

Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, and Roving Edge Operating Systems Deployment

How to deploy verified operating systems on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, and Roving Edge

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Public

Purpose statement

This document provides the step by step for deploying verified operating systems on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance instances or Roving Edge. It is intended solely to help you assess the business benefits and how to deploy verified operating systems on these three platforms.

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Deploying Operating Systems on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge

RedHat Enterprise Linux Release

Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance and Roving Edge offers a wide variety of operating systems that suit the needs of large enterprises. Customers can run the latest supported versions of RHEL 7, 8, and 9 on current generation of Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge platforms, while maintaining access to Red Hat’s support system and knowledge base through your RHEL subscription.


Deploying RHEL on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge

1. Download the RHEL 9.3 KVM Guest Virtualization image .QCOW2 format from RedHat Customer Portal using the following link: <https://access.redhat.com/downloads/content/rhel>.

Red Hat Enterprise Linux 9.3 KVM Guest Image

Import this image to create a RHEL virtual machine on a KVM/QEMU hypervisor, such as Red Hat OpenStack, Red Hat Virtualization, or Red Hat OpenShift Virtualization.

Last modified: 2023-11-01 SHA-256 Checksum: fafa0b90267206cb5c7d41fcadea245918ae7aca9997b87397d845e63bdabec

Download Now 

818 MB

Figure 1. Red Hat Enterprise Linux 9.3 KVM Guest Image download page

2. Or login with your Red Hat account on [Red Hat Hybrid Cloud Console](#) to customize and download your RHEL 9.3 release using RHEL Image Builder. For additional information, please refer to <https://www.redhat.com/sysadmin/rhel-image-builder>. Select the release, architecture, Oracle Cloud Infrastructure image, and .qcow2 format. Click next and follow the screens to customize the image.

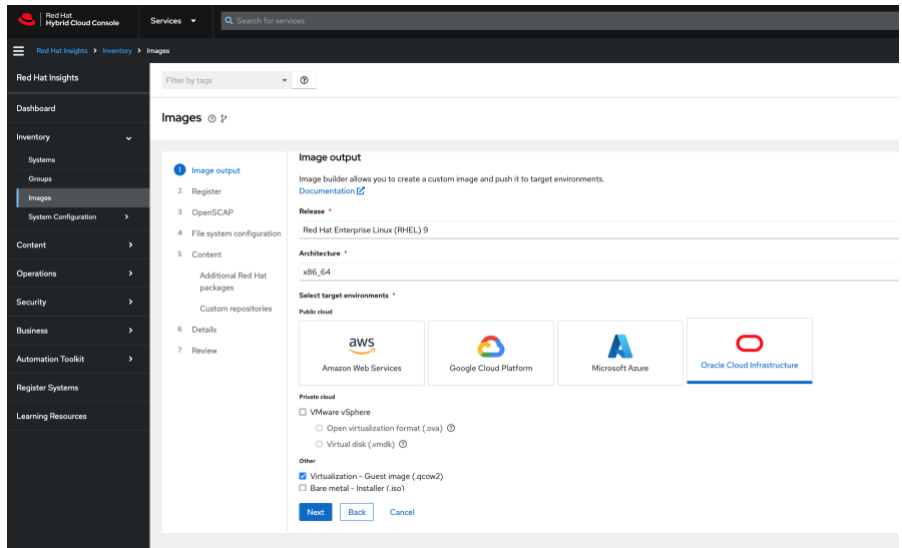


Figure 2. Red Hat Enterprise Linux 9.3 KVM Guest Image download page – Red Hat Image Builder

NOTE: Image Builder is a recently released tool that simplifies the process of building “golden images” by allowing you to register images to an existing subscription, preinstall packages from the RHEL repositories, and create custom partitions on the disk.

For this example, we will be working with the standard Red Hat Enterprise Linux 9.3 KVM Guest Image

- Once downloaded the Red Hat Enterprise Linux 9.3 KVM Guest Image, upload the image to an Object Storage available on Compute Cloud@Customer, Oracle Private Cloud Appliance, or Roving Edge, then create a Custom image.

NOTE: To copy the image to Oracle Compute Cloud@Customer, Private Cloud Appliance or Roving Edge, you can use the OCI Sync. OCI Sync is a tool part of the OCI CLI utilized to synchronize a filesystem directory with objects in a bucket. Traverses sub-directories copying new and modified files or objects from the source to the destination and optionally deleting those that are not present in the source. For additional information, refer to: https://docs.oracle.com/en-us/iaas/tools/oci-cli/3.40.0/oci_cli_docs/cmdref/os/object/sync.html

- On Compute Cloud@Customer and Private Cloud Appliance, click on Compute, Custom image, then Import Image. Enter a name for the new image, select a Compartment which the image will be deployed, source type, which can be Object Storage Bucket or Object Storage URL, then select QCOW2 as image format.

The screenshot shows the 'Import Image' configuration page. The 'Name' field contains 'rhel92'. The 'Create in Compartment' dropdown is set to 'solution'. Under 'Source Type', the radio button for 'Import from an Object Storage Bucket' is selected. The 'Bucket' dropdown is set to 'iso', with a list of options including 'iso' and 'okv'. Under 'Image Type', the radio button for 'QCOW2' is selected. Below this, there are three options: 'QCOW2' (selected), 'VMDK', and 'OCI'. The 'Launch Mode' section has 'Paravirtualized Mode' selected. At the bottom right, there are 'Import Image' and 'Cancel' buttons.

Figure 3. Red Hat Enterprise Linux 9.3 .QCOW2 Image Import

- The Import Image process will begin. Once completed, the new custom image will be available under Custom Images screen.

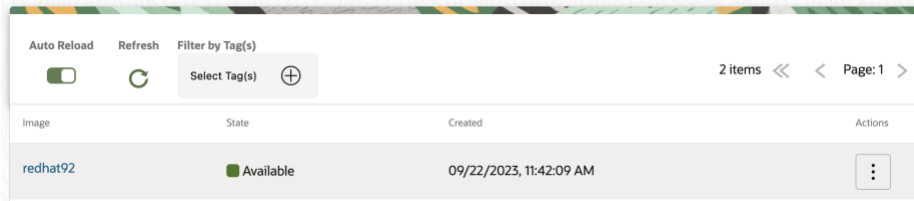


Figure 4. Red Hat Enterprise Linux 9.3 KVM Guest Customer Image on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

- To deploy a new instance from the Red Hat 9.3 custom image previously created, click on the three dots in the action column, then select Create Instance from Image:

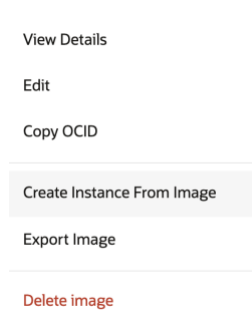


Figure 5. Red Hat Enterprise Linux 9.3 KVM Guest instance deployment on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

- Next, enter a new name for the instance, select your compartment, fault domain, VM Shape, Standard.E5.Flex. Adjust the appropriated OCPUs, Memory (GBs), Boot Volume, subnet (VCN and Subnet), Public and Private IP addressing, host name and SSH keys. Enable Network Security Group and select your appropriated security group for your new instance. Review the availability configuration and tagging, then, click Create.

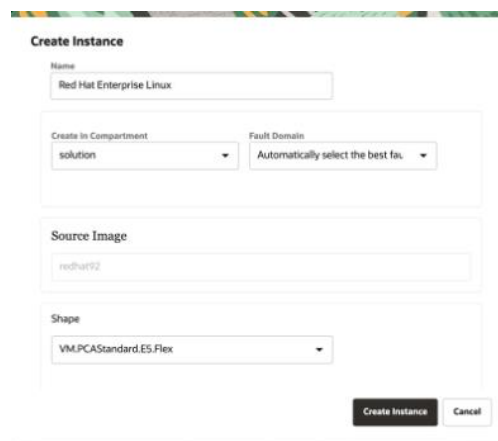


Figure 5. Red Hat Enterprise Linux 9.3 KVM Guest instance deployment on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

Create Instance

Shape

VM.PCAStandard.E5.Flex

OCPUs

2

Memory (GBs)

20

Boot Volume

Specify a custom boot volume size

Create Instance Cancel

Figure 6. Red Hat Enterprise Linux 9.3 KVM Guest instance shape on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

Create Instance

Boot Volume

Specify a custom boot volume size

Boot volume size (GB)

50

Boot volume performance (VPUs)

10

Subnet

VCN solution (change) Subnet

VCN Required Select VCN first Required

Create Instance Cancel

Figure 7. Red Hat Enterprise Linux 9.3 KVM Guest instance boot volume configuration on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

Figure 8. Red Hat Enterprise Linux 9.3 KVM Guest instance IP addressing on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

Figure 9. Red Hat Enterprise Linux 9.3 KVM Guest instance SSH key on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

8. The provision of the new Red Hat Enterprise Linux 9.3 Instance will begin. Wait until the instance state changes to Running. After that, the instance will be running and accessible via SSH protocol.
9. To access your new Red Hat Enterprise Linux 9.3 Instance on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, open a SSH connection with the following command line syntax:

ssh -i <your-ssh-key> cloud-user@<ip-address or DNS name of your rhel92 instance>

```
[cloud-user@rhel9-3 ~]$ uname -a
Linux rhel9-3 5.14.0-362.8.1.el9_3.x86_64 #1 SMP PREEMPT_DYNAMIC Tue Oct 3 11:12:36 EDT 2023 x86_64 x86_64 x86_64 GNU/Linux
[cloud-user@rhel9-3 ~]$ cat /etc/redhat-release
Red Hat Enterprise Linux release 9.3 (Plow)
[cloud-user@rhel9-3 ~]$
```

Figure 10. Red Hat Enterprise Linux 9.3 KVM Guest instance SSH connection on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

- To import the RHEL 9.3 image on Roving Edge, go to Compute, Custom Images, then select Import Image. Enter the name of your new image, select Linux as the operating systems, select the source of the .qcow2 image, in our example here we are importing the image from a Roving Edge Object Storage bucket named iso. Select the Object Name, (RHEL 9.3 .qcow image), and select qcow2 format. Under launch options session, select UEFI_64 as firmware, then paravirtualized mode for network and storage options. Click import image.

Figure 11. Red Hat Enterprise Linux 9.3 KVM image import on Roving Edge

The import process will start.

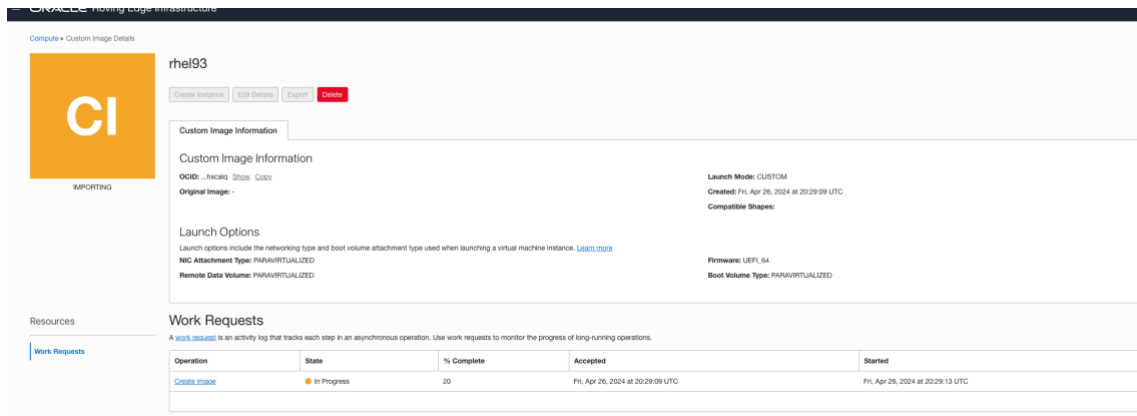


Figure 12. Red Hat Enterprise Linux 9.3 KVM image import on Roving Edge

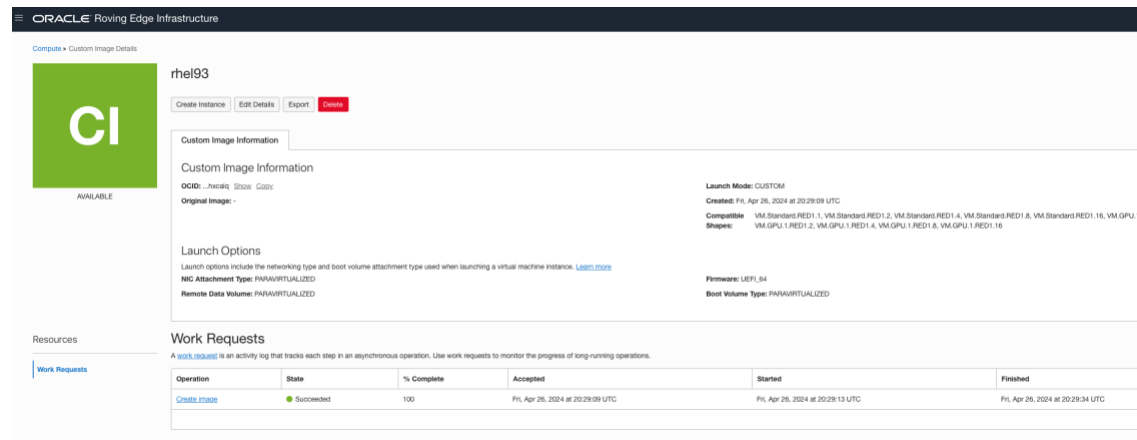


Figure 13. Red Hat Enterprise Linux 9.3 KVM image import on Roving Edge

- Once you have the image available, create a new instance using the RHEL 9.3 customer image. Go to compute instance, then click create instance. Enter the name of your new RHEL9.3 instance, select the appropriated fault domain in your environment, select the RHEL9.3 custom image previously created, choose the instance shape, configure network, boot volume size, and upload your SSH key to access your new instance. Click create.

Create Compute Instance

Name
rhel9.3

Fault Domain
FAULT-DOMAIN-1

Image or operating system

rhel93 Change Image

[Hide Shape, Network, Storage Options](#)

Shape

VM.Standard.REU1.1
Virtual Machine, 1 core OCPU, 12 GB memory, 2.56 Gbps network bandwidth Change Shape

Configure networking

Select a virtual cloud network
vcn1

Subnet
rvm1 (Regional)

Assign a public IP address Do not assign a public IP address

Boot volume

Specify a custom boot volume size
[Volume performance](#) varies with volume size. Default boot volume size: 50 GB

Add SSH keys

Linux-based instances use an [SSH key pair](#) instead of a password to authenticate remote users. Upload the public key now. When you [connect to the instance](#), you will provide the associated private key.

Choose SSH key files Paste SSH keys

SSH keys

Drop files here. [Or browse to a location.](#)
SSH public key (.pub) files only.

Create Cancel

Figure 14. Red Hat Enterprise Linux 9.3 KVM instance deployment on Roving Edge

The provisioning of the new RHEL 9.3 instance will start then will change to running status.

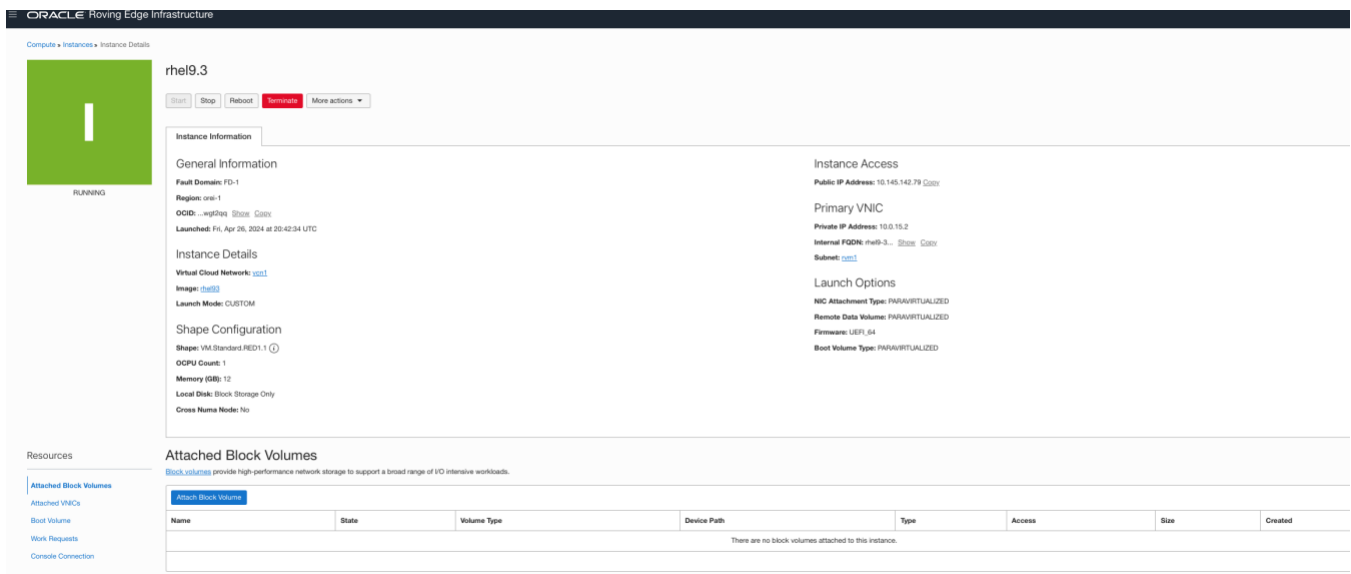


Figure 15. Red Hat Enterprise Linux 9.3 KVM instance overview on Roving Edge

12. To access your new Red Hat Enterprise Linux 9.3 Instance on Roving Edge, open a SSH connection with the following command line syntax:

ssh -i <your-ssh-key> cloud-user@<ip-address or DNS name of your rhel92 instance>

```
[cloud-user@rhel9-3 ~]$ uname -a
Linux rhel9-3 5.14.0-362.8.1.el9_3.x86_64 #1 SMP PREEMPT_DYNAMIC Tue Oct 3 11:12:36 EDT 2023 x86_64 x86_64 x86_64 GNU/Linux
[ccloud-user@rhel9-3 ~]$ cat /etc/redhat-release
Red Hat Enterprise Linux release 9.3 (Plow)
[ccloud-user@rhel9-3 ~]$
```

Figure 16. Red Hat Enterprise Linux 9.3 KVM ssh on Roving Edge

SUSE Linux Enterprise Server

Importing a SUSE Linux Enterprise Server image on Oracle Compute Cloud@Customer, Oracle Private Cloud or Roving Edge works the same way as importing Red Hat Enterprise Linux 9.2 KVM Guest image, however, with an extra step to be performed after the Custom Image creation steps.

Regarding SUSE Licensing:

1. For SUSE-specific support, licensing, and maintenance life cycle questions, refer to <https://www.suse.com/contact/>
2. Login to your SUSE account and download SUSE Linux Enterprise Server (stable release, AMD64/Intel 64 architecture and kvm .qcow2 image) from <https://www.suse.com/download/sles/>
3. Upload the image to an Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, or Roving Edge Object Storage.

NOTE: Minimum SUSE Linux Enterprise Server stable release verified on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, and Roving Edge is the 12 SP4 release. For this example, we will be working with the most recent and available stable release of SUSE Linux Enterprise Server, 15 SP5.

Figure 17. SUSE Linux Enterprise Server download page

Figure 18. SUSE Linux Enterprise Server qcow2 image

4. Once downloaded the new SUSE Linux Enterprise Server Image into the Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge Object Storage, create a Custom Image. On Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance, Click on Compute, Custom image, then Import Image. Enter a name for the new image, select a Compartment which the image will be deployed, source type, which can be Object Storage Bucket or Object Storage URL, then select QCOW2 as image type.
5. The Import Image process will begin. Once completed, the new custom image will be available under Custom Images screen.

Figure 19. SUSE Linux Enterprise Server download page

6. To deploy a new instance from the SUSE Linux Enterprise Server custom image previously created, click on the three dots in the action column, then select Create Instance from Image:

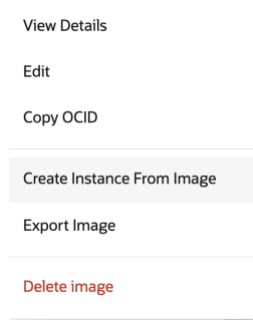


Figure 20. SUSE Linux Enterprise Server creating instance from image

- Next, enter a new name for the instance, select your compartment, fault domain, VM Shape, Standard.E5.Flex. Adjust the appropriated OCPUs, Memory (GBs), Boot Volume, subnet (VCN and Subnet), Public and Private IP addressing, host name and SSH keys. Enable Network Security Group and select your appropriated security group for your new instance. Review the availability configuration and tagging, then, click Create.

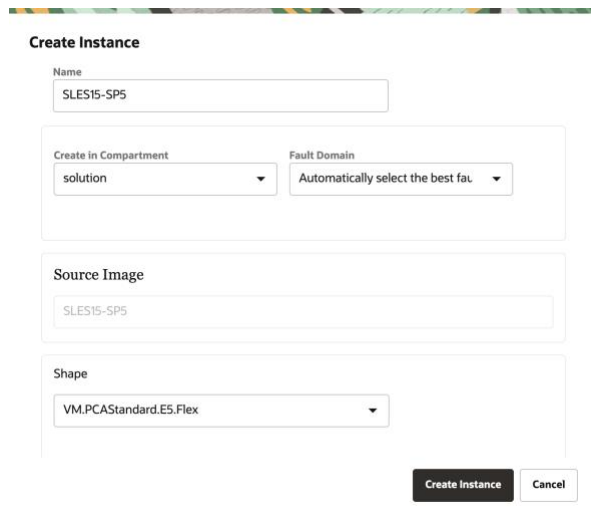


Figure 21. SUSE Linux Enterprise Server instance creation page

- The provisioning of the new SUSE Linux Enterprise Server instance will begin. Wait until the instance state changes to Running.
- Once running, click Action, View Details, Console Connection, then Create Console Connection to access the console of the SUSE Enterprise Linux Server to continue the instance deployment.
- On Create Console Connection screen, upload your public key to be utilized by the console connection. Click Create Console Connection.

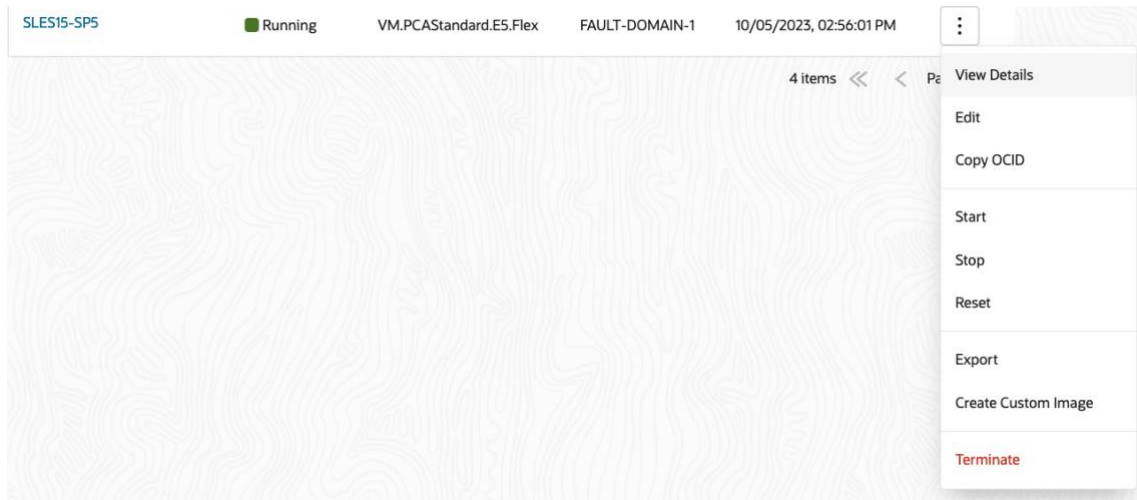


Figure 22. SUSE Linux Enterprise Server console connection creation on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

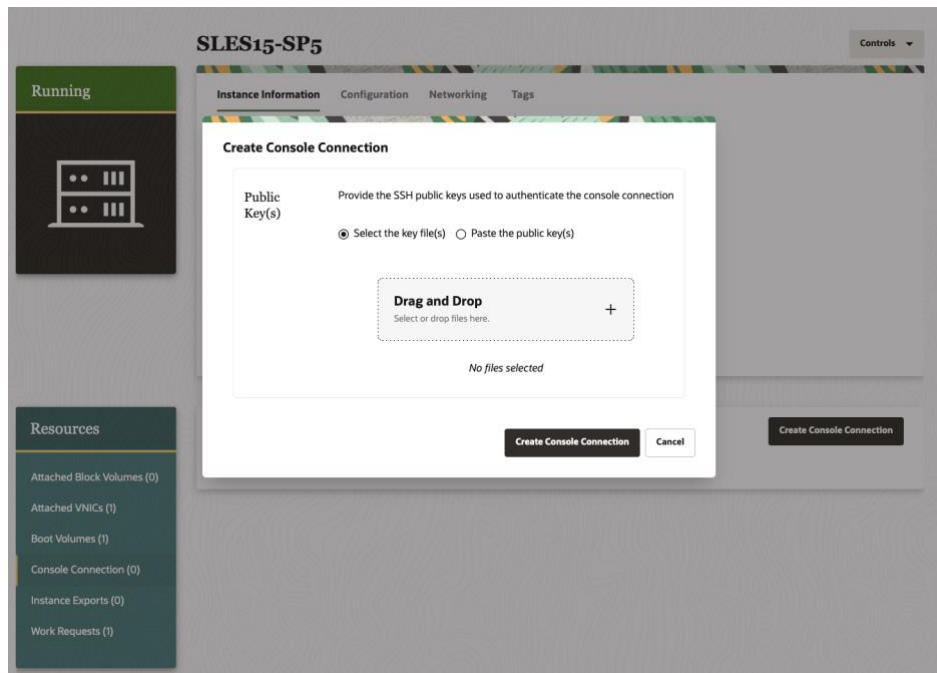


Figure 23. SUSE Linux Enterprise Server console connection creation/SSH Keys on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

11. Once created, copy the VCN connection fingerprint. For this example, we will be using the VNC connection for Linux/MAC

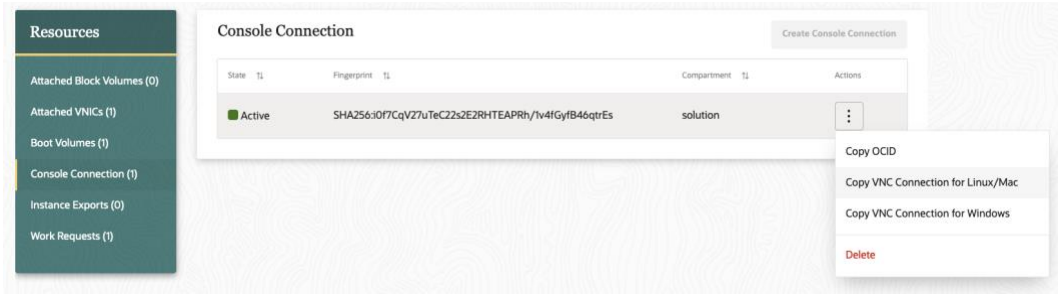


Figure 24. SUSE Linux Enterprise Server console connection and VNC access on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

12. For VNC Console, install VNC viewer or Tiger VNC on your MAC.
13. On Linux or MAC, open a terminal and paste the VNC connection for Linux/MAC previously configured. Example:
 1. `ssh -i <your-ssh-key> -p 443 -L 5001:localhost:5001 qmlhmygom3rnzxxgy3qmjxxs5ltn5ya@<ip_address>vnc@ocid1.cccinstance.oc1.us-phoenix-1.iys2j6f7mga.amaaaaaakdrwrhiaofswmz3zhfrgo6jumr3dcnzynn3g453bme2w45rvm4yq`
14. On Linux or MAC, open VNC Viewer and enter localhost:5000. Click enter and you will get the console session.

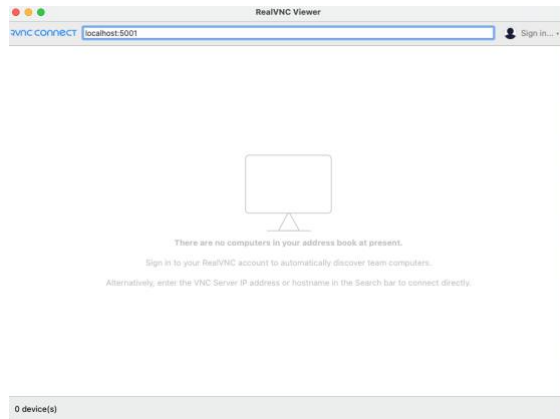


Figure 25. SUSE Linux Enterprise Server VNC console connection on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

15. Click Start to complete the default SUSE Linux Enterprise Server installation.

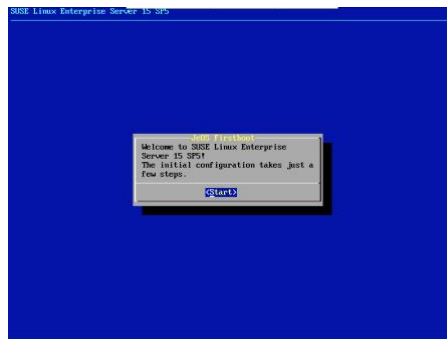


Figure 26. SUSE Linux Enterprise Server configuration on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

16. To access your new SUSE Linux Enterprise Server Instance on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, open a SSH connection with the following command line syntax:

`ssh -i <your-ssh-key> root@<ip-address or DNS name of your SUSE Linux Enterprise Server instance>`

```
sles15-sp5:~ # cat /etc/os-release
NAME="SLES"
VERSION="15-SP5"
VERSION_ID="15.5"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP5"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp5"
DOCUMENTATION_URL="https://documentation.suse.com/"
sles15-sp5:~ # uname -a
Linux sles15-sp5 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043) x86_64 x86_64 x86_64 GNU/Linux
sles15-sp5:~ #
```

Figure 27. SUSE Linux Enterprise Server console on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

IMPORTANT: You may notice that during the boot, SUSE Enterprise Linux might swap the network devices. Ex: rename the device name eth0 to eth1. To avoid this issue, follow the steps listed below.

17. Verify if indeed your SUSE Enterprise Linux is facing the network interface rename/swap issue.

```
localhost:~ # ip link show
```

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
```

```
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
```

```
2: eth1: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN mode DEFAULT group default qlen 1000
```

```
link/ether 00:13:97:a5:a0:30 brd ff:ff:ff:ff:ff:ff
```

```
altname enp0s3
```

```
altname ens3
```

```
localhost:~ # dmesg -T | grep eth
```

```
[Thu May 16 11:55:56 2024] virtio_net virtio0 eth1: renamed from eth0
```

18. To fix this issue, remove the 70-persistent-net.rules file in your SUSE Enterprise Linux instance, then reboot the instance.

```
localhost:~ # rm /etc/udev/rules.d/70-persistent-net.rules
```

```
localhost:~ # reboot
```

19. Then to verify if the network device rename issue has been fixed, run the following commands:

```
localhost:~ # ip link show
```

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default
qlen 1000

    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9000 qdisc mq state UP mode DEFAULT group default
qlen 1000

    link/ether 00:13:97:a5:a0:30 brd ff:ff:ff:ff:ff:ff

    altname enp0s3

    altname ens3
```

```
localhost:~ # dmesg -T | grep eth
```

```
nothing
```

Alma Linux Operating System

Deploying Alma Linux Enterprise Server image on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge works the same way as importing Red Hat Enterprise operating systems image. Perform the following steps listed below to deploy Alma Linux:

1. Download Alma Linux OS 9.2 (Generic Cloud Image.qcow2) from <https://almalinux.org/get-almalinux/> to an Object Storage in your Oracle Compute Cloud@Customer.



Figure 28. Alma Linux Operating System 9.2 download page

2. Once downloaded the new Alma Linux OS 9.2 Image into an Oracle Compute Cloud@Customer Object Storage, Oracle Private Cloud Appliance, or Roving Edge, then create a Custom Image.
3. On Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, or Roving Edge, Click on Compute, Custom image, then Import Image. Enter a name for the new image and all information similar to the previous steps, select the source of the image, such as Object Storage Bucket or Object Storage URL, then select QCOW2 as image format.
4. The Import Image process will begin. Once completed, the new custom image will be available under Custom Images screen.

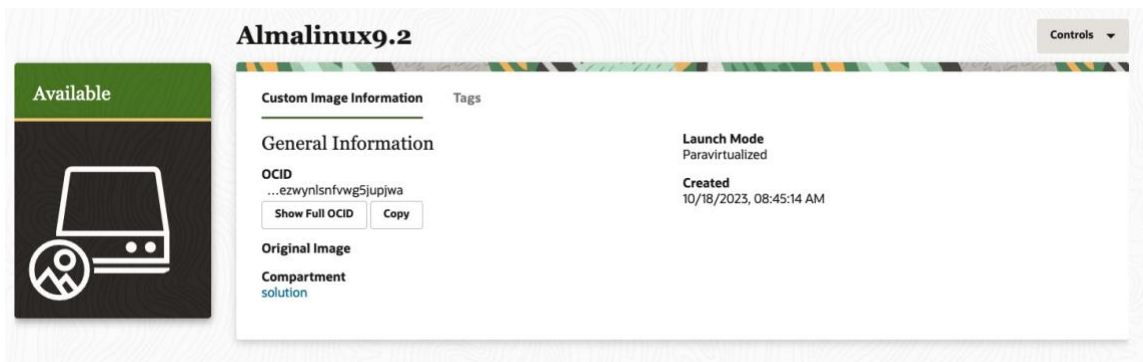


Figure 29. Alma Linux Operating System 9.2 custom image on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

- To deploy a new instance from the Alma Linux OS custom image previously created, click on the three dots in the action column, then select Create Instance from Image:

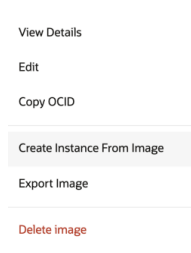


Figure 30. Alma Linux Operating System 9.2 instance creation from image on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

- Next, enter a new name for the instance, select your compartment, fault domain, VM Shape, Standard.E5.Flex. Adjust the appropriated OCPUs, Memory (GBs), Boot Volume, subnet (VCN and Subnet), Public and Private IP addressing, host name and SSH keys.
- Enable Network Security Group and select your appropriated security group for your new instance.
- Review the availability configuration and tagging, then, click Create. The provisioning of the new Alma Linux OS 9.2 instance will begin. Wait until the instance state changes to Running.

Create Instance

Name
Alma_Linux

Create in Compartment: solution | Fault Domain: Automatically select the best fa

Source Image

Source Type: Custom Image | Compartment: solution | Operating System: Operating System

Name	Operating System	OS Version
Almalinux9.2	Custom	CUSTOM

Figure 31. Alma Linux Operating System 9.2 create instance on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

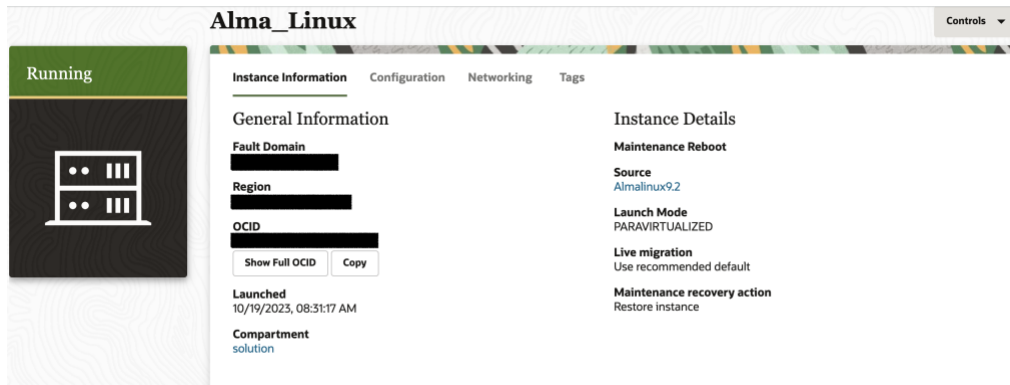


Figure 32. Alma Linux Operating System 9.2 instance details page on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

1. To access your new Alma Linux OS 9.2 Instance on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, open a SSH connection with the following command line syntax:

ssh -i <your-ssh-key> almalinux@<ip-address or DNS name of your Alma Linux Enterprise Server instance>

```
[almalinux@almalinux ~]$ uname -a
Linux almalinux 5.14.0-284.11.1.el9_2.x86_64 #1 SMP PREEMPT_DYNAMIC Tue May 9 05:49:00 EDT 2023 x86_64 x86_64 x86_64 GNU/Linux
[almalinux@almalinux ~]$ cat /etc/almalinux-release
AlmaLinux release 9.2 (Turquoise Kodkod)
[almalinux@almalinux ~]$ df -k
Filesystem      1K-blocks    Used Available Use% Mounted on
devtmpfs        4096          0      4096   0% /dev
tmpfs           5092452       0    5092452   0% /dev/shm
tmpfs           2036984       8692   2028292   1% /run
/dev/sda4       51687404    1196884 50490520   3% /
/dev/sda3       518816     118980   399836   23% /boot
/dev/sda2       204580       7176   197404   4% /boot/efi
tmpfs           1018488       0    1018488   0% /run/user/1000
[almalinux@almalinux ~]$
```

Figure 33. Alma Linux Operating System 9.2 instance console on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

Kali Linux Operating Systems

To deploy Kali Linux image on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, or Roving Edge, follow the steps listed below:

1. Download Kali Linux Image (Generic Cloud Image) from <https://www.kali.org/get-kali/#kali-cloud> to an Object Storage in your Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance.

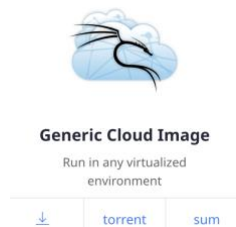


Figure 34. Kali Linux Operating System download page

2. Once downloaded the new Kali Image into an Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge Object Storage, create a Custom Image.
3. On Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance, Click on Compute, Custom image, then Import Image. Enter a name for the new image, select a Compartment which the image will be deployed, source type, which can be Object Storage Bucket or Object Storage URL, then select QCOW2 as image type. For Roving Edge, follow the same steps listed on RHEL.
4. The Import Image process will begin. Once completed, the new custom image will be available under Custom Images screen.
5. To deploy a new instance from the Kali Linux custom image previously created, click on the three dots in the action column, then select Create Instance from Image:

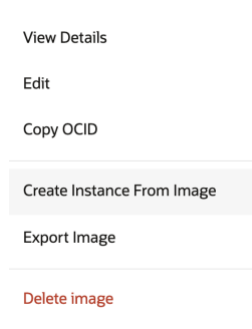


Figure 35. Kali Linux Operating System create instance from image on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

6. Next, enter a new name for the instance, select your compartment, fault domain, VM Shape, Standard.E5.Flex. Adjust the appropriated OCPUs, Memory (GBs), Boot Volume, subnet (VCN and Subnet), Public and Private IP addressing, host name and SSH keys. Enable Network Security Group and select your appropriated security group for your new instance. Review the availability configuration and tagging, then, click Create. The provisioning of the new Kali Linux instance will begin. Wait until the instance state changes to Running.

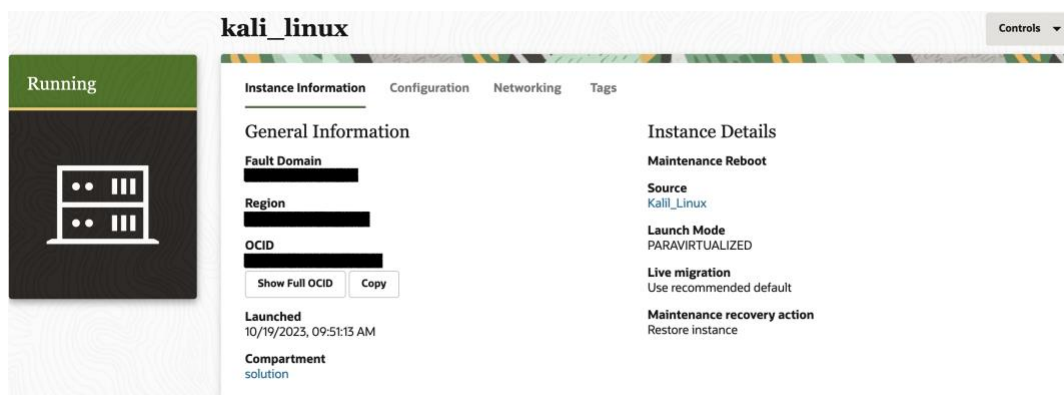


Figure 36. Kali Linux Operating System instance details on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

7. Due to security reasons, by default, Kali Linux does not allow SSH connection. To access your new Kali Linux Instance on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, create a console connection following the steps previously explained on SUSE Linux Enterprise Server session, then login on Kali Linux with the default username: kali and password: kali.

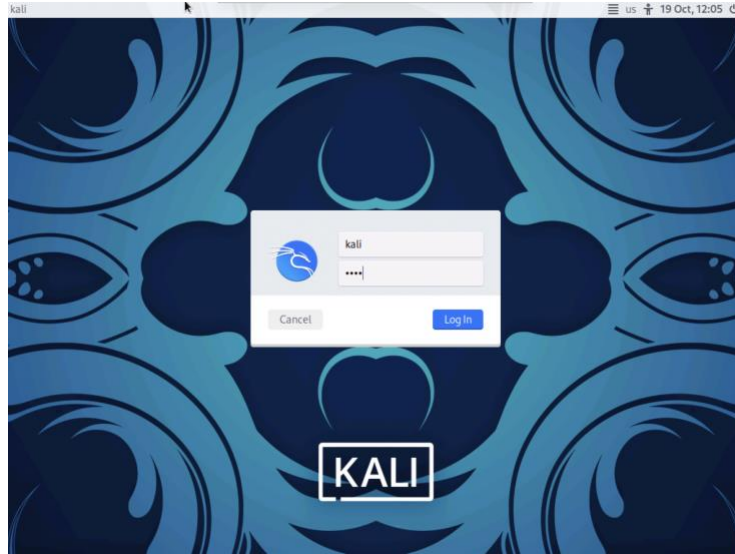


Figure 37. Kali Linux Operating System console on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance and Roving Edge

Ubuntu Linux Operating Systems

To deploy Ubuntu Server 20.04 LTS (or higher) Linux image on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, follow the steps listed below:

1. Download Ubuntu Linux Image (Generic Cloud Image - Amd64 - QCow2 UEFI/GPT Bootable disk image) from Ubuntu Cloud images: <https://cloud-images.ubuntu.com/focal/> to an Object Storage

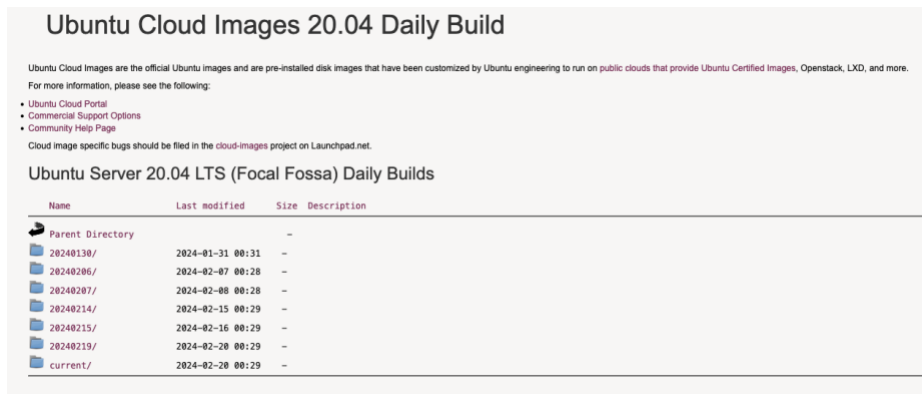


Figure 38. Ubuntu Linux Operating System download page

	focal-server-cloudimg-amd64.img	2024-02-19 22:22	613M	QCow2 UEFI/GPT Bootable disk image
	focal-server-cloudimg-arm64.img	2024-02-19 22:58	587M	QCow2 UEFI/GPT Bootable disk image
	focal-server-cloudimg-armhf.img	2024-02-19 23:55	904M	QCow2 UEFI/GPT Bootable disk image
	focal-server-cloudimg-ppc64el.img	2024-02-19 22:46	604M	QCow2 UEFI/GPT Bootable disk image
	focal-server-cloudimg-s390x.img	2024-02-19 22:29	526M	QCow2 UEFI/GPT Bootable disk image

Figure 39. Ubuntu Linux Operating System download page

2. Once downloaded the new Ubuntu image into an Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge Object Storage, create a Custom Image.

8. On Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance, Click on Compute, Custom image, then Import Image. Enter a name for the new image, select a Compartment which the image will be deployed, source type, which can be Object Storage Bucket or Object Storage URL, then select QCOW2 as image type. For Roving Edge, follow the same steps listed on RHEL.
3. The Import Image process will begin. Once completed, the new custom image will be available under Custom Images screen.
4. To deploy a new instance from the Ubuntu Linux custom image previously created, click on the three dots in the action column, then select Create Instance from Image:

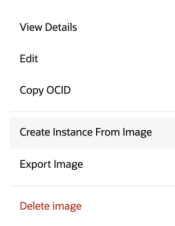


Figure 40. Ubuntu Linux Operating System create instance from image on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

5. Next, enter a new name for the instance, select your compartment, fault domain, VM Shape, Standard.E5.Flex. Adjust the appropriated OCPUs, Memory (GBs), Boot Volume, subnet (VCN and Subnet), Public and Private IP addressing, host name and SSH keys. Enable Network Security Group and select your appropriated security group for your new instance. Review the availability configuration and tagging, then, click Create. The provisioning of the new Kali Linux instance will begin. Wait until the instance state changes to Running.

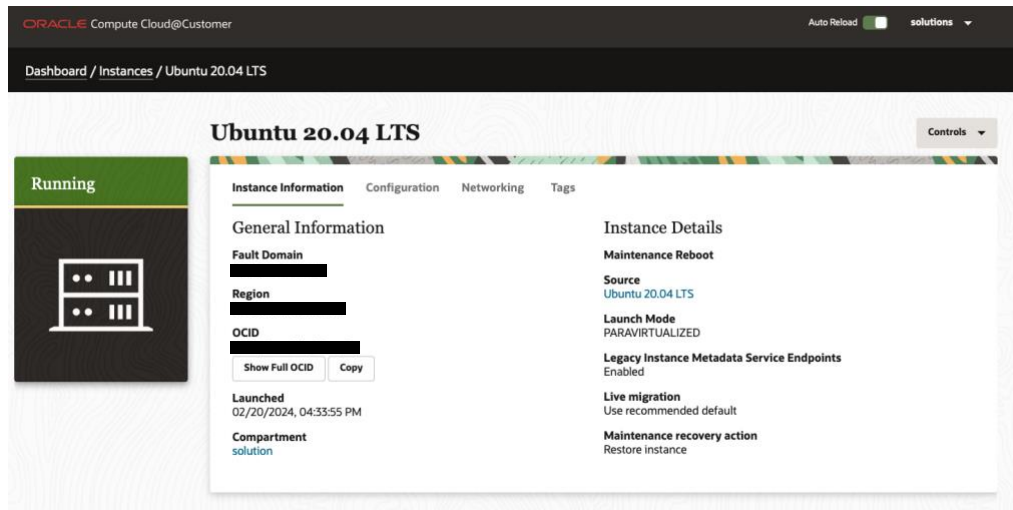


Figure 41. Ubuntu Linux Operating System instance details on Oracle Compute Cloud@Customer or Oracle Private Cloud Appliance

6. To access your new Ubuntu 20.04 LTS Linux Instance on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, open a SSH connection with the following command line syntax:

```
laptop@user% ssh -i <your-ssh-key> ubuntu@<ip-address or DNS name of your Ubuntu Linux instance>
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.4.0-171-generic x86_64)
```

- * Documentation: <https://help.ubuntu.com>
- * Management: <https://landscape.canonical.com>
- * Support: <https://ubuntu.com/pro>

System information as of Wed Feb 21 01:34:53 UTC 2024

```
System load: 0.0          Processes:          136
Usage of /:  2.9% of 48.27GB  Users logged in:  0
Memory usage: 0%          IPv4 address for ens3: x.x.x.x
Swap usage:  0%
```

Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See <https://ubuntu.com/esm> or run: `sudo pro status`

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in `/usr/share/doc/*/copyright`.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "`sudo <command>`".
See "`man sudo_root`" for details.

ubuntu@ubuntu:~\$

Oracle Linux STIG

The Oracle Linux STIG image is an implementation of Oracle Linux that follows the Security Technical Implementation Guide (STIG). With the STIG image, you can configure an Oracle Linux instance in Oracle Cloud Infrastructure that follows certain security standards and requirements set by the Defense Information Systems Agency (DISA).

To deploy Oracle Linux STIG image on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, follow the steps listed below:

1. Launch a new Linux STIG instance from Marketplace in OCI.

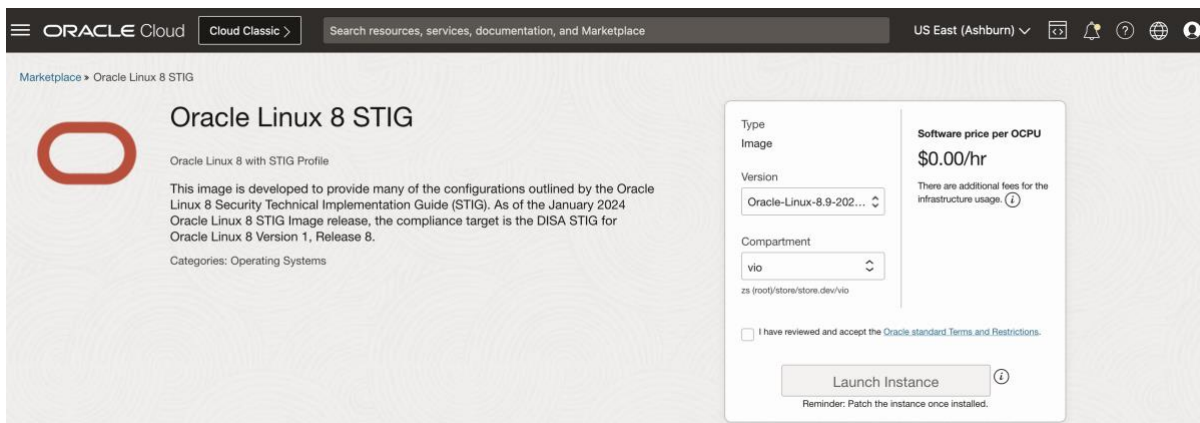


Figure 42. STIG Linux Operating System instance deployment on OCI

2. Make sure in "Boot Volume" options the option "Use in-transit encryption" is unchecked.

Boot volume

A [boot volume](#) is a detachable device that contains the image used to boot the compute instance.

- Specify a custom boot volume size
[Volume performance](#) varies with volume size. Default boot volume size: 46.6 GB. When you specify a custom boot volume size, service limits apply.
- Use in-transit encryption
[Encrypts data](#) in transit between the instance, the boot volume, and the block volumes.
- Encrypt this volume with a key that you manage
 By default, Oracle manages the keys that encrypt this volume, but you can choose a key from a vault that you have access to if you want greater control over the key's lifecycle and how it's used. [How do I manage my own encryption keys?](#)

Figure 43. STIG Linux Operating System instance deployment on OCI – Boot Volume Options

3. After instance is launched and running, create a new custom image
4. Export the new custom image with “name.oci” to an object storage bucket in OCI, then download it
5. Untar the image
6. Edit the metadata json file and set consistent volume name to "false"
7. Tar up the image again, then upload the image to the Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge
8. Use the new image to launch the STIG 8 Linux instance

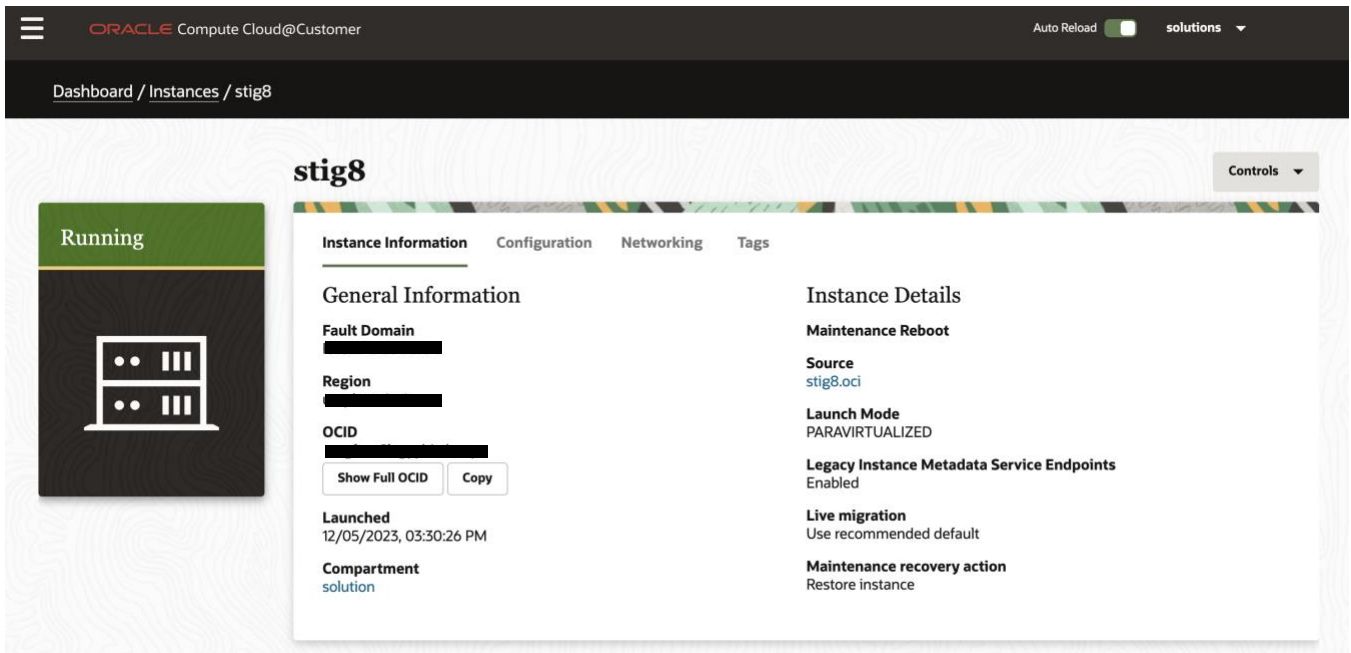


Figure 44. STIG Linux Operating System instance running on Compute Cloud@Customer or Private Cloud Appliance

9. To access your new STIG 8 Linux Instance on Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge, open a SSH connection with the following command line syntax:

laptop@user% ssh -i <your-ssh-key> opc@<ip-address or DNS name of your STIG Linux instance>

```
[opc@stig8 ~]$ uname -a
Linux stig8 5.15.0-102.110.5.1.el8uek.x86_64 #2 SMP Sat Jun 10 18:15:29 PDT 2023 x86_64 x86_64 x86_64
4 GNU/Linux
[opc@stig8 ~]$ cat /etc/oracle-release
Oracle Linux Server release 8.8
[opc@stig8 ~]$ df -k
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
devtmpfs	4891932	0	4891932	0%	/dev
tmpfs	4935172	0	4935172	0%	/dev/shm
tmpfs	4935172	16984	4918188	1%	/run
tmpfs	4935172	0	4935172	0%	/sys/fs/cgroup
/dev/mapper/ocivolume-root	21456656	8545948	12910708	40%	/
/dev/sda2	1038336	345452	692884	34%	/boot
/dev/mapper/ocivolume-tmp	1038336	40428	997908	4%	/tmp
/dev/mapper/ocivolume-home	3135488	55004	3080484	2%	/home
/dev/mapper/ocivolume-var	5232640	516624	4716016	10%	/var
/dev/sda1	102182	5130	97052	6%	/boot/efi
/dev/mapper/ocivolume-log	3135488	56140	3079348	2%	/var/log
/dev/mapper/ocivolume-oled	8378368	96536	8281832	2%	/var/oled
/dev/mapper/ocivolume-var_tmp	1038336	40404	997932	4%	/var/tmp
/dev/mapper/ocivolume-audit	4184064	63960	4120104	2%	/var/log/audit
tmpfs	987032	0	987032	0%	/run/user/1000

Figure 45. STIG Linux Operating System console on Compute Cloud@Customer or Private Cloud Appliance

Windows Server

On Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, and Roving Edge, you can bring your own (BYOL) Windows Server license, deploy the instance, and register your Windows operating systems with Microsoft accordingly.

To bring your own Windows Server license from VMware, Oracle VM/PCA 2.x or VirtualBox to Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance, or Roving Edge, please refer to steps listed on the following MOS note: https://mosemp.us.oracle.com/epmos/faces/DocumentDisplay?_afzLoop=482050377702170&id=2852064.1&_afzWindowMode=0&_adf.ctrl-state=ht505avf5_4

NOTE: This MOS note uses Oracle Private Cloud Appliance as example, however the same step-by-step can be utilized to BYOL your Windows Server image into Oracle Compute Cloud@Customer, Oracle Private Cloud Appliance or Roving Edge

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