What is a Cluster?

A cluster is a group of hosts. When you add a host to a cluster, the host's resources become a part of the cluster's resources. The cluster manages the resources of all hosts within it.

Clusters enable the vSphere High Availability (HA), the vSphere Distributed Resource Scheduler (DRS), and the Virtual SAN (VSAN) solutions.

Basic Tasks
- Add a host
- Create a new virtual machine

Explore Further
- Learn more about clusters
- Learn more about resource pools

Virtual Machine
- Datacenter
- Cluster
- vCenter Server
- vSphere Client
What is a Cluster?
A cluster is a group of physical hosts that work together as a single entity to provide redundancy and high availability. A cluster is managed by the Distributed Resource Scheduler (DRS) solution.

Clusters enable High Availability (HA), the vSphere High Availability (HA) solution that ensures that the services running on the cluster are always available.

Clusters enable Dynamic Resource Allocation (DRA), the vSphere Distributed Resource Scheduler (DRS) solution that automatically distributes resources across the cluster to optimize performance and minimize wasted capacity.

Clusters enable Distributed Resource Scheduler (DRS), the vSphere Distributed Resource Scheduler (DRS) solution that manages resources across the cluster to optimize performance and minimize wasted capacity.

Basic Tasks
- Add a host
- Move To...
- Delete
- More about clusters
- More about resource pools
New Virtual Machine (scheduled)

1 Select creation type
   1a Select a creation type

2 Edit settings
   2a Select a name and folder
   2b Select a compute resource
   2c Select storage
   2d Select compatibility
   2e Select a guest OS
   2f Customize hardware

3 Scheduling options
   3a Schedule time

4 Ready to complete

Select a creation type
How would you like to create a virtual machine?

Create a new virtual machine
- Deploy from template
- Clone an existing virtual machine
- Clone virtual machine to template
- Clone template to template
- Convert template to virtual machine

This option guides you through creating a new virtual machine. You will be able to customize processors, memory, network connections, and storage. You will need to install a guest operating system after creation.
Select a name and folder

Specify a unique name and target location

Enter a name for the virtual machine.

```
ubuntu_test
```

Virtual machine names can contain up to 80 characters and they must be unique within each vCenter Server VM folder.

Select a location for the virtual machine.

```
144.38.194.13
joes-datacenter
```

Select a datacenter or VM folder to create the new virtual machine in.
New Virtual Machine (scheduled)

1 Select creation type
   1a Select a creation type

2 Edit settings
   2a Select a name and folder
   2b Select a compute resource
      2c Select storage
      2d Select compatibility
      2e Select a guest OS
      2f Customize hardware

3 Scheduling options
4 Ready to complete

Select a compute resource
Select the destination compute resource for this operation

Search

joes-datacenter

cluster_one

Compatibility:

Selected cluster is not in DRS mode, please select a specific host within the cluster
vSphere DRS

- Turn ON vSphere DRS
  - DRS Automation: Fully Automated
  - Power Management: Off
  - Advanced Options: None
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Select a location for the virtual machine.

[Search]
144.38.194.13
joes-datacenter

Select a datacenter or VM folder to create the new virtual machine in.
### Select storage
Select the datastore in which to store the configuration and disk files.

The following datastores are accessible from the destination resource that you selected. Select the destination datastore for the virtual machine configuration files and all of the virtual disks.

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity</th>
<th>Provisioned</th>
<th>Free</th>
<th>Type</th>
<th>Storage DRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>nfs-iso</td>
<td>5.7 TB</td>
<td>4.29 TB</td>
<td>1.41 TB</td>
<td>NFS v3</td>
<td></td>
</tr>
<tr>
<td>nfs_on_freenas</td>
<td>521.5 GB</td>
<td>15.39 GB</td>
<td>521.5 GB</td>
<td>NFS v3</td>
<td></td>
</tr>
<tr>
<td>datastore1 (1)</td>
<td>458.25 GB</td>
<td>133.73 GB</td>
<td>436.56 GB</td>
<td>VMFS</td>
<td></td>
</tr>
<tr>
<td>local_datastore</td>
<td>225.75 GB</td>
<td>974 MB</td>
<td>224.8 GB</td>
<td>VMFS</td>
<td></td>
</tr>
</tbody>
</table>

### Compatibility:
- Compatibility checks succeeded.
Select compatibility
Select compatibility for this virtual machine depending on the hosts in your environment.

The host or cluster supports more than one VMware virtual machine version. Select a compatibility for the virtual machine.

Compatible with: ESXi 6.0 and later

This virtual machine uses hardware version 11 and provides the best performance and latest features available in ESXi 6.0.
Select a guest OS
Choose the guest OS that will be installed on the virtual machine

Identifying the guest operating system here allows the wizard to provide the appropriate defaults for the operating system installation.

Guest OS Family: Linux
Guest OS Version: Ubuntu Linux (64-bit)

Compatibility: ESXi 6.0 and later (VM version 11)
### New Virtual Machine (scheduled)

**1 Select creation type**
- Create a new virtual machine

**2 Edit settings**
- **Folder:** joes-datacenter
- **Cluster:** cluster_one
- **Datastore:** nfs_on_freenas
- **Guest OS name:** Ubuntu Linux (64-bit)
- **CPUs:** 1
- **Memory:** 1 GB
- **NICs:** 1
- **NIC 1 network:** VM Network
- **NIC 1 type:** VMXNET 3
- **SCSI controller 1:** LSI Logic Parallel

**3 Scheduling options**
- Create hard disk 1: New virtual disk
  - **Capacity:** 16 GB
  - **Datastore:** nfs_on_freenas
  - **Virtual device node:** SCSI(0:0)
  - **Mode:** Dependent

**Compatibility:** ESXi 6.0 and later (VM version 11)