

How to Publish an OCI Image Listing

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In this tutorial, you will learn how to publish your image to the OCI Marketplace by performing some guided steps.

PREREQUISITES

- You should have an OCI tenancy.
- Your OCI tenancy should be enabled as a partner tenancy.
- You should be an approved Marketplace publisher with access to Oracle Cloud Marketplace Partner Portal.

ADD YOUR IMAGE TO YOUR OCI TENANCY

You can import your image to your OCI tenancy by following the steps at <https://docs.cloud.oracle.com/iaas/Content/Compute/Tasks/importingcustomimage.htm>. After you have imported your image, make sure you select the right set of compatible shapes. This can be done on the Image details page by clicking the **Edit Details** button and selecting the shapes. Make sure you have tested launching the image using these shapes.

PROVIDE MARKETPLACE ACCESS TO YOUR OCI TENANCY

In order for you to publish the image to Marketplace, you first need to grant Marketplace access to certain resources in your tenancy. Configure the following policy statements in your tenancy to allow Marketplace to access the resources:

- ALLOW SERVICE marketplace to manage App-catalog-publisher-listing IN TENANCY
- ALLOW SERVICE marketplace to read tenant IN TENANCY
- ALLOW SERVICE marketplace to read compartments IN TENANCY
- ALLOW SERVICE marketplace to inspect instance-images IN TENANCY
- ALLOW SERVICE marketplace to inspect instances IN TENANCY

Follow the steps below to create the policies in your tenancy:

1. Sign in to the OCI Console.
2. From the **Identity** menu, select **Policies**.
3. In the **LHS Compartment** field, select the root compartment from the drop-down list.
4. Click **Create Policy**.
5. Fill out the details in the **Create Policy** form:
 - a. **NAME** — Enter a name for the policy. For example, Marketplace Service Policy.
 - b. **DESCRIPTION** — Enter a description for the policy.
 - c. **Policy Versioning** — Select the **KEEP POLICY CURRENT** option.
 - d. **Policy Statements** — Add the following policy statements.

- i. ALLOW SERVICE marketplace to manage App-catalog-publisher-listing IN TENANCY
- ii. ALLOW SERVICE marketplace to read tenant IN TENANCY
- iii. ALLOW SERVICE marketplace to read compartments IN TENANCY
- iv. ALLOW SERVICE marketplace to inspect instance-images IN TENANCY
- v. ALLOW SERVICE marketplace to inspect instances IN TENANCY

6. Click **Create**.

All the remaining steps need to be done via the Marketplace Partner Portal. You will need the following information in subsequent steps.

- Tenancy Name
- Tenancy OCID
- Compartment OCID - This is the OCID of a compartment in your tenancy where your listing will be created in. This could be the same compartment where your images exist.

You can get this information from the OCI Console.

ACCESS MARKETPLACE PARTNER PORTAL

All the remaining steps need to be done via the Marketplace Partner Portal. You can access it at <https://partner.cloudmarketplace.oracle.com/partner/index.html>. You need to use your Oracle o.com account credentials for this.

LINK YOUR OCI TENANCY TO YOUR MARKETPLACE PUBLISHER ACCOUNT

To publish your image to the Marketplace, you need to link your OCI tenancy to your Marketplace publisher account. This allows Marketplace to look up the images you have uploaded in your OCI tenancy. You will need the following information for this step.

- Tenancy Name
- Tenancy OCID
- Compartment OCID - This is the OCID of a compartment in your tenancy.

Follow the steps below to link your OCI tenancy:

1. Sign in to Oracle Cloud Marketplace Partner Portal using your o.com account.
2. Click **My Company** and then click **OCI Tenancies**.
3. In the OCI Tenancies page, click **Add OCI Tenancy**. In the OCI Tenancy Configuration page, enter or select the required information for each field.
 - a. **Tenancy Name** — Enter the name for your tenancy.
 - b. **Tenancy OCID** — Enter the OCID of your tenancy. Tenancy OCID is an Oracle-assigned unique ID called an Oracle Cloud Identifier (OCID) for a tenancy.

- c. **Home Region** — Select a home region from the drop-down list. When you sign up for Oracle Cloud Infrastructure, Oracle creates a tenancy for you in one region and this is your home region.
4. Under the **App Catalog Settings** section, in the **Compartment OCID** field, enter a compartment OCID from your tenancy. The Marketplace listings will be created in the compartment you specified in the **Compartment OCID** field.
5. Click **Save**.

Note: If you want to test the OCI tenancy configuration, click **Test** in the OCI Tenancy Configuration page.

MANDATORY IMAGE GUIDELINES

The following guidelines are **MANDATORY** for *Images* listed in Oracle Cloud Marketplace. Each guideline **MUST** be followed. Before being published, each *Image* will be validated against each of these guidelines.

1. SSH Host Keys **MUST** be unique to each instance. Use the [oci-image-cleanup](#) utility provided by the oci-utils package on GitHub. This will remove all SSH Host Keys so that they are regenerated on first boot.
2. Images **MUST** ingest an SSH public key provided by a customer as part of the instance launch process. Ensure the image is cloud-init enabled.
3. Any authorized_keys files **MUST** only contain keys provided by the user when the instance is launched. Use the [oci-image-cleanup](#) utility provided by the oci-utils package on GitHub.
4. The SSH service **MUST** be configured to prevent password-based logins. Manually configure the following option settings:

```
PasswordAuthentication no
ChallengeResponseAuthentication no
UsePAM no
```

5. All entries in the /root/.ssh/authorized_keys file **MUST** contain no-port-forwarding, no-agent-forwarding, no-X11-forwarding. The root user **MUST NOT** have usable entries in the authorized_keys file. Use the [oci-image-cleanup](#) utility provided by the oci-utils package on GitHub. By default, OCI Instances that are launched from cloud-init enabled images will add the forwarding options and use the command option of the authorized_keys file to effectively disable any user provided SSH key for the root user. The code below is a sample of the authorized_keys file created by OCI using cloud-init

```
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the
user \"opc\" rather than the user \"root\".';echo;sleep 10"
```

6. Image **MUST** boot for all compatible shapes. Manually verify by successfully launching instances for each compatible shape.
7. Image **MUST NOT** have any hard-coded MAC addresses. Empty the /etc/udev/rules.d/70-persistent-net.rules file.
8. DHCP **MUST** be enabled. Ensure it is configured manually. Ensuring you can SSH into an instance of this *Image*, also confirms DHCP is enabled.

RECOMMENDED IMAGE GUIDELINES

The following guidelines are **RECOMMENDED** for images listed in Oracle Cloud Marketplace. Each guideline is considered a Best Practice that **SHOULD** be followed if possible.

1. Mandatory Access Control (MAC) **SHOULD** be enabled. See <https://www.linux.com/news/securing-linux-mandatory-access-controls> for more details.
2. An Operating System (OS) Firewall **SHOULD** be enabled and configured to block any ports not specifically required as indicated in the listing documentation.
3. All sensitive data such as passwords and private keys **SHOULD** be removed. This type of data can often be found in log files, source code, or build artifacts. To remove such files, use the [oci-image-cleanup](#) utility provided by the oci-utils package on GitHub.
4. cloud-init packages **SHOULD** be available for use during instance launch.
5. The standard SSH access account **SHOULD** use the username opc. Enable cloud-init for the image.
6. The SSH service config /etc/ssh/sshd_config **SHOULD NOT** permit root logins. Manually configure the following option setting:

```
PermitRootLogin no
```

7. The root user's login shell **SHOULD** be set to /sbin/nologin.
8. Image software **SHOULD** be updated as part of the final packaging process.
9. Images **SHOULD NOT** have any operating system level users configured with a password. If a system level user is configured with a password, it **MUST** be uniquely generated the first time the instance launches. One method is to configure the image to use the instance OCID as the unique password by requesting it from the instance metadata service:

```
curl -L http://169.254.169.254/opc/v1/instance/id
```

10. Application passwords **SHOULD NOT** be hard-coded. Any passwords **SHOULD** be uniquely generated the first time the instance launches. One method is to configure the image to use the instance OCID as the unique password by requesting it from the instance metadata service:

```
curl -L http://169.254.169.254/opc/v1/instance/id
```

11. Images **SHOULD** run in paravirtualized mode. Images **MAY** run in native mode. Images **SHOULD NOT** run in emulated mode. For information see [How to Build an Image](#).
12. Any network managers **SHOULD** be stopped. See https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux_OpenStack_Platform/3/html/Installation_and_Configuration_Guide/Disabling_Network_Manager.html for more information.
13. Images **SHOULD** utilize the NTP service provided by OCI. See <https://docs.cloud.oracle.com/iaas/Content/Compute/Tasks/configuringntpservice.htm> for more information.
14. Images **SHOULD** have iSCSI timeout values set for proper boot volume connectivity. See https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/5/html/Online_Storage_Reconfiguration_Guide/iscsi-modifying-link-loss-behavior-root.html for more information.

CREATE AN ARTIFACT

To publish your *Image* to the Marketplace, you need to create an *Artifact* that refers to the *Image* in your tenancy. A Marketplace artifact is a generic way to represent any application artifacts (such as Images and Terraform templates) that partners want to publish. You will create an artifact and associate the image you just uploaded in your OCI tenancy.


Follow the steps below:

1. Click **Artifacts** in the navigation bar on the left.

The Artifacts page displays information such as artifact name and other details related to the artifacts. The page also displays options to search, sort, view, create, edit, and delete artifacts.

2. Click **Create Artifact**.

3. In the Create Artifact page, enter the required information for each field.

- In the **Artifact Type** field, select the **OCI Compute Image** artifact type.
- In the **Artifact Name** field, enter a name for the artifact.
- In the **Source Image OCID** field, click  to select an OCI compute image from your tenancy. In the **OCI Compute Images** window, select an OCI tenancy and a compartment. **Note:** For now, we only support selecting the source image in the us-ashburn-1 region. In future, you will be able to select your source image from other regions.

Images that match your selection display with details such as **Image Name**, **Source Image OCID**, and **Created Date**. Select an OCI compute image from the list and click **Select**. The details for the selected compute image such as compartment OCID and source region display in the Create Artifact page.

4. Click **Create**.
A new artifact will be created from the selected compute image, which can be associated to a Marketplace listing.

CREATE AN APPLICATION LISTING TO BUILD AN OCI INSTALL PACKAGE

You need to create an application listing for your *Image*. A listing allows you to describe your offering and market it to customers.

1. Sign in to Oracle Cloud Marketplace Partner Portal.
2. Click **Listings**.
 - a. If you haven't started a listing, click **Create Listing**. Enter information into the required fields in the header and then click **Save**. You must complete this step before you can continue to define the install package.
 - b. If you already started a listing, find the listing on the **Started** tab and then click **Edit**.
3. You need to follow the guidelines for creating a listing. See the *Guidelines for Publishing Listings* document.
4. Click the **App Install Package** tab.
 - a. To create a new install package, select the **OCI Compute** package type and click **Create Package**.

- b. Enter the basic information for the install package such as version and description. The "version" field is shown to customers during the Install flow. In the **Terms of Use** field, select the terms of use for this app and install package.
- c. Click **Save**.
After the package is initially created, you can click **Edit** in the **Define Package Information** section to modify the basic information at any time.
- d. In the **Configure OCI Compute Image** section, click **Edit** to configure a resource. Select the artifact you just created and click **Save**.
You can click **Edit** in the **Configure OCI Compute Image** section to modify the resource information at any time.

MANDATORY APPLICATION LISTING GUIDELINES

The following guidelines are **MANDATORY** for Application Listings in Oracle Cloud Marketplace. Each guideline **MUST** be followed. Before being published, each Application Listing will be validated against each of these guidelines.

- 1. The App Icon **MUST** be a high quality 130x130 pixel jpg or png. It **MUST NOT** be blurred or stretched. Its file size **MUST** be 5 MB or smaller.
- 2. The App Name **MUST** be clear, concise, and free of spelling and grammar mistakes. It **MUST** have no line breaks.
- 3. The Headline **MUST** clearly state the application's purpose. It **MUST** be described in 2 lines or less and be free of spelling and grammar mistakes.
- 4. Font/Spacing on the Listing **MUST** be consistent.
- 5. All text **MUST** be free of spelling or grammar errors.
- 6. The Description **MUST** be comprehensive and capture the target audience/type of user and present why the Listing is valuable.
- 7. All links **MUST** point to the correct locations and open in a new tab or window.
- 8. Text included in icons, banners, screenshots or videos **MUST** be legible. Images **MUST NOT** be blurred or stretched.
- 9. Related Documents **MUST** provide consistent information for users to be able to
 - a. Launch an instance from Marketplace
 - b. Connect to the instance
 - c. Setup or start the application.
- 10. The Support section **MUST** contain accurate contact details for customer to engage partner support. These contact details **MUST** contain accurate phone or email.
- 11. The System Requirements **MUST** contain the list of required OCI components including Compute Shapes, Security Rules, IAM Policies, Block Volumes, Secondary VNICs, etc.
- 12. Terms of Use **MUST** be included in App Install Package and free of spelling or grammar errors. Terms of Use name **MUST** be in Title case. Links in Terms of Use **MUST** point to the correct locations and open in a new tab or window.]
- 13. App Install Package Version **MUST** match version specified in any other related image or text for this Package.
- 14. The user **MUST** be able to launch, connect, and configure the Application and related infrastructure using instructions included in the Usage and Related Documents sections.



RECOMMENDED APPLICATION LISTING GUIDELINES

The following guidelines are **RECOMMENDED** for Application Listings in Oracle Cloud Marketplace. Each guideline is considered a Best Practice that **SHOULD** be followed if possible.

1. The App Name **SHOULD** be 36 characters or less.
2. The Release Notes **SHOULD** be specified as bullet points with proper line breaks.
3. The Related Documents **SHOULD** contain information on how to purchase a License if necessary.

SUBMIT YOUR LISTING FOR APPROVAL


After you enter all the required information and provide whatever optional information you want, you're ready to submit your listing to Oracle for approval.






1. Click **Listings**.
The **Started** tab displays all your listings that are started and in progress.
2. Scroll the page to find the listing you want to submit or search using the listing name in the **Search by Listing Name** text box and click  to find the listing you want to submit. You can also search by selecting a service type from the drop-down list at the top of the page.
3. Click  and then click **Submit** next to the listing.
4. Enter a comment in the **Submit Listing** window. This information is for the Oracle Cloud Marketplace administrators who will be reviewing and approving your listing. Tell us any additional information that will help us evaluate and approve your listing.
5. Click **Submit**.

You'll get a message that your listing was submitted successfully.


6. Click **OK**.
7. Your listing moves from the **Started** tab to the **Submitted** tab. During the approval process, monitor the status of your submitted listing, check our progress, and respond to comments or questions that we post.

MONITOR THE STATUS OF YOUR LISTING

1. Click **Listings**.
2. Click the **Submitted** tab.
3. Scroll the page to find the listing or search using the listing name in the **Search by Listing Name** text box and click  to find the listing. You can also search by selecting a service type from the drop-down list at the top of the page.
4. Check the status icon in the first column. Hover the cursor over the icon to view the status.


ICON	STATUS	DESCRIPTION
	Pending review	We haven't started to review the listing yet. Check back later for an update.
	Reviewing	We're in the process of reviewing the listing. We'll let you know if we have any questions or need additional information.
	Approved	We approved the listing. You can publish the listing to Oracle Cloud Marketplace at any time. Your listing isn't publicly visible on the marketplace until you click Publish .
	Rejected	We rejected the listing. You can click  and then click View Comments to learn why the listing was rejected. You can edit the listing, and then resubmit the listing for approval.

Note:


Monitor comments during the review and approval process. Find the listing on the **Submitted** tab, click  and then click **View Comments**. Oracle Cloud Marketplace administrators may enter requests for additional information; ask questions about your listing or your app; or communicate status updates.

PUBLISH THE LISTING

Once you've received approval from Oracle, you can publish your listing.

1. Sign in to Oracle Cloud Marketplace Partner Portal.
2. Click **Listings**.
3. Click the **Submitted** tab.
4. Scroll the page to find the listing you want to publish or search using the listing name in the **Search by Listing Name** text box and click  to find the listing you want to publish. You can also search by selecting a service type from the drop-down list at the top of the page.

Listings with the Approved status icon (a green circle with a white check mark) are ready to publish. We have approved these listings for Oracle Cloud Marketplace.

5. Click  and then click **Publish**. The system prompts for confirmation.
6. Click **Publish**.

That's it. Your listing is available on Oracle Cloud Marketplace immediately.

Your listing moves from the **Submitted** tab to the **Published** tab. Use the **Published** tab to manage your published listings.

APPENDIX: HOW TO BUILD AN IMAGE

OCI offers [both Bare Metal and Virtual Machine compute shapes](#) with and without locally attached NVMe storage. A shape is a template that determines the number of CPUs, amount of memory, number of vnics and a maximum supported bandwidth.

OCI supports 3 different virtualization modes in addition to BM:

- Emulation
- Paravirtualization
- Native (HVM)

Partners can [import their custom images](#) into OCI to launch Virtual Machine (VM) instances in either [Emulated](#) or [Paravirtualized](#) mode. Native (HVM) images should be built on top of existing OCI base images, or we should have a deep dive discussion in terms of Engineering requirement to build a native image for one appliance. It's important to you understand that:

1. Instances running in emulated mode are [fully emulated](#). Emulated mode VMs are [more compatible](#) with older operating systems (Linux with kernel version older than 3.4) while being slower than PV and native VMs. We don't recommend partners to distribute images that run in Emulated mode, if your images support PV mode. Emulated mode instances are exposed to an IDE disk and e1000 nic interfaces, and, as you may know, this particular nic driver has a limit of 1GBps bandwidth regardless of the compute shape an instance was launched (which can support up to 25GBps), which may be an issue for some customers/applications.
2. Instances running in paravirtualized mode leverage [virtio](#) for [near-bare metal performance](#). We recommend partners to distribute images that run in paravirtualized mode. We understand that Linux with newer kernel version (3.4+) should be compatible with virtio/PV mode. PV mode provides image compatibility across different generations of OCI hardware which is a benefit in terms of life-cycle and maintenance for publishers.
3. VM Instances running in native mode are Hardware Virtual Machines ([HVM](#)), in this mode, instances are exposed to SR-IOV/VF for higher network performance. OCI base images are native images. We recommend partners to build their images on top of existing OCI base images to support native mode. OCI has a [Packer Builder](#) that enable publishers to build their custom OCI VM images.

If you have an appliance and cannot build a custom image on top of the OCI base image, then, a deep dive discussion at Engineering level is required to explain OCI hardware architecture, booting process which is based on UEFI boot from a iscsi target.

Once you decided the virtualization mode your image will support, there is a list of requirements / standards your image should comply with, please verify the attached file which contain all the requirements. During the time you submit your listing to the Marketplace for publishing, Oracle will go through a curation process which involves security and user experience checks to ensure your image comply with our Marketplace standards and the listing description contains the appropriated instructions and details to provide an excellent user experience to our mutual customers when they launch your product from the Marketplace.

Additional Links

- [How to Import Virtualbox VMs into OCI](#)
- [Building OCI Custom Images](#)

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