Exercise 2 - Managing File Permissions.

Individual files and folders can be secured using NTFS rights. First, choose a security principal, such as a user or a security group; then, give the folder the appropriate permissions.

NTFS permissions on a folder immediately apply to all files and subfolders within it by default. You can also set various NTFS permissions for distinct subfolders and files. NTFS ensures that files and folders are secure whether they are accessed via the network or locally.

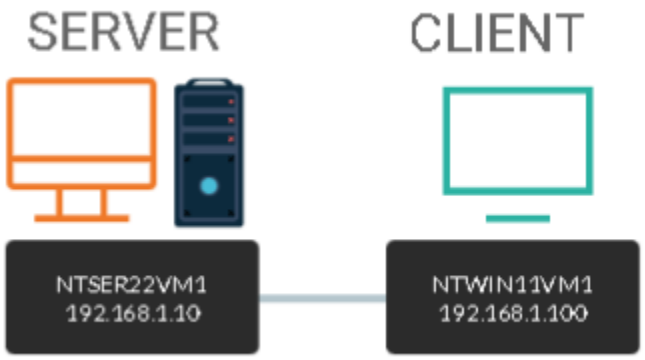
The next step is to fine-tune NTFS security to secure the Windows File System after creating shared folder permissions. Users on the domain network can now access files and folders from their workstations.

After configuring shared folder permissions, the following step is to fine-tune NTFS security to secure the Windows File System. Users can now access files and folders on the domain network from their workstations.

In this exercise,

1. Take control of your files by determining effective access and file ownership.
2. Manage Advanced Permissions and Manage Permission Settings After Copy or Move

Topology



DOMAIN = networktute.com

NTSER22VM1 = Windows Server 2022 – Domain Controller

NTWIN11VM1 = Windows 11 – Domain Member

Prerequisite

- *VMware Workstation 16 Pro*
    - When making this tutorial, we used the “Windows Server 2019” VM Template and “Windows 10 & later” VM Template. Since VMware didn’t have the updated templates.
- *Microsoft Windows Server 2022*
- *Microsoft Windows 11*

Task 1: Determine Effective Access

You'll test what a user's effective access will be when he tries to access the folder over a network connection after you've created the shared folder and set NTFS rights.

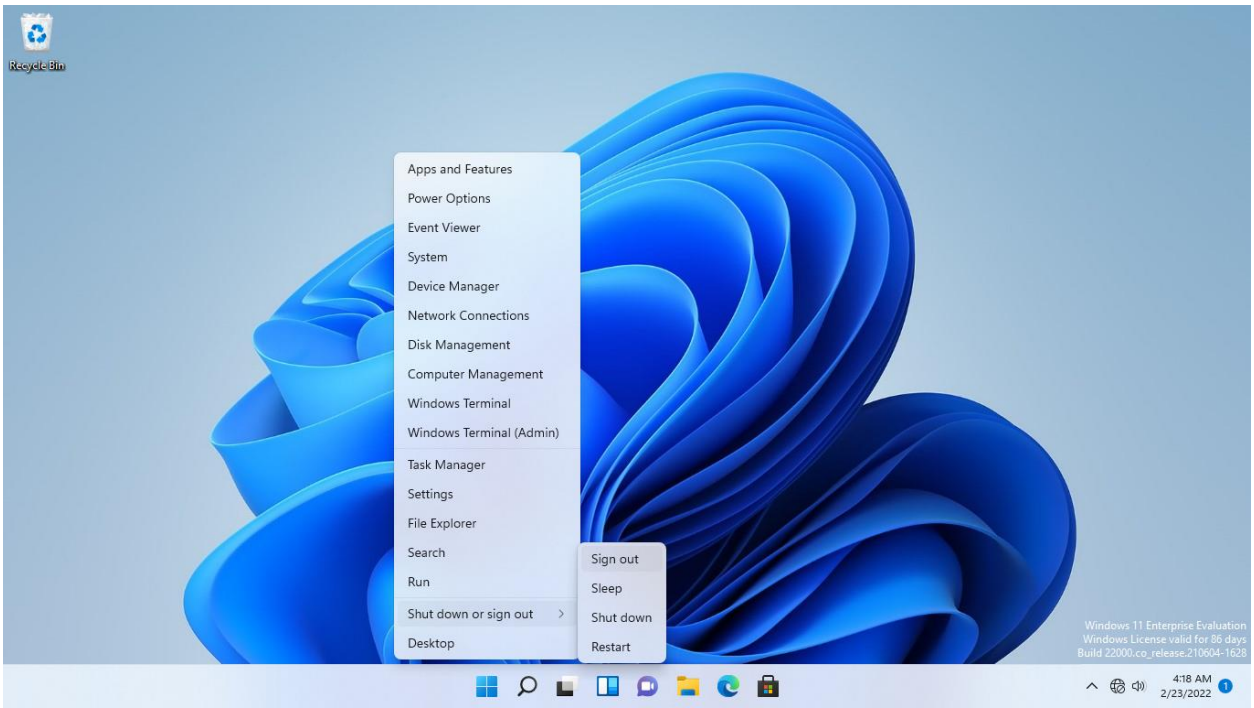
In this task, we will sign-in as a member of the NT_Helpdesk security.

Step 1:

For this step, you will need to ensure your **Server auto login** feature is disabled under the **Settings and customization** tab.

Connect to **NTWIN11VM1.**

Click on the Start icon, point to **Shut down or sign out** and select **Sign out**.



Step 2:

Reconnect to **NTWIN11VM1**.

On the Windows login screen, click **“Other user”.**

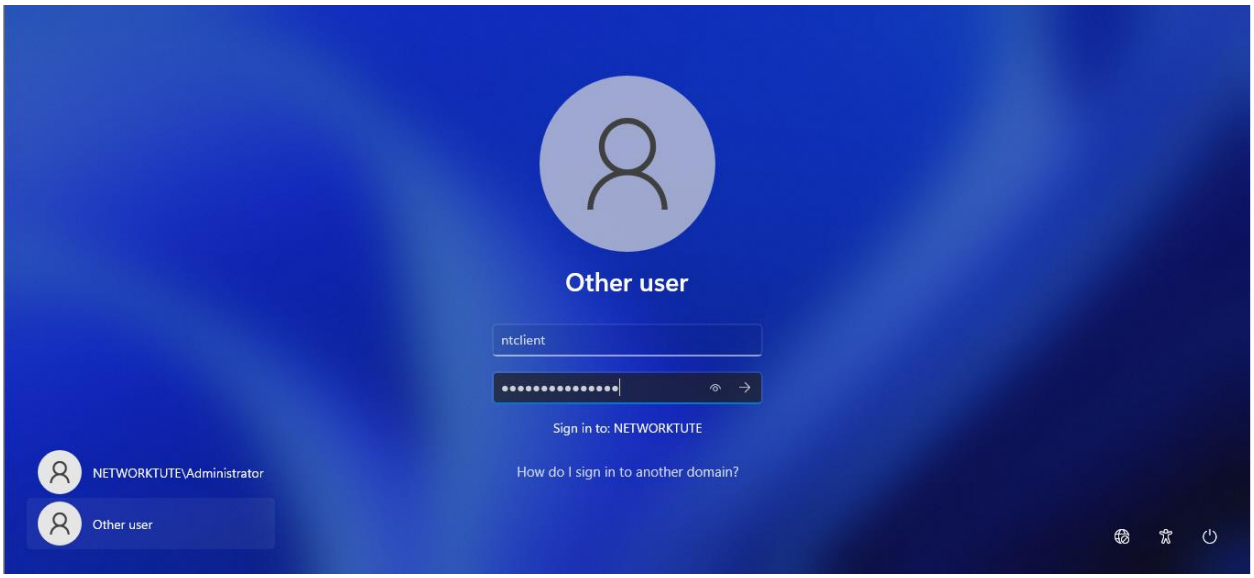
Click in the **User name** textbox and type:

Ntclient

In the **Password** textbox, type:

Networktute@123

Press **Enter.**

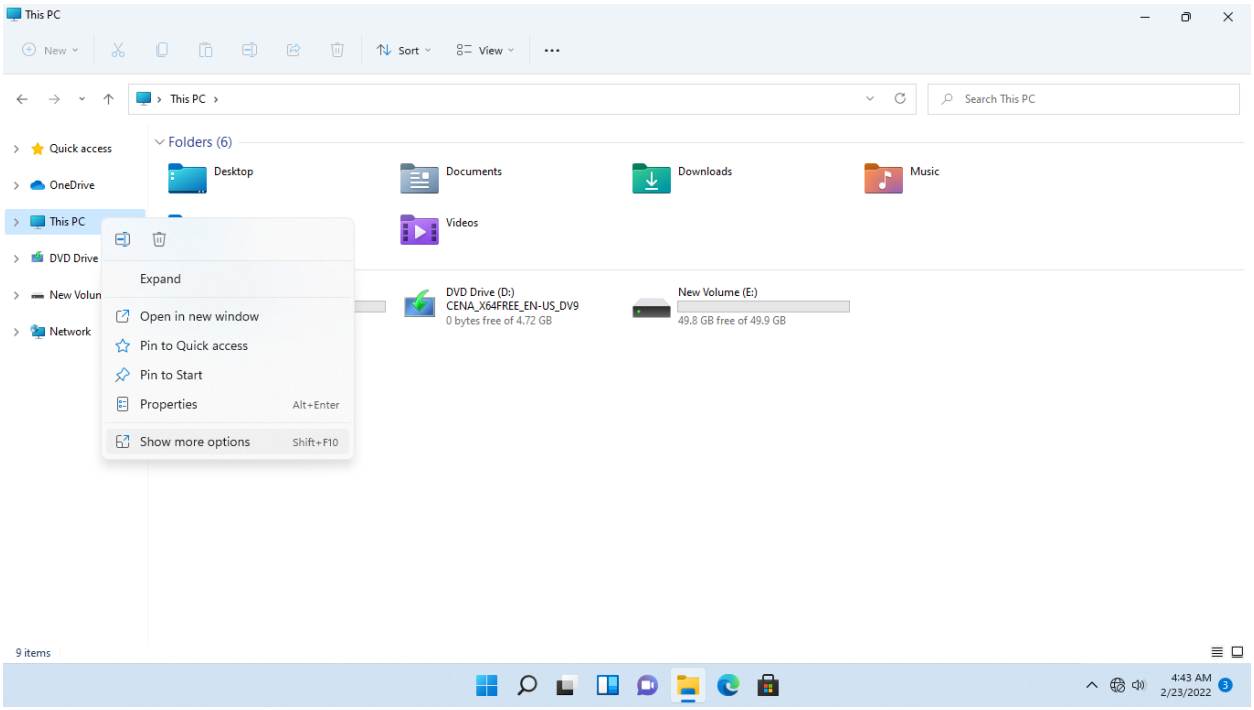


Step 3:

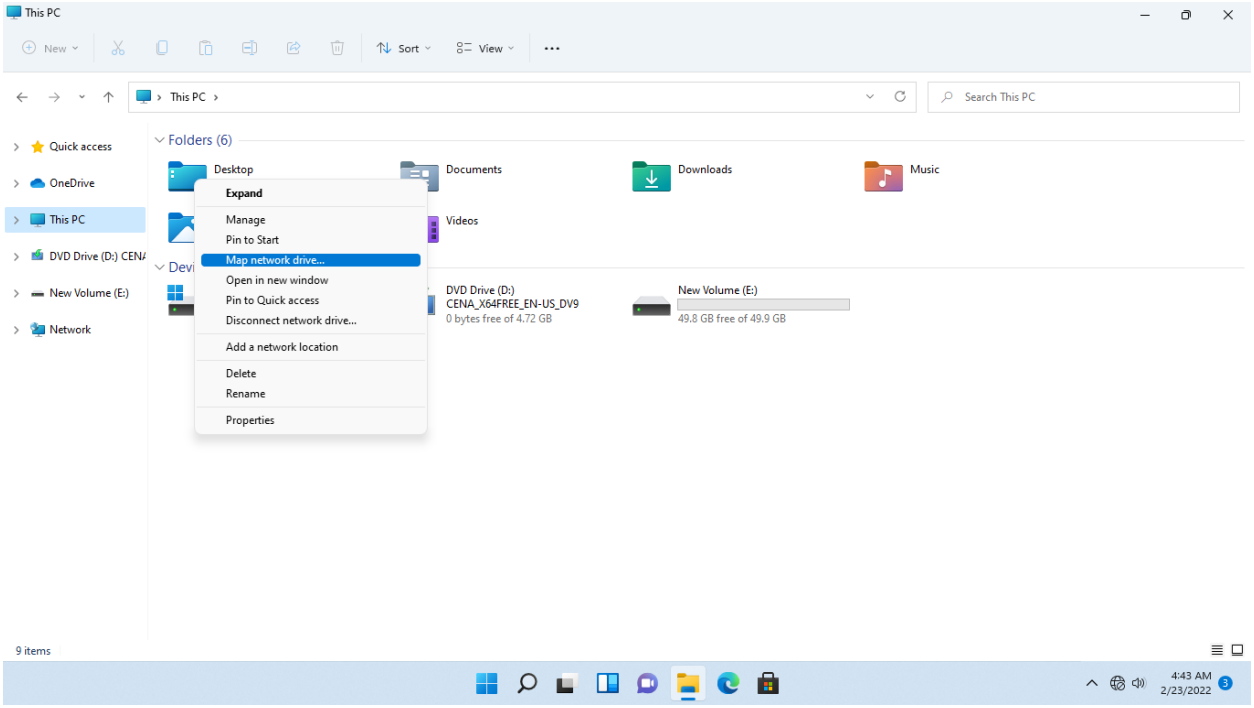
Once signed in, click **File Explorer** on the **Taskbar**.

Step 4:

On the **File Explorer** window, right-click **This PC** and select **Show more options.**



Select **Map network drive.**

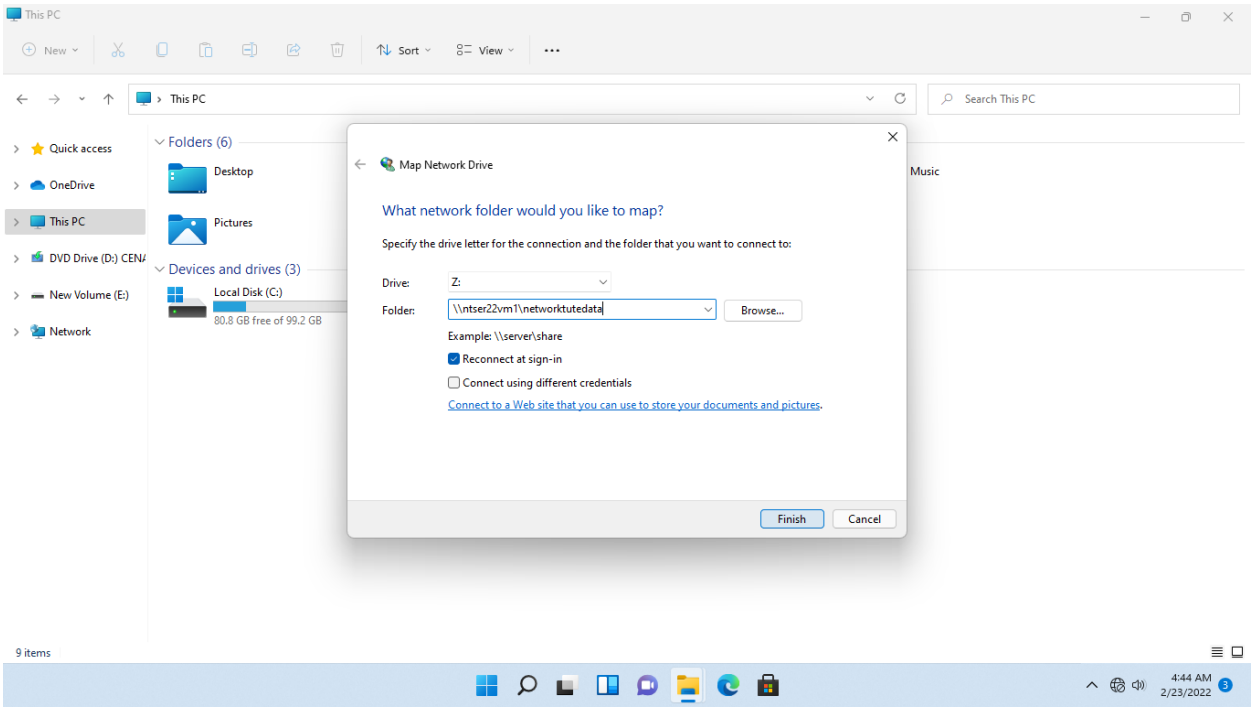


Step 5:

On the **Map Network Drive** dialog box, in the **Folder** textbox, type:

\\ntser22vm1\networktutedata

Press **Finish**.



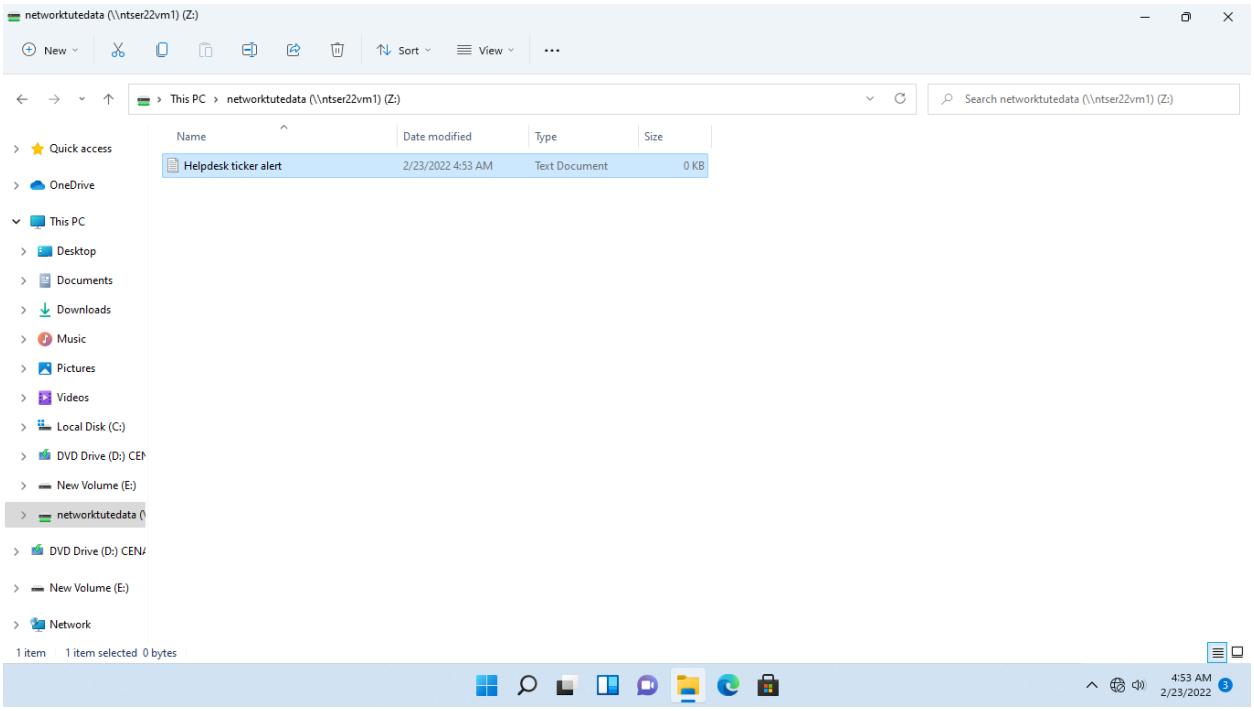
Step 6:

A new File Explorer window opens for the **networktutedata** shared folder.

Right-click on the details pane and point to **New** then select **Text Document** and name the text document as: *Helpdesk ticket alert*

Press **Enter**.

Because of the user's membership in the **nt-helpdesk** security group, the currently logged-in user **ntclient** successfully produced a text document in the **networktutedata**. Set the folder's permissions.

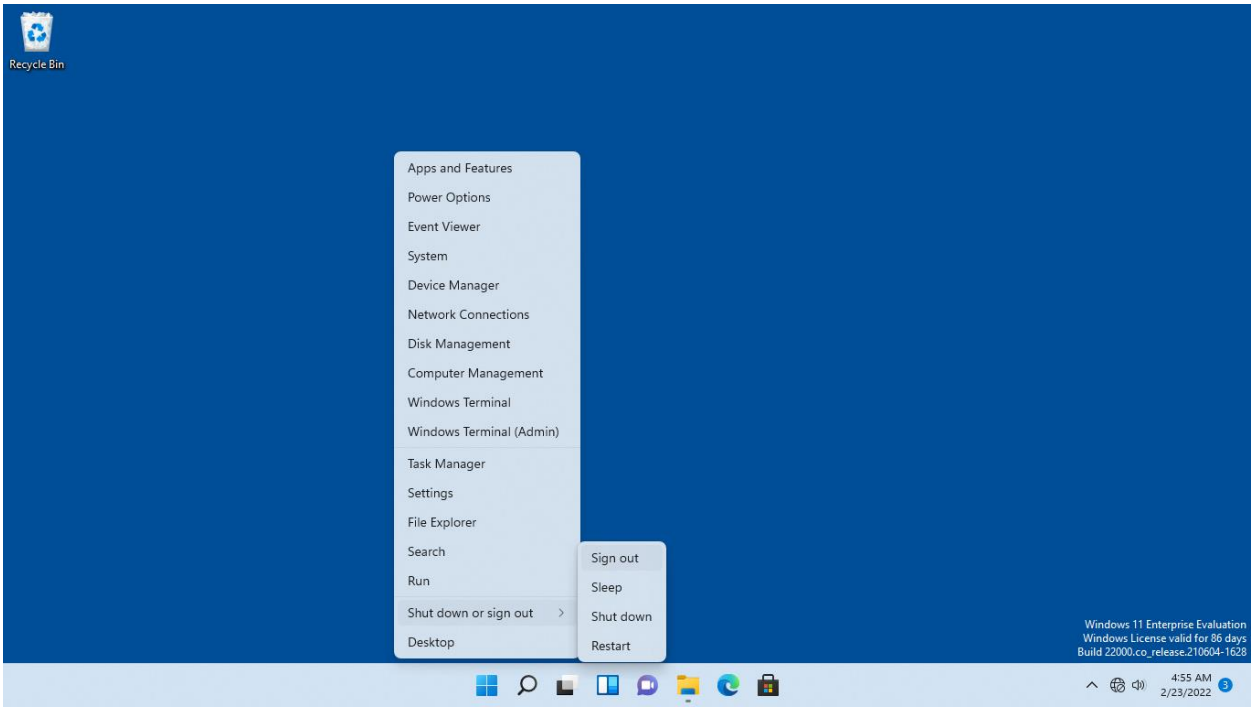


Step 7:

Close **File Explorer.**

To test another user from a different security group you need to sign the current user out.

Right-click **Start**, point to **Shut down or sign out** and click **Sign out.**



Step 8:

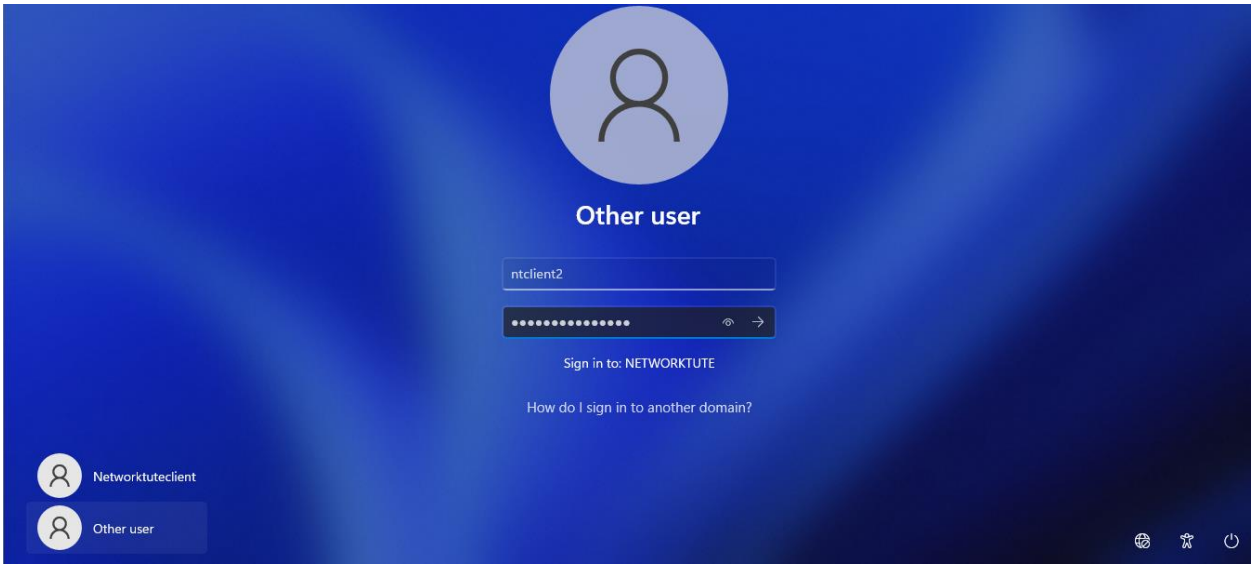
Reconnect to **NTSER22VM1**.

In the sign-on screen, click “Other user.”

In the **User name** textbox, type: **ntclient2**

In the **Password** textbox, type: **Networktute@123**

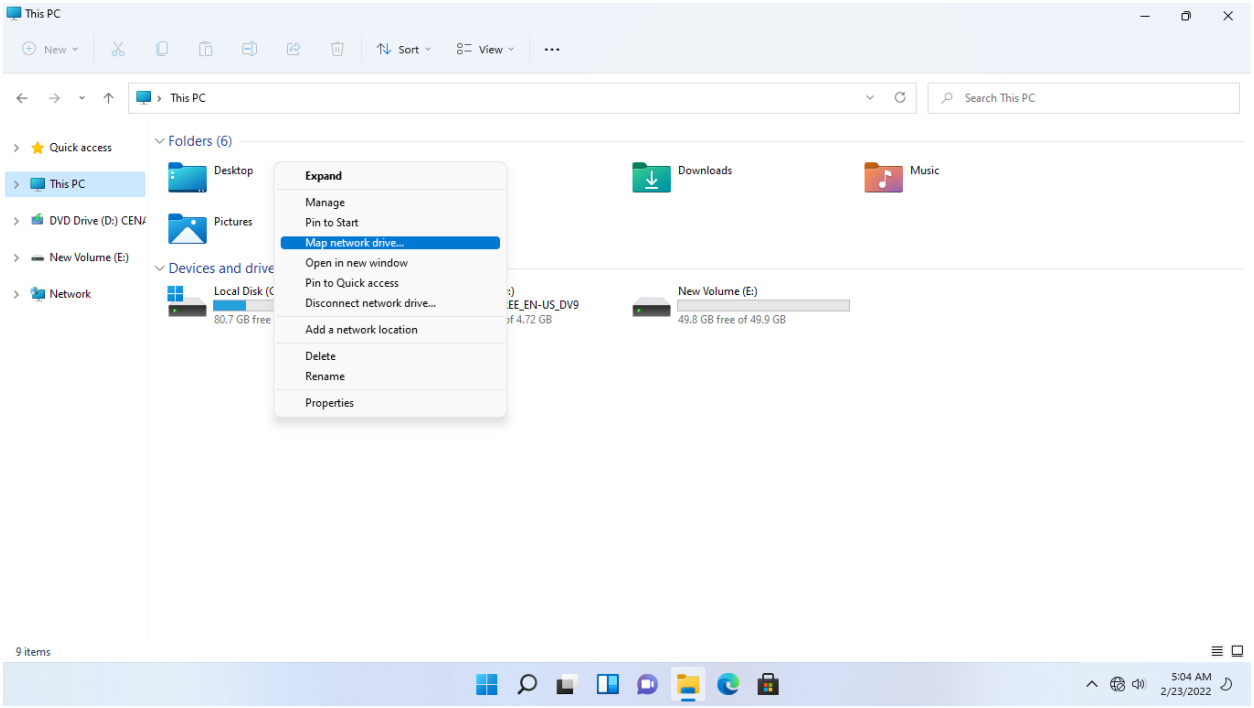
Press **Enter**.



Step 9:

Click **File Explorer** on the **Taskbar**.

On the **File Explorer** window, right-click **This PC** and select **Show more options.** Click **Map network drive.**

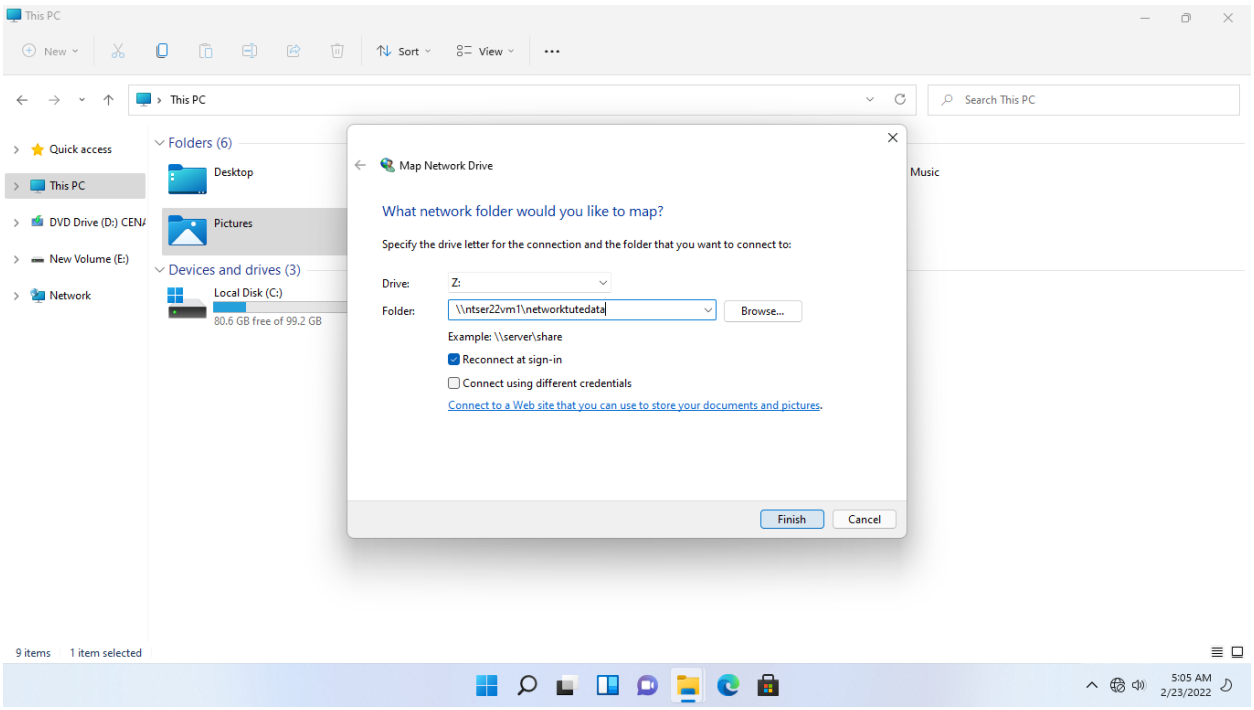


Step 10:

On the **Map Network Drive** dialog box, in the provided textbox, type:

```
\\ntser22vm1\networktutedata
```

Press **Finish**.



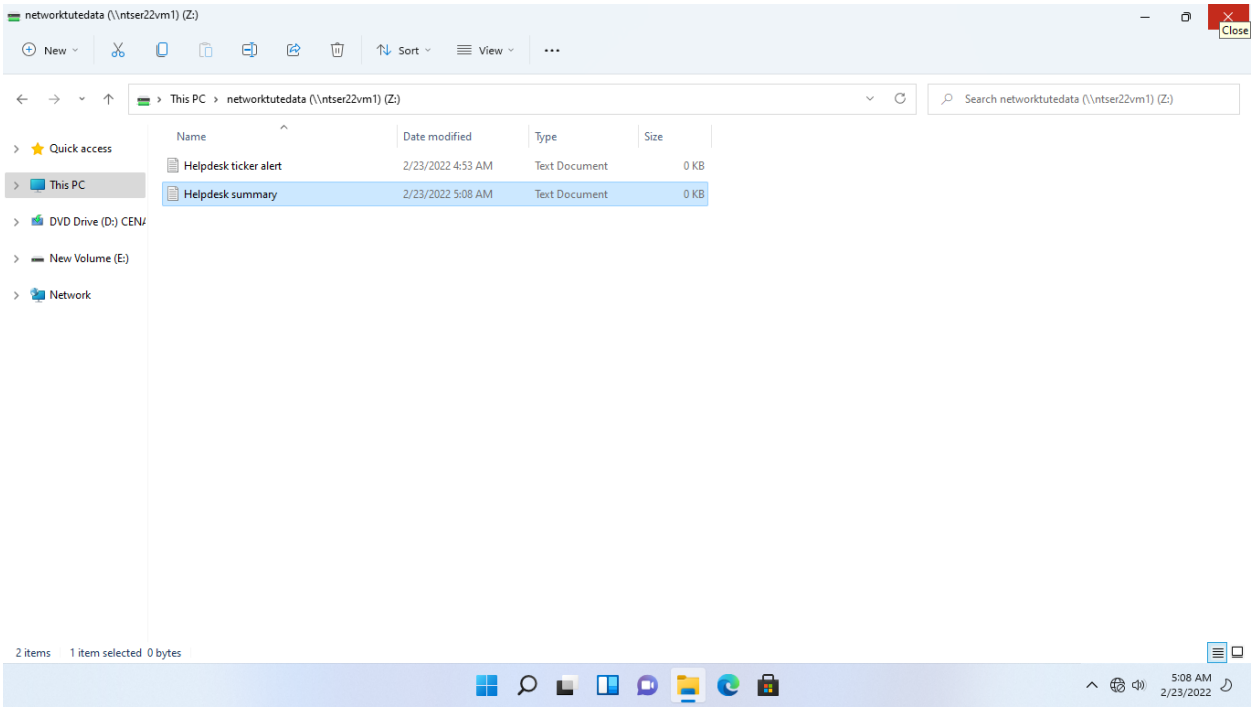
Step 11:

A new File Explorer **networktutedata** window opens.

Right-click the details pane and select **New** > **Text Document** and name the text document as: ***Helpdesk summary***

Press **Enter**.

Close **File Explorer** window.



Task 2: Take File Ownership

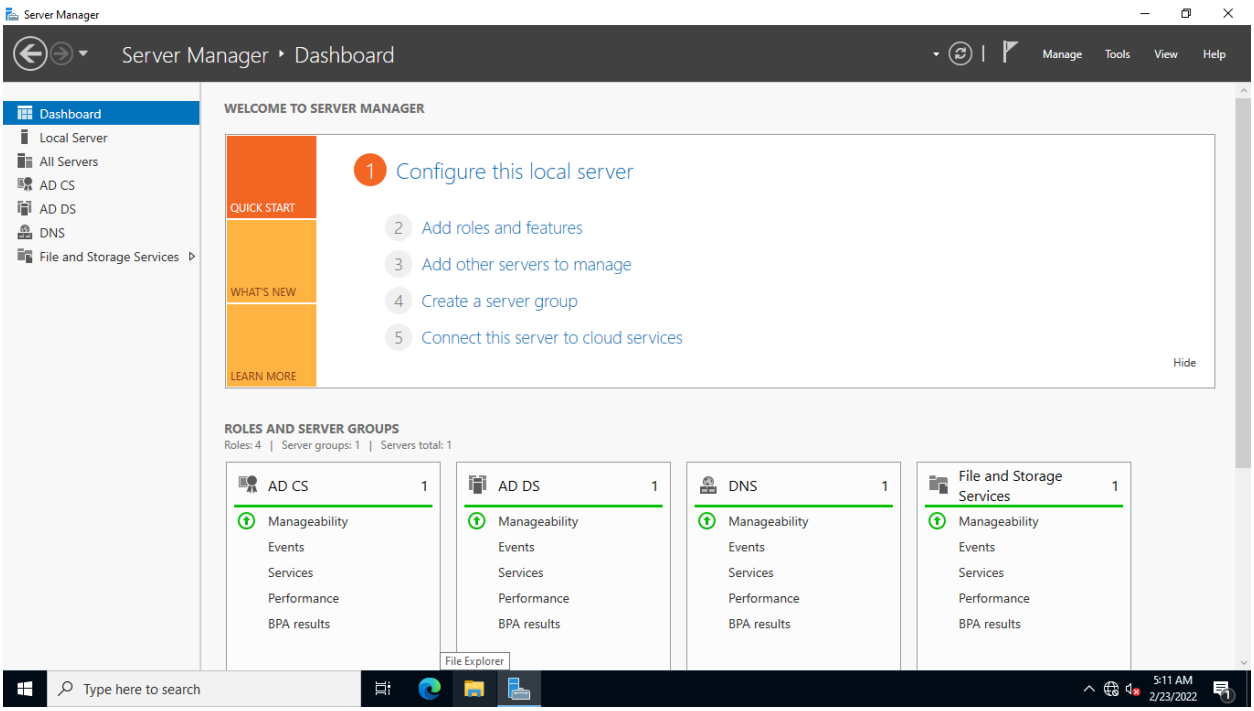
Administrators of security groups can take the ownership network objects that were left behind by the networktute users.

In this task, we will learn how to take ownership of such objects, like folders and files.

Step 1:

Make sure you connect to **NTSER22VM1** using the **NETWORKTUTE\Administrator**

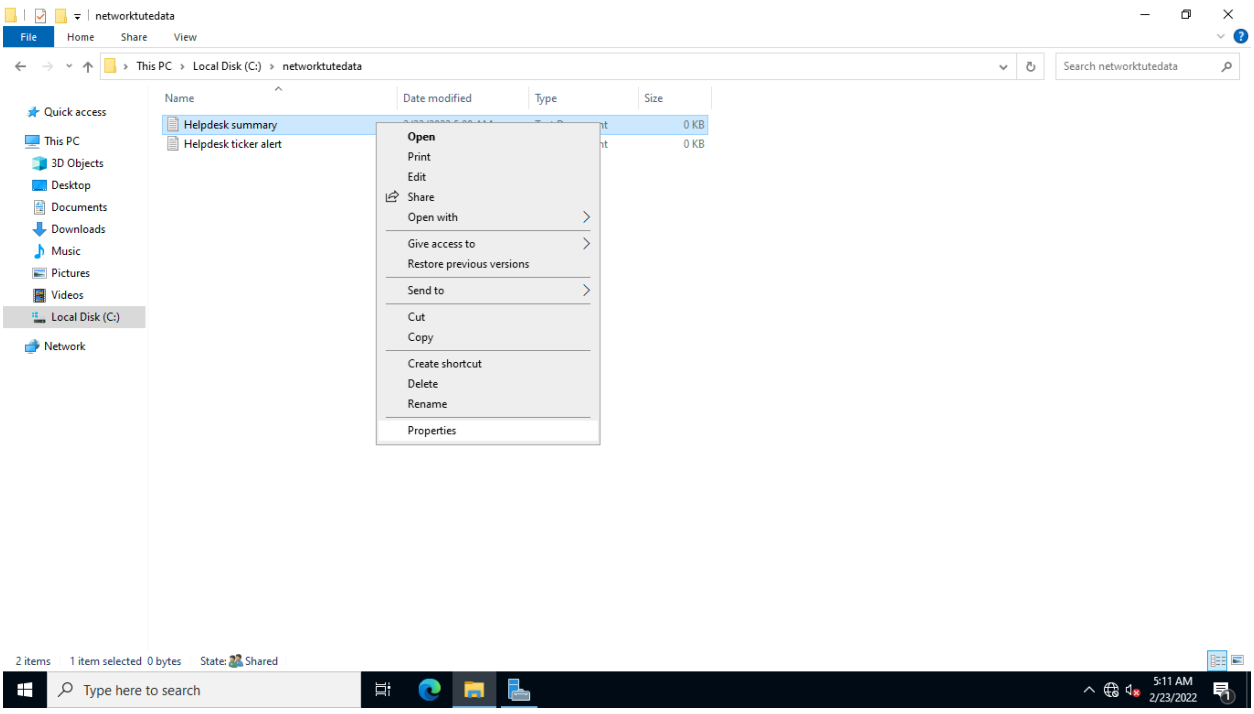
Click **File Explorer** on the **Taskbar**.



Step 2:

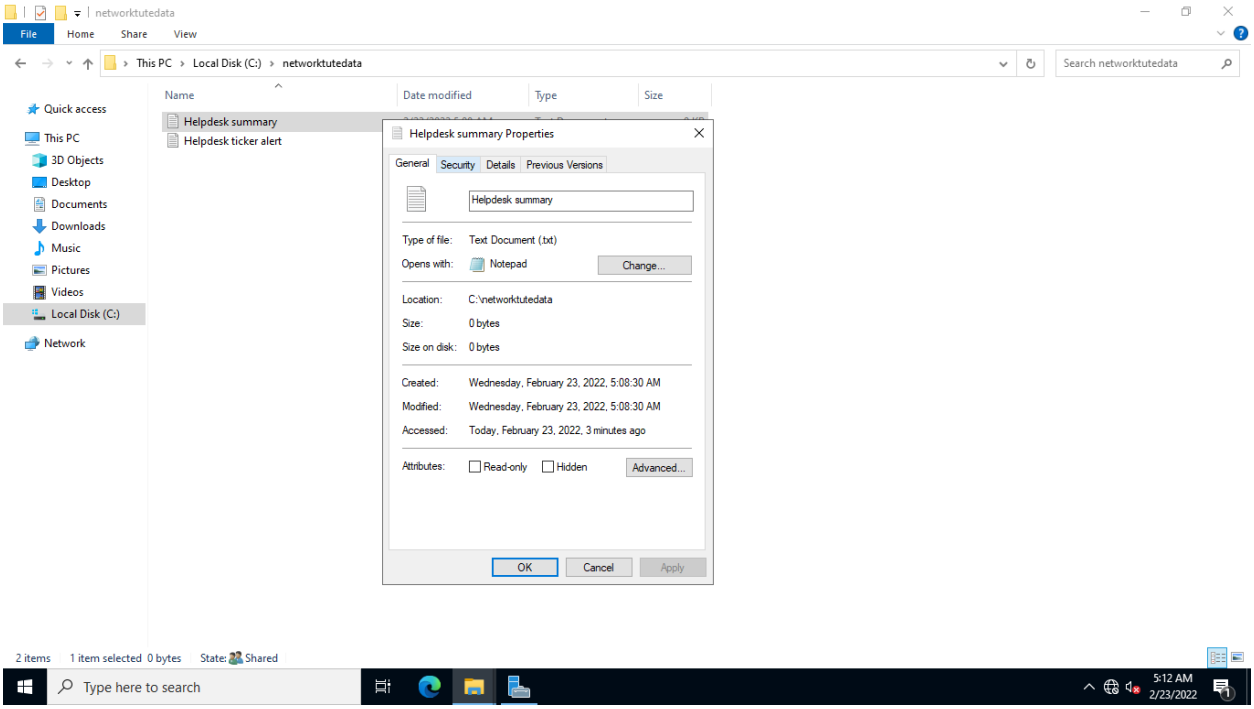
On **File Explorer** window, expand **This PC** and **Local Disk C:** drive, then click the **networktutedata** folder.

Then, right-click **Helpdesk summary** and select **Properties**.



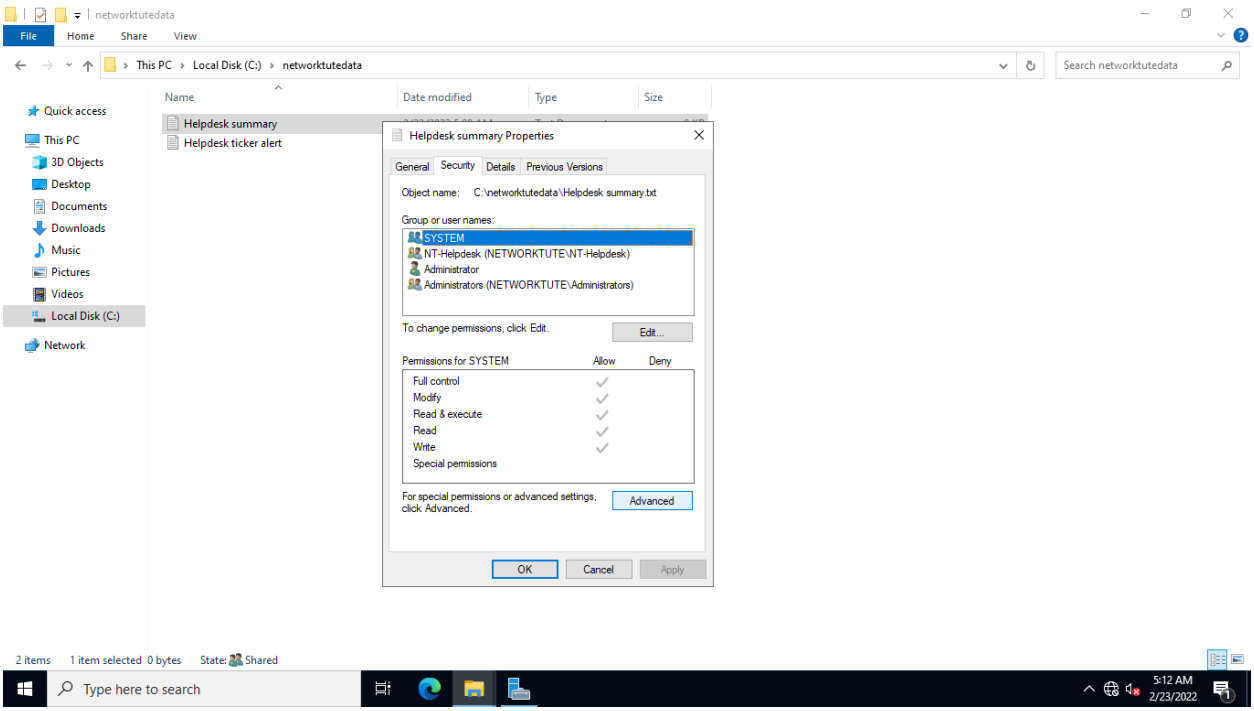
Step 3:

On the **Helpdesk summary Properties** dialog box, click the **Security** tab



Step 4:

Under the **Security** tab, click **Advanced**.

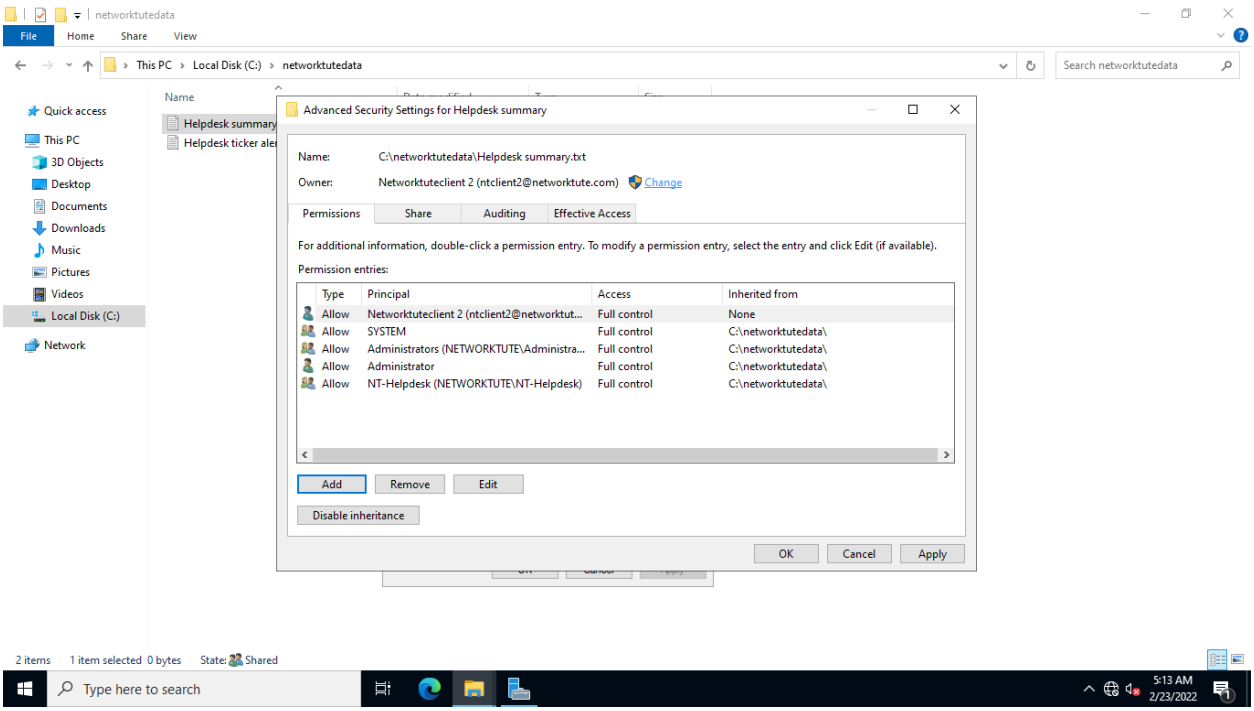


Step 5:

On the **Advanced Security Settings for Helpdesk summary** dialog box, observe the **Owner** section

Notice that it refers to **Networktute Client 2.**

Click the **Change** web link.



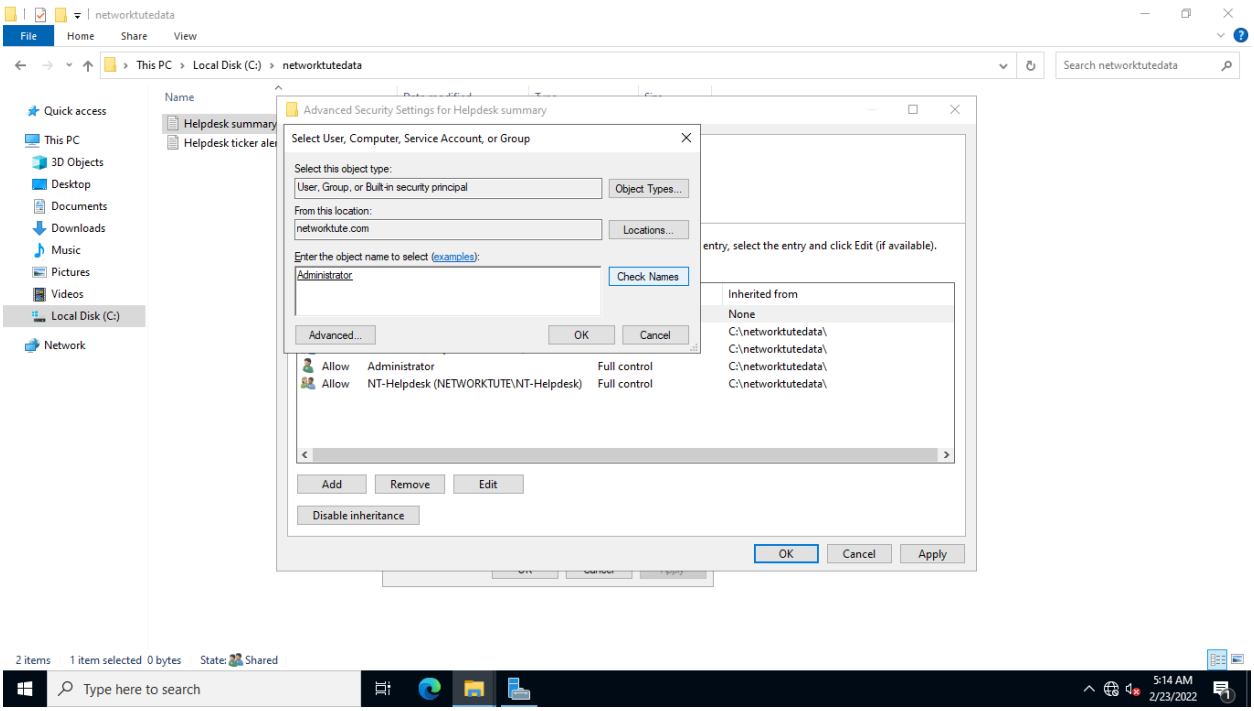
Step 6:

In the **Select User, Computer, Service Account, or Group** dialog box, type: **administrator**

Click **Check Names** to verify you have typed in a valid group name.

It's worth noting that numerous names have been discovered. Select the **Administrator** object at the top of the screen and click **OK**.

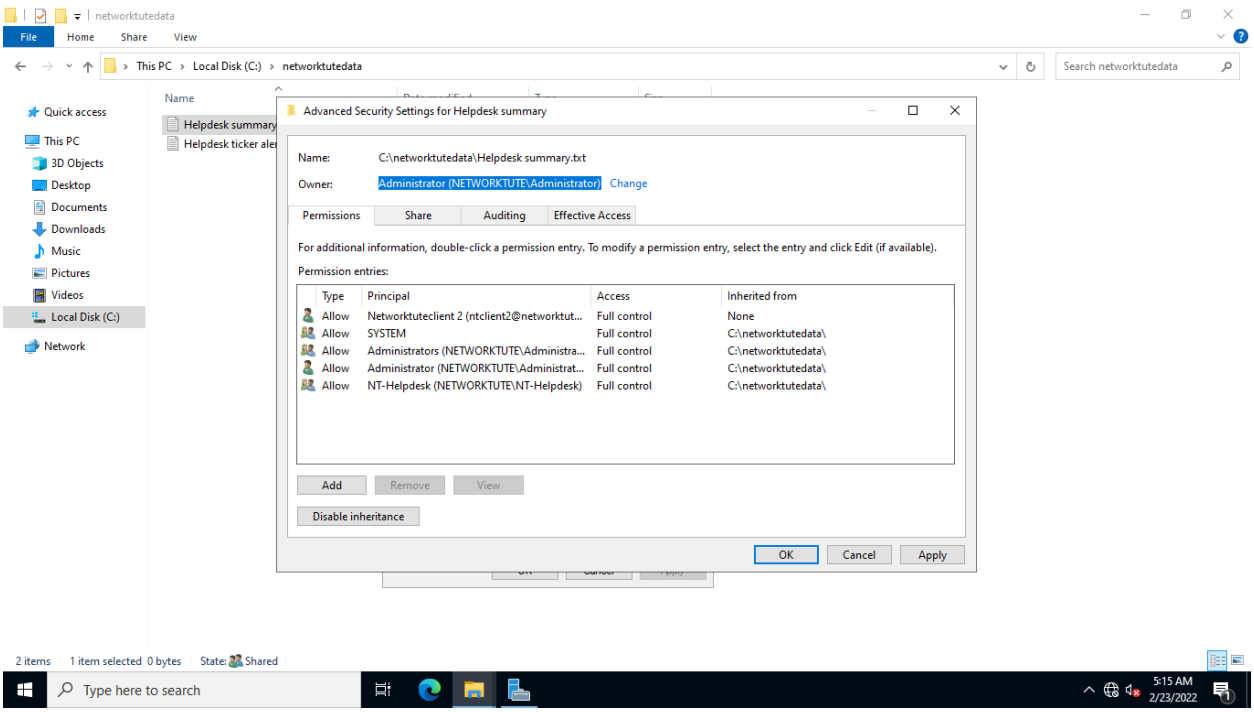
Back on the **Select User, Computer, Service Account, or Group** dialog box, click **OK**.



Step 7:

Notice the change in **Owner** for the **Helpdesk summary** text file is now **Administrator**.

Click **OK**.



Step 8:

Similarly, click **OK** to close the **Helpdesk summary Properties** dialog box.

Keep the **File Explorer** window open.

Task 3: Manage Permissions After Moving or Copying Files

When you move or copy data inside the same volume or to another volume, the NTFS security settings change.The NTFS permissions of a file copied or relocated to a folder are inherited from the destination folder.

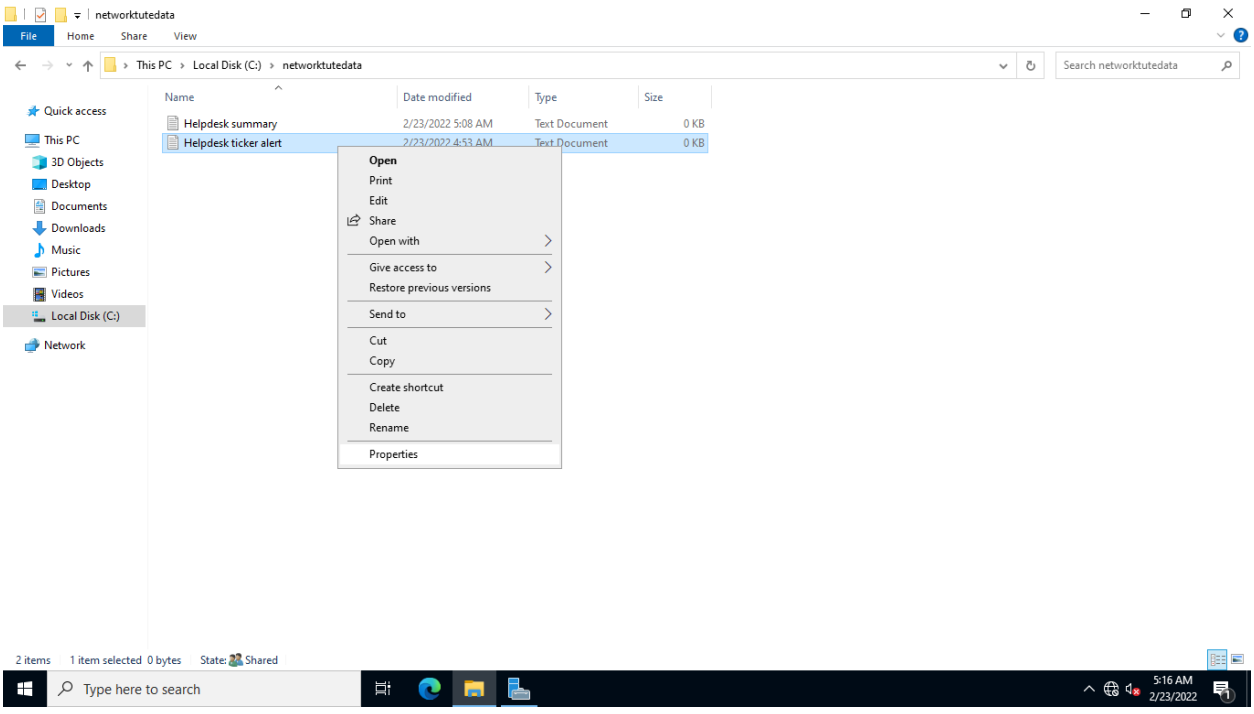
In this task, we will learn what happens to the NTFS permission when a file is copied, cut, then pasted into another folder

Step 1:

Make sure you connect to **NTSER22VM1** using the **NETWORKTUTE\Administrator.**

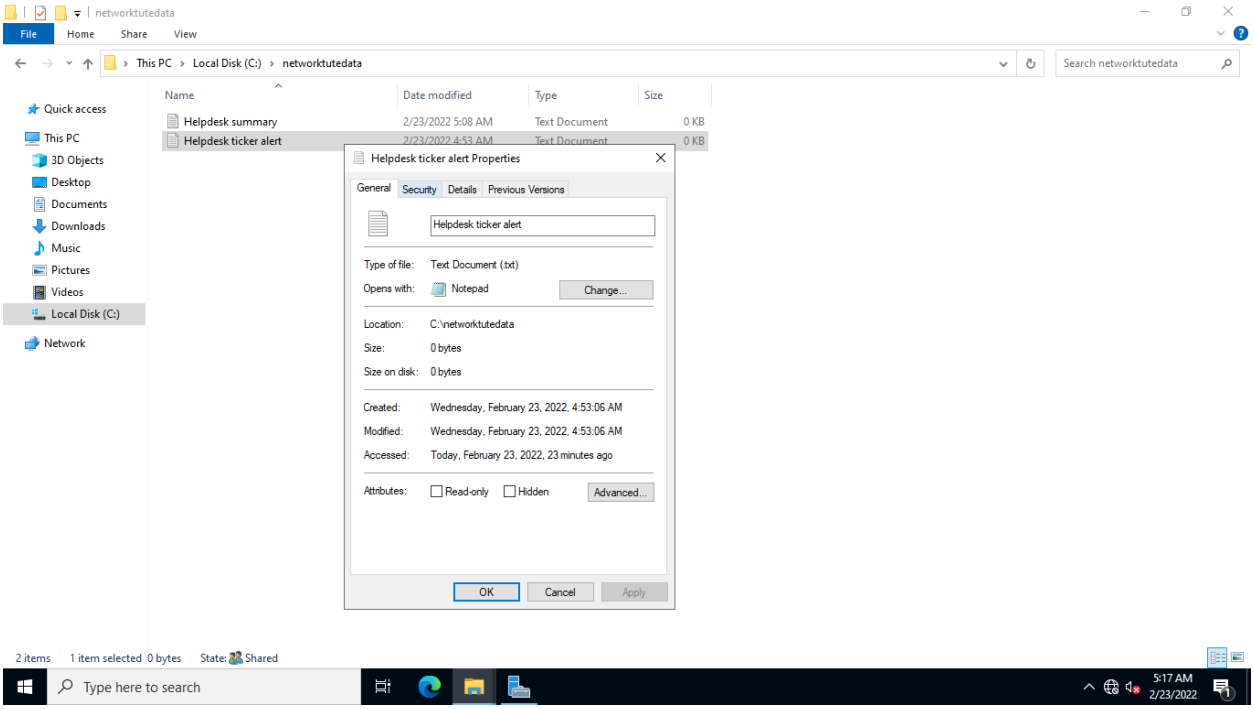
Open the File Explorer and Under **Local Disk (C:)** drive, click the **networktutedata** folder.

In the details pane, right-click the **Helpdesk ticket alert** document and select **Properties**



Step 2:

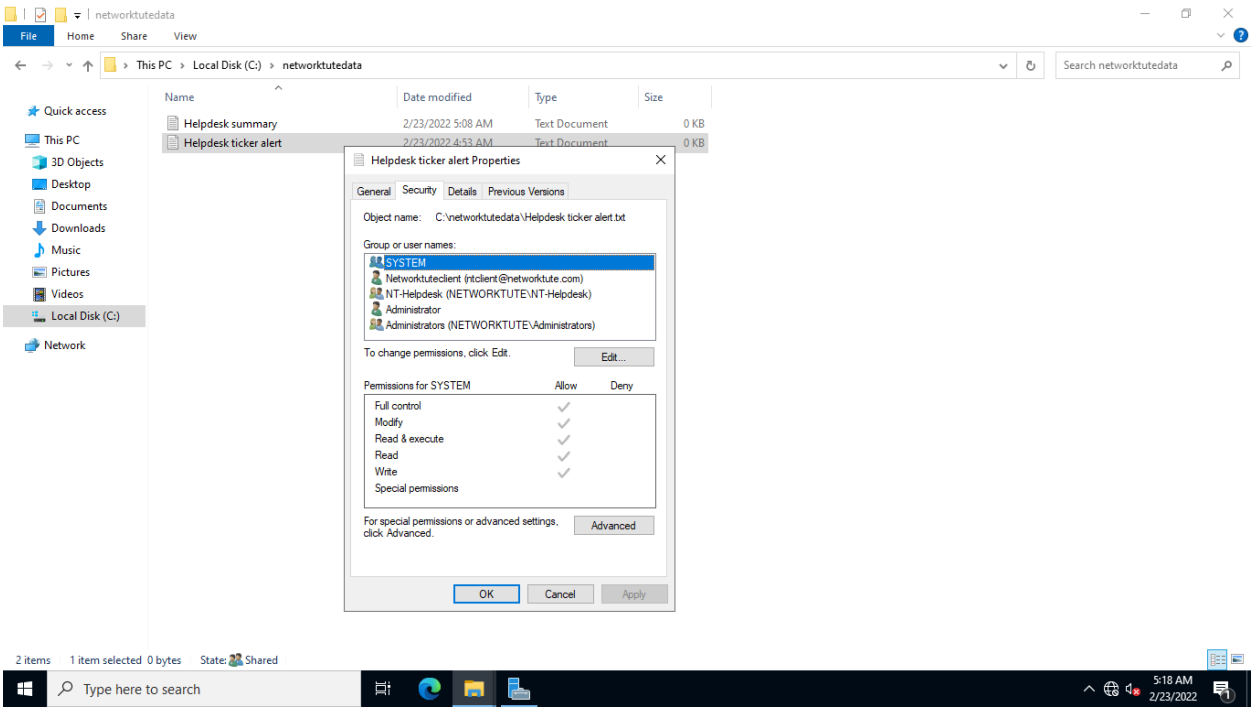
On the **Helpdesk ticket alert Properties** dialog box, click **Security** tab.



Step 3:

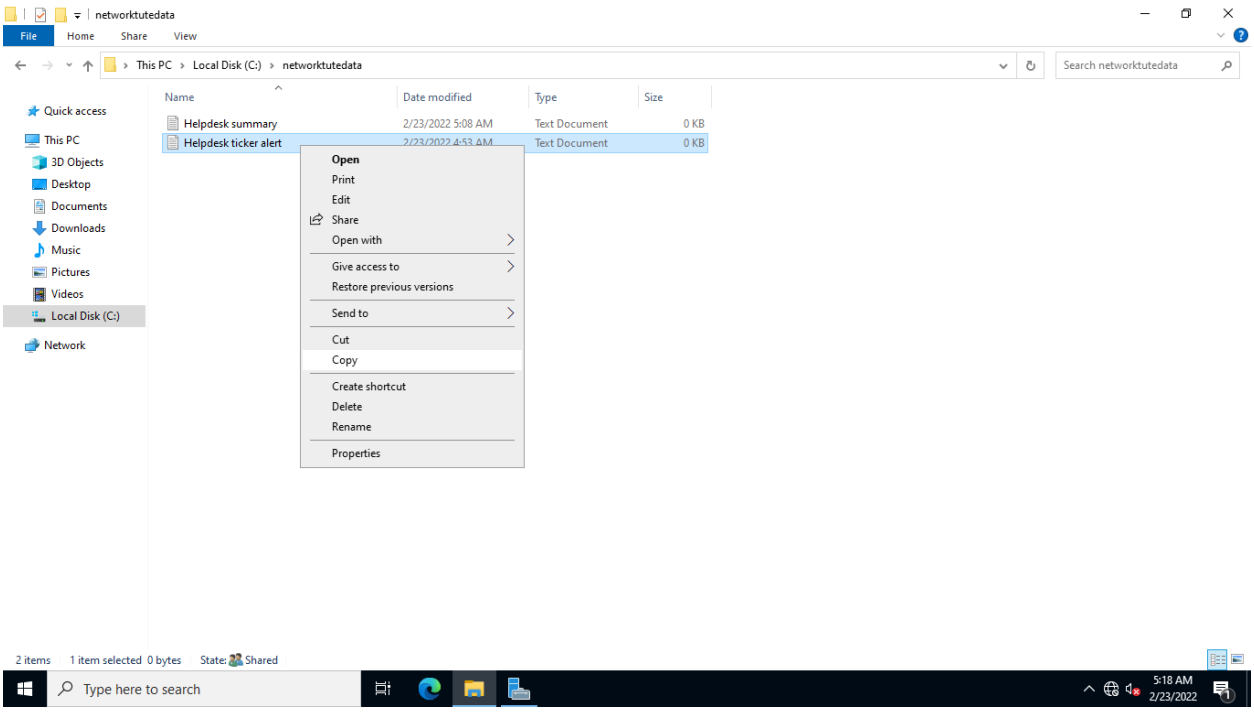
Keep note of the security groups and the permissions set for the **Helpdesk ticket alert** file

Click **OK.**



Step 4:

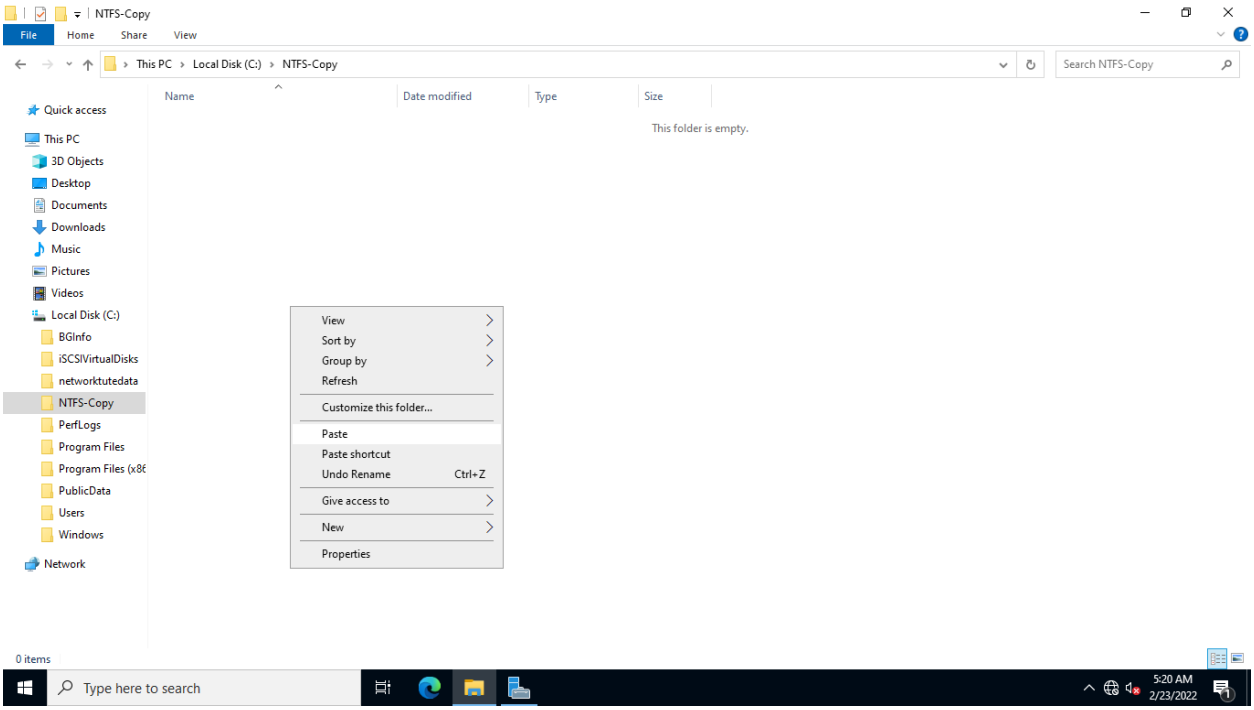
Right-click the **Helpdesk ticket alert** file and select **Copy**.



Step 5:

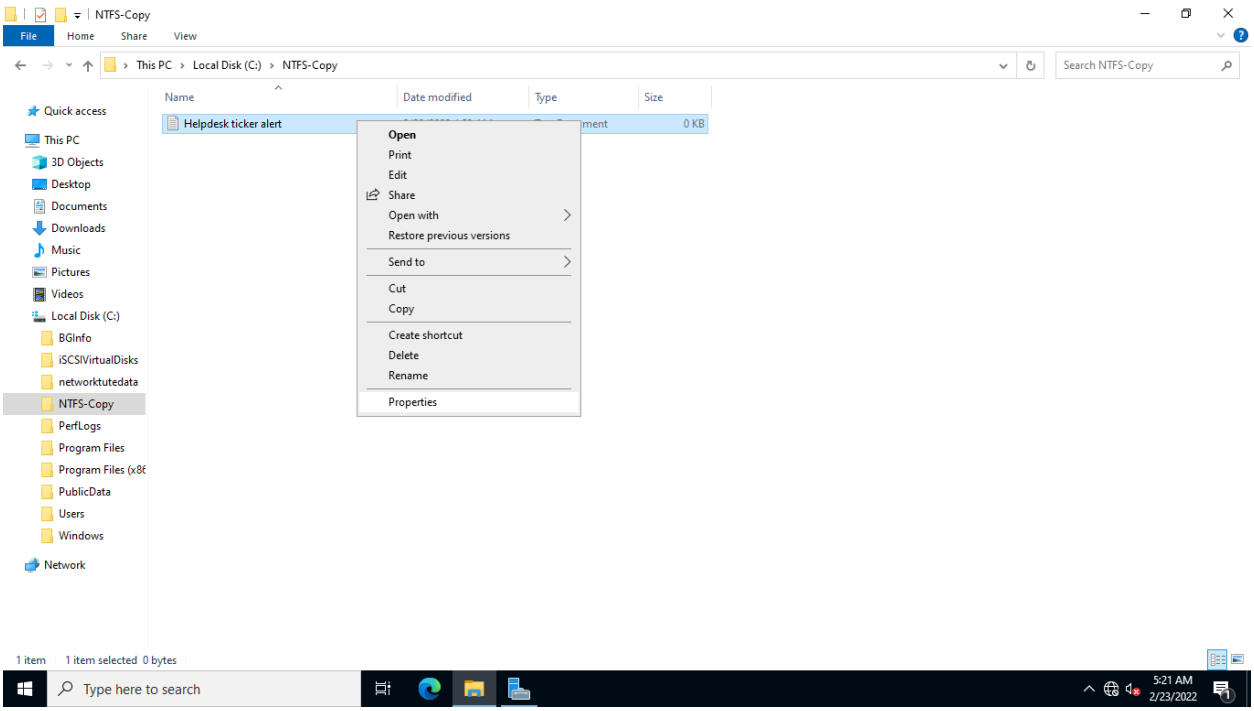
Right-click **Local Disk (C:)** and point to **New** and select **Folder**, name the folder to: **NTFS-Copy**

Double-click the **NTFS-Copy** folder and paste the **Helpdesk ticket alert** file into it.



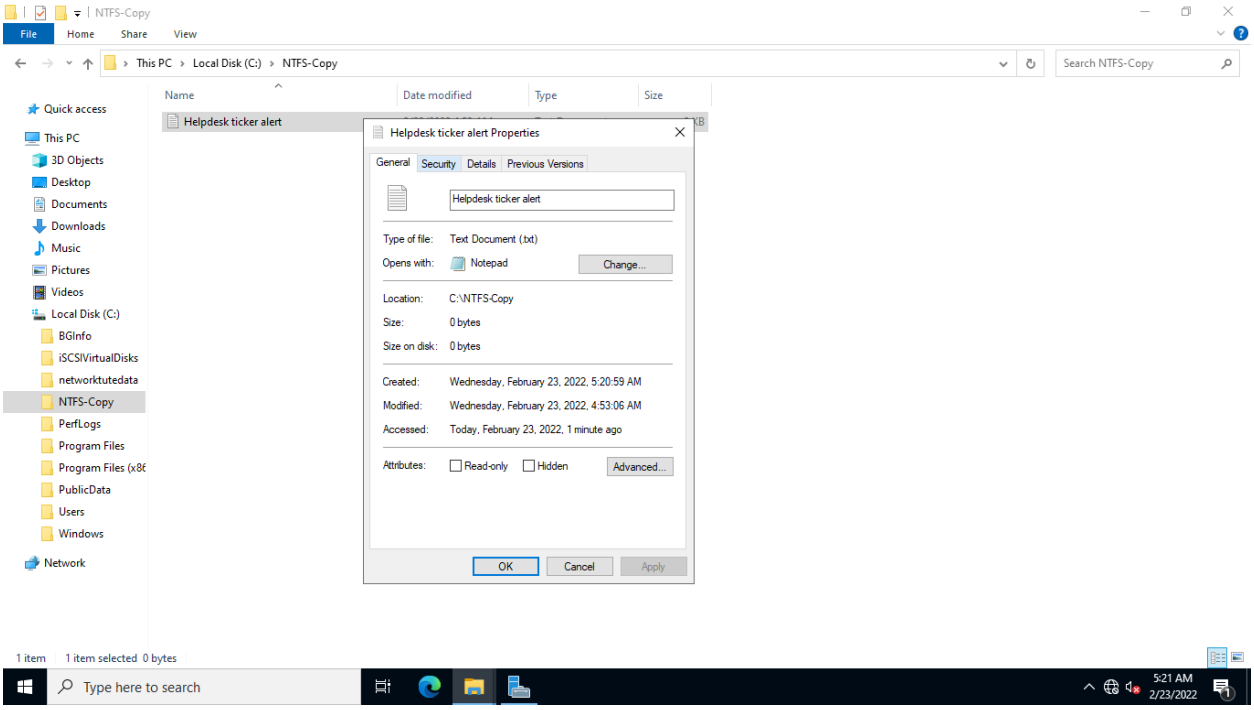
Step 6:

From the **NTFS-Copy** folder, right-click the **Helpdesk ticket alert** file and select **Properties**



Step 7:

On the **Helpdesk ticket alert Properties** dialog box, click **Security**.

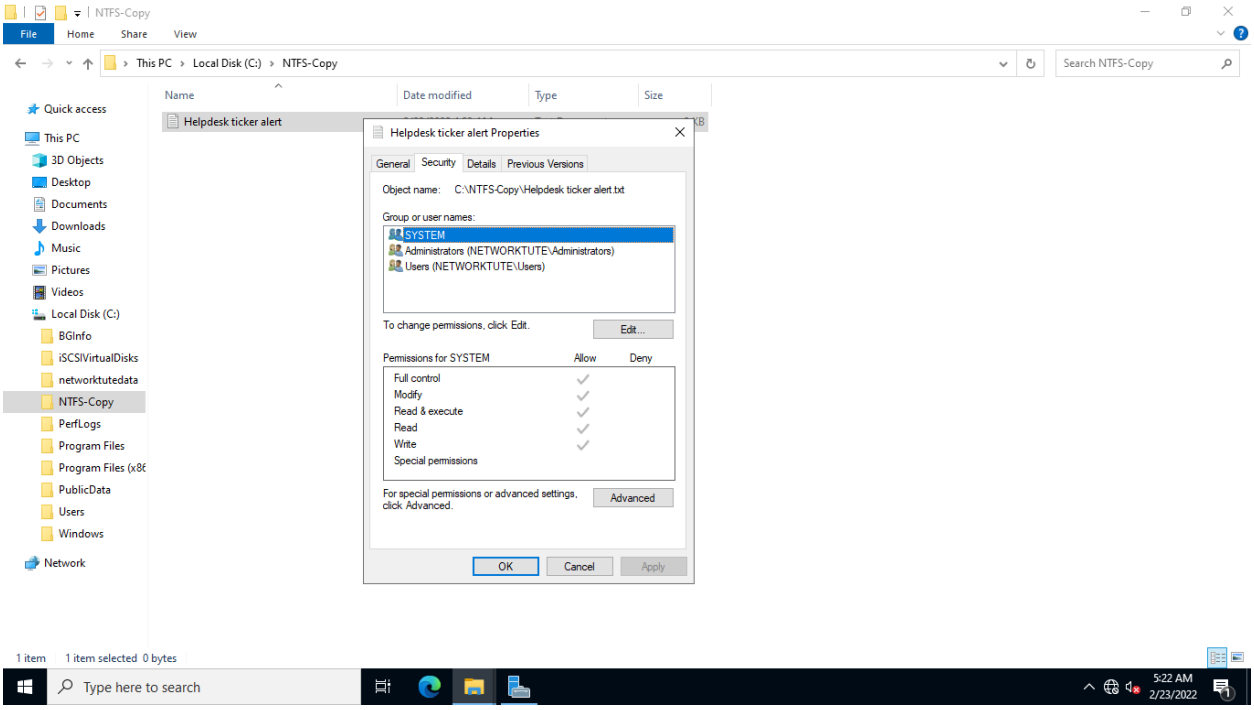


Step 8:

Because of the copy and paste operation performed before, the security groups and permissions assigned have changed.

The **Helpdesk ticket alert** text document inherited the folder permissions set in **NTFS-Copy** folder

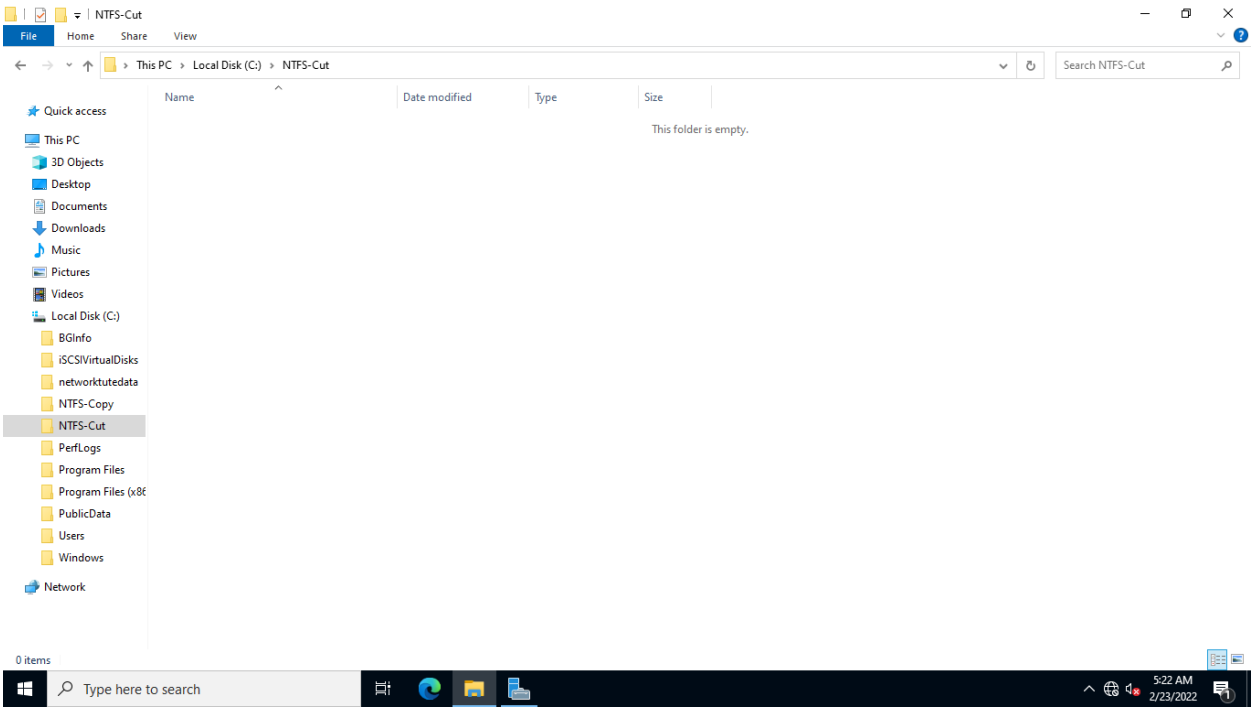
Click **OK.**



Step 9:

Create a new folder in Local Disk (C:) drive.

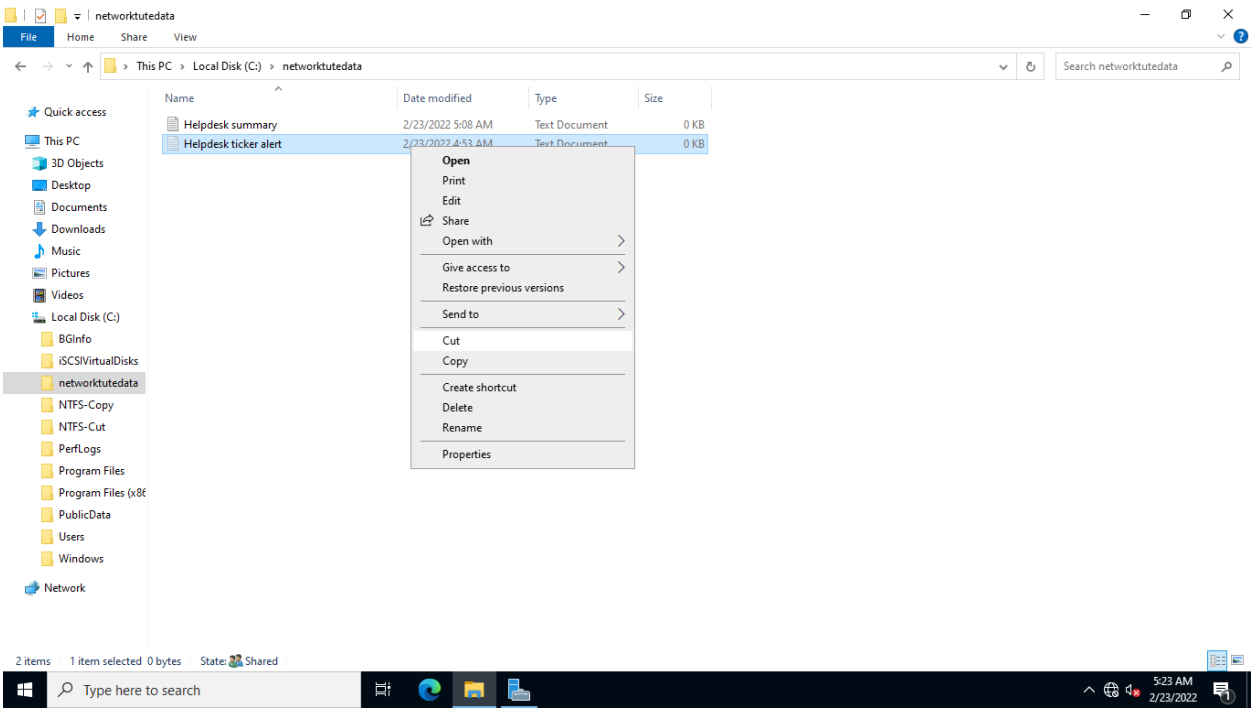
Right-click Local Disk (C:) and point to New and select Folder, name it with: **NFTS-Cut**



Step 10:

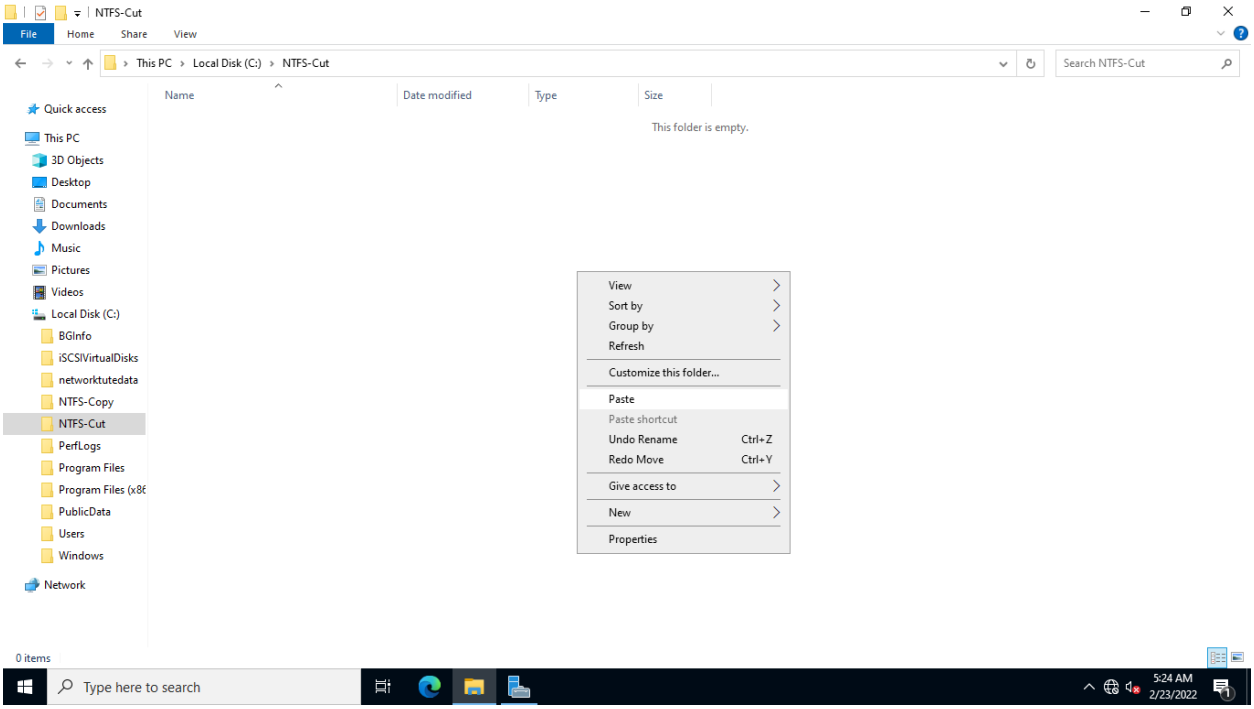
Go to **Local Disk (C:)** > **networktutedata**.

Right-click on **Helpdesk ticket alert** and select **Cut**.



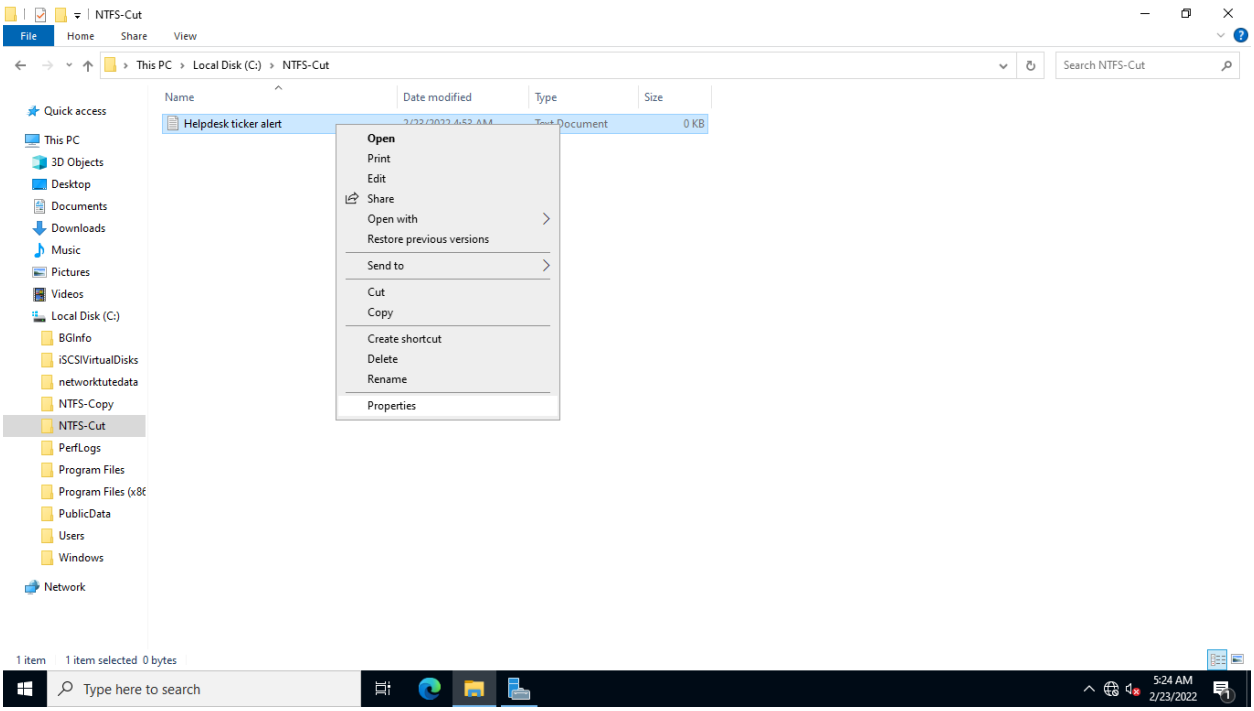
Step 11:

Double-click the **NTFS-Cut** folder and paste the **Helpdesk ticket alert** file into it.



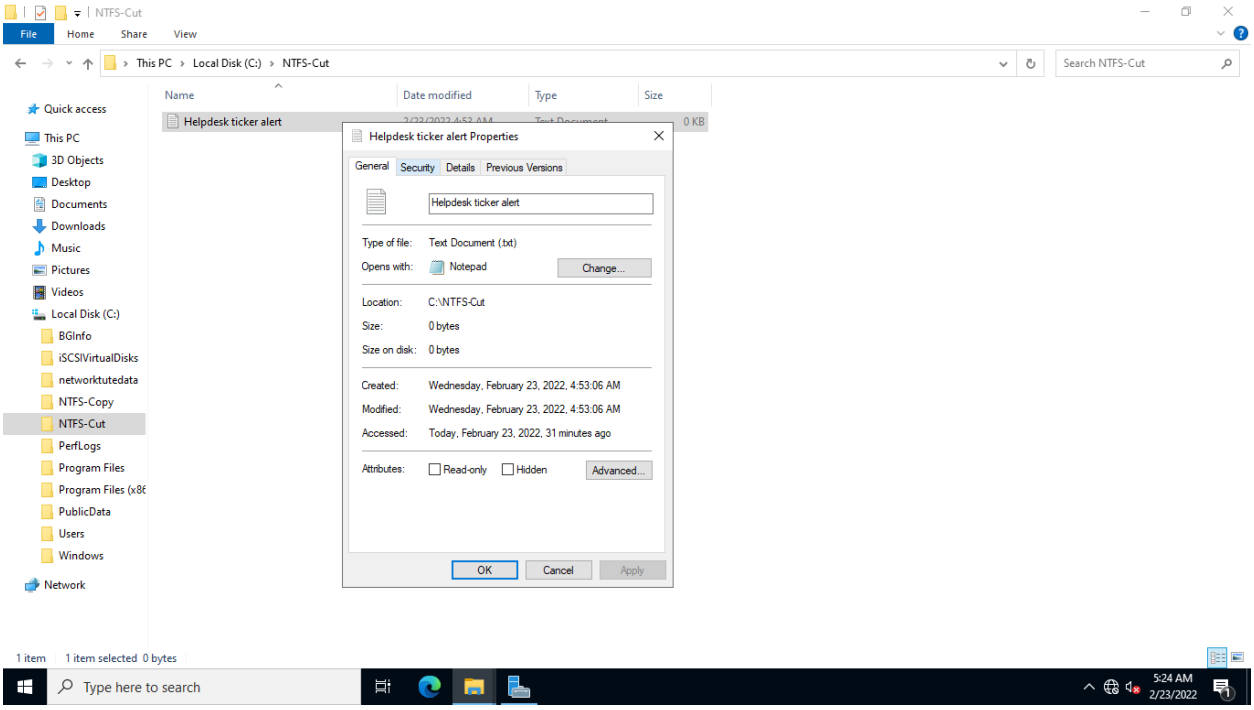
Step 12:

To check the security permissions, right-click **Helpdesk ticket alert** and select **Properties**



Step 13:

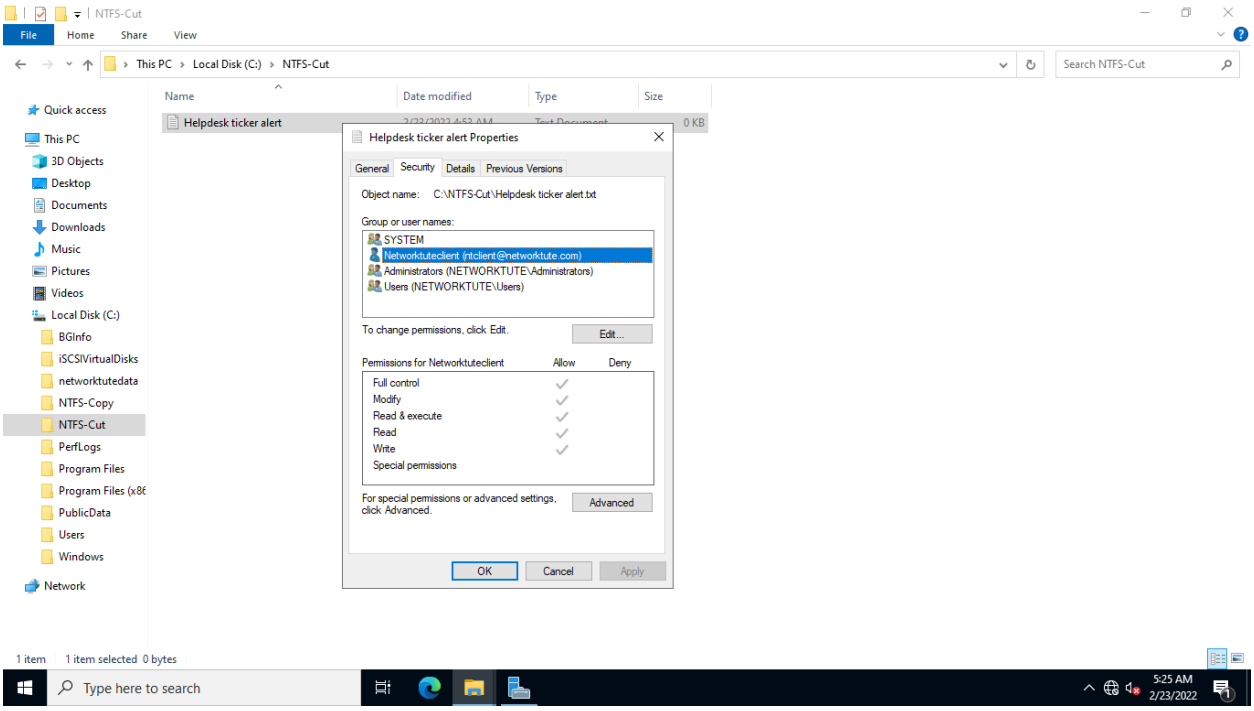
On the **Helpdesk ticket alert Properties**, click the **Security** tab.



Step 14:

Observe that the security permissions for user **ntclient** and other security groups were retained

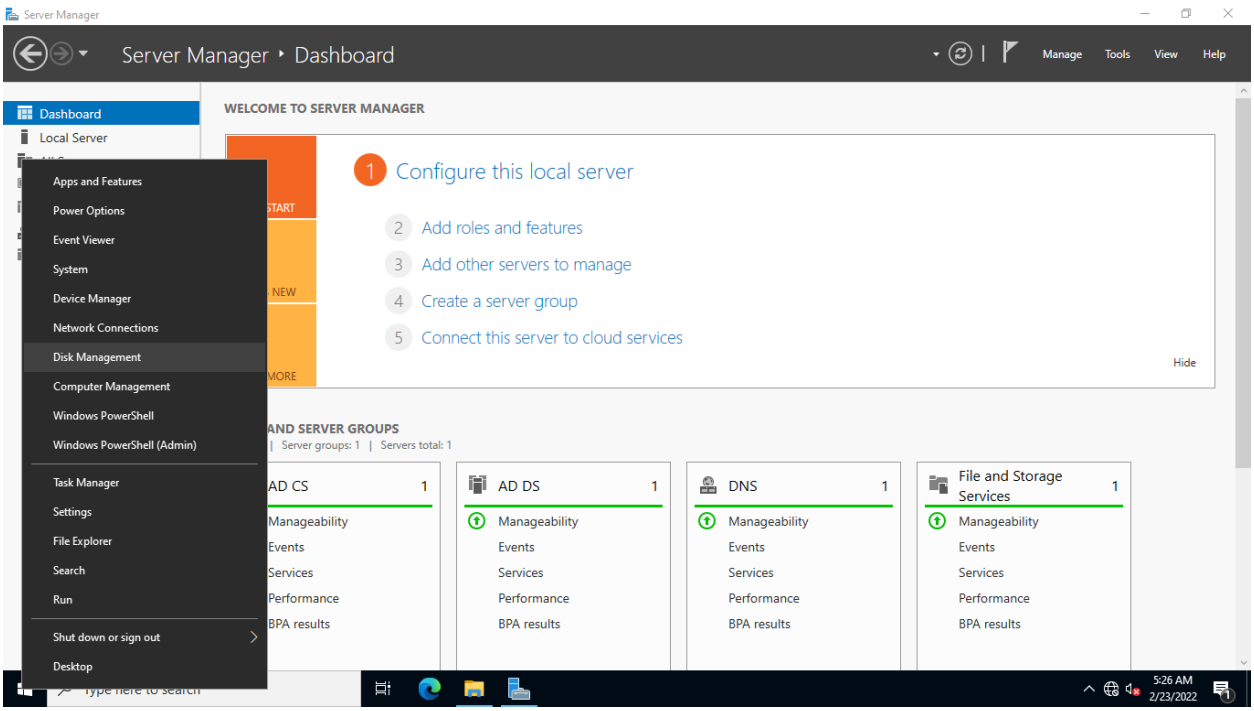
Click **OK.**



Step 15:

Minimize the **File Explorer** window.

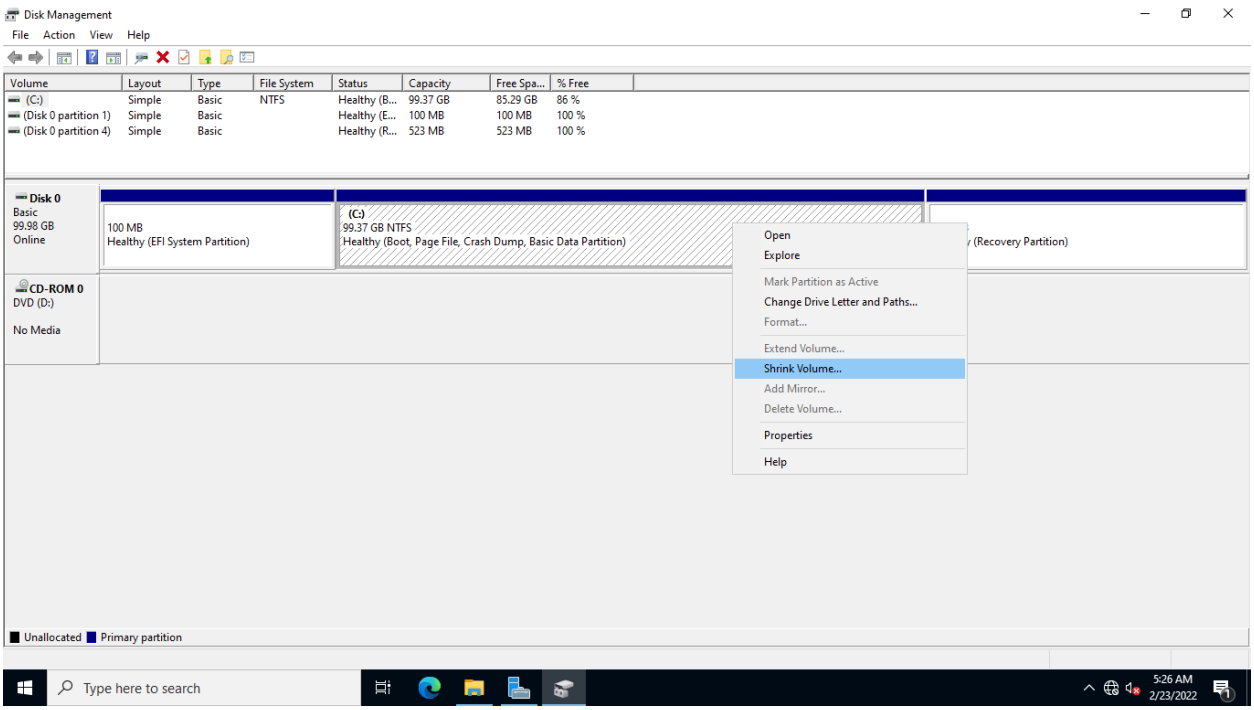
Right-click the **Start** icon and select **Disk Management**.



Step 16:

On the **Disk Management** window, right-click **Disk (C:)** and select **Shrink Volume**

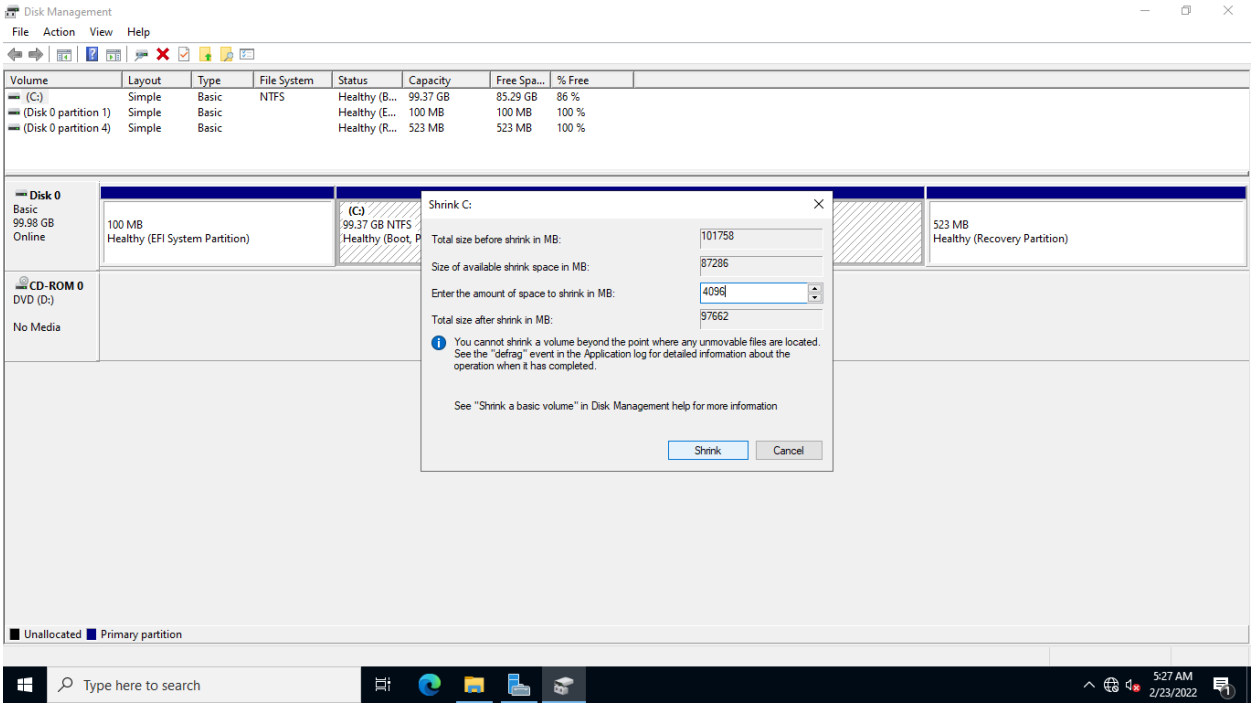
NOTE: If you still see volumes from a prior task, right-click on each one and choose Delete Volume... to free up space.



Step 17:

On the **Shrink C:** dialog box, type-over the value in the **Enter the amount of disk space to shrink in MB** with the following: **4096**

Click **Shrink**.

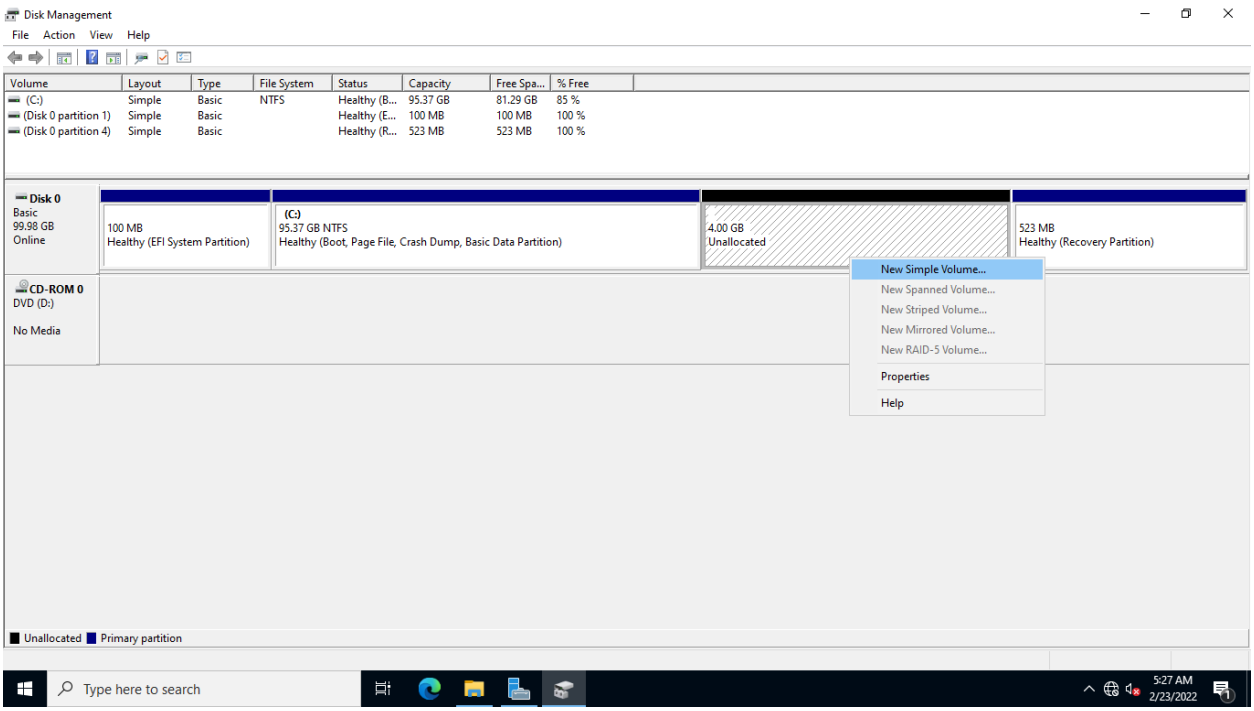


Step 18:

Please wait while Disk Management shrinks the volume.

Notice that the status of **Disk 0** now has a **4.00 GB Unallocated** partition.

On **Disk 0**, right-click the **Unallocated** partition and select **New Simple Volume**



Step 19:

On the **New Simple Volume Wizard - Welcome to the New Simple Volume Wizard** page, read the information and click **Next**.

On the **Specify Volume Size** page, accept the default settings and click **Next**.

On the **Assign Drive Letter or Path** page, keep the default specifications.

Click **Next**.

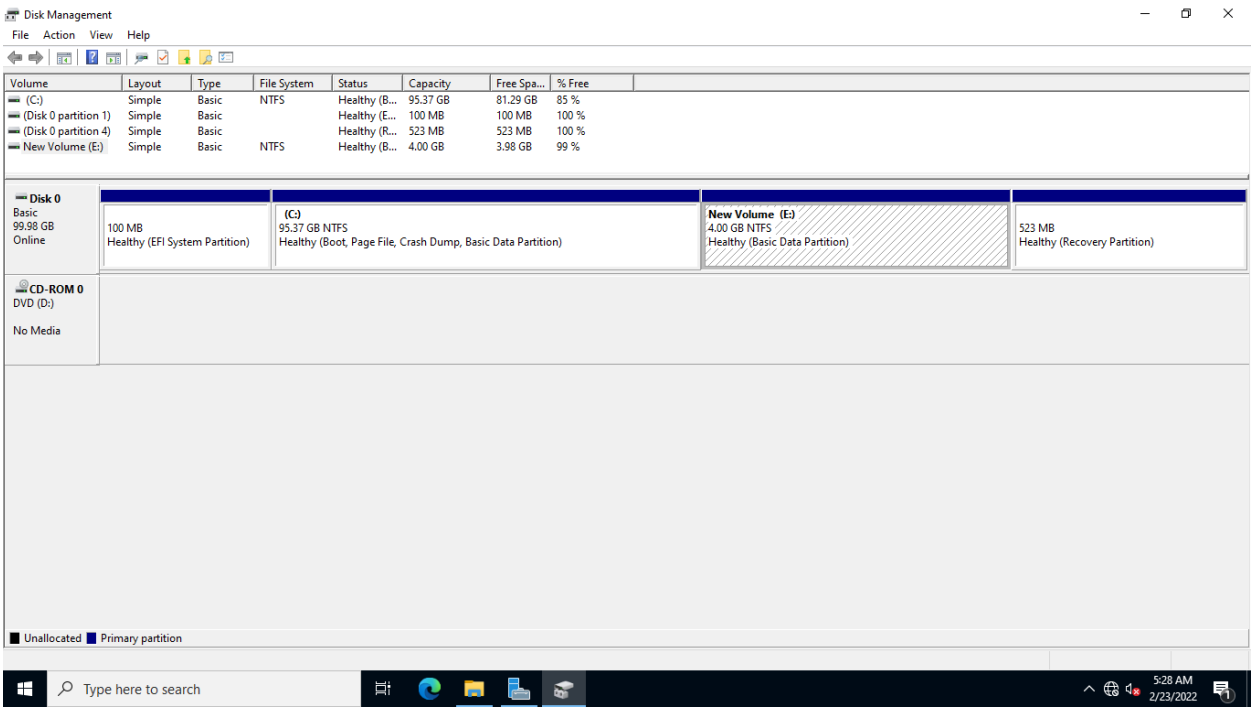
On the **Format Partition** page, keep the default settings.

Click **Next**.

On the **Completing the New Simple Volume Wizard** page, read through the summary about this new disk volume.

Click **Finish** to create the specified volume and exit the wizard.

Back on the **Disk Management** window, notice that **New Volume (D:)** is now available

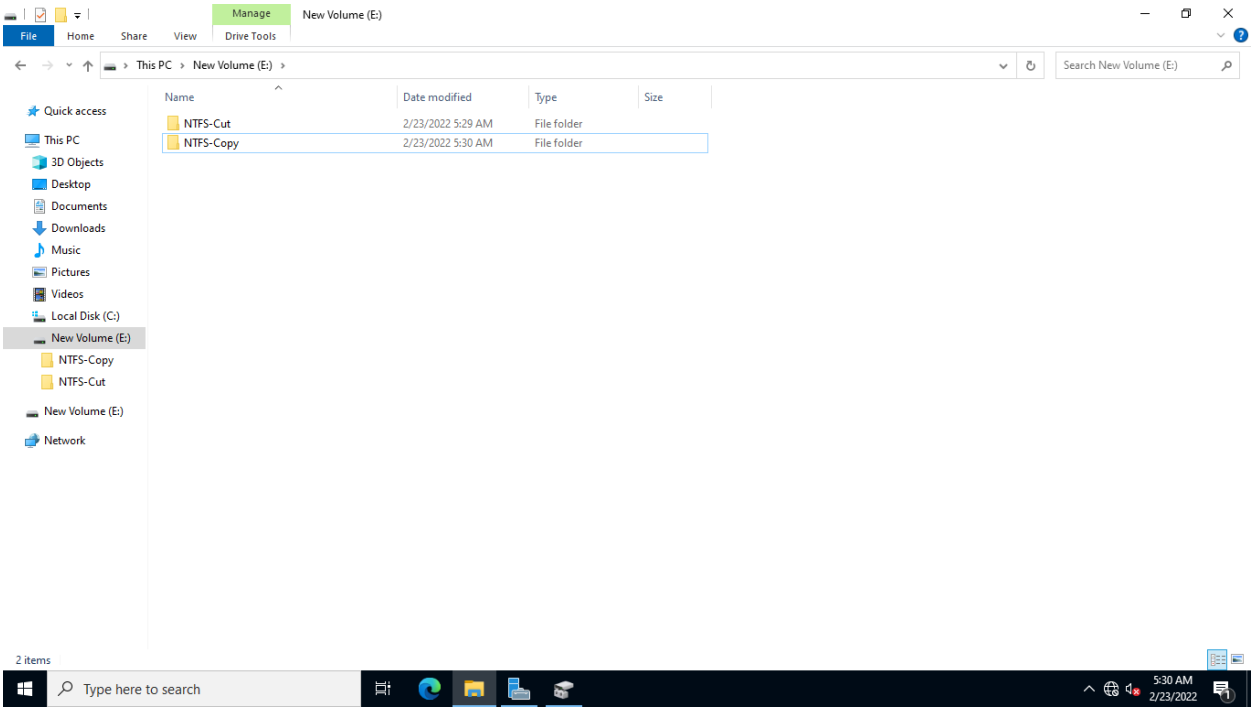


Step 20:

Click **File Explorer** on the **Taskbar**.

Go to **New Volume Disk (E:)** and create the following folders and name them as follows

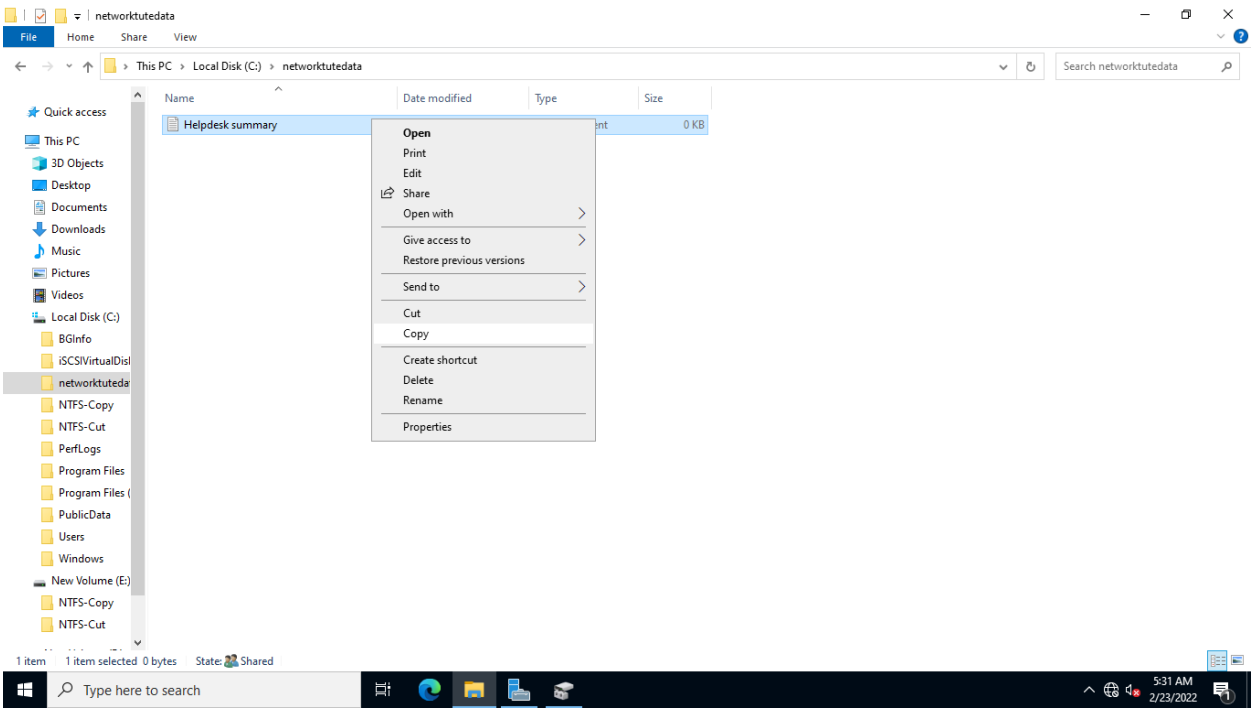
NTFS-Cut | NTFS-Copy



Step 21:

Expand **Local Disk C:** and click **networktutedata** folder.

Right-click the **Helpdesk summary** file and select **Copy**.

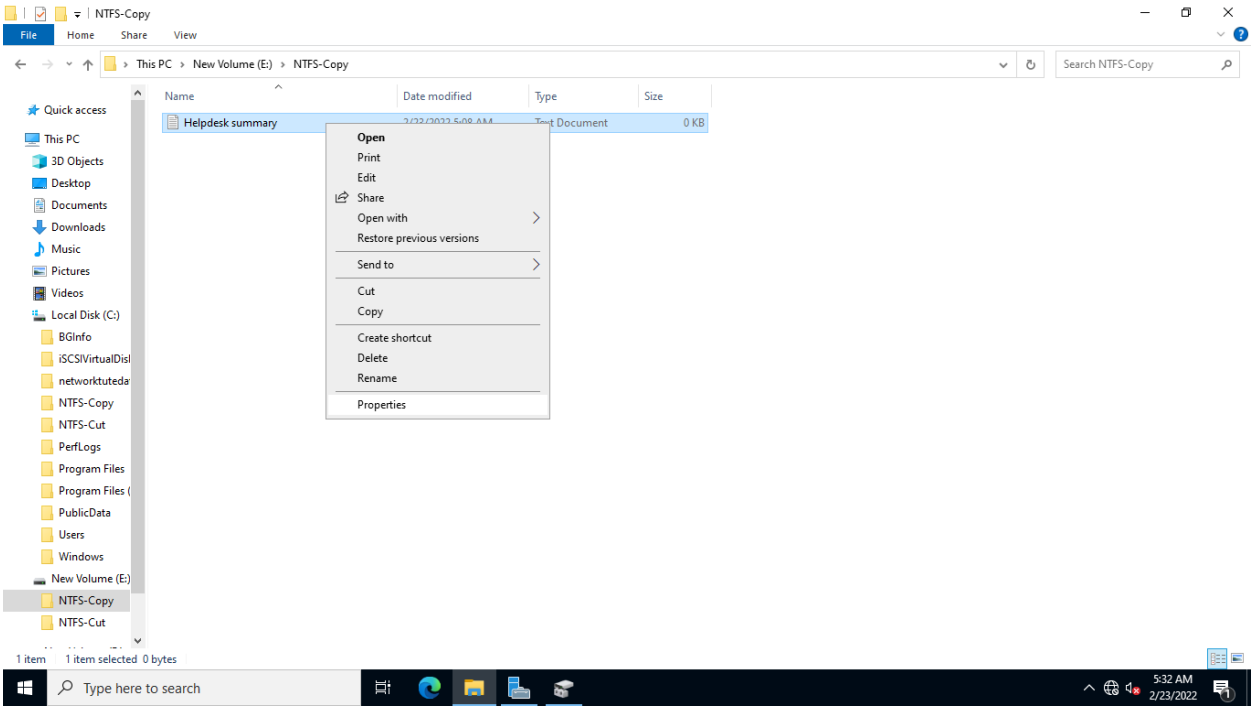


Step 22:

Go to **New Volume (D:)** > **NTFS-Copy** folder.

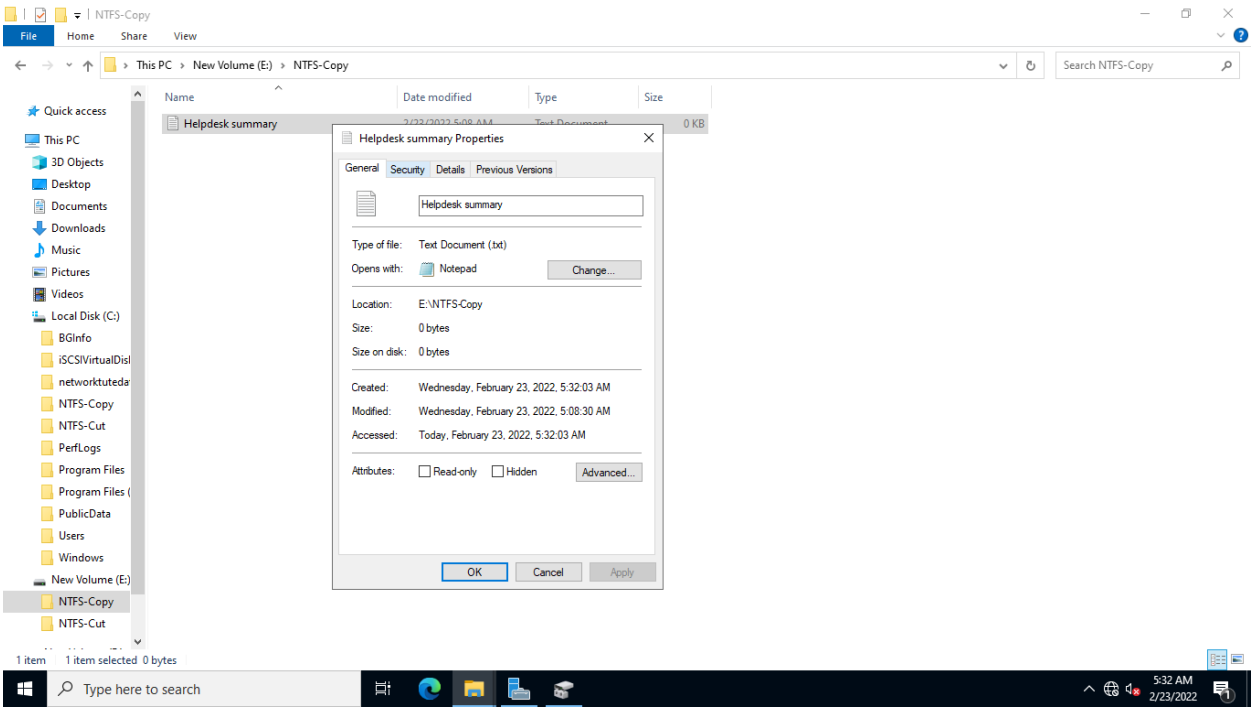
Paste the **Helpdesk summary** file.

Then, right-click the **Helpdesk summary** file and select **Properties**.



Step 23:

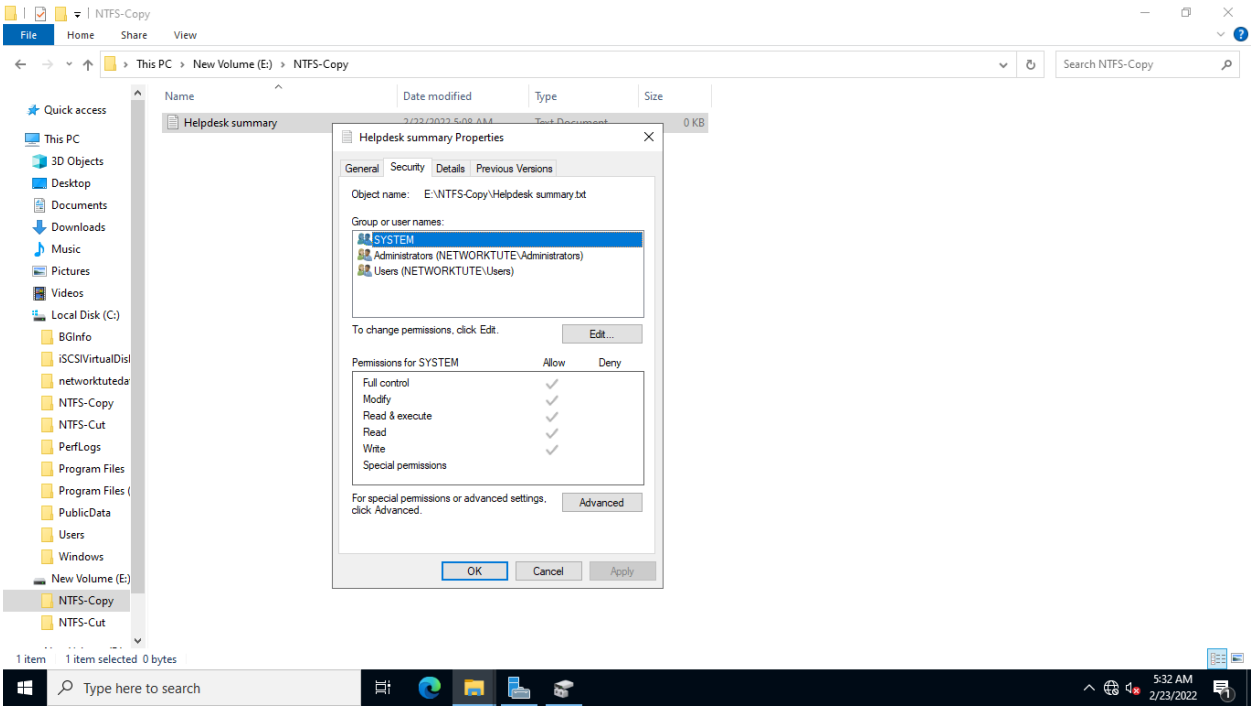
On the **Helpdesk summary Properties** dialog box, go to **Security**.



Step 24:

On the **Security** tab, observe that the file inherited the **NTFS Security** from **Local Disk (D:)** drive.

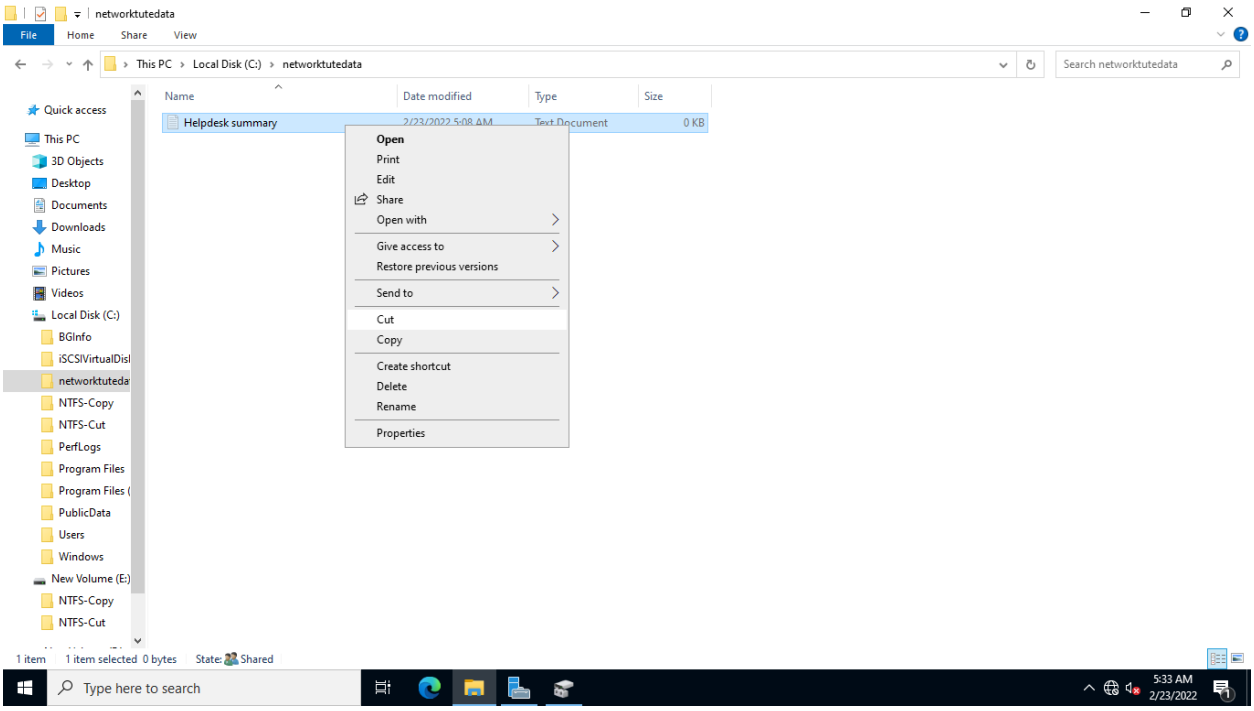
Click **OK**.



Step 25:

Expand the **Local Disk C:** drive and click **networktutedata** folder again.

Right-click the **Helpdesk summary** file and select **Cut**.

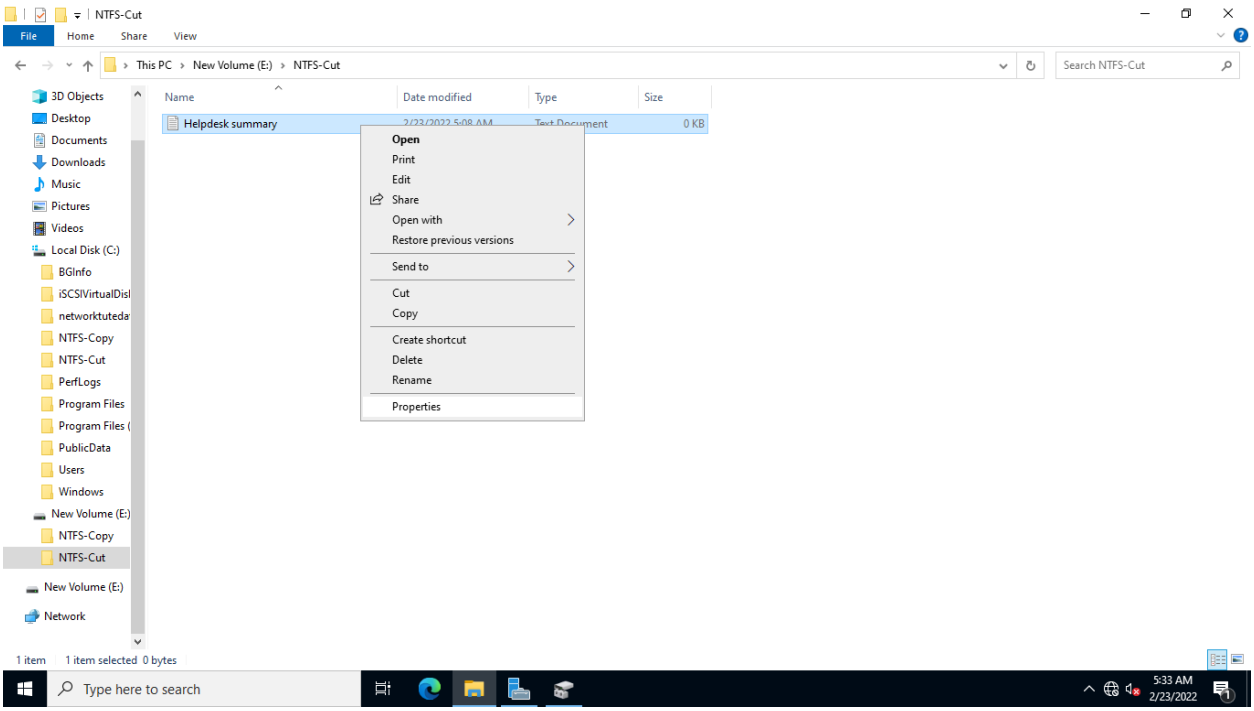


Step 26:

Expand **New Volume (D:)** and click on the **NTFS-Cut** folder.

Paste the **Helpdesk summary** file here.

Right-click **Helpdesk summary** and select **Properties**.

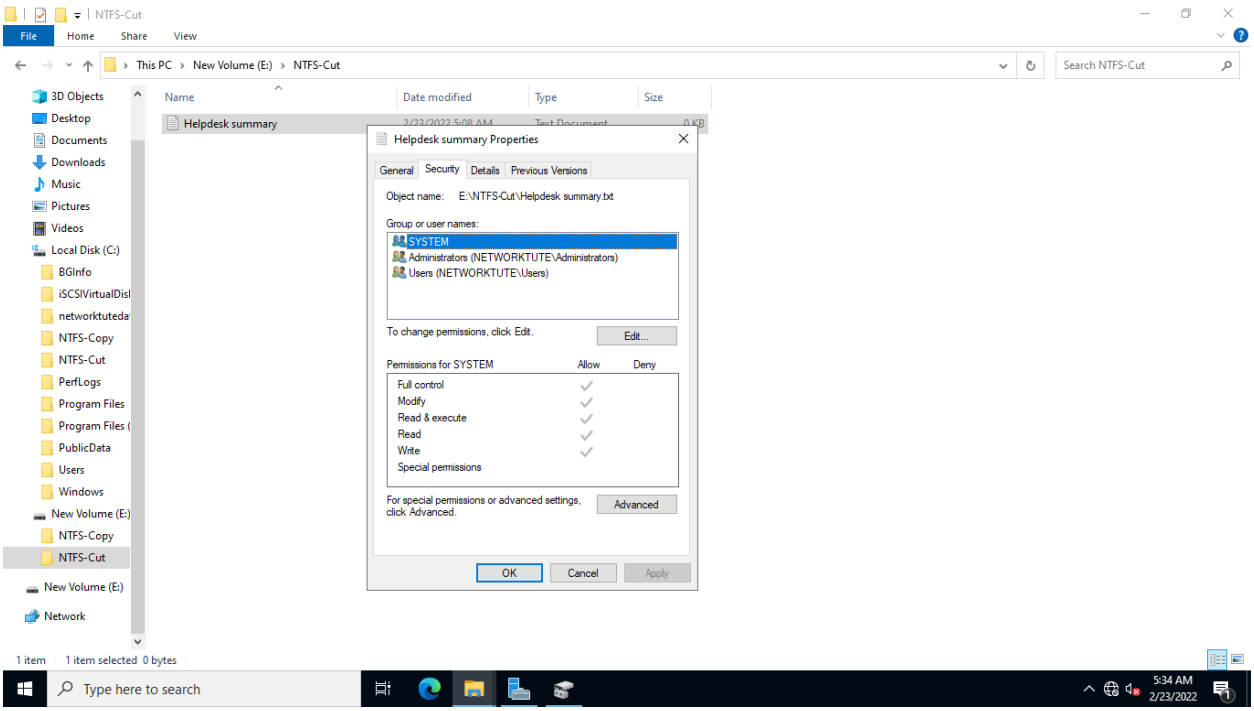


Step 27:

On the **Helpdesk summary Properties** dialog box, click **Security** tab.

Observe the access control list under the **Security** tab. Notice that the file inherited the permissions from the Local Drive D

Click **OK.**



Task 4: Manage Advanced Permissions

Advanced permissions are a special set of permissions that can be used when standard permissions aren't enough to meet file system security needs.

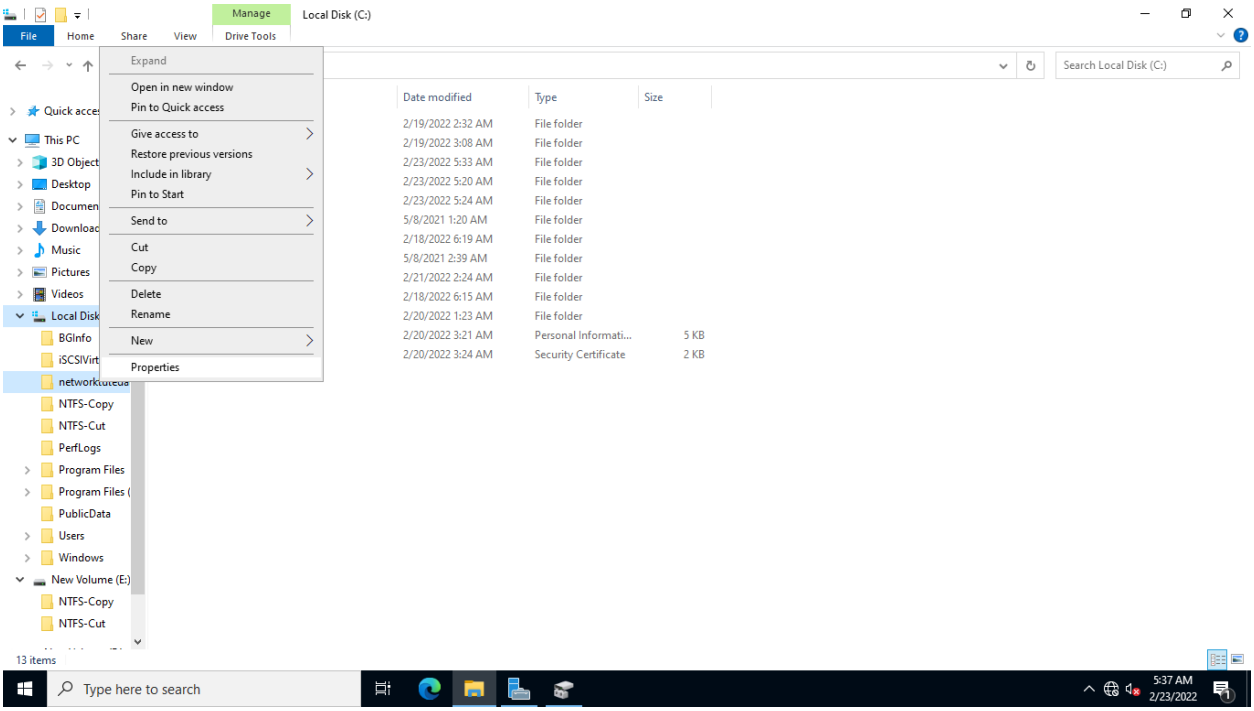
A security group, for example, has advanced permissions. Take notes, read, and write Ownership. Advanced permissions for files and folders are a property of the object. The object's owner or another security principal with full control authority.

In this task, we will configure advanced permissions on the Helpdesk folder.

Step 1:

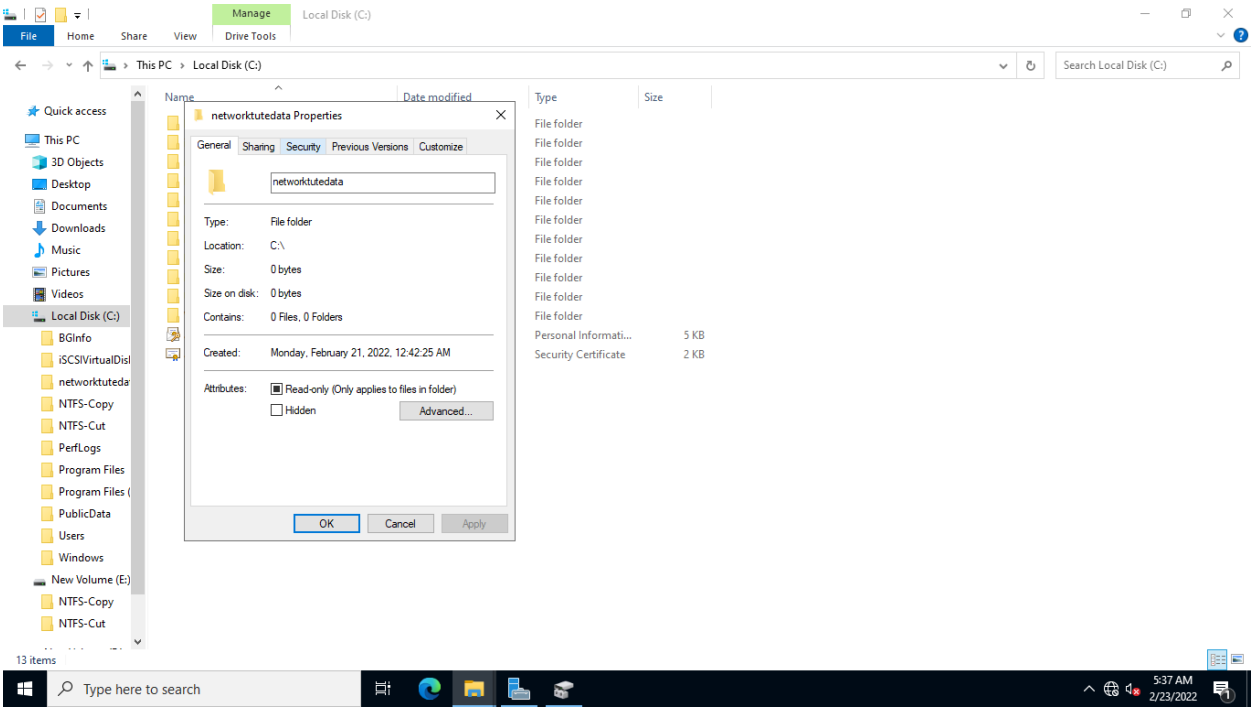
Make sure you are connected to **NTSER22VM1** as **Networktute\Administrator.**

While **File Explorer** window is open, go to **This PC >Local Disk (C:),** right-click **networktutedata** and select **Properties**.



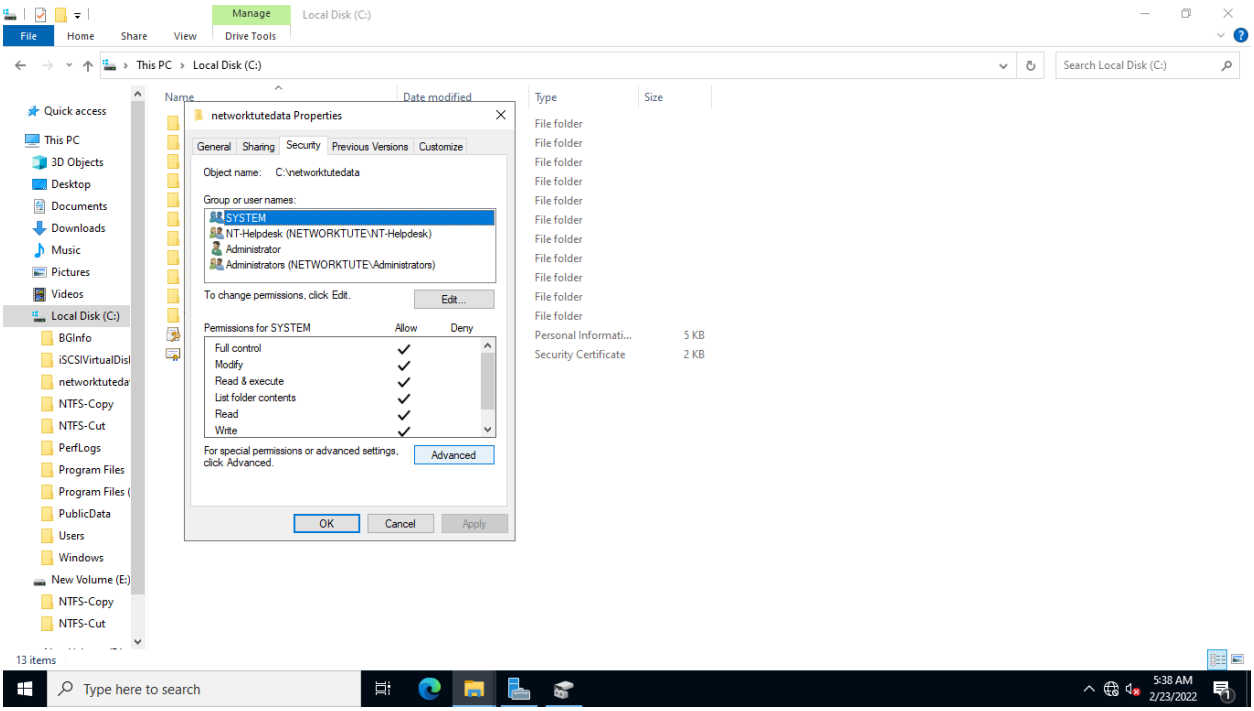
Step 2:

On the **Helpdesk Properties** dialog box, click **Security** tab.



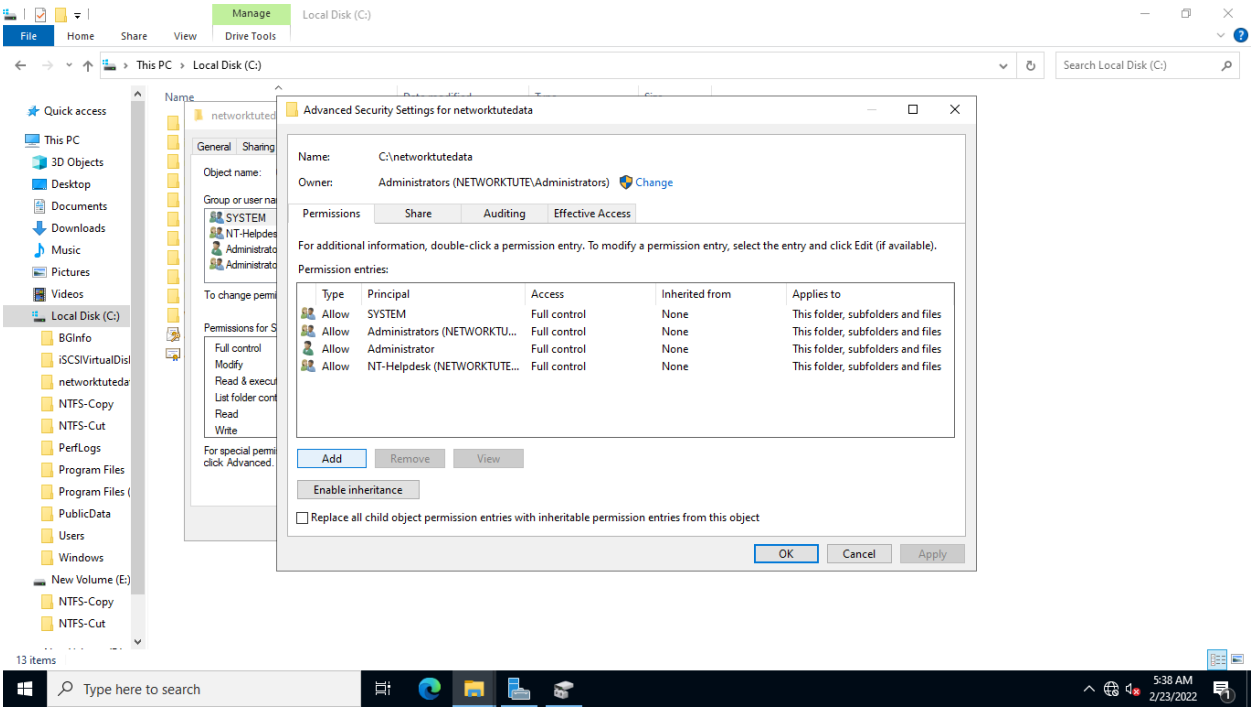
Step 3:

Under the **Security** tab, click **Advanced**.



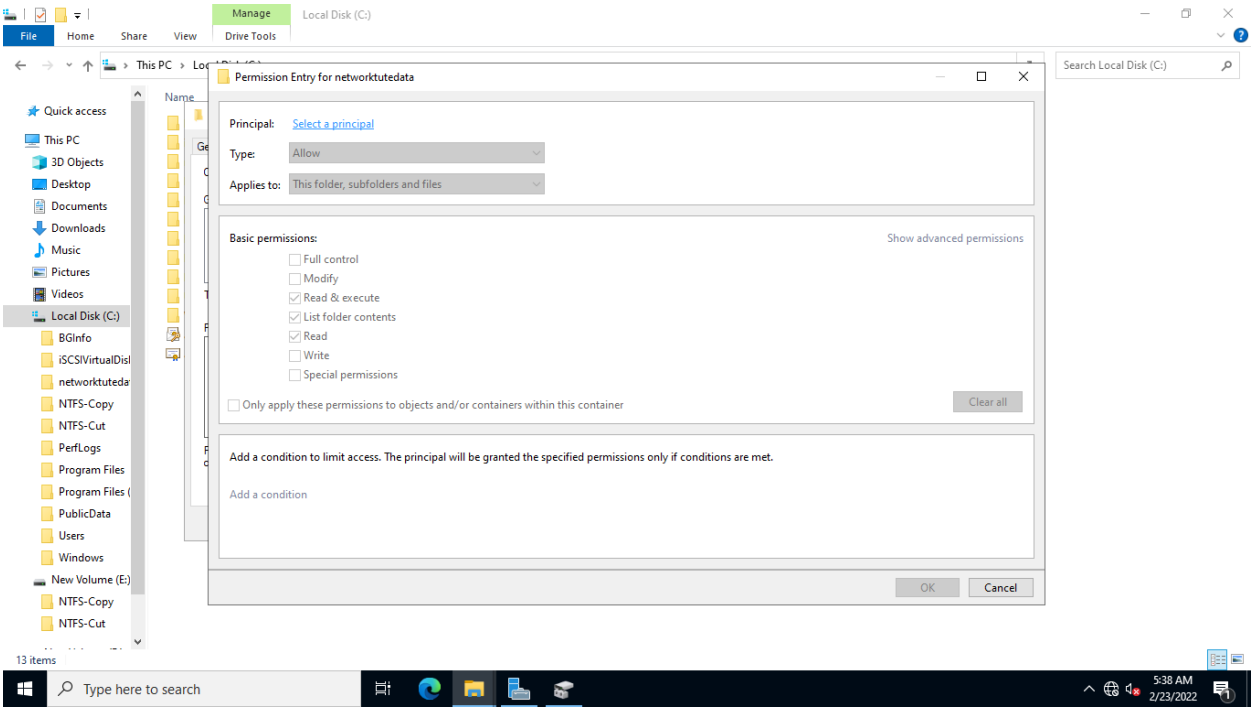
Step 4:

On the **Advanced Security Settings for Helpdesk** dialog box, click **Add**.



Step 5:

On the **Permission Entry for networktutedata** dialog box, click the **Select a principal** web link

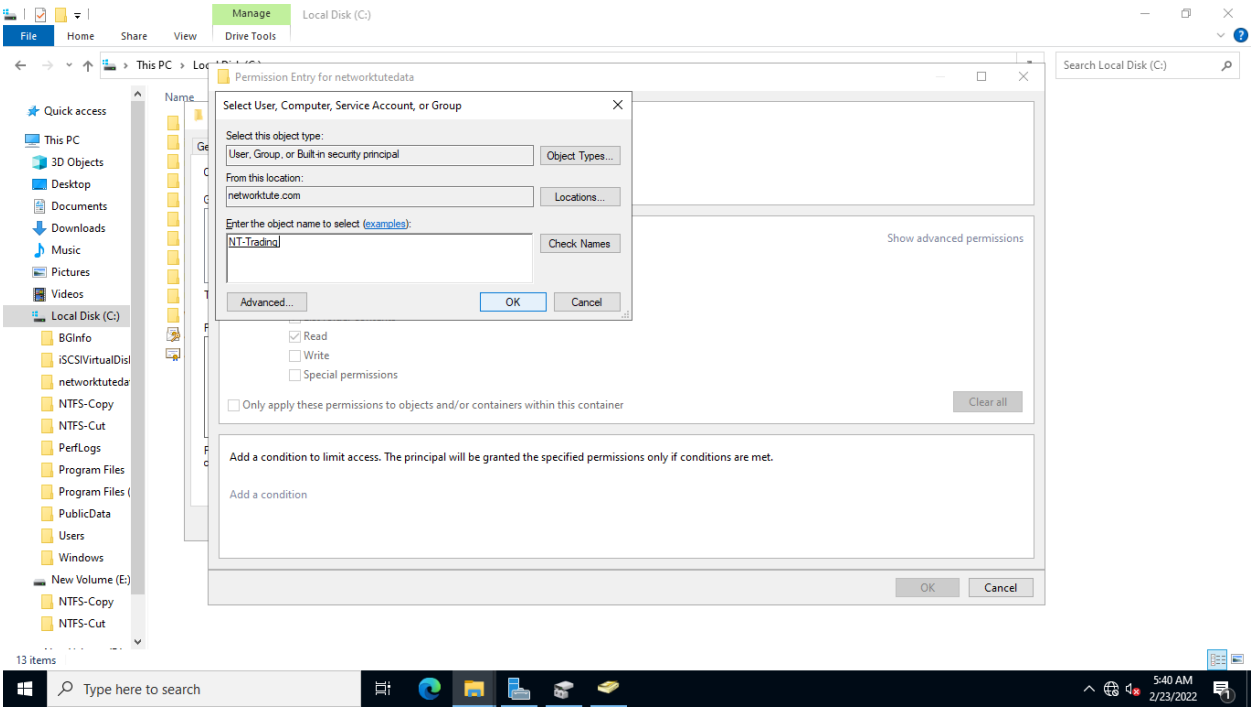


Step 6:

On the **Select User, Computer, Service Account, or Group** dialog box, in the textbox, type: **NT-Trading**

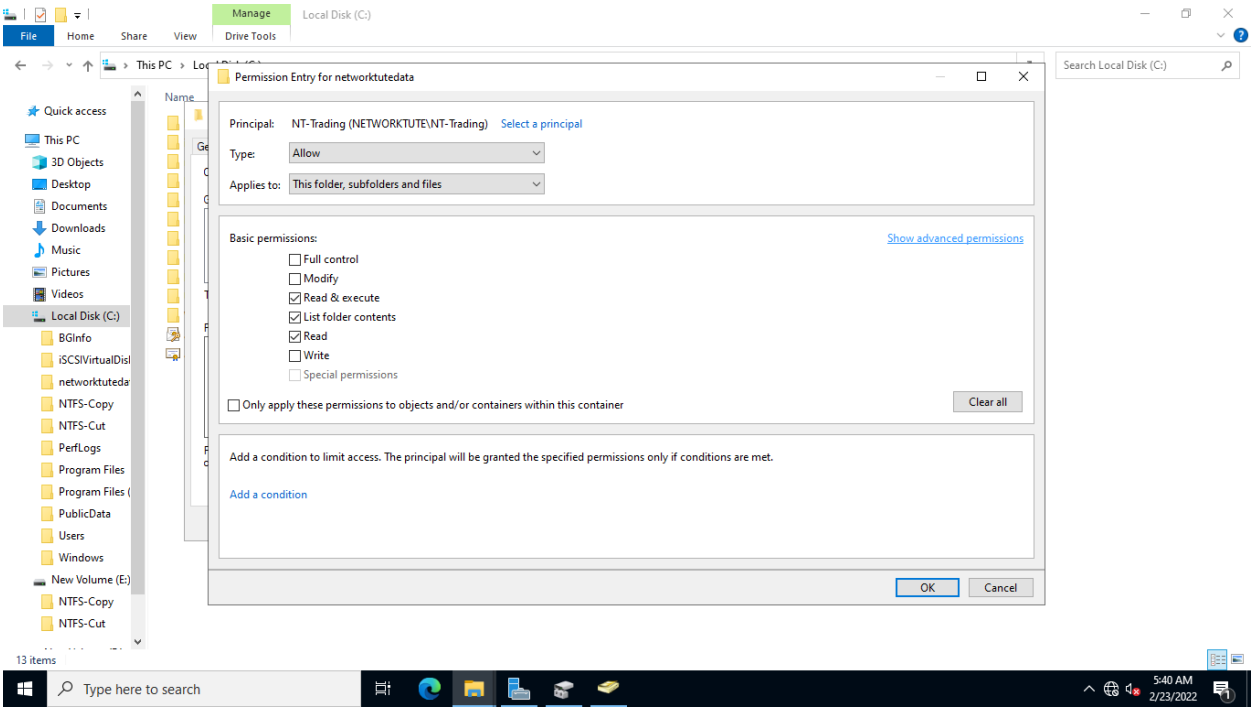
Click **Check Names** to verify you have typed in a valid group name.

Click **OK.**



Step 7:

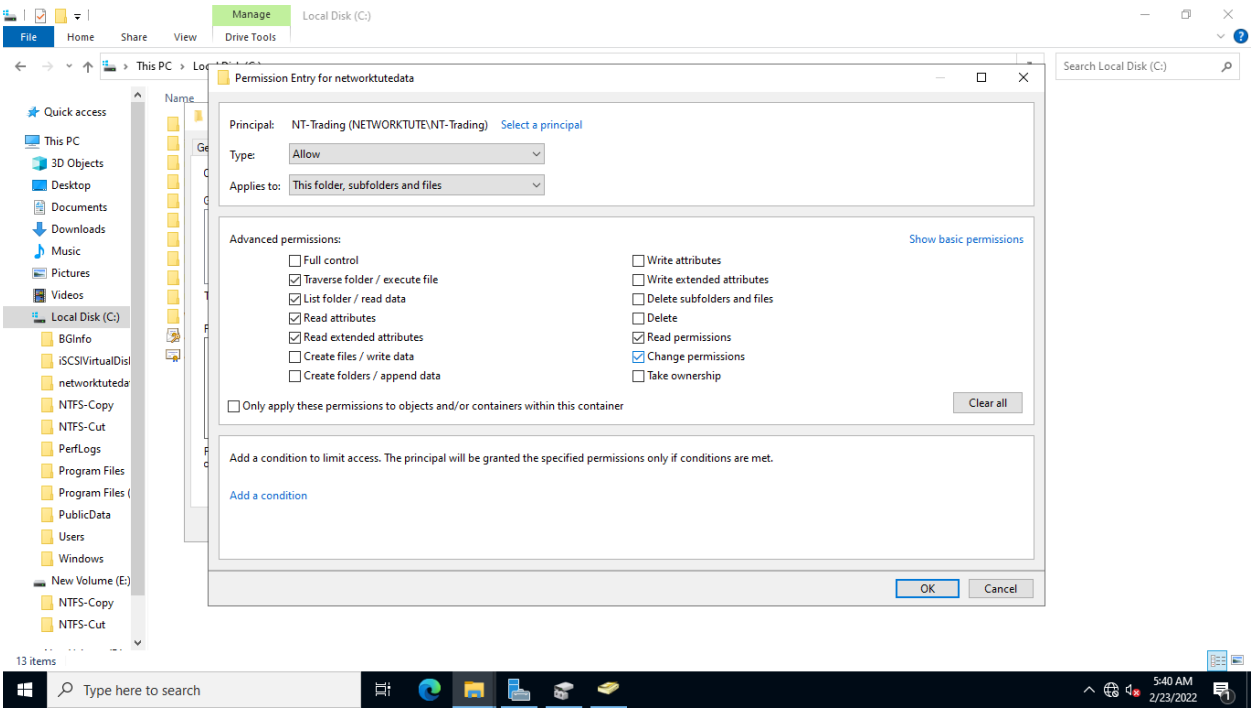
Back on the **Permission Entry for networktutedata**, click **Show advanced permissions** web link



Step 8:

Under the **Advanced permissions** section, tick the **Change permissions** checkbox.

Then click **OK.**



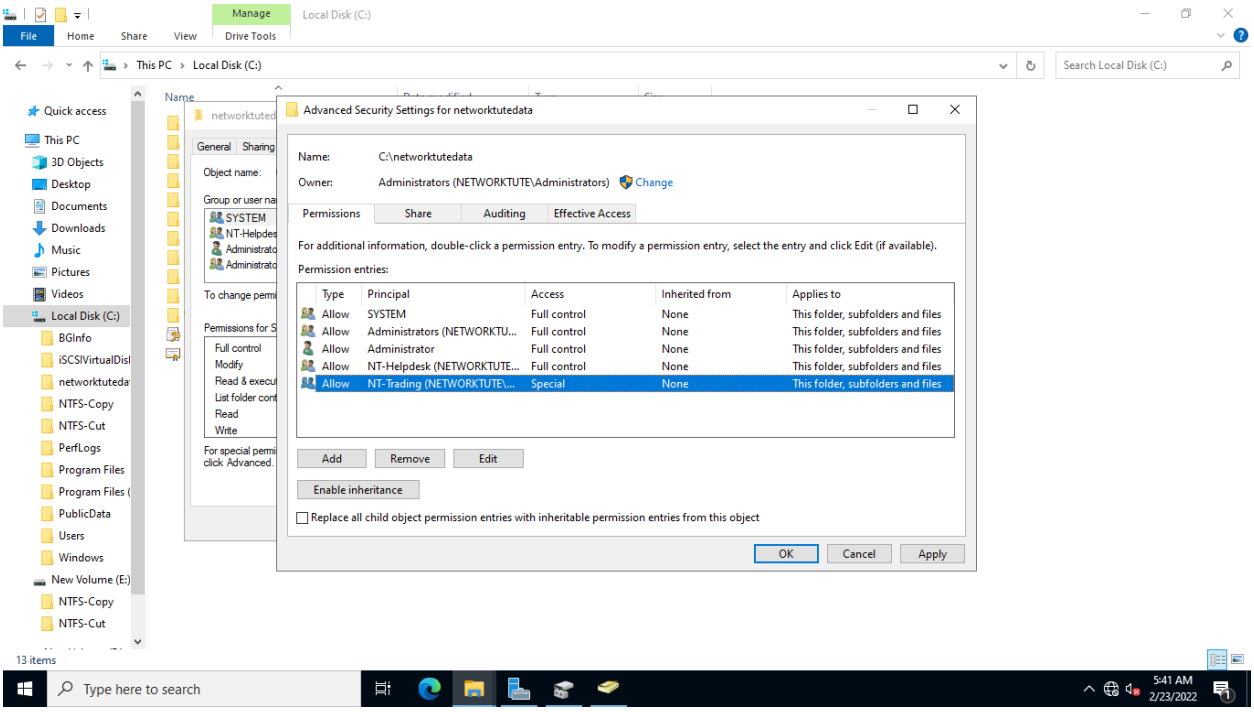
Step 9:

On the **Advanced Security Settings for Marketing**, notice that **NT-Trading** group has "**Special**" access to the Marketing folder. Customized permission set has been applied.

When you are ready, click **OK** to close the window.

Similarly, click **OK** on the **Networktutedata Properties** dialog box.

Close the **File Explorer** window.



Step 10:

Ensure your **Server auto login** feature is enabled under the **Settings and customization** tab before moving to the next activity.