



ONTAP® Select 9 Quick Start Guide: Deploying an Evaluation Cluster on VMware

Updated for ONTAP Select 9.3 using Deploy 2.6

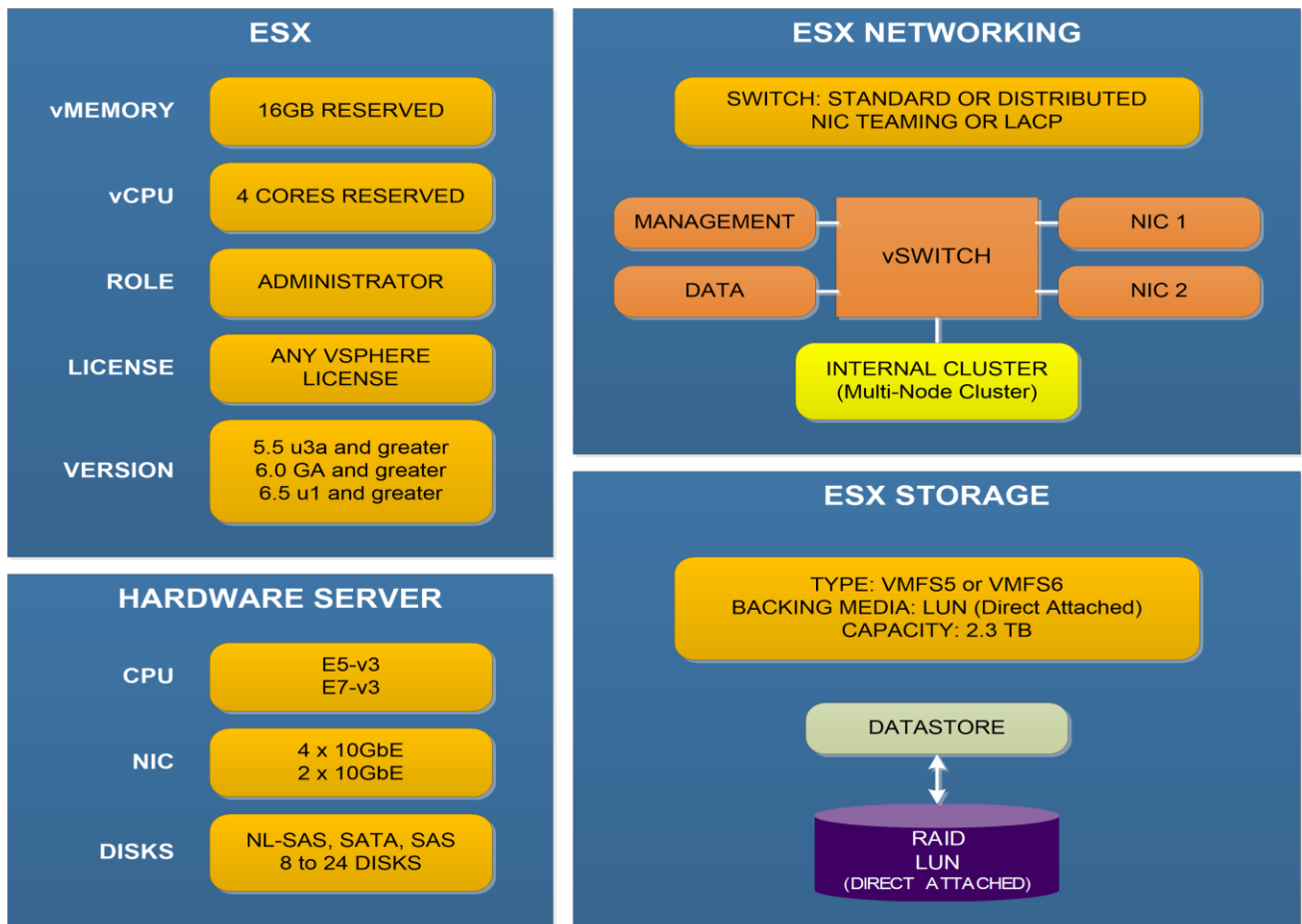
The *ONTAP Select 9 Quick Start Guide: Deploying an Evaluation Cluster on VMware* describes how to quickly deploy a 90-day evaluation instance of an ONTAP Select cluster consisting of one, two, or four nodes.

- Up to 2 TB of storage for user data can be allocated at each node
- You do not need to obtain serial numbers or storage capacity licenses from NetApp
- You cannot upgrade the nodes from an evaluation license to a purchased license

You must first install the ONTAP Select Deploy administration utility and then use the utility to deploy an ONTAP Select cluster. The ONTAP Select Deploy utility provides both a web and CLI user interface for deploying ONTAP Select clusters.

Preparing the ONTAP Select cluster hosts

Use the following minimum requirements to prepare the ESXi host(s) where the ONTAP Select cluster is deployed. The platform description is based on the standard or small instance type configuration with local direct-attached storage (DAS) formatted using the VMFS-5 or VMFS-6 file system. You can also use VMware vSAN or an external storage array.



With a multi-node cluster, the node management and cluster management networks must be in the same subnet. The internal cluster network is not used with a single-node cluster. Also, the Deploy utility must have connectivity to every host where ONTAP Select is running. You must create a datastore and configure a vSwitch on each node. For more detailed information on host configuration, including networking and storage options, see the [ONTAP Select 9 Installation and Cluster Deployment Guide for VMware](#).

Preparing the ONTAP Select Deploy utility host

The ESXi hypervisor host where the ONTAP Select Deploy administration utility is installed must meet the following configuration requirements:

- Both hardware and software are 64-bit
- ESXi version must be one of the following:
 - 5.5 U3a and greater
 - 6.0 GA and greater
 - 6.5 U1 and greater
- Virtual CPUs (2)
- Virtual memory (4 GB)
- Storage (40 GB)
- DHCP-enabled (if you will dynamically assign an IP address)

In addition, you must have all the information needed to deploy the virtual machine using vSphere, including the name of the virtual machine, datastore, host name, and additional networking details if you plan to configure a static IP address.

Installing the ONTAP Select Deploy utility

Complete the following steps on a supported 64-bit ESXi host server:

1. Download the ONTAP Select Deploy utility virtual machine image from the [NetApp Support Site](#) to your local workstation; click **ONTAP Select** and then **Deploy Install**.
2. In the VMware vSphere client, select **File > Deploy OVF Template** and complete the wizard. Select Thin Provisioned for the VM disk format and use DHCP or a static IP address to set up the network. You must define the password for the administrator account (**admin**).
3. Power on the new virtual machine and click the **Console** tab to access the ESXi console.
4. When prompted, provide the host name and select either DHCP or a static IP configuration, responding to all prompts as appropriate.
5. Make sure there is network connectivity between the Deploy VM and the ESXi hosts where the ONTAP Select cluster will run, and that you have a vCenter account with administrative privileges to deploy the cluster.

Deploying an ONTAP Select cluster using the web user interface

You can use the ONTAP Select Deploy web user interface to deploy a cluster.

1. Sign in to the Deploy utility through the web interface using the IP address of the Deploy virtual machine and administrator account. The first time you sign in, provide the password you set during installation and change the password when prompted.
2. Confirm that you have met the configuration requirements and prerequisites as described in the **Welcome to ONTAP Select** popup window and click **OK**.
3. On the **Getting Started** page, define a hypervisor host and click **Add**. You can add the ESXi host directly or by connecting to a vCenter server.
4. If needed, repeat step 3 to add three additional hosts (four-node cluster) or one additional host (two-node cluster). Refresh the page to confirm that the **Type** value for every host is **ESX**.
5. Click **Next** to begin the multi-step cluster creation process.
6. In the **Cluster Details** section of the page, provide all the required information describing the cluster, including evaluation licensing, and click **Done**.
7. In the **Setup HA Pair 1** (multi-node cluster) or **Setup Host** (single-node cluster) section of the page, click **Select Hosts**.
8. In the **Select hosts for the HA pair** popup window, select the hypervisor configuration instance (Small) and datastore capacity that applies to the host(s).
9. Select two hosts (multi-node cluster) or one host (single-node cluster) from the list and click **Done**.
10. Click **Configure Hosts** and select the networks and datastores for the host(s) and click **Done**.
11. If you are deploying a four-node cluster:
 - a. In the **Setup HA Pair 2** section of the page, click **Select Hosts**.
 - b. Configure the second HA pair following the same steps used for the first HA pair.
12. Click **Configure Network** and provide all the network configuration parameters for the cluster network in the **Configure Network** window and click **Done**.
13. Review and confirm the configuration of the cluster; you can change the configuration by clicking **Edit** in the applicable section.
14. If you are deploying a multi-node cluster, run the network connectivity checker to test the connectivity among the nodes on the internal cluster network.
15. Click **Create Cluster** to begin the cluster creation process and then click **OK** in the **Cluster create operation started** popup window. It can take up to 30 minutes for the cluster to be created.
16. Select **View Clusters** and on the **Clusters** page select the new cluster and monitor the four-step cluster creation process.

The page is automatically refreshed at regular intervals. Notice that three tabs are now available at the top of the page: **Clusters**, **Hypervisor Hosts**, **Administration**.

Deploying an ONTAP Select cluster using the command line interface

You can use the ONTAP Select Deploy CLI to deploy a cluster.

1. Sign in to the Deploy utility CLI using SSH with the administrator account. The first time you sign in, provide the password you set installation and change the password when prompted.
2. Add the host where the cluster will run:

```
host add --host-id FQDN_hostname --username vcenter_username  
--password password --vcenter vcenter_hostname
```

Example:

```
host add --host-id shost01.select.mycompany.com --username  
admin@vsphere.local --password mypwd --vcenter vc01.select.mycompany.com
```

3. Verify the host status is authenticated:

```
host show --host-id hostname
```

4. Configure the host:

```
host configure --host-id hostname --location location  
--storage-pool name --internal-network name --management-network name  
--data-network name --instance-type type --eval
```

Example:

```
host configure --host-id shost01.select.mycompany.com  
--location coco --storage-pool shost01_1 --internal-network shost01_inetwork  
--management-network shost01_mnetwork --data-network shost01_mnetwork  
--instance-type small --eval
```

5. Verify the host status is configured:

```
host show --host-id hostname
```

6. If needed, repeat steps 2 through 5 to add and configure three additional hosts (four-node cluster) or one additional host (two-node cluster). You must make sure that the parameters on the host add and host configure commands are correct for each of the hosts, including:
--storage pool --management-network --data-network

7. Create a four-node cluster:

```
cluster create --name cluster_name --cluster-mgmt-ip address  
--node-mgmt-ips address(4) --netmask mask --gateway address  
--node-names node_name(4) --node-hosts host_name(4)  
--node-mirrors ha1_node1 ha1_node2 ha2_node1 ha2_node2
```

Example:

```
cluster create --name my-cluster01 --cluster-mgmt-ip 10.96.141.17  
--node-mgmt-ips 10.96.141.25 10.96.141.26 10.96.141.27 10.96.141.28  
--netmask 255.255.248.0 --gateway 10.96.141.1 --node-names snode01 snode02  
snode03 snode04 --node-hosts shost01.select.mycompany.com  
shost02.select.mycompany.com shost03.select.mycompany.com  
shost04.select.mycompany.com --node-mirrors snode01 snode02 snode03 snode04
```

Note: To create a two-node cluster, use the same command with only two values for the following parameters: --node-mgmt-ips --node-names --node-hosts

Note: To create a single-node cluster, use the same command with only one value for the following parameters: --node-mgmt-ips --node-names --node-hosts

8. Display the ONTAP Select cluster and verify all settings:

```
cluster show-all
```

Support for evaluation deployments

You should refer to the [NetApp Community](#) site for support. Click **ONTAP Select** to start a discussion and to see all the postings related to ONTAP Select.

For more information

- [NetApp Technical Report 4517: ONTAP Select Product architecture and Best Practices](#)
- [ONTAP Select Resources portal](#)
- [NetApp Community](#)