**VMware vSphere cloud provider prerequisites**

Prerequisites

Before creating PVs using vSphere, ensure your OpenShift Container Platform cluster meets the following requirements:

* OpenShift Container Platform must first be [configured for vSphere](https://docs.openshift.com/container-platform/3.11/install_config/configuring_vsphere.html#install-config-configuring-vsphere).
* Each node host in the infrastructure must match the vSphere VM name.
* Each node host must be in the same resource group.

Create VMDK using one of the following methods before using them.

You can configure OpenShift Container Platform to access [VMware vSphere](https://www.vmware.com/au/products/vsphere.html) VMDK Volumes. This includes [using VMware vSphere VMDK Volumes as persistent storage](https://docs.openshift.com/container-platform/3.11/install_config/persistent_storage/persistent_storage_vsphere.html#install-config-persistent-storage-persistent-storage-vsphere) for application data.

The vSphere Cloud Provider allows using vSphere managed storage within OpenShift Container Platform and supports:

* Volumes
* Persistent volumes
* Storage classes and provisioning volumes

## Before you begin

### **VMware vSphere cloud provider prerequisites**

*Prerequisites*

Enabling VMware vSphere requires installing the VMware Tools on each Node VM. See [Installing VMware tools](https://docs.vmware.com/en/VMware-vSphere/6.7/com.vmware.vsphere.html.hostclient.doc/GUID-ED3ECA21-5763-4919-8947-A819A17980FB.html) for more information.

*Procedure*

1. Create [a VM folder](https://docs.vmware.com/en/VMware-vSphere/6.0/com.vmware.vsphere.vcenterhost.doc/GUID-031BDB12-D3B2-4E2D-80E6-604F304B4D0C.html) and move OpenShift Container Platform Node VMs to this folder.
2. Verify that the Node VM names complies with the regex **[a-z](([-0-9a-z]+)?[0-9a-z])?(\.[a-z0-9](([-0-9a-z]+)?[0-9a-z])?)\***.

|  |  |
| --- | --- |
|  | **VM Names cannot**: (This we can manage)   * + Begin with numbers.   + Have any capital letters.   + Have any special characters except **-**.   + Be shorter than three characters and longer than 63 characters |

1. Set the **disk.EnableUUID** parameter to **true** for each Node VM. This ensures that the VMware vSphere’s Virtual Machine Disk (VMDK) always presents a consistent UUID to the VM, allowing the disk to be mounted properly.

For every vSphere virtual machine node that will be participating in the cluster, follow the steps below using the vSphere console:

1. Navigate to **VM properties** → **VM Options** → **Advanced** → **Configuration** **Parameters** → **disk.enableUUID=TRUE**
   * Set up the GOVC environment:
   * Find the Node VM paths:
   * Set **disk.EnableUUID** to **true** for all VMs:

If OpenShift Container Platform node VMs are created from a template VM, then **disk.EnableUUID=1** can be set on the template VM. VMs cloned from this template inherit this property.

1. Create and assign roles to the vSphere Cloud Provider user and vSphere entities. vSphere Cloud Provider requires the following privileges to interact with vCenter.

5) Set up the GOVC environment:

curl -LO https://github.com/vmware/govmomi/releases/download/v0.15.0/govc\_linux\_amd64.gz

gunzip govc\_linux\_amd64.gz

chmod +x govc\_linux\_amd64

cp govc\_linux\_amd64 /usr/bin/govc

export GOVC\_URL='vCenter IP OR FQDN'

export GOVC\_USERNAME='vCenter User'

export GOVC\_PASSWORD='vCenter Password'

export GOVC\_INSECURE=1

Above steps need on all vm’s

**Below details also need from vm**

/etc/origin/cloudprovider/vsphere.conf

[Global]

user = "myusername"

password = "mypassword"

port = "443"

insecure-flag = "1"

datacenters = "mydatacenter"

[VirtualCenter "10.10.0.2"]

user = "myvCenterusername"

password = "password"

[Workspace]

server = "10.10.0.2"

datacenter = "mydatacenter"

folder = "path/to/vms"

default-datastore = "shared-datastore"

resourcepool-path = "myresourcepoolpath"

[Disk]

scsicontrollertype = pvscsi

[Network]

public-network = "VM Network