



# Secure client access with Kerberos

## ONTAP System Manager

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January 13, 2020

This PDF was generated from [https://docs.netapp.com/us-en/ontap/task\\_nas\\_secure\\_client\\_access\\_with\\_kerberos.html](https://docs.netapp.com/us-en/ontap/task_nas_secure_client_access_with_kerberos.html) on October 12, 2020. Always check docs.netapp.com for the latest.



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# Secure client access with Kerberos

Enable Kerberos to secure storage access for NAS clients.

This procedure configures Kerberos on an existing storage VM enabled for [NFS](#) or [SMB](#). It is assumed that you have already configured DNS, NTP, and [LDAP](#) on the storage system.



## Steps

1. At the ONTAP command line, set UNIX permissions for the storage VM root volume.
  - a. Display the relevant permissions on the storage VM root volume: `volume show -volume root_vol_name-fields user,group,unix-permissions`

The root volume of the storage VM must have the following configuration:

| Name...          | Setting...   |
|------------------|--------------|
| UID              | root or ID 0 |
| GID              | root or ID 0 |
| UNIX permissions | 755          |

- b. If these values are not shown, use the `volume modify` command to update them.
2. Set user permissions for the storage VM root volume.
    - a. Display the local UNIX users: `vserver services name-service unix-user show -vserver vserver_name`

The storage VM should have the following UNIX users configured:



| User name | User ID | Primary group ID |
|-----------|---------|------------------|
| nfs       | 500     | 0                |
| root      | 0       | 0                |

**Note:** The NFS user is not required if a Kerberos-UNIX name mapping exists for the SPN of the NFS client user; see step 5.

- b. If these values are not shown, use the `vserver services name-service unix-user modify` command to update them.
3. Set group permissions for the storage VM root volume.
    - a. Display the local UNIX groups: `vserver services name-service unix-group show -vserver vserver_name`

The storage VM should have the following UNIX groups configured:

| Group name | Group ID |
|------------|----------|
| daemon     | 1        |
| root       | 0        |

- b. If these values are not shown, use the `vserver services name-service unix-group modify` command to update them.
4. Switch to System Manager and configure Kerberos: click **Storage** > **Storage VMs**, select the storage VM, click **Settings**, click  under Kerberos, click **Add** under Kerberos Realm, and complete the following sections:
  - a. Add Kerberos Realm: enter configuration details depending on KDC vendor.
  - b. Add Network Interface to Realm: click **Add** and select a network interface.
5. If desired, add mappings from Kerberos principal names to local user names.
  - a. Click **Storage** > **Storage VMs**, select the storage VM, click **Settings**, and then click  under **Name Mapping**.
  - b. Under **Kerberos to UNIX**, add patterns and replacements using regular expressions.

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