Accessing Red Hat Enterprise Linux installation binaries

The Cloud Paks include entitlement to Red Hat OpenShift Container Platform and Red Hat Enterprise Linux. The preferred method of accessing and installing these offerings is to follow the standard installation documentation from Red Hat and register your systems using your Red Hat Network subscription. Installation binaries, documentation, and entitlement information can all be accessed from the Red Hat Customer Portal at https://access.redhat.com. If you are new to the Red Hat Customer Portal, click **Getting Started** after you have logged in (or use this link: https://access.redhat.com/start/) to take a guided tour of the and learn how to get the most out of your Red Hat subscription.

Note: The preferred installation method requires an active Red Hat Network subscription and entitlement in a sufficient quantity to for the systems where you are installing, and connectivity to the internet or to a local Red Hat Satellite Server. It is also possible to install Red Hat OpenShift Container Platform before your subscription has been activated in the Red Hat Customer Portal by accessing the installation binaries from IBM Passport Advantage and performing a manual offline installation.

Preferred method: using the Red Hat Customer Portal

Accessing installation binaries through the Red Hat Customer Portal

After your Cloud Pak order has been processed, you will receive an email from Red Hat at the address associated with your order indicating that the entitlement quantities for your Red Hat OpenShift Container Platform and subscription has been updated.

To verify that the entitlement quantities have been added to your account, log in to the Red Hat Customer Portal and click **Subscriptions**. Red Hat Open Shift entitlements will be displayed in the table titled **OPENSHIFT**.

Installing Red Hat Enterprise Linux

Installing OpenShift Container Platform 3.11 requires Red Hat Enterprise Linux 7.6 to be installed on the host systems or virtual machines where OpenShift Container Platform will be installed. Entitlement to Red Hat Enterprise Linux is included with your Cloud Pak entitlement. If you do not already have Red Hat Enterprise Linux installed, use the following documentation to complete the installation of Red Hat Enterprise Linux.

Red Hat Enterprise Linux 7.6 installation media can be accessed through the Red Hat Customer portal at https://access.redhat.com/downloads/content/69/ver=/rhel---7/7.6/x86_64/product-software

Instructions for downloading and installing Red Hat Enterprise Linux 7.6, including registering your installation using Subscription Manager, can be found in the Red Hat Customer Portal at:

https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/installation_guide/chap-getting-started

Installing Red Hat OpenShift Container Platform

Once you have successfully provisioned hosts or virtual machines with Red Hat Enterprise Linux 7.6 installed and registered, proceed to install OpenShift Container Platform3.11 by following the documentation provided in the Red Hat Customer Portal: https://access.redhat.com/documentation/en-us/openshift_container_platform/3.11/html/getting_started/getting-started-index

Alternate Method: using IBM Passport Advantage

Accessing binaries for manual installation from IBM Passport Advantage

If you require the ability to install the Cloud Pak before your entitlements have been updated in the Red Hat Customer Portal, all of the binary files necessary to perform a manual installation are available for download from IBM Passport Advantage or the public internet. Installation images and RPMs for Red Hat Enterprise Linux can be downloaded from IBM Passport Advantage (Part number **CC3KEEN** , which is part of your Cloud Pak eAssembly.) This file has the description "IBM Red Hat OpenShift 3.11 English only eImage" in IBM Passport Advantage. It contains the Red Hat Enterprise Linux installation binaries, including the files that enable you to install Red Hat OpenShift Container Platform 3.11 over the internet. This installation should be registered and associated with your Red Hat Network ID at a later time.

 The download is approximately 60GB in size, and additional storage will be required when extracting the files.

This manual installation process requires the creation of a local HTTP server to host the RPM files that are provided in the above download package. These steps are not required when using the preferred installation method described above, since that scenario enables access to the necessary files through Red Hat Network.

To perform a manual installation, follow the procedure outlined below:

1. Download the Red Hat Enterprise Linux installation files from Passport Advantage (if you don't already have Red Hat Enterprise Linux installed)
2. Provision a web server to host a Yum repository
3. Copy the downloaded files to the web server
4. Install Red Hat Enterprise Linux on the master and worker nodes
5. Prepare the worker nodes
6. Prepare the master node

7. Install OpenShift Container Platform
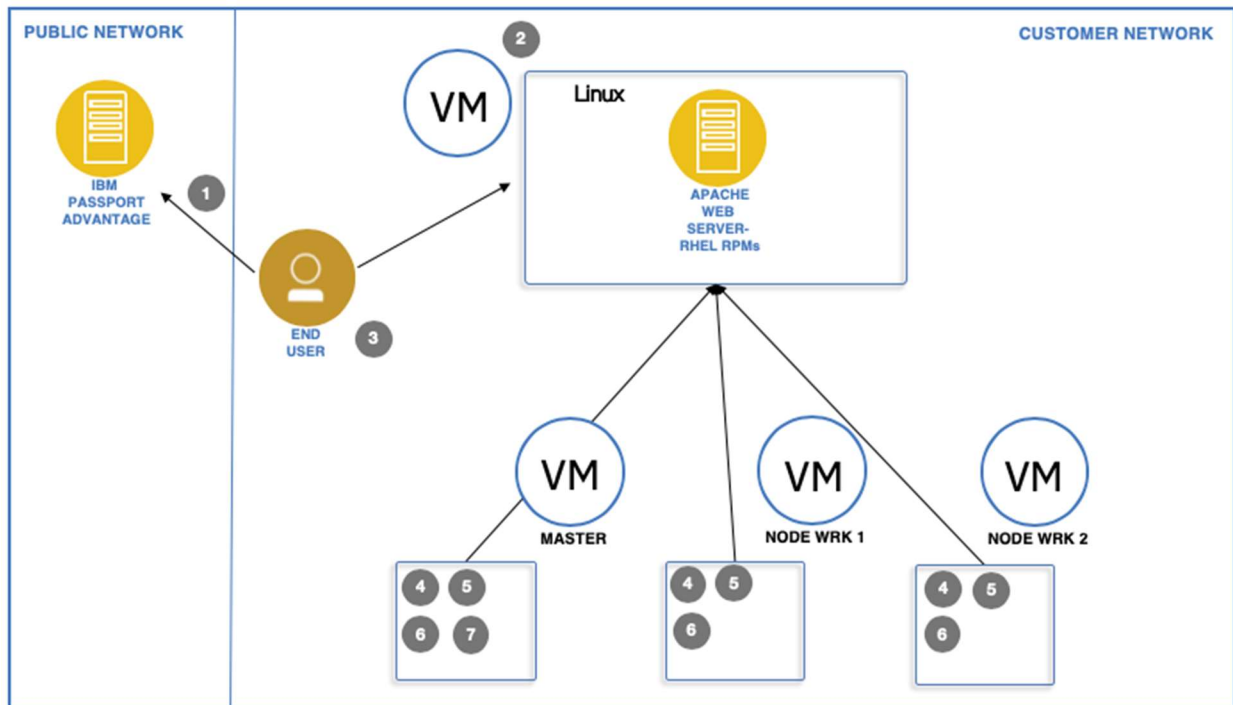
Download the Red Hat Enterprise Linux installation files from Passport Advantage

Log into IBM Passport Advantage and download "IBM Red Hat OpenShift 3.11 English only eImage" (part number **CC3KEEN**) which is associated with the Cloud Pak eAssembly. This will download a file named **IBM_RED_HAT_OPENSHIFT_3.11_ENGLISH.tgz**. Despite the description and filename, this package contains the files needed to install Red Hat Enterprise Linux.

Provision a web server to host a Yum repository

Provision a physical host or virtual machine with an HTTP server to support the local installation. You can use the web server of your choice as the repository.

If you do not have a web server available, you can install and configure the Apache web server on a Red Hat Enterprise Linux system using the documentation provided by Red Hat under the heading "Prepare and populate the repository server": https://docs.openshift.com/container-platform/3.11/install/disconnected_install.html#disconnected-repo-server

Copy the downloaded files to the web server

Copy IBM_RED_HAT_OPENSHIFT_3.11_ENGLISH.tgz to the web server and extract it into a subdirectory named "repos" under your web server's document root (/var/www/html/repos if you have created a web server using the documentation above.)

Ensure that the repository files can be read by any user (chmod -R +r /var/www/html/repos)

Install Red Hat Enterprise Linux on the master and worker nodes

OpenShift Container Platform 3.11 requires Red Hat Enterprise Linux 7.6 to be installed on the host systems or virtual machines where OpenShift Container Platform will be installed. Entitlement to Red Hat Enterprise Linux is included with your Cloud Pak entitlement. If you do not already have Red Hat Enterprise Linux installed, use the following documentation to complete the installation of Red Hat Enterprise Linux.

If you don't already have Red Hat Enterprise Linux installed, provision the hosts or VMs that will be used for the master and worker nodes for the OpenShift Container Platform cluster where you will install the Cloud Pak, and install Red Hat Enterprise Linux using the ISO downloaded from IBM Passport Advantage.

Complete instructions for downloading and installing Red Hat Enterprise Linux 7.6, including prerequisites and host preparation, can be found in the Red Hat Customer Portal at: https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/installation_guide/chap-getting-started

- An ISO image of the installation media (rhel-server-7.6-x86_64-dvd.iso) can be found in the directory where you extracted the file downloaded from IBM Passport Advantage above. Use these files in place of steps in Chapter 2 of the Red Hat Enterprise Linux installation guide that describe downloading Red Hat Enterprise Linux from the Red Hat Customer Portal. If you are creating virtual machines to provision your nodes, this image can be used directly.
- If you are installing Red Hat Enterprise Linux on a physical host, refer to Chapter 3 of the Red Hat Enterprise Linux installation guide for information on creating physical installation media or accessing installation media over a network: https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/installation_guide/chap-making-media

Prepare the worker nodes

Ensure that each of the worker nodes has been prepared to meet the requirements described under "Preparing your hosts": https://docs.openshift.com/container-platform/3.11/install/host_preparation.html#install-config-install-host-preparation

Update /etc/yum.repos.d/ose.repo on the master and worker nodes to use the local repository for installing RPMs, by updating the "baseurl" in each collection with the hostname or IP address of the local repository server. In the example shown below, the repository's hostname is "myserver" – use your own hostname or IP address instead.

Sample ose.repo file:

```
[rhel-7-server-rpms]
name=rhel-7-server-rpms
baseurl=http://myserver/repos/rhel-7-server-rpms
enabled=1
gpgcheck=0
[rhel-7-server-extras-rpms]
name=rhel-7-server-extras-rpms
baseurl=http://myserver/repos/rhel-7-server-extras-rpms
enabled=1
gpgcheck=0
[rhel-7-server-ansible-2.6-rpms]
name=rhel-7-server-ansible-2.6-rpms
baseurl=http://myseerver/repos/rhel-7-server-ansible-2.6-rpms
enabled=1
gpgcheck=0
[rhel-7-server-ose-3.11-rpms]
name=rhel-7-server-ose-3.11-rpms
baseurl=http://myserver/repos/rhel-7-server-ose-3.11-rpms
enabled=1
gpgcheck=0
```

Refer to the section "Preparing cluster hosts" in the Red Hat OpenShift Container Platform documentation if you require additional information: https://docs.openshift.com/container-platform/3.11/install/disconnected_install.html#disconnected-openshift-systems

Prepare the master node

Ensure that the master node has been prepared to meet the requirements described under "Preparing your hosts": https://docs.openshift.com/container-platform/3.11/install/host_preparation.html#install-config-install-host-preparation

Customize an inventory file on your master node to describe the details of your cluster and set registry.access.redhat.com as the registry for installation. Refer to "Customizing inventory files" (https://docs.openshift.com/container-

platform/3.11/install/configuring_inventory_file.html#configuring-ansible) for more information and to review example inventory files.

You must set the variable "oreg_url" to "registry.access.redhat.com/openshift3/ose-${component}:${version}" in your inventory file exactly as shown below:

```
oreg_url=registry.access.redhat.com/openshift3/ose-${component}:${version}
```

Install Red Hat OpenShift Container Platform

Follow the documentation provided by Red Hat to install OpenShift Container Platform 3.11 in the section titled "Installing OpenShift Container Platform": https://docs.openshift.com/container-platform/3.11/install/running_install.html#install-running-installation-playbooks