



# Workflow 1: Creating a single-node evaluation cluster on ESXi

## ONTAP Select

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# Workflow 1: Creating a single-node evaluation cluster on ESXi

You can deploy a single-node ONTAP Select cluster on a VMware ESXi host managed by vCenter. The cluster is created with an evaluation license.

The cluster creation workflow differs in the following situations:

- The ESXi host is not managed by vCenter (standalone host)
- Multiple nodes or hosts are used within the cluster
- Cluster is deployed in a production environment with a purchased license
- The KVM hypervisor is used instead of VMware ESXi

## 1. Register vCenter server credential

When deploying to an ESXi host managed by a vCenter server, you must add a credential before registering the host. The Deploy administration utility can then use the credential to authenticate to vCenter.

Category	HTTP verb	Path
Deploy	POST	/security/credentials

### Curl

```
curl -iX POST -H 'Content-Type: application/json' -u admin:admin123 -k -d @step01  
'https://10.21.191.150/api/security/credentials'
```

### JSON input (step01)

```
{  
  "hostname": "vcenter.company-demo.com",  
  "type": "vcenter",  
  "username": "misteradmin@vsphere.local",  
  "password": "mypassword"  
}
```

### Processing type

Asynchronous

### Output

- Credential ID in the location response header

- Job object

## 2. Register a hypervisor host

You must add a hypervisor host where the virtual machine containing the ONTAP Select node will run.

Category	HTTP verb	Path
Cluster	POST	/hosts

### Curl

```
curl -iX POST -H 'Content-Type: application/json' -u admin:admin123 -k -d @step02  
'https://10.21.191.150/api/hosts'
```

### JSON input (step02)

```
{  
  "hosts": [  
    {  
      "hypervisor_type": "ESX",  
      "management_server": "vcenter.company-demo.com",  
      "name": "esx1.company-demo.com"  
    }  
  ]  
}
```

### Processing type

Asynchronous

### Output

- Host ID in the location response header
- Job object

## 3. Create a cluster

When you create an ONTAP Select cluster, the basic cluster configuration is registered and the node names are automatically generated by Deploy.

Category	HTTP verb	Path
Cluster	POST	/clusters

### Curl

The query parameter `node_count` should be set to 1 for a single-node cluster.

```
curl -iX POST -H 'Content-Type: application/json' -u admin:admin123 -k -d @step03  
'https://10.21.191.150/api/clusters? node_count=1'
```

### JSON input (step03)

```
{  
  "name": "my_cluster"  
}
```

### Processing type

Synchronous

### Output

- Cluster ID in the location response header

## 4. Configure the cluster

There are several attributes you must provide as part of configuring the cluster.

Category	HTTP verb	Path
Cluster	PATCH	/clusters/{cluster_id}

### Curl

You must provide the cluster ID.

```
curl -iX PATCH -H 'Content-Type: application/json' -u admin:admin123 -k -d @step04  
'https://10.21.191.150/api/clusters/CLUSTERID'
```

### JSON input (step04)

```
{  
  "dns_info": {  
    "domains": ["lab1.company-demo.com"],  
    "dns_ips": ["10.206.80.135", "10.206.80.136"]  
  },  
  "ontap_image_version": "9.5",  
  "gateway": "10.206.80.1",  
  "ip": "10.206.80.115",  
  "netmask": "255.255.255.192",  
  "ntp_servers": {"10.206.80.183"}  
}
```

**Processing type**

Synchronous

**Output**

None

## 5. Retrieve the node name

The Deploy administration utility automatically generates the node identifiers and names when a cluster is created. Before you can configure a node, you must retrieve the assigned ID.

Category	HTTP verb	Path
Cluster	GET	/clusters/{cluster_id}/nodes

**Curl**

You must provide the cluster ID.

```
curl -iX GET -u admin:admin123 -k  
'https://10.21.191.150/api/clusters/CLUSTERID/nodes?fields=id,name'
```

**Processing type**

Synchronous

**Output**

- Array records each describing a single node with the unique ID and name

## 6. Configure the nodes

You must provide the basic configuration for the node, which is the first of three API calls used to configure a node.

Category	HTTP verb	Path
Cluster	PATH	/clusters/{cluster_id}/nodes/{node_id}

**Curl**

You must provide the cluster ID and node ID.

```
curl -iX PATCH -H 'Content-Type: application/json' -u admin:admin123 -k -d @step06  
'https://10.21.191.150/api/clusters/CLUSTERID/nodes/NODEID'
```

### JSON input (step06)

You must provide the host ID where the ONTAP Select node will run.

```
{
  "host": {
    "id": "HOSTID"
  },
  "instance_type": "small",
  "ip": "10.206.80.101",
  "passthrough_disks": false
}
```

### Processing type

Synchronous

### Output

None

## 7. Retrieve the node networks

You must identify the data and management networks used by the node in the single-node cluster. The internal network is not used with a single-node cluster.

Category	HTTP verb	Path
Cluster	GET	/clusters/{cluster_id}/nodes/{node_id}/networks

### Curl

You must provide the cluster ID and node ID.

```
curl -iX GET -u admin:admin123 -k 'https://10.21.191.150/api/
clusters/CLUSTERID/nodes/NODEID/networks?fields=id,purpose'
```

### Processing type

Synchronous

### Output

- Array of two records each describing a single network for the node, including the unique ID and purpose

## 8. Configure the node networking

You must configure the data and management networks. The internal network is not used with a single-node cluster.



Issue the following API call two times, once for each network.

Category	HTTP verb	Path
Cluster	PATCH	/clusters/{cluster_id}/nodes/{node_id}/networks/{network_id}

### Curl

You must provide the cluster ID, node ID, and network ID.

```
curl -iX PATCH -H 'Content-Type: application/json' -u admin:admin123 -k -d @step08  
'https://10.21.191.150/api/clusters/ CLUSTERID/nodes/NODEID/networks/NETWORKID'
```

### JSON input (step08)

You need to provide the name of the network.

```
{  
  "name": "sDOT_Network"  
}
```

### Processing type

Synchronous

### Output

None

## 9. Configure the node storage pool

The final step in configuring a node is to attach a storage pool. You can determine the available storage pools through the vSphere web client, or optionally through the Deploy REST API.

Category	HTTP verb	Path
Cluster	PATCH	/clusters/{cluster_id}/nodes/{node_id}/networks/{network_id}

### Curl

You must provide the cluster ID, node ID, and network ID.



```
curl -iX PATCH -H 'Content-Type: application/json' -u admin:admin123 -k -d @step09
'https://10.21.191.150/api/clusters/ CLUSTERID/nodes/NODEID'
```

### JSON input (step09)

The pool capacity is 2 TB.

```
{
  "pool_array": [
    {
      "name": "sDOT-01",
      "capacity": 2147483648000
    }
  ]
}
```

### Processing type

Synchronous

### Output

None

## 10. Deploy the cluster

After the cluster and node have been configured, you can deploy the cluster.

Category	HTTP verb	Path
Cluster	POST	/clusters/{cluster_id}/deploy

### Curl

You must provide the cluster ID.

```
curl -iX POST -H 'Content-Type: application/json' -u admin:admin123 -k -d @step10
'https://10.21.191.150/api/clusters/CLUSTERID/deploy'
```

### JSON input (step10)

You must provide the password for the ONTAP administrator account.

```
{  
  "ontap_credentials": {  
    "password": "mypassword"  
  }  
}
```

**Processing type**

Asynchronous

**Output**

- Job object

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