Provision NAS storage for Linux servers using NFS

ONTAP 9

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Create volumes to provide storage for Linux servers using the NFS protocol.

This procedure creates new volumes on an existing NFS-enabled storage VM. You can accept system defaults when configuring volumes or specify custom configurations.

You can create FlexVol volumes, or for large file systems with high performance requirements, you can create FlexGroup volumes. See also Provision NAS storage for large file systems using FlexGroup volumes.

You can also save the specifications of this volume to an Ansible Playbook. For more details, go to Use Ansible Playbooks to add or edit volumes or LUNs.

Steps

1. Add a new volume in an NFS-enabled storage VM.
   a. Click **Storage > Volumes** and then click **Add**.
   b. Enter a name, select the storage VM, and enter a size.

      Only storage VMs configured with the NFS protocol are listed. If only one storage VM configured with the SMB protocol is available, the **Storage VM** field is not shown.

      - If you click **Save** at this point, System Manager uses system defaults to create and add a FlexVol volume.

        The default export policy grants full access to all users.

      - You can click **More options** to customize the configuration of the volume to enable services such as authorization, quality of service, and data protection. Refer to Customize the volume configuration, then return here to complete the following steps.
2. On a Linux client, do the following to verify access.
   a. Create and mount the volume using the network interface of the storage VM.
   b. On the newly mounted volume, create a test file, write text to it, and then delete the file.

   After verifying access, you can restrict client access with the volume's export policy and set any desired UNIX ownership and permissions on the mounted volume.

Customize the volume configuration

You can customize the volume configuration when you add volumes instead of accepting the system defaults.

Procedure

After clicking **More options**, select the functionality you need and enter the required values.

- Cache for remote volume.
- Performance service level (quality of service, QoS).

  Starting with ONTAP 9.8, you can specify a Custom QoS policy or disable QoS, in addition to the default

Value selection.

  - To disable QoS, select **Custom**, **Existing**, then **none**.
  - If you select **Custom** and specify an existing service level, a local tier is automatically chosen.
  - Starting with ONTAP 9.9.1, if you choose to create a custom performance service level, you can use System Manager to manually select the local tier (**Manual placement**) on which you want to place the volume you are creating.

    This option is not available if you select the remote cache or FlexGroup volume options.

- FlexGroup volumes (select **Distribute volume data across the cluster**).

  This option is not available if you previously selected **Manual placement** under **Performance Service Level**. Otherwise, the volume you are adding becomes a FlexVol volume by default.

- Access permissions for the protocols for which the volume is configured.
- Data protection with SnapMirror (local or remote), then specify the protection policy and settings for the destination cluster from the pull-down lists.
- Click **Save** to create the volume and add it to the cluster and storage VM.

After you save the volume, return to Step 2 in the workflow to complete provisioning for Linux servers using NFS.