Use null sessions to access storage in non-Kerberos environments

ONTAP 9

NetApp
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Table of Contents

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Use null sessions to access storage in non-Kerberos environments overview

Null session access provides permissions for network resources, such as storage system data, and to client-based services running under the local system. A null session occurs when a client process uses the “system” account to access a network resource. Null session configuration is specific to non-Kerberos authentication.

How the storage system provides null session access

Because null session shares do not require authentication, clients that require null session access must have their IP addresses mapped on the storage system.

By default, unmapped null session clients can access certain ONTAP system services, such as share enumeration, but they are restricted from accessing any storage system data.

> ONTAP supports Windows RestrictAnonymous registry setting values with the `-restrict-anonymous` option. This enables you to control the extent to which unmapped null users can view or access system resources. For example, you can disable share enumeration and access to the IPC$ share (the hidden named pipe share). The `vserver cifs options modify` and `vserver cifs options show` man pages provide more information about the `-restrict-anonymous` option.

Unless otherwise configured, a client running a local process that requests storage system access through a null session is a member only of nonrestrictive groups, such as “everyone”. To limit null session access to selected storage system resources, you might want to create a group to which all null session clients belong; creating this group enables you to restrict storage system access and to set storage system resource permissions that apply specifically to null session clients.

ONTAP provides a mapping syntax in the `vserver name-mapping` command set to specify the IP address of clients allowed access to storage system resources using a null user session. After you create a group for null users, you can specify access restrictions for storage system resources and resource permissions that apply only to null sessions. Null user is identified as anonymous logon. Null users do not have access to any home directory.

Any null user accessing the storage system from a mapped IP address is granted mapped user permissions. Consider appropriate precautions to prevent unauthorized access to storage systems mapped with null users. For maximum protection, place the storage system and all clients requiring null user storage system access on a separate network, to eliminate the possibility of IP address “spoofing”.

Related information

Configuring access restrictions for anonymous users

Grant null users access to file system shares

You can allow access to your storage system resources by null session clients by assigning a group to be used by null session clients and recording the IP addresses of null session clients to add to the storage system's list of clients allowed to access data using null sessions.

Steps

1. Use the `vserver name-mapping create` command to map the null user to any valid windows user, with an IP qualifier.

   The following command maps the null user to user1 with a valid host name google.com:

   ```
   vserver name-mapping create –direction win-unix  -position 1 –pattern
   “ANONYMOUS LOGON” –replacement user1 – hostname google.com
   ```

   The following command maps the null user to user1 with a valid IP address 10.238.2.54/32:

   ```
   vserver name-mapping create –direction win-unix  -position 2 –pattern
   “ANONYMOUS LOGON” –replacement user1 –address 10.238.2.54/32
   ```

2. Use the `vserver name-mapping show` command to confirm the name mapping.

   ```
   vserver name-mapping show

   Vserver:   vs1
   Direction: win-unix
   Position Hostname         IP Address/Mask
   -------- --------         ----------------
   1       -                 10.72.40.83/32      Pattern: anonymous logon
                                              Replacement: user1
   ```

3. Use the `vserver cifs options modify –win-name-for-null-user` command to assign Windows membership to the null user.

   This option is applicable only when there is a valid name mapping for the null user.

   ```
   vserver cifs options modify -win-name-for-null-user user1
   ```

4. Use the `vserver cifs options show` command to confirm the mapping of the null user to the Windows user or group.

```
vserver cifs options show

Vserver :vs1

Map Null User to Windows User of Group: user1
```

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