Enable NAS storage
ONTAP 9
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Enable NAS storage

Enable NAS storage for Linux servers using NFS

Create or modify storage VMs to enable NFS servers for serving data to Linux clients.

This procedure enables a new or existing storage VM for the NFS protocol. It is assumed that configuration details are available for any networking, authentication, or security services required in your environment.

Steps

1. Enable NFS on a storage VM.
   a. For new storage VMs: click Storage > Storage VMs, click Add, enter a storage VM name, and in the SMB/CIFS, NFS, S3 tab, select Enable NFS.
      ▪ Confirm the default language.
      ▪ Add network interfaces.
      ▪ Update storage VM administrator account information (optional).
   b. For existing storage VMs: click Storage > Storage VMs, select a storage VM, click Settings, and then click under NFS.

2. Open the export policy of the storage VM root volume:
   a. Click Storage > Volumes, select the root volume of the storage VM (which by default is volume-name_root), and then click on the policy that is displayed under Export Policy.
   b. Click Add to add a rule.
      ▪ Client specification = 0.0.0.0/0
      ▪ Access protocols = NFS
      ▪ Access details = UNIX Read-Only

3. Configure DNS for host-name resolution: click Storage > Storage VMs, select the storage VM, click Settings, and then click under DNS.

4. Configure name services as required.
   a. Click Storage > Storage VMs, select the storage VM, click Settings, and then click for LDAP or NIS.
   b. Include any changes in the name services switch file: click in the Name Services Switch tile.

5. Configure Kerberos if required:
   a. Click Storage > Storage VMs, select the storage VM, and then click Settings.
   b. Click in the Kerberos tile and then click Add.
Enable NAS storage for Windows servers using SMB

Create or modify storage VMs to enable SMB servers for serving data to Windows clients.

This procedure enables a new or existing storage VM for the SMB protocol. It is assumed that configuration details are available for any networking, authentication, or security services required in your environment.

Steps

1. Enable SMB on a storage VM.
   a. For new storage VMs: click Storage > Storage VMs, click Add, enter a storage VM name, and in the SMB/CIFS, NFS, S3 tab, select Enable SMB/CIFS.
      • Enter the following information:
        ▪ Administrator name and password
        ▪ Server name
        ▪ Active directory domain
        ▪ Confirm the Organizational Unit.
        ▪ Confirm the DNS values.
        ▪ Confirm the default language.
        ▪ Add network interfaces.
        ▪ Update storage VM administrator account information (optional).
   b. For existing storage VMs: click Storage > Storage VMs, select a storage VM, click Settings, and then click under SMB.

2. Open the export policy of the storage VM root volume:
   a. Click Storage > Volumes, select the root volume of the storage VM (which by default is volume-name_root), and then click on the policy that is displayed under Export Policy.
   b. Click Add to add a rule.
      • Client specification = 0.0.0.0/0
      • Access protocols = SMB
      • Access details = NTFS Read-Only

3. Configure DNS for host-name resolution:
   a. Click Storage > Storage VMs, select the storage VM, click Settings, and then click under DNS.
   b. Switch to the DNS server and map the SMB server.
      • Create forward (A - Address record) and reverse (PTR - Pointer record) lookup entries to map the SMB server name to the IP address of the data network interface.
      • If you use NetBIOS aliases, create an alias canonical name (CNAME resource record) lookup entry to map each alias to the IP address of the SMB server’s data network interface.
4. Configure name services as required
   a. Click **Storage > Storage VMs**, select the storage VM, click **Settings**, and then click ⚙️ under LDAP or NIS.
   b. Include any changes in the name services switch file: click ⚙️ under **Name Services Switch**.

5. Configure Kerberos if required:
   a. Click **Storage > Storage VMs**, select the storage VM, and then click **Settings**.
   b. Click → under **Kerberos** and then click **Add**.

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**Enable NAS storage for both Windows and Linux using both NFS and SMB**

Create or modify storage VMs to enable NFS and SMB servers to serve data to Linux and Windows clients.

This procedure enables a new or existing storage VM to serve both NFS and SMB protocols. It is assumed that configuration details are available for any networking, authentication, or security services required in your environment.

![Flowchart of steps](image)

**Steps**

1. Enable NFS and SMB on a storage VM.
   a. For new storage VMs: click **Storage > Storage VMs**, click **Add**, enter a storage VM name, and in the **SMB/CIFS, NFS, S3** tab, select **Enable SMB/CIFS** and **Enable NFS**.
      - Enter the following information:
        - Administrator name and password
        - Server name
        - Active directory domain
        - Confirm the Organizational Unit.
        - Confirm the DNS values.
        - Confirm the default language.
        - Add network interfaces.
        - Update storage VM administrator account information (optional).
   b. For existing storage VMs: click **Storage > Storage VMs**, select a storage VM, and then click **Settings**. Complete the following sub-steps if NFS or SMB is not already enabled.
      - Click ⚙️ under **NFS**.
      - Click ⚙️ under **SMB**.

2. Open the export policy of the storage VM root volume:
   a. Click **Storage > Volumes**, select the root volume of the storage VM (which by default is `volume-name_root`), and then click on the policy that is displayed under **Export Policy**.
b. Click Add to add a rule.
   ▪ Client specification = 0.0.0.0/0
   ▪ Access protocols = NFS
   ▪ Access details = NFS Read-Only

3. Configure DNS for host-name resolution:
   a. Click Storage > Storage VMs, select the storage VM, click Settings, and then click under DNS.
   b. When DNS configuration is complete, switch to the DNS server and map the SMB server.
      ▪ Create forward (A - Address record) and reverse (PTR - Pointer record) lookup entries to map the
        SMB server name to the IP address of the data network interface.
      ▪ If you use NetBIOS aliases, create an alias canonical name (CNAME resource record) lookup entry
        to map each alias to the IP address of the SMB server’s data network interface.

4. Configure name services as required:
   a. Click Storage > Storage VMs, select the storage VM, click Settings, and then click for LDAP or
      NIS.
   b. Include any changes in the name services switch file: click under Name Services Switch.

5. Configure Kerberos if required: click in the Kerberos tile and then click Add.

6. Map UNIX and Windows user names if required: click under Name Mapping and then click Add.

You should use this procedure only if your site has Windows and UNIX user accounts that do not map
implicitly, which is when the lowercase version of each Windows user name matches the UNIX user name.
This procedure can be done using LDAP, NIS, or local users. If you have two sets of users that do not
match, you should configure name mapping.
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