Red Hat Software Certification 2024

Red Hat OpenStack Application and VNF Workflow Guide

For Use with Red Hat OpenStack 17

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Legal Notice

Abstract

Red Hat OpenStack Application Workflow Guide covers the test requirements for achieving Red Hat OpenStack Platform (RHOSP) application certification. Version 9.0 and 8.80 updated May 28, 2024.

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MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code and documentation. We are beginning with these four terms: master, slave, blacklist, and whitelist. Due to the enormity of this endeavor, these changes will be gradually implemented over upcoming releases. For more details on making our language more inclusive, see our CTO Chris Wright's message .

CHAPTER 1. INTRODUCTION TO OPENSTACK APPLICATION AND VNF CERTIFICATION PROGRAM

Use this guide to certify your own applications, management applications or Virtualized Network Function (VNF) software for use with Red Hat OpenStack Platform (RHOSP) in a jointly supported customer environment.

1.1. THE RED HAT CERTIFICATION PROGRAM OVERVIEW

The Red Hat certification program ensures the compatibility of your hardware, software, and cloud products on the OpenStack Platform. The program has three main elements:

- **Test suite**: Comprises tests for hardware or software applications undergoing certification.

- **Red Hat Certification Ecosystem** Helps to explore and find certified products including hardware, software, cloud, and service providers.

- **Support**: A joint support relationship between you and Red Hat.

This table summarizes the basic differences between a product listing and components:

Product listing	Component (Project)
Includes detailed information about your product.	The individual containers, operators, helm charts, and infrastructure services that you test, certify, and then add to the product listing.
Products are composed of one or more components.	Components are added to a product listing.
You add components to a product for proceeding with certification.	A component can be used in multiple products by adding it to each product listing.
A product can not be published without certified components.	Certified components are published as part of a product listing.

1.2. CERTIFICATION WORKFLOW

Follow these high-level steps to certify your hardware, software, and cloud products:

> **NOTE**
>
> Red Hat recommends that you are a Red Hat Certified Engineer or hold equivalent experience before starting the certification process.

Task Summary

The certification workflow includes three primary stages –

1. Section 1.2.1, "Certification onboarding"

2. Section 1.2.2, "Certification testing"

3. Section 1.2.3, "Publishing the certified application"

1.2.1. Certification onboarding

Perform the steps outlined for certification onboarding:

1. Join the Red Hat Connect for Technology Partner Program.

2. Agree to the program terms and conditions.

3. Create your product listing by selecting your desired product category. You can select from the available product categories:

   a. Containerized Application

   b. Standalone Application

   c. OpenStack Infrastructure

4. Complete your company profile.

5. Add components to the product listing.

6. Certify components for your product listing.

1.2.2. Certification testing

Follow these high-level steps to run a certification test:

- Log in to the Red Hat Certification portal.

- Download the test plan.

- Configure the system under test (SUT) for running the tests.

- Download the test plan to our SUT.

- Run the certification tests on your system.

- Review and upload the test results to the certification portal.

1.2.3. Publishing the certified application

When you complete all the certification checks successfully, you can submit the test results to Red Hat. Upon successful validation, you can publish your product on the Red Hat Ecosystem Catalog .

Additional resources

- For more information about the requirements and policies for Red Hat OpenStack Certification, see Red Hat OpenStack Application and VNF Certification Policy Guide.

1.3. GETTING SUPPORT AND GIVING FEEDBACK

For any questions related to the Red Hat certification toolset, certification process, or procedure described in this documentation, refer to the KB Articles, Red Hat Customer Portal , and Red Hat Partner Connect.

You can also open a support case to get support or submit feedback.

To open a support case see, How do I open and manage a support case on the Customer Portal?

Questions During Certification

If you have any questions or responses about a specific certification, record them in the **Comments** section of the **Dialog Tab** of the certification entry.

> **WARNING**
>
> Issues that can block a certification and might require resolution must be resolved through your Engineering Partner Manager or other engineering engagements.

CHAPTER 2. ONBOARDING CERTIFICATION PARTNERS

Use the Red Hat Customer Portal to create a new account if you are a new partner, or use your existing Red Hat account if you are a current partner to onboard with Red Hat for certifying your products.

2.1. ONBOARDING EXISTING CERTIFICATION PARTNERS

As an existing partner you could be:

- A member of the one-to-many EPM program who has some degree of representation on the EPM team, but does not have any assistance with OpenStack certification.
  OR

- A member fully managed by the EPM team in the traditional manner with a dedicated EPM team member who is assigned to manage the partner, including questions about OpenStack certification requests.

Prerequisites

You have an existing Red Hat account.

Procedure

1. Access Red Hat Customer Portal and click **Log in**.

2. Enter your Red Hat login or email address and click **Next**.
   Then, use either of the following options:

   a. Log in with company single sign-on

   b. Log in with Red Hat account

3. From the menu bar on the header, click your avatar to view the account details.

   a. If an account number is associated with your account, then contact the certification team to proceed with the certification process.

   b. If an account number is not associated with your account, then first contact the Red Hat global customer service team to raise a request for creating a new account number.
   After you get an account number, contact the certification team to proceed with the certification process.

2.2. ONBOARDING NEW CERTIFICATION PARTNERS

Creating a new Red Hat account is the first step in onboarding new certification partners.

1. Access Red Hat Customer Portal and click **Register**.

2. Enter the following details to create a new Red Hat account:

   a. Select Corporate in the **Account Type** field.
   If you have created a Corporate type account and require an account number, contact the Red Hat global customer service team .

NOTE

Ensure that you create a company account and not a personal account. The account created during this step is also used to sign in to the Red Hat Ecosystem Catalog when working with certification requests.

b. Choose a Red Hat login and password.
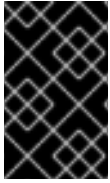
IMPORTANT

If your login ID is associated with multiple accounts, then do not use your contact email as the login ID as this can cause issues during login. Also, you cannot change your login ID once created.

c. Enter your **Personal information** and **Company information**.

d. Click **Create My Account**.
A new Red Hat account is created.

3. Contact your Ecosystem Partner Management (EPM) representative, if available. Else contact the certification team to proceed with the certification process.

2.3. EXPLORING THE PARTNER LANDING PAGE

After logging in to Red Hat Partner Connect, the partner landing page opens. This page serves as a centralized hub, offering access to various partner services and capabilities that enable you to start working on opportunities.

The Partner landing page offers the following services:

- Certified technology portal

- Deal registrations

- Red Hat Partner Training Portal

- Access to our library of marketing, sales & technical content

- Help and support

- Email preference center

- Partner subscriptions

- User account

As part of the Red Hat partnership, partners receive access to various Red Hat systems and services that enable them to create shared value with Red Hat for our joint customers.

Select the **Certified technology portal** tile to begin your product certification journey. The personalized Certified Technology partner dashboard opens.

CHAPTER 3. RUNNING THE PRE-CERTIFICATION TESTS FOR A RED HAT OPENSTACK PLATFORM APPLICATION

Before creating a Red Hat OpenStack Platform (RHOSP) application certification, you are encouraged to successfully execute the following certification tests on the overcloud compute node where the application is installed as a measure of compliance.

- OpenStack Director test (openstack/director)

- OpenStack Supportability tests (openstack/supportable)

- System Report (openstack/sosreport) test

CHAPTER 4. CREATE A PRODUCT

The product listing provides marketing and technical information, showcasing your product's features and advantages to potential customers. It lays the foundation for adding all necessary components to your product for certification.

Prerequisites

Verify the functionality of your product on the target Red Hat platform, in addition to the specific certification testing requirements. If running your product on the targeted Red Hat platform results in a substandard experience then you must resolve the issues before certification.

Procedure

Red Hat recommends completing all optional fields in the listing tabs for a comprehensive product listing. More information helps mutual customers make informed choices.

Red Hat encourages collaboration with your product manager, marketing representative, or other product experts when entering information for your product listing.

Fields marked with an asterisk (*) are mandatory.

Procedure

1. Log in to the Red Hat Partner Connect Portal .

2. Go to the Certified technology portal tab and click **Visit the portal**.

3. On the header bar, click **Product management**.

4. From the **Listing and certification** tab click **Manage products**.

5. From the **My Products** page, click **Create Product**.
   A **Create New Product** dialog opens.

6. Enter the **Product name**.

7. From the **What kind of product would you like to certify?** drop-down, select the required product category and click **Create product**. For example, select **OpenStack Infrastructure** for creating an OpenStack platform based product listing.
   A new page with your Product name opens. It comprises the following tabs:

   - Section 4.1, "Overview"

   - Section 4.2, "Product Information"

   - Section 4.3, "Components"

   - Section 4.4, "Support"
     Along with the following tabs, the page header provides the **Product Score** details. Product Score evaluates your product information and displays a score. It can be:

   - Fair

   - Good

   - Excellent

- Best
  Click **How do I improve my score?**to improve your product score.

8. After providing the product listing details, click **Save** before moving to the next section.

4.1. OVERVIEW

This tab consists of a series of tasks that you must complete to publish your product:

- Section 4.1.1, "Complete product listing details"

- Section 4.1.2, "Complete company profile information"

- Section 4.1.3, "Add at least one product component"

- Section 4.1.4, "Certify components for your listing"

4.1.1. Complete product listing details

1. To complete your product listing details, click **Start**.
   The **Product Information** tab opens.

2. Enter all the essential product details and click **Save**.

4.1.2. Complete company profile information

1. To complete your company profile information, click **Start**. After entering all the details, click **Submit**.

2. To modify the existing details, click **Review**. The **Account Details** page opens.

3. Review and modify the Company profile information and click **Submit**.

4.1.3. Add at least one product component

1. Click **Start**. You are redirected to the **Components** tab.
   To add a new or existing product component, click **Add component**.

2. For adding a new component,

   a. In the **Component Name** text box, enter the component name.

   b. For **What kind of standalone component are you creating?**select **VNF for OpenStack** for certifying a Virtual Network Function (VNF) packaged as a virtual machine on Red Hat OpenStack Platform.

   c. Click **Create new component**.

   d. For the **Red Hat OpenStack Version**, version 17 is enabled by default.

3. For adding an existing component, from the **Add Component** dialog, select **Existing Component**.

   a. From the **Available components** list, search and select the components that you wish to certify and click the forward arrow. The selected components are added to the **Chosen components** list.

b. Click **Attach existing component**.

4.1.4. Certify components for your listing

1. To certify the components for your listing, click **Start**. If you have existing product components, you can view the list of **Attached Components** and their details:

   a. Name

   b. Certification

   c. Security

   d. Type

   e. Created

   f. Click more options to archive or remove the components

2. Select the components for certification.

After completing all the above tasks you will see a green tick mark corresponding to all the options.

The Overview tab also provides the following information:

1. **Product contacts** – Provides Product marketing and Technical contact information.

   a. Click **Add contacts to product** to provide the contact information

   b. Click **Edit** to update the information.

2. **Components in product** – Provides the list of the components attached to the product along with their last updated information.

   a. Click **Add components to product** to add new or existing components to your product.

   b. Click **Edit components** to update the existing component information.

After publishing the product listing, you can view your **Product Readiness Score** and **Ways to raise your score** on the **Overview** tab.

4.2. PRODUCT INFORMATION

Through this tab you can provide all the essential information about your product. The product details are published along with your product on the Red Hat Ecosystem catalog.

General tab:

Provide basic details of the product, including product name and description.

1. Enter the **Product Name**.

2. Optional: Upload the **Product Logo** according to the defined guidelines.

3. Enter a **Brief description** and a **Long description**.

4. Click **Save**.

Features & Benefits tab:

Provide important features of your product.

1. Optional: Enter the **Title** and **Description**.

2. Optional: To add additional features for your product, click **+ Add new feature**.

3. Click **Save**.

Quick start & Config tab:

Add links to any quick start guide or configuration document to help customers deploy and start using your product.

1. Optional: Enter **Quick start & configuration instructions**.

2. Click **Save**.

3. Select **Hide default instructions** check box, if you don't want to display them.

Linked resources tab:

Add links to supporting documentation to help our customers use your product. The information is mapped to and is displayed in the Documentation section on the product's catalog page.

NOTE

It is mandatory to add a minimum of three resources. Red Hat encourages you to add more resources, if available.

1. Select the **Type** drop-down menu, and enter the **Title** and **Description** of the resource.

2. Enter the **Resource URL**.

3. Optional: To add additional resources for your product, click **+ Add new Resource**.

4. Click **Save**.

FAQs tab:

Add frequently asked questions and answers of the product's purpose, operation, installation, or other attribute details. You can include common customer queries about your product and services.

1. Enter **Question** and **Answer**.

2. Optional: To add additional FAQs for your product, click **+ Add new FAQ**.

3. Click **Save**.

Support tab:

This tab lets you provide contact information of your Support team.

1. Enter the **Support description**, **Support web site**, **Support phone number**, and **Support email address**.

2. Click **Save**.

Contacts tab:

Provide contact information of your marketing and technical team.

1. Enter the **Marketing contact email address** and **Technical contact email address**.

2. Optional: To add additional contacts, click **+ Add another**.

3. Click **Save**.

Legal tab:

Provide the product related license and policy information.

1. Enter the **License Agreement URL** for the product and **Privacy Policy URL**

2. Click **Save**.

SEO tab:

Use this tab to improve the discoverability of your product for our mutual customers, enhancing visibility both within the Red Hat Ecosystem Catalog search and on internet search engines. Providing a higher number of search aliases (key and value pairs) will increase the discoverability of your product.

1. Select the **Product Category**.

2. Enter the **Key** and **Value** to set up Search aliases.

3. Click **Save**.

4. Optional: To add additional key-value pair, click **+ Add new key-value pair**.

> **NOTE**
>
> Add at least one Search alias for your product. Red Hat encourages you to add more aliases, if available.

4.3. COMPONENTS

Use this tab to add components to your product listing. Through this tab you can also view a list of attached components linked to your Product Listing.

Alternatively, to attach a component to the Product Listing, you can complete the **Add at least one product component** option available on the **Overview** tab of a product listing.

1. To add a new or existing product component, click **Add component**.

2. For adding a new component, in the **Component Name** text box, enter the component name.

   a. For **What kind of OpenStack component are you creating?** select **VNF for OpenStack** for certifying a Virtual Network Function (VNF) packaged as a virtual machine on Red Hat OpenStack Platform.

   b. Click **Create new component**

c. For the **Red Hat OpenStack Version**, version 17 is enabled by default.

3. For adding an existing component, from the **Add Component** dialog, select **Existing Component**.

   a. From the **Available components** list, search and select the components that you wish to certify and click the forward arrow. The selected components are added to the **Chosen components** list.

   b. Click **Attach existing component**.

> **NOTE**
>
> You can add the same component to multiple products listings. All attached components must be published before the product listing can be published.

After attaching components, you can view the list of **Attached Components** and their details:

   i. Name

   ii. Certification

   iii. Security

   iv. Type

   v. Created

   vi. Click more options to archive or remove the attached components

Alternatively, to search for specific components, type the component's name in the **Search by component Name** text box.

4.4. SUPPORT

The Red Hat Partner Acceleration Desk (PAD) is a Products and Technologies level partner help desk service that allows the current and prospective partners a central location to ask non-technical questions pertaining to Red Hat offerings, partner programs, product certification, engagement process, and so on.

You can also contact the Red Hat Partner Acceleration Desk for any technical questions you may have regarding the Certification. Technical help requests will be redirected to the Certification Operations team.

Through the Partner Subscriptions program, Red Hat offers free, not-for-resale software subscriptions that you can use to validate your product on the target Red Hat platform. To request access to the program, follow the instructions on the Partner Subscriptions site.

1. To request support, click Open a support case. See PAD - How to open & manage PAD cases , to open a PAD ticket.

2. To view the list of existing support cases, click **View support cases**.

4.5. REMOVING A PRODUCT

After creating a product listing if you wish to remove it, go to the **Overview** tab and click **Delete**.

A published product must first be unpublished before it can be deleted. Red Hat retains information related to deleted products even after you delete the product.

CHAPTER 5. ADDING CERTIFICATION COMPONENTS

After creating the new product listing, add the certification components for the newly created product listing. You can configure the following options for the newly added components:

> **NOTE**
>
> The component configurations differ for different product categories.

- Section 5.1, "Certification"

- Section 5.2, "Component Details"

- Section 5.3, "Contact Information for non containers"

- Section 5.4, "Associated products"

To configure the component options, go to the **Components** tab and click on any of the existing components.

5.1. CERTIFICATION

Validate the functionality of your product on this Red Hat OpenStack release

Validate the functionality of your product on this Red Hat OpenStack release by using the Certification tab. You can perform the following functions:

This feature allows you to perform the following functions:

1. Run the Red Hat Certification Tool locally

2. Download the test plan

3. Share the test results with the Red Hat certification team

4. Interact with the certification team, if required.

To validate the functionality of your product, perform the following steps:

1. If you are a new partner, click **Request a partner subscription**. When your request is approved, you get active subscriptions added to your account.

2. When you have active partner subscriptions, then click **Start certification**.

3. Click **Go to Red Hat certification tool**

A new certification case gets created on the Red Hat Certification portal, and you are redirected to the appropriate component portal page.

The certification team will contact you to start the certification testing process and will follow up with you in case of a problem. After successful verification, a green check mark is displayed with the validate complete message.

To review the validated product details, click **Review**.

5.2. COMPONENT DETAILS

Enter the required project details in the following fields:

1. **Project name** – Enter the project name. This name is not published and is only for internal use.

2. **Red Hat OpenStack Version** – Specifies the Red Hat OpenStack version on which you certify your VNF component.

5.3. CONTACT INFORMATION FOR NON CONTAINERS

> **NOTE**
>
> Providing information for this tab is optional.

In the **Contact Information** tab, enter the primary technical contact details of your product component.

1. Optional: In the **Technical contact email address** field, enter the email address of the image maintainer.

2. Optional: To add additional contacts for your component, click **+ Add new contact**.

3. Click **Save**.

5.4. ASSOCIATED PRODUCTS

The Associated Product tab provides the list of products that are associated with your product component along with the following information:

- Product Name

- Type

- Visibility – Published or Not Published

- Last Activity – number of days before you ran the test

To add products to your component, perform the following:

- If you want to find a product by its name, enter the product name in the **Search by name** text box and click the search icon.

- If you are not sure of the product name, click **Find a product**. From the **Add product** dialog, select the required product from the Available products list box and click the forward arrow. The selected product is added to the Chosen products list box. Click **Update attached products**. Added products are listed in the Associated product list.
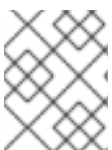
> **NOTE**
>
> All the fields marked with an asterisk * are required and must be completed before you can proceed with the certification.

CHAPTER 6. SETTING UP THE TEST ENVIRONMENT

The first step towards certifying your product is setting up the environment where you can run the tests. The test environment consists of only Compute node.

All the mandatory tests that verify the system configuration required for VNF certification are run on the Compute node.

6.1. SETTING UP THE COMPUTE NODE

Prerequisites

- You have installed RHOSP on the system based on the supported RHEL version, as applicable. The corresponding supported versions are as follows:

RHOSP version	Supported RHEL version
RHEL 16.0	8.1
RHEL 16.1	8.2
RHEL 16.2	8.4
RHEL 17.0	9.0
RHEL 17.1	9.2

Procedure

1. Use your RHN credentials to register your system using Red Hat Subscription Management:

   ```
   # subscription-manager register
   ```

2. Display the list of available subscriptions for your system:

   ```
   # subscription-manager list --available*
   ```

   Search for the subscription that provides the Red Hat Certification (for RHEL Server) repository and make a note of the subscription and its Pool ID.

3. Attach the subscription to your system:

   ```
   # subscription-manager attach --pool=<pool_ID>
   ```

   Replace the pool_ID with the Pool ID of the subscription.

4. Subscribe to the Red Hat Certification channel:

   - On RHEL 8:

     ```
     # subscription-manager repos --enable=cert-1-for-rhel-8-<HOSTTYPE>-rpms
     ```

∙

Replace HOSTTYPE with the system architecture. To find out the system architecture, run

```
uname -m
```

Example:

```
# subscription-manager repos --enable=cert-1-for-rhel-8-x86_64-rpms
```

- On RHEL 9:

```
# subscription-manager repos --enable=cert-1-for-rhel-9-<HOSTTYPE>-rpms
```

Replace HOSTTYPE with the system architecture. To find out the system architecture, run

```
uname -m
```

Example:

```
# subscription-manager repos --enable=cert-1-for-rhel-9-x86_64-rpms
```

5. Install the certification RPMs.

- Only on RHEL 9

```
# yum install redhat-certification
```

6. Install OpenStack test suite package:

```
yum install redhat-certification-openstack
```

CHAPTER 7. USING THE TEST PLAN TO PROVISION THE COMPUTE NODE

Procedure

1. Run the provision command.

   ```
   # rhcert-provision <path_to_test_plan_document>
   ```

   Replace <path_to_test_plan_document> with the test plan file saved on the test host.

CHAPTER 8. RUNNING THE CERTIFICATION TESTS

RHCert CLI is the supported method to run tests.

Procedure

1. Run tests

   ```
   # rhcert run
   ```

   The non-interactive tag is an RHCert flag used to run all certification-related mandatory tests.

2. Save the test result file

   ```
   # rhcert-save
   ```

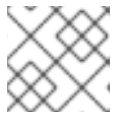   By default, the result file is saved as **/var/rhcert/save/rhcert-results-<host-name>-<timestamp>.xml**.

CHAPTER 9. SUBMITTING THE TEST RESULTS FILE

You can submit the test results file to Red Hat using either RHCert CLI or the Red Hat Certification Tool.

Using the RHCert CLI Tool:

Procedure

1. Log in to authenticate your device.

   > **NOTE**
   >
   > Logging in is mandatory to submit the test results file.

   ```
   # rhcert-cli login
   ```

   a. Open the generated URL in a new browser window or tab.

   b. Enter the login and password and click **Log in**.

   c. Click **Grant access**.
      Device log in successful message displays.

   d. Return to the terminal and enter **yes** to the **Please confirm once you grant access** prompt.

2. Submit the result file.

   ```
   # rhcert-submit
   ```

   When prompted, enter your Certification ID.

Using Red Hat Certification Tool

Procedure

1. Log in to Red Hat Certification portal.

2. On the homepage, enter the product case number in the search bar.
   Select the case number from the list that is displayed.

3. On the **Summary** tab, under the Files section, click **Upload**.

Next steps

Red Hat will review your submitted results file and suggest the next steps to grant certification. Visit the Red Hat Certification portal for more information.

Once certified, the product is listed on the Red Hat Ecosystem Catalog .

CHAPTER 10. PUBLISHING ON THE CATALOG

After submitting your test results through the Red Hat certification portal, your application is scanned for vulnerabilities. When the scanning is completed, you can publish your product on the the Red Hat Ecosystem Catalog.

A RHOSP application certification is generated if, you have performed the following:

- You ran the required tests successfully.

- Red Hat reviewed the testing configuration report, and found it was valid and appropriate for the certification.

Perform the following steps to publish your product on the catalog:

Procedure

1. Navigate to your **Product listing** page.

2. Click **Publish**.

Your certified application is now published on the Red Hat Ecosystem Catalog.