Set up the cluster manually

System Manager Classic

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Setting up the cluster manually

You can use System Manager to manually setup the cluster by creating a cluster, setting up the node management and cluster management networks, and setting up event notifications.

Create a cluster

You can use ONTAP System Manager to create and set up a cluster in your data center.

About this task

If the cluster supports ONTAP 9.1 or later, you can add only those storage systems that are running ONTAP 9.1 or later.

Steps

1. Open the web browser, and then enter the node management IP address that you have configured: `https://node-management-IP`
   - If you have set up the credentials for the cluster, the Login page is displayed.

     You must enter the credentials to log in.
   - If you have not set up the credentials for the cluster, the Guided Setup window is displayed.

     Click the **Guided Setup** icon to set up a cluster.
2. In the **Cluster** page, enter a name for the cluster.

   If all the nodes are not discovered, click **Refresh**.

   The nodes in that cluster network are displayed in the Nodes field.
3. If desired, update the node names in the **Nodes** field.
4. Enter the password for the cluster.
5. Enter the feature license keys.
6. Click **Submit**.

What to do next

Enter the network details in the Network page to continue with the cluster setup.

Related information

Licenses window

Configuration Updates window

Setting up a network

By setting up a network, you can manage your cluster, nodes, and Service Processors. You can also set up DNS and NTP details by using the network window.

Before you begin

You must have set up the cluster.

About this task

- Only those nodes that are up and running are listed for cluster creation.

  You can create LIFs for those nodes.

- You can disable IP address range and enter individual IP addresses for cluster management, node management, and Service Processor management networks.

Setting up a network when an IP address range is enabled

You can set up a network by enabling an IP address range. The IP address range enables you to enter IP addresses that are in the same netmask range or in the different netmask range.

Steps

1. Enter a range of IP addresses in the **IP Address Range** field, and then click **Apply**.

Option	Description
You have a range of IP addresses in the same netmask	Enter the IP address range, and then click **Apply**. IP addresses are applied to cluster management, node management, and Service Processor management networks sequentially.
You have a range of IP addresses in different netmasks	Enter each IP address range on a separate line, and then click **Apply**. The first IP address applied to cluster management and other IP addresses are applied to node management and Service Processor management networks sequentially.

> After entering the IP address range for cluster management, node management, and Service Processor management, you must not manually modify the IP address values in these fields. You must ensure that all the IP addresses are IPv4 addresses.

2. Enter the netmask and gateway details.
3. Select the port for cluster management in the **Port** field.
4. If the **Port** field in the node management is not populated with **e0M**, enter the port details.

> By default, the Port field displays e0M.

5. For Service Processor management, if you are overriding the default values, ensure that you have entered

the mandatory gateway details.

6. If you have enabled the **DNS Details** field, enter the DNS server details.
7. If you have enabled the **NTP Details** field, enter the NTP server details.

   Providing alternative NTP server details is optional.

8. Click **Submit**.

What to do next

Enter event notifications in the Support page to continue with the cluster setup.

Related information

What is a Service Processor and how do I use it?

How to configure and troubleshoot NTP on clustered Data ONTAP 8.2 and later using CLI

ONTAP 9 Documentation Center

Setting up a network when an IP address range is disabled

You can set up a network by disabling an IP address range and entering individual IP addresses for cluster management, node management, and service provider networks.

About this task

In the Networks page, if the **IP Address Range** is disabled, enter individual IP addresses for cluster management, node management, and service processor networks.

Steps

1. Enter the cluster management IP address in the **Cluster Management IP Address** field.
2. Enter the netmask details for cluster management.
3. Enter the gateway details for cluster management.
4. Select the port for cluster management in the **Port** field.
5. If you want to provide netmask and gateway details to manage your nodes, clear the **Retain Netmask and Gateway configuration of the Cluster Management** check box, and then enter the netmask and gateway details.
6. Enter the node management IP addresses in the **Node Management** field.
7. If the **Port** field in the node management is not populated with **e0M**, enter the port details.

   By default, the Port field displays e0M.

8. Enter the Service Processor management netmask and gateway details.
9. Enter the Service Processor IP management addresses in the **Service Processor Management** field.
10. If you have enabled the **DNS Details** field, enter the DNS server details.
11. If you have enabled the **NTP Details** field, enter the NTP server details.

Providing alternative NTP server details is optional.

12. Click **Submit**.

What to do next

Enter event notifications in the Support page to continue with the cluster setup.

Related information

What is a Service Processor and how do I use it?

How to configure and troubleshoot NTP on clustered Data ONTAP 8.2 and later using CLI

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Network window

Configuration Updates window

Date and Time window

Service Processors window

Setting up a support page

Setting up the support page completes the cluster setup, and involves setting up event notifications, and for single-node clusters, configuring system backup.

Before you begin

You must have set up the cluster and network.

Steps

1. Set up the event notifications by using the mailhost, or SNMP trap host, or Syslog server.

   You must set up at least one event notification system.

2. If you have a single-node cluster, configure a system backup on an FTP server or on an HTTP server.

   System backup is applicable only for single-node clusters.

3. Click **Submit and continue**.

What to do next

View the storage recommendations and create SVMs to continue with the cluster setup.

Reviewing storage recommendations

Using the Storage window, you can review the storage recommendations that are provided for creating aggregates.

Before you begin

You must have set up the cluster, network, and the support details.

About this task

You can create data aggregates per the storage recommendations or you can skip this step and create data aggregates at a later time using System Manager.

Procedure

- To create data aggregates as per the storage recommendations, click **Submit and Continue**.
- To create data aggregates at a later time using System Manager, click **Skip this step**.

What to do next

If you opted to create aggregates per the storage recommendations, you must create a storage virtual machine (SVM) to continue with the cluster setup.

Create an SVM

You can use the Storage Virtual Machine (SVM) window to create fully configured SVMs. The SVMs serve data after storage objects are created on these SVMs.

Before you begin

- You must have created an aggregate and the aggregate must be online.
- You must have ensured that the aggregate has sufficient space for the SVM root volume.

Steps

1. Enter a name for the SVM.
2. Select data protocols for the SVM:

If you want to…	Then…
Enable CIFS protocol by configuring the CIFS server using an Active Directory	a. Select the **Active Directory** box. b. Enter the Active Directory administrator name. c. Enter the Active Directory administrator password. d. Enter a name for the CIFS server. e. Enter a name for the Active Directory domain. f. Depending on your requirements, select the **One data LIF on this SVM** or **One data LIF per node on this SVM** box. g. Provide data LIF details such as IP address, netmask, gateway, and port. h. Provide DNS details.

If you want to…	Then…
Enable CIFS protocol by configuring the CIFS server using a workgroup	a. Select the **Workgroup** box. b. Enter a name for the workgroup. c. Enter a name for the CIFS server. d. Depending on your requirements, select the **One data LIF on this SVM** or **One data LIF per node on this SVM** check box. e. Provide data LIF details such as IP address, netmask, gateway, and port.
Enable NFS protocol	a. Select the **NFS** box. b. Depending on your requirements, select the **One data LIF on this SVM** or **One data LIF per node on this SVM** check box. c. Provide data LIF details such as IP address, netmask, gateway, and port.
Enable iSCSI protocol	a. Select the **iSCSI** box. b. Provide data LIF details such as IP address, netmask, gateway, and port.
Enable FC/FCoE protocol	a. Select the **FC/FCoE** box. b. Select the FC/FCoE ports for FC or FCoE protocols. Each node must have at least one correctly configured port for each protocol (FC and FCoE).
Enable NVMe protocol	a. Select the **NVMe** box. b. Select the NVMe ports for NVMe protocols. At least one NVMe capable adapter must be available in one of the nodes to configure NVMe. Also, starting with ONTAP 9.5, at least one NVMe LIF must be configured for each node of a HA pair associated with the SVM. You can create a maximum of two NVMe LIFs for each node in the pair. +

3. Click the **Advanced Options** icon and provide details to configure advanced options such as the default language, security style, CIFS server details, and NFS details.
4. Click **Submit and Continue** to create the SVM.

What to do next

If you have clicked **Submit and Continue**, you must verify the details that you have provided in the Summary window, and then click **Manage your Cluster** to launch System Manager, or click **Provision an Application** to provision storage applications, or click **Export Configuration** to download the configuration file.

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