug-In Compatibility Matrix**

ServiceNow Plug-in Version	Supported vRealize Automation releases	Supported ServiceNow releases
v 1.0	7.3	Fuji
v 2.0	7.3	Helsinki, Istanbul
v 3.0	7.3	Istanbul, Jakarta, Kingston

**Table 2-1. ServiceNow Plug-In Compatibility Matrix (Continued)**

ServiceNow Plug-in Version	Supported vRealize Automation releases	Supported ServiceNow releases
v 4.0	7.3, 7.3.1, 7.4	Istanbul, Jakarta, Kingston
v 5.1	7.4, 7.5	Jakarta, Kingston, London

**Note** The login and authentication process in the vRealize Automation plug-in for ServiceNow 5.1 is based on the ServiceNow instance and does not require additional ADFS or SSO setup. You can also directly access the vRealize Automation catalog in ServiceNow.

The latest version of the plug-in supports vSphere, Amazon, Azure, and XaaS virtual machine provisioning, including formless and form based day 2 operations.

Before installing the plug-in, you must configure a Management, Instrumentation, and Discovery (MID) Server to facilitate the communication between ServiceNow and vRealize Automation. See [https://docs.servicenow.com/bundle/kingston-servicenow-platform/page/product/mid-server/concept/c\\_MIDServerInstallation.html](https://docs.servicenow.com/bundle/kingston-servicenow-platform/page/product/mid-server/concept/c_MIDServerInstallation.html).

## Install vRealize Automation Plug-in for ServiceNow

The vRealize Automation plug-in for ServiceNow enables ServiceNow users to deploy virtual machines and perform day 2 actions on resources using vRealize Automation catalog and governance capabilities.

When installed, the vRealize Automation plug-in does the following:

- In the left navigation panel of ServiceNow, it creates a vRealize Automation Module for plug-in end users and an Integration - vRealize Automation module to be used by plug-in administrators for configuration purposes.
- Creates a workflow for requesting vRealize Automation catalog items.
- Creates the `x_vmw_vmware_vreal.vrealize_automation_catalog_admin` and `x_vmw_vmware_vreal.vra_user` roles and assigns them to the respective user.
- Grants the users with the `x_vmw_vmware_vreal.vrealize_automation_catalog_admin` role access to the **Integration - vRealize Automation** module.

ServiceNow allows you to roll back update sets if desired, but there are potential implications to rolling back. See the ServiceNow documentation, specifically [https://docs.servicenow.com/bundle/kingston-application-development/page/build/system-update-sets/task/t\\_BackOutUpdateSet.html](https://docs.servicenow.com/bundle/kingston-application-development/page/build/system-update-sets/task/t_BackOutUpdateSet.html) for more information about working with update sets.

**Note** If you are upgrading the plug-in you must download the new version from where you downloaded the previous version - either the ServiceNow store or VMware Solution Exchange.

## Prerequisites

- Configure a Management, Instrumentation, and Discovery (MID) Server to facilitate communication between ServiceNow and vRealize Automation. See [https://docs.servicenow.com/bundle/kingston-servicenow-platform/page/product/mid-server/concept/c\\_MIDServerInstallation.html](https://docs.servicenow.com/bundle/kingston-servicenow-platform/page/product/mid-server/concept/c_MIDServerInstallation.html). Note that as part of this installation, you must also set up an appropriate MID Server account.
  - a Log in as a System Administrator.
  - b Enter MID in the search box to locate the MID Server configuration section.
  - c Click Servers and verify that your installed MID Server has a Status of UP and the Validated column shows No.
  - d Click the box next to your MID Server name.
  - e Select **Validate** in Actions on selected rows.
  - f Verify that Yes is displayed for Validated on the Dashboard.
- Download the appropriate version of the vRealize Automation ServiceNow plug-in from the VMware marketplace, and VMware DLG for your ServiceNow version. If you downloaded the ITSM V5.0 application from VMware solution exchange before the application certification by ServiceNow you must uninstall V5.0 and install ITSM V5.1, which is available for download on the ServiceNow store.

The following procedure describes typical installation of the plug-in as well as update set retrieve and commit.

## Procedure

- 1 Log in to the ServiceNow portal as a system administrator.
- 2 Select **System Update Sets > Retrieved Update Sets**.
- 3 Place the cursor on the **Retrieve Update Sets** queue and then select **Import Update Set from XML** from the displayed menu.
- 4 Click **Browse** on the dialog to choose the file to upload, and then select the vRealize Automation ServiceNow XML file.
- 5 Click **Upload**.
- 6 In the Retrieved Update Sets list, select the vRealize Automation ServiceNow update set in the Name column and then **Loaded** in the State column.
- 7 Select **Preview Update Set** to validate the update set before committing it.

A dialog box confirms update set validation.
- 8 If you are using the ServiceNow Jakarta release and ServiceNow displays the following error message, click **Accept remote update**.

Could not find a record in sc\_homepage\_renderer for column homepage\_renderer referenced in this update

- 9 Inspect the update set information, and then click **Commit Update Set**.

A dialog box opens automatically after you click **Commit Update Set** while the commit action is in progress. A **Close** button appears on the dialog when the commit completes. Click this button to dismiss the dialog.

- 10 Click **Update Set logs**.

The install is complete when a message appears stating `Finished update load from database`.

- 11 Select **Retrieved Update Sets** in the left menu and verify that the VMware update set has a status of `Committed`.

### What to do next

After the plug-in is installed, you must configure it to work within ServiceNow. Plugin configuration can be done by a system administrator or by a user with `x_vmw_vmware_vreal.vrealize_automation_catalog_admin` privileges.

Add the role `x_vmw_vmware_vreal.vra_user` in ServiceNow for all users that must access vRealize Automation, to enable those users to see the vRealize Automation User Portal module.

By default, the plug-in is accessible only from the global scope in ServiceNow. Complete the following procedure to make the plug-in accessible from all application scopes.

- 1 Navigate to `script include` from the left navigation search.
- 2 Search for Name contains `JSUtil` and open the script.
- 3 On the **Accessible from** drop-down, select `All Application Scopes`.
- 4 Ensure that the changes are saved.

## Enable Application Access on Tables

You must enable application access to certain tables for the plug-in to work.

### Procedure

- 1 Log in to ServiceNow as an administrator.
- 2 At the left navigation panel, enter a table name, followed by `.list`.

Tables to modify:

- `user_criteria`
- `sc_category_user_criteria_mtom`
- `item_option_new`
- `catalog_script_client`
- `question_choice`
- `catalog_ui_policy`
- `catalog_ui_policy_action`



- sc\_cat\_item\_user\_criteria\_mtom
  - sc\_req\_item
  - sc\_category
- 3 Press Enter.  
The table list opens.
  - 4 Right click on a table header and click **Configure > Table**.
  - 5 Click **Application Access**.
  - 6 Select the **can read**, **can create**, **can delete**, and **can update** check boxes for each table.
  - 7 Click **Update**.

## Remove the v3 vRealize Automation plug-in for ServiceNow

If you want to upgrade the vRealize Automation plug-in for ServiceNow from version 3.0 to version 5.1, you must first remove unwanted data from version 3.0.

The vRA SNOW ITSM Plugin 3.0 Removal Update Set.xml is available from the VMware website for ITSM plug-in.

### Procedure

- 1 Commit the update set patch vRA SNOW ITSM Plugin 3.0 Removal Update Set.xml on the ServiceNow instance where your vRealize Automation plug-in for ServiceNow is available.
- 2 Go to Scheduled Jobs and search for vRealize-Automation-ITSM\_3.0\_Plugin-removal-script and run this job.

All data related to version 3 of the plug-in is deleted, including all scripts, table data (Catalog, Category, Catalog item, CMDB (vRealize Automation resources)).

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**Note** This script will delete all catalog items, categories, and CMDB data specific to vRealize Automation that were imported from vRealize Automation into ServiceNow by version 3 of the plug-in. No other items are deleted. Any user customization on catalog items post data import are lost.

---

Logs are generated for verification purposes and are available under syslog table using the following filter: Created ON Today and Source is vRealize-Automation.V3.0\_Cleanup\_job

## Upgrade the vRealize Automation Plug-In for ServiceNow from Version 4.0 to Version 5.1

If you want to upgrade the vRealize Automation plug-in for ServiceNow from version 4.0 to version 5.1, you must run an external script to delete v4.0.

The `vRealize-Automation.V4.0_Cleanup_job.xml` is available from the VMware website for the ITSM plug-in.

**Note** To upgrade the plug-in you must download the new version from where you downloaded the previous version - either the ServiceNow store or VMware Solution Exchange.

**Procedure**

- 1 Commit the update set patch `vRealize-Automation.V4.0_Cleanup_job.xml` on the ServiceNow instance where your vRealize Automation plug-in for ServiceNow is available. When the update commit is successful, go to Scheduled Jobs and search for `vRealize-Automation.V4.0_Cleanup_job` and run this job. The script removes imported data like services, Catalog items, and CMDB to avoid a collision with the new data from V5.1.

Logs are generated for verification purposes and are available under syslog table.

- 2 Install the vRealize Automation Plug-In for ServiceNow version 5.1.
- 3 During the installation, you might encounter several errors. To finish the installation, take the following actions.

Error	Action
Found a local update that is newer than this one	Click <b>Accept remote update</b> .
Could not find a record in sys_user for column sys_user referenced in this update	Click <b>Skip remote update</b> .
Could not find a record in sys_glide_object for column internal_type referenced in this update	Click <b>Skip remote update</b> .
Cannot commit Update Set 'VMware vRealize Automation ITSM Application V5.0' because: Update scope id 'global' is different than update set scope id '21160d2cdb1aab4084f6d12c5e96191e'. Resolve the problem before committing.	Click <b>Skip remote update</b> .

You get a confirmation that the installation finished successfully.

## Remove the ITSM V5.0 for ServiceNow

If you downloaded the ITSM V5.0 application from VMware solution exchange before the application certification by ServiceNow you must uninstall V5.0 and install ITSM V5.1, which is available for download on the ServiceNow store.

### Procedure

- ◆ With reference to ticket raised with ServiceNow INT4083826, user must raise ticket with ServiceNow at <https://hi.service-now.com/hisp> to remove application 'VMware vRealize Automation ITSM Plugin' Version 5.0.0 from the ServiceNow instance. Native **Delete** action on application is unable to remove application completely (some application artifacts are left behind) and thus ServiceNow has suggested to get help from hi.serviceNow to remove application from instance.

ServiceNow statement from INT4083826 - We agreed that for each customer that has installed your v5.0 of the application, if they want to upgrade to v5.1 (App Store), they need to raise an incident with Customer Support, so that we can raise a CHG to delete the application and its artifacts via the Script and then to remove any orphaned records in table sys\_metadata via the back-end, before they install the new version 5.1 via the App Store.

---

**Note** This action will delete all catalog items, categories, and CMDB data specific to vRA imported from vRealize Automation into ServiceNow by V5.0 of the plug-in. No other items are deleted. Any user customization on catalog items post data import are lost.

---

## Set up Users for the vRealize Automation Plug-in for ServiceNow

You can configure users either before or after installing the vRealize Automation plug-in for ServiceNow. RBAC in ITSM 5.1 is independent from vRealize Automation RBAC. Login and Authentication rules do not require validation from vRealize Automation side. All roles and entitlements are based on the ServiceNow model.

### Prerequisites

Install the vRealize Automation plug-in for ServiceNow. See [Install vRealize Automation Plug-in for ServiceNow](#).

### Procedure

- ◆ Verify and, if necessary, update the appropriate users and roles in ServiceNow. See [http://wiki.servicenow.com/index.php?title=Creating\\_Users\\_and\\_Associating\\_to\\_a\\_Group#gsc.tab=0](http://wiki.servicenow.com/index.php?title=Creating_Users_and_Associating_to_a_Group#gsc.tab=0) and [http://wiki.servicenow.com/index.php?title=Creating\\_Roles#gsc.tab=0](http://wiki.servicenow.com/index.php?title=Creating_Roles#gsc.tab=0) for more information about working with users, groups, and roles in ServiceNow. Approval can be generated if users have the **x\_vmw\_vmware\_vreal.vrealize\_automation\_catalog\_admin** role and are a member of the **vRealizeAutomation-ApprovalManagersGroup** group in ServiceNow.

The ServiceNow plug-in for vRealize Automation uses the following ServiceNow roles:

User	Role
System Administrator	admin
Catalog Admin	x_vmw_vmware_vreal.vrealize_automation_catalog_admin

User	Role
ITIL User	itil
End User	x_vmw_vmware_vreal.vra_user

**Note** The x\_vmw\_vmware\_vreal.vra\_user role is required for all plug-in users including admin, catalog admin, and end user.

The plug-in admin role x\_vmw\_vmware\_vreal.vrealize\_automation\_catalog\_admin must contain the 'catalog\_admin', 'itil' and 'agent\_admin' roles out of the box in order to see and configure the Mid Server module from the left pane. Also, the Plugin end users role x\_vmw\_vmware\_vreal.vra\_user must have the 'itil' role out of the box.

To set up the ServiceNow users, add the roles specified in the preceding table.

### What to do next

Add the approval groups to the vRealize Automation workflow. See [Update the vRealize Automation Workflow for Requested Items](#).

## Update the vRealize Automation Workflow for Requested Items

Installation of the vRealize Automation plug-in for ServiceNow creates a workflow that runs when users request vRealize Automation catalog items from ServiceNow.

The system admin can configure the **vRA Workflow for Requested Item** using the workflow editor.

At a minimum, you must assign the approval group that contains your approvers. When users request vRealize Automation catalog items, this workflow runs, and approvals are sent to the approvers within the approval group before the request is submitted to vRealize Automation. By default the vRealizaAutomation-ApprovalManagersGroup group is set as an approving group in the workflow. You can change the approval group by following this procedure. The approval group must contain the x\_vmw\_vmware\_vreal.vrealize\_automation\_catalog\_admin role.

Follow the steps below to use your own approval group and add it to the vRealize Automation workflow.

### Procedure

- 1 Search for Workflow Editor in the ServiceNow navigation pane and click it.
- 2 Search for **vRA Workflow for Requested Item** and open it.
- 3 Click the menu button and select **Checkout**.
- 4 Double-click the Approval group stage in the workflow.
- 5 Click the **Edit Groups** button.
- 6 Search the list of groups and make the appropriate selections.
- 7 Lock your selection by clicking the Lock icon.

- 8 Click **Update**.
- 9 Click the menu button and select **Publish**.

## Set up the Integration User

You must set up a vRealize Automation integration user. ServiceNow requires this user to import catalog items, categories, request statuses, and resources from vRealize Automation.

In order to import items, the integration users must be a business group manager within the business groups that you want ServiceNow to manage. The integration user does not require a role within ServiceNow.

### Procedure

- 1 Log in to vRealize Automation as a business group manager.
- 2 Edit your business groups and assign the integration user as a business group manager.

## Configuring Optional Functionality

System administrators can configure additional functionality that enhance the default feature set of the vRealize Automation plug-in for ServiceNow

- [Update the ServiceNow UI Script in ServiceNow Jakarta](#)  
Update the ServiceNow UI script in the system properties file to prevent the ServiceNow UI from becoming unresponsive.
- [Set up Relationships Between Deployments and Machines](#)  
As a system admin, you can configure relationships between resources, for example, to see what applications are linked to what machines and vice versa. The relationships you configure depend on your resource mappings.
- [Rename vRealize Automation Modules and Context Menus](#)  
You can rename the vRealize Automation modules and context menus.
- [Add Field IDs to the Exclusion List](#)  
In some cases, unwanted fields may appear on the request form for end users. The system admin can add the field IDs to the exclusion list so that end users do not see those fields.

## Update the ServiceNow UI Script in ServiceNow Jakarta

Update the ServiceNow UI script in the system properties file to prevent the ServiceNow UI from becoming unresponsive.

### Problem

A problem with the ServiceNow UI script in the ServiceNow Jakarta release sometimes causes some elements of the ServiceNow UI to become unresponsive.

## Solution

- 1 Log in to ServiceNow as System Administrator.
- 2 In the System Administrator menu, select **Elevate Roles**.
- 3 In the search bar of the navigation pane on the left side of the page, type **sys\_properties.list** and press **Enter**.

The system properties list appears.

## Set up Relationships Between Deployments and Machines

As a system admin, you can configure relationships between resources, for example, to see what applications are linked to what machines and vice versa. The relationships you configure depend on your resource mappings.

If you use the default resource mappings, you can configure a relationship between the application and machine.

### Procedure

- 1 Select **Configuration > Relationships > Suggested Relationships**
- 2 Create a parent relationship with the following:
  - VRASN Deployments Table as Base Class
  - Hosted on (parent) as Relationship
  - VMware vRealize Automation ITSM Plugin as Application
  - VRASN VMware Virtual Machine Instance as Dependent Class
- 3 Create a child relationship with the following:
  - VRASN VMware Virtual Machine Instance as Base Class
  - Hosts (child) as Relationships
  - VMware vRealize Automation ITSM Plugin as Application
  - VRASN Deployments Table as Dependent Class

- 4 Run the importResourcesAndCMDB scheduled import.

If you do not clear the value field in the ResourcesAndCMDBImportLastRunTime property, only the newly provisioned resources will have the relationship. Resources imported before the relationship was created are not updated with the relationship. If you clear the value field in the ResourcesAndCMDBImportLastRunTime property, the newly provisioned resources and the resources provisioned prior will have the new relationship.

### What to do next

You can view the relationship from an application or a machine.

- 1 Select **Configuration > Applications or Configure > VMware > Virtual Machine Instances**

- 2 Select a resource imported from vRealize Automation.
- 3 In Related Items, click the **Show dependency views** button.

## Rename vRealize Automation Modules and Context Menus

You can rename the vRealize Automation modules and context menus.

### Procedure

- 1 Log in as a system admin and edit the vRealize Automation modules in ServiceNow Self Service.
  - a Select **System Definition > Modules**.
  - b Run a title search for vRealize Automation.
  - c Select the module that you want to rename.
  - d Change the title as appropriate and click **Update**.

The module displays the new title in Self Service upon refresh.

- 2 Edit the vRealize Automation context menu when requesting catalog items.
  - a Select **Catalog Definitions > Maintain Catalogs**.
  - b Select the catalog that you want to rename.
  - c Change the title as appropriate and click **Update**.

The header for catalog items displays the new name upon refresh.

## Add Field IDs to the Exclusion List

In some cases, unwanted fields may appear on the request form for end users. The system admin can add the field IDs to the exclusion list so that end users do not see those fields.

You can retrieve field IDs for any given field from the catalog item schema using an API tool such as postman.

### Procedure

- 1 Launch the postman extension in Chrome.
- 2 Log in as the relevant user in Chrome.

This automatically supplies the cookies for the user.

3 Retrieve the Bearer Token for this user.

For example:

```
POST https://vRealize Automation hostname/identity/api/tokens
Header : Content-Type with Value : application/json
body as raw and select JSON option. Enter user and tenant credentials in the body:
{"username": "_username", "password": "_password", "tenant": "_tenant"}
```

Click **Send** to return the Bearer Token.

4 Locate the relevant catalog items by getting the entitled catalog items of the user.

a Run a query to get the catalog items.

```
GET https://vRealize Automation hostname/catalog-service/api/consumer/entitledCatalogItems?
page=1&limit=20
Header: Content-Type with Value : application/json
Header : Authorization with Value: Bearer <token from step 3>
```

b Click **Send** to return to the schema with all of the catalog items to which the user is entitled.

c Copy and paste the schema into [codebeautify.org/jsonviewer](https://codebeautify.org/jsonviewer) as JSON Input.

d Click Beautify and use tree view.

e Search for the catalog item by name and copy the catalog item ID specified by the `id` attribute.

5 Locate the field IDs by getting the catalog item schema using the catalog item ID.

a Run a query to get the catalog item schema.

```
GET https://vRealize Automation hostname/catalog-
service/api/consumer/entitledCatalogItems/<catalog item id from step 4>/requests/schema
Header: Content-Type with Value : application/json
Header : Authorization with Value: Bearer <token from step 3>
```

This returns catalog item schema with all the fields that appear on request forms.

b Copy and paste the schema into [codebeautify.org/jsonviewer](https://codebeautify.org/jsonviewer) as JSON input.

c Click Beautify and use tree view.

d Search the Catalog Item field name to locate the Catalog Item field IDs that you want to hide from the request form.

6 Add the field IDs to the exclusion list.

a Log in to ServiceNow as a system admin.

b Select **Integration - vRealize Automation > System Properties**

c Click `x_vmw_vmware_vreal.vrasn.exclusionList`.

d Append field IDs in the **Value** field to the existing field IDs using a comma separated list.



- e Click **Update**.
- f Clear the last run time for the catalog import job and perform the catalog import again.

## Configure and Run Scheduled Import Jobs

You must configure and run scheduled import jobs for the vRealize Automation ServiceNow plug-in in order to gain access to catalog items and resources.

Though there is a default schedule for running jobs, you should edit the schedule time in each import according to your needs as you execute each job. For example, you might want to import catalog items every 10 minutes for high provisioning use.

To manually run scheduled job, user must have OOB admin role.

The plug-in provides scheduled imports with the following functions. Scheduled imports should be configured and run in the order shown in the table.

Scheduled Import	Description
1. vRealize-Automation-AuthGenerator	Used to generate an authentication token when vRA is registered. This job gets auto updated based on the scheduled defined.
2. vRealize-Automation-ImportServicesAsCategories	Imports Services from vRealize Automation into ServiceNow as categories.
3. vRealize-Automation-ImportCatalogItems	Imports catalog items from vRealize Automation into ServiceNow as catalogs.
4. vRealize-Automation-ImportResourcesAndCMDB	Imports deployments and machines from vRealize Automation into ServiceNow so that end users can view the resources they own, and so that itil can view them in CMDB as applications and virtual machine instances.
5. vRealize-Automation-ImportRequestStatuses	Imports request statuses from vRealize Automation requests into requested items.
6. vRealize-Automation-ImportStorageReservationPolicies	Imports storage reservation policies displayed in request forms.
7. vRealize-Automation-Queue-Delete	Deletes the scheduled import queues that are older than the interval specified.

**Note** The following roles are required: admin, x\_vmw\_vmware\_vreal.vrealize\_automation\_catalog\_admin.

### Procedure

- 1 Configure the polling frequency for the scheduled imports.

The default polling interval for resources is five hours and fifteen minutes. For most deployments, a smaller interval is appropriate.

- a Log in as the system admin.
- b Select **Integration - vRealize Automation** and open **Scheduled Jobs**.

- c Click the applicable job name to open the scheduled import.
  - d Change the Repeat Interval in Days, Hours, Minutes, and Seconds.
  - e Click **Update**.
- 2 Run scheduled jobs in the order shown in the table. Ensure that each job is complete before starting the next one. Completed jobs are shown as processed in the Scheduled Import Queue. Configure job run time frequency to your choice for CMDB and Requests.

For each job, complete the following steps before proceeding to the next job.

- a Select **Integration - vRealize Automation > Scheduled Imports**.
- b Click the **Scheduled Imports** link for the appropriate job based on the order shown in the table.
- c Click the **Execute Now** radio button in the upper right hand corner to run the script.

Completed jobs are shown as processed in the Scheduled Import Queue. Click the Updated column of the Scheduled Import Queue to refresh. The last updated time of the corresponding properties for these scheduled imports is also updated.

## Troubleshooting the vRealize Automation plug-in for ServiceNow

There are some basic checks you can implement if you encounter issues with the vRealize Automation plug-in for ServiceNow.

If the plug-in stops working for some reason, refer to the following guidelines to troubleshoot.

- Verify that the status of your MIDServer is UP.
- Verify that you can log in to the default vRealize Automation tenant using the administrator@vsphere.local account.

## Known Issues

The following issues are known to occur in the vRealize Automation plug-in for ServiceNow 5.1

- In the **vRA entitlement** module you might see junk values under Entitled Services, Entitled Items, and Entitled Actions. Remove these values by clicking on **Remove selected item** icon and update the record. This is a known issue and a PRB exists for this bug at ServiceNow - (PRB(PRB1299102)).

# Register a vRealize Automation Instance in Service Now

# 3

You must be a plug-in admin to register a vRealize Automation instance.

You can register multiple vRealize Automation instances and use catalog items from all of them in one ServiceNow portal. All requests from ServiceNow for a specific vRealize Automation instance are placed in the name of user registered under the **Register vRA** module.

The vRealize Automation plug-in for ServiceNow supports registration of multiple tenants in the same vRealize Automation instance.

## Prerequisites

Install the vRealize Automation plug-in in Service Now.

## Procedure

- 1 Log in to Service Now as a plug-in admin.
- 2 Navigate to and click the **Register vRAs** tab under **Integration - vRealize Automation**.
- 3 Click **New**.
- 4 Enter the details of your vRealize Automation instance.

Property	Description
MIDServer	The name of the MIDServer that you created for use with vRealize Automation. The administrator requires the x_vmw_vmware_vreal.vrealize_automation_catalog_admin and agent_admin roles to add a MIDServer value the <b>Register vRAs</b> table. <b>Note</b> Do not use the FQDN of the MIDServer.
Hostname	URL address for the vRealize Automation appliance.
Tenant Name	Enter the name of the vRealize Automation tenant that you configured with ADFS applied.
Service User Username	The integration user name. The integration user must be a business group manager in all business groups. The integration user does not require a role in ServiceNow.
Service User Password	The integration user password.
Import Catalog Items	Select <b>Yes</b> to import the vRealize Automation catalog.

Property	Description
Import Resources and CMDB	Select <b>Yes</b> to import vRealize Automation resources that end users own, and to import CMDB items for the itil user.
Import Request Statuses	Select <b>Yes</b> to import Request Statuses from Items.
Log Verbosity	Defines the error logging level. Levels are info, error, debug, and warning.
Active	Import services and catalog item runs only if the <b>Active</b> box is checked.

5 Click **Save**.

6 Repeat steps 3 through 5 for each additional vRealize Automation instance.

### What to do next

Import services, catalog items, resources, and CMDB. For more information see [Import Services and Catalog Items](#) and [Import Resources and Reconcile CMDB](#).

This chapter includes the following topics:

- [Import Services and Catalog Items](#)
- [Import and Reconcile CMDB](#)
- [Update a vRealize Automation Instance in Service Now](#)
- [Delete a vRealize Automation Instance from Service Now](#)

## Import Services and Catalog Items

Import services and catalog items from your vRealize Automation instance to Service Now.

### Procedure

- 1 Log in to Service Now as a plug-in administrator.
- 2 Navigate to and click the **Register vRAs** tab under **Integration - vRealize Automation**.
- 3 Open the vRealize Automation instance, from which you want to import.
- 4 Click **Import Services and Catalog Items**.
- 5 Monitor the import.

You can refresh the page with completed items by clicking **List controls** in the top left corner of the page and selecting **Refresh list**.

## Import and Reconcile CMDB

Import and reconcile CMDB from your vRealize Automation instance to Service Now.

### Procedure

- 1 Log in to Service Now as a plug-in administrator.
- 2 Navigate to and click the **Register vRAs** tab under **Integration - vRealize Automation**.

- 3 Open the vRealize Automation instance, from which you want to import.
- 4 Click **Import and Reconcile CMDB**.
- 5 Monitor the import.

You can refresh the page with completed items by clicking **List controls** in the top left corner of the page and selecting **Refresh list**.

## Update a vRealize Automation Instance in Service Now

Edit the settings of your vRealize Automation instance.

### Procedure

- 1 Log in to Service Now as a plug-in admin.
- 2 Navigate to and click the **Register vRAs** tab under **Integration - vRealize Automation**.
- 3 Open the vRealize Automation instance that you want to update.
- 4 Edit the settings you want to change.
- 5 Click **Update vRA**.

## Delete a vRealize Automation Instance from Service Now

When you delete a vRealize Automation instance from Service Now, you only remove it from the platform.

### Procedure

- 1 Log in to Service Now as a plug-in admin.
- 2 Navigate to and click the **Register vRAs** tab under **Integration - vRealize Automation**.
- 3 Open the vRealize Automation instance that you want to delete and click **Delete**.

# 4

## Create a New Entitlement

Assign access for services, items, and actions by entitling users and groups.

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**Note** Entitlements in the vRealize Automation plug-in for ServiceNow are based on ServiceNow plug-in implementation and are unrelated to vRealize Automation entitlements.

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### Procedure

- 1 Log in to Service Now as a plug-in admin.
- 2 Navigate to and click the **vRA Entitlements** tab under **Integration - vRealize Automation**.
- 3 Click **New**.
- 4 Enter a name and description for the entitlements.
- 5 Select the user or group to entitle.
- 6 Select the services, items, and actions you want to entitle.  
You can click on the search icon to see a full list of services, items, or actions.
- 7 Click **Submit**.

This chapter includes the following topics:

- [Add Additional Entitlements to Existing Users](#)
- [View the vRealize Automation Instance Associated With Your Entitled Service or Item](#)

## Add Additional Entitlements to Existing Users

You can add additional entitlements to users.

### Procedure

- 1 Log in to Service Now as a plug-in admin.
- 2 Navigate to and click the **vRA Entitlements** tab under **Integration - vRealize Automation**.
- 3 Click on the user you want to edit.
- 4 Enter the settings you want to change.

You can click on the search icon to see a full list of services, items, or actions.

- 5 Click **Submit**.

## View the vRealize Automation Instance Associated With Your Entitled Service or Item

You might not be able to see which vRealize Automation instance is associated with an entitled service or entitled item.

### Procedure

- 1 Log in to Service Now as a plug-in admin.
- 2 Navigate to and click the **vRA Entitlements** tab under **Integration - vRealize Automation**.
- 3 Click on the user you want to edit or create a new one.
- 4 Add a new column to the table.

Option	Description
Entitled Services	<ul style="list-style-type: none"> <li>▪ Click <b>Unlock Entitled Services</b>.</li> <li>▪ Click the magnifying glass icon.</li> <li>▪ Right click on a table header and then click <b>Configure &gt; List Layout</b>.</li> <li>▪ Move the <b>Parent</b> item from <b>Available</b> to <b>Selected</b>.</li> <li>▪ Click <b>Save</b>.</li> </ul>
Entitled Items	<ul style="list-style-type: none"> <li>▪ Click <b>Unlock Entitled Items</b>.</li> <li>▪ Click the magnifying glass icon.</li> <li>▪ Right click on a table header and then click <b>Configure &gt; List Layout</b>.</li> <li>▪ Move the <b>vRA Name</b> item from <b>Available</b> to <b>Selected</b>.</li> <li>▪ Click <b>Save</b>.</li> </ul>

## Request a Catalog Item

You can request a catalog item from the vRealize Automation user portal.

Depending on your vRealize Automation plug-in configuration you might have identical catalog items from different vRealize Automation instances. For environments with multiple vRealize Automation instances, select from which instance you want to request the catalog item.

### Procedure

- 1 Log in to Service Now.
- 2 Navigate to and click the **vRealize Automation User Portal** tab under **vRealize Automation Module**.
- 3 In the vRealize Automation user portal, click **Catalog Items**.
- 4 Select the vRealize Automation instance, from which you want to request a catalog item.
- 5 Select a category and click **Request** on the catalog item.
- 6 Enter the details of your request and click **Submit**.

You are redirected to the **Activities** tab.

This chapter includes the following topics:

- [Approve or Reject Requests](#)
- [Administer Deployments and Virtual Machines](#)
- [Estimating the Cost With vRealize Business](#)

## Approve or Reject Requests

If you are an approval manager, you can approve or reject requested catalog items from the plug-in end users.

Users with the `approver_user` role that are part of the approval group specified in vRA Workflow for Requested Items can approve or reject approvals. By default, all vRealize Automation catalog items requested from ServiceNow are sent for approval to the Approval Manager. If approved, the request is submitted to vRealize Automation. If rejected, the request is not submitted to vRealize Automation. Day 2 actions on resources are not sent for approval and so the request is submitted to vRealize Automation.



**Procedure**

- 1 Log in to Service Now.
- 2 Navigate to and click the **vRealize Automation User Portal** tab under **vRealize Automation Module**.
- 3 In the vRealize Automation user portal, click **Activities**.
- 4 Click **Approvals** and select a request.
- 5 Review the request and click **Approve** or **Reject**.

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**Note** If you are rejecting the request, you must add a comment with a reason for doing it.

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## Administer Deployments and Virtual Machines

If your user is entitled, you can make changes to your deployments and virtual machines after they have been created.

**Prerequisites**

Your user must have the specific entitlement that corresponds to the action you want to make. From the Actions tab you can power on, restart, expire, destroy, power off your deployment, and more.

**Procedure**

- 1 Log in to Service Now.
- 2 Navigate to and click the **vRealize Automation User Portal** tab under **vRealize Automation Module**.
- 3 In the vRealize Automation user portal, click **Deployments** or **Machines**.

Option	Description
<b>Administer Deployments</b>	<ol style="list-style-type: none"> <li>a Select the deployment you want to configure.</li> <li>b To make a change on the deployment, click on an action from the <b>Actions</b> panel.</li> <li>c To make a change on a virtual machine that is a part of the deployment, select the virtual machine from the <b>Related list</b> panel and click on an action from the <b>Actions</b> panel.</li> </ol>
<b>Administer Virtual Machines</b>	<ol style="list-style-type: none"> <li>a Select the virtual machine you want to configure.</li> <li>b Click on an action from the <b>Actions</b> panel.</li> </ol>

## Estimating the Cost With vRealize Business

You can estimate the cost of your deployment while you are requesting it.

To see the cost estimate of your deployment, click **Update** next to **Total Price** in the request page. You must select a Business Group while checking the price of your deployment on the vRealize Automation user portal.

The Expense (Month to Date) value for Deployment/Machines is mapped to 0 in the ServiceNow portal if it is received as null over JSON.

# Supported and Unsupported Functionality

# 6

The vRealize Automation plug-in for ServiceNow provides access to some vRealize Automation Day 2 actions on deployments and machines.

## Supported Versions

The vRealize Automation plug-in for ServiceNow works only with vRealize Automation 7.5, and is available only for specific ServiceNow releases. See the support matrix at [Preparing for Installation of the vRealize Automation Plug-In for ServiceNow](#).

## Day 2 Actions for vCenter Resources

Day 2 actions with approvals triggered in ServiceNow are currently not supported. When you submit a Day 2 action, the request is sent to vRealize Automation and executed.

Some Day 2 actions that require input from the user are supported from the ServiceNow portal. For example, Change Lease and Change Owner deployment actions that require input from the user are supported.

For all XaaS based Day 2 operations to be functional, go to the `x_vmw_vmware_vreal.XaaSBasedOperations` system property and update the comma-separated list of all the XaaS based operations name.

Day 2 actions related to connecting to machines are not supported from ServiceNow. For example, Connect using RDP is unsupported.

Unsupported Day 2 actions are visible in the Service Portal in ServiceNow, but cannot be performed.

The following table outlines Day 2 actions that are available from vRealize Automation.

Form Based Actions	Formless Actions
Change Lease	Power Cycle
Change Owner	Suspend
Create Snapshot	Power On
Scale Out Deployment	Power Off
Scale In Deployment	Shutdown
Destroy	Reconfigure

Form Based Actions	Formless Actions
Reconfigure	Reboot
	Expire
	Destroy
	Unregister

## Requesting Catalog Items from Non-vCenter Endpoints

AWS, XaaS Azure, and vCenter catalog items requesting machines and applications are supported from the ServiceNow catalog. Requesting non-Azure XaaS catalog items is supported with limitations. Catalog items cannot be submitted for deployment from instances that are based on complex blueprints containing a combination of vSphere and XaaS components.

## Requesting vCenter Catalog Items on Behalf of Users

Requesting catalog items, as a business group manager or support user, on behalf of users from the same business group is not currently supported.

## Requesting Catalog Items with Custom Properties

Requesting vCenter catalog items with custom properties of the following field types with static values are supported from ServiceNow - textbox, checkbox, dropdown, textarea, yes/no, securestring.

Requesting vCenter catalog items with custom properties of the following field types are not supported from ServiceNow - Slider, spinner, hyperlink.

Requesting XaaS Azure blueprints with all static custom properties is supported.

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**Note** The custom properties option is not available for Amazon Web Service blueprints on the ServiceNow request form. As a workaround, you can define properties and values on the vRealize Automation blueprint.

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## XaaS Blueprint Support and Limitations

The vRealize Automation plug-in for ServiceNow supports vSphere, AWS, Azure, and XaaS blueprints.

The plug-in supports Dynamic Dropdown, which can make calls to vRealize Orchestrator actions.

The plugin supports AD:User and AD:UserGroup vRealize Orchestrator classes with SEARCHER. AD:User and AD:UserGroup with TREE are not supported.

The plugin does not support the TREE UI control for the LDAP server and other vRealize Orchestrator plug-in objects.

## Other Unsupported Functionality

ServiceNow does not display machine details or deployment details Amazon Web Service vRealize Automation resources. In addition, ServiceNow does not display the Security Groups menu items for VPC and non-VPC catalog items.

ServiceNow lists all Amazon virtual machine instances unlike vRealize Automation which lists only those instances selected in the applicable blueprint. If a user selects an instance that is not part of the vRealize Automation blueprint, provisioning from ServiceNow fails with an error. Users must select only instances that are part of the applicable vRealize Automation blueprint.

The following functions are also unsupported.

- Fields having data\_table as displayAdvice are not supported.
- NICS, disk and ebs\_storage\_volume are not supported.
- Custom properties on ebs\_storage\_volumes are excluded from calculating pricing (vRB).
- All the fields with ref types that have derivedValue as a facet type are excluded from calculating pricing (vRB).
- CHECKBOX\_GROUP type fields are not supported.
- Date/Time fields are not supported for calculating pricing (vRB). It is handled internally from ServiceNow for Change Lease actions.
- All the requests for pricing are being sent from the default business group as coming in JSON.
- The Reconfigure action for AWS resources is not supported.
- The Destroy form action for AWS resources is not supported.
- vRealize Automation JSON data which has a field type=ref is not supported over ServiceNow.
- Date/Time picker is not supported.
- Two step catalog checkout is currently not supported in V5.1.
- Two way checkout for catalog items is not supported in ITSM 5.1
- All RITM requests are raised in the name of service user registered under the **Register vRA** module in ServiceNow.
- There is no CI entitlement in ITSM 5.1. All machines and deployments are visible to all plugin users.
- Custom forms are not supported in ITSM 5.1
- XaaS Catalog items are not supported.

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**Note** Subnets are currently visible to users.

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