



Configuring ONTAP on a system that uses only array LUNs

ONTAP MetroCluster

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Configuring ONTAP on a system that uses only array LUNs

If you want to configure ONTAP for use with array LUNs, you must configure the root aggregate and root volume, reserve space for diagnostics and recovery operations, and set up the cluster.

- The ONTAP system must be connected to the storage array.
- The storage array administrator must have created LUNs and presented them to ONTAP.
- The storage array administrator must have configured the LUN security.

You must configure each node that you want to use with array LUNs. If the node is in an HA pair, then you must complete the configuration process on one node before proceeding with the configuration on the partner node.

Steps

1. Power on the primary node and interrupt the boot process by pressing Ctrl-C when you see the following message on the console: Press CTRL-C for special boot menu.
2. Select option 4 (Clean configuration and initialize all disks) on the boot menu.

The list of array LUNs made available to ONTAP is displayed. In addition, the array LUN size required for root volume creation is also specified. The size required for root volume creation differs from one ONTAP system to another.

- If no array LUNs were previously assigned, ONTAP detects and displays the available array LUNs, as shown in the following example:

```

mcc8040-ams1::> disk show NET-1.6 -instance
      Disk: NET-1.6
      Container Type: aggregate
      Owner/Home: mcc8040-ams1-01 / mcc8040-ams1-01
      DR Home: -
      Stack ID/Shelf/Bay: - / - / -
      LUN: 0
      Array: NETAPP_INF_1
      Vendor: NETAPP
      Model: INF-01-00
      Serial Number: 60080E50004317B40000003B158E35974
      UID:
60080E50:004317B4:0000003B1:58E35974:00000000:00000000:00000000:000000
00:00000000:00000000
      BPS: 512
      Physical Size: 87.50GB
      Position: data
      Checksum Compatibility: block
      Aggregate: eseries
      Plex: plex0

Paths:

      LUN  Initiator Side      Target
Side                               Link
Controller      Initiator      ID  Switch Port      Switch
Port            Acc Use  Target Port      TPGN      Speed
I/O KB/s            IOPS
-----
-----
-----
mcc8040-ams1-01      2c              0  mccb6505-ams1:16      mccb6505-
ams1:18      AO  INU  20330080e54317b4      1  4 Gb/S
0              0
mcc8040-ams1-01      2a              0  mccb6505-ams1:17      mccb6505-
ams1:19      ANO RDY  20320080e54317b4      0  4 Gb/S
0              0

Errors:
-
```

- If array LUNs were previously assigned, for example, through the maintenance mode, they are either marked local or partner in the list of the available array LUNs, depending on whether the array LUNs were selected from the node on which you are installing ONTAP or its HA partner:

In this example, array LUNs with index numbers 3 and 6 are marked local because they had been previously assigned from this particular node:

```
*****
*
* No disks are owned by this node, but array LUNs are assigned.
*
* You can use the following information to verify connectivity from
*
* HBAs to switch ports. If the connectivity of HBAs to switch ports
*
* does not match your expectations, configure your SAN and rescan.
*
* You can rescan by entering 'r' at the prompt for selecting
*
* array LUNs below.
```

	HBA	HBA WWPN	Switch port	Switch port
WWPN	---	-----	-----	

	0e	500a098001baf8e0	vgbr6510s203:25	
20190027f88948dd				
	0f	500a098101baf8e0	vgci9710s202:1-17	
2011547feeead680				
	0g	500a098201baf8e0	vgbr6510s203:27	
201b0027f88948dd				
	0h	500a098301baf8e0	vgci9710s202:1-18	
2012547feeead680				

The array LUNs visible to the system are listed below. Select one array LUN to be used to create the root aggregate and root volume. **The root volume requires 350.0 GB of space.**

Index	Array LUN Name	Model	Vendor	Size	Owner
Checksum	Serial Number				
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----

0	vgci9710s202:2-24.0L19	RAID5	DGC	217.3 GB	
Block	6006016083402B0048E576D7				
1	vgbr6510s203:30.126L20	RAID5	DGC	217.3 GB	
Block	6006016083402B0049E576D7				
2	vgci9710s202:2-24.0L21	RAID5	DGC	217.3 GB	
Block	6006016083402B004AE576D7				
3	vgbr6510s203:30.126L22	RAID5	DGC	405.4 GB	local
Block	6006016083402B004BE576D7				
4	vgci9710s202:2-24.0L23	RAID5	DGC	217.3 GB	
Block	6006016083402B004CE576D7				
5	vgbr6510s203:30.126L24	RAID5	DGC	217.3 GB	
Block	6006016083402B004DE576D7				
6	vgbr6510s203:30.126L25	RAID5	DGC	423.5 GB	local
Block	6006016083402B003CF93694				
7	vgci9710s202:2-24.0L26	RAID5	DGC	423.5 GB	
Block	6006016083402B003DF93694				

3. Select the index number corresponding to the array LUN you want to assign as the root volume.

The array LUN must be of sufficient size to create the root volume.

The array LUN selected for root volume creation is marked local (root).

In the following example, the array LUN with index number 3 is marked for root volume creation:

The root volume will be created on switch 0:5.183L33.

ONTAP requires that 11.0 GB of space be reserved for use in diagnostic and recovery operations. Select one array LUN to be used as spare for diagnostic and recovery operations.

Index	Array LUN Name	Model	Vendor	Size	Owner
Checksum	Serial Number				
-----	-----	-----	-----	-----	-----
0	switch0:5.183L1	SYMMETRIX	EMC	266.1 GB	
Block	600604803436313734316631				
1	switch0:5.183L3	SYMMETRIX	EMC	266.1 GB	
Block	600604803436316333353837				
2	switch0:5.183L31	SYMMETRIX	EMC	266.1 GB	
Block	600604803436313237643666				
3	switch0:5.183L33	SYMMETRIX	EMC	658.3 GB	local (root)
Block	600604803436316263613066				
4	switch0:7.183L0	SYMMETRIX	EMC	173.6 GB	
Block	600604803436313261356235				
5	switch0:7.183L2	SYMMETRIX	EMC	173.6 GB	
Block	600604803436313438396431				
6	switch0:7.183L4	SYMMETRIX	EMC	658.3 GB	
Block	600604803436313161663031				
7	switch0:7.183L30	SYMMETRIX	EMC	173.6 GB	
Block	600604803436316538353834				
8	switch0:7.183L32	SYMMETRIX	EMC	266.1 GB	
Block	600604803436313237353738				
9	switch0:7.183L34	SYMMETRIX	EMC	658.3 GB	
Block	600604803436313737333662				

4. Select the index number corresponding to the array LUN you want to assign for use in diagnostic and recovery options.

The array LUN must be of sufficient size for use in diagnostic and recovery options. If required, you can also select multiple array LUNs with a combined size greater than or equal to the specified size. To select multiple entries, you must enter the comma-separated values of all of the index numbers corresponding to the array LUNs you want to select for diagnostic and recovery options.

The following example shows a list of array LUNs selected for root volume creation and for diagnostic and recovery options:

Here is a list of the selected array LUNs

Index	Array LUN Name	Model	Vendor	Size	Owner
Checksum	Serial Number				
-----	-----	-----	-----	-----	-----
2	switch0:5.183L31	SYMMETRIX	EMC	266.1 GB	local
Block	600604803436313237643666				
3	switch0:5.183L33	SYMMETRIX	EMC	658.3 GB	local (root)
Block	600604803436316263613066				
4	switch0:7.183L0	SYMMETRIX	EMC	173.6 GB	local
Block	600604803436313261356235				
5	switch0:7.183L2	SYMMETRIX	EMC	173.6 GB	local
Block	600604803436313438396431				

Do you want to continue (yes|no)?



Selecting “no” clears the LUN selection.

5. Enter **y** when prompted by the system to continue with the installation process.

The root aggregate and the root volume are created and the rest of the installation process continues.

6. Enter the required details to create the node management interface.

The following example shows the node management interface screen with a message confirming the creation of the node management interface:

Welcome to node setup.

You can enter the following commands at any time:

"help" or "?" - if you want to have a question clarified,
"back" - if you want to change previously answered questions, and
"exit" or "quit" - if you want to quit the setup wizard.
Any changes you made before quitting will be saved.

To accept a default or omit a question, do not enter a value.

Enter the node management interface port [e0M]:

Enter the node management interface IP address: 192.0.2.66

Enter the node management interface netmask: 255.255.255.192

Enter the node management interface default gateway: 192.0.2.7

A node management interface on port e0M with IP address 192.0.2.66 has been created.

This node has its management address assigned and is ready for cluster setup.

After configuring ONTAP on all of the nodes that you want to use with array LUNs, you should complete the cluster setup process.

[Software setup](#)

Related information

[FlexArray virtualization installation requirements and reference](#)

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