Exercises about NTFS permissions (2)

Imagine we have a computer with Windows 10 for two-year courses. The **first year** can access two types of students: **hardware** and **software** (2 users for each type and 1 group for the first year). The second year can access **security** and **servers** (2 users for each type and 1 group for the second year).

The users above are standard, but we also have an advanced user called "**responsible**" with administrator permissions.

We want to create some folders in D:\ according to the following criteria:

- A **personal folder** for each user, which can only be accessed by the corresponding user. They can do everything. You only need to create the folder for one of the users, since the others are similar.

Hardware Personal

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
software	X	X	X	X	X					

- A **read-only folder** for all the students called "**shared**". The **responsible** user is able to create or delete files and folders. The **software** user cannot access this folder.

As the group can increase in the future, it' s better to deny *read* permissions. Modify is the minimum permission to create and delete software.

Shared

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
First_Year			X	X						
Second_Year			X	X						
Software									X	
Responsible		X	X	X	X					

- A folder only for **first year** students into the shared folder, where they can **create** files and folders, **but not delete** them. **Second year** students will **not be able to access**.

I keep permissions for the administrator "responsible", with inheritance to keep the permissions from the parent folder.

Keeping inheritance - Shared

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
First_Year (INHERITED)			X	X						
Second_Year (INHERITED)			X	X						
Software (INHERITED)									X	
Responsible (EXPLICIT)		X	X	X	X					
First_Year (EXPLICIT)			X	X	X					
Second_Year (EXPLICIT)									X	

- Do the same as above for **second year** students (into the shared folder too). **First year** students will not be able to access.

They can only create files and folders but not delete them, so they will only have read permissions.

I keep permissions for the administrator "responsible", with inheritance to keep the permissions from the parent folder.

Without inheritance - Shared

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
First_Year			X	X	X					
Responsible		X	X	X	X					

Do the following:

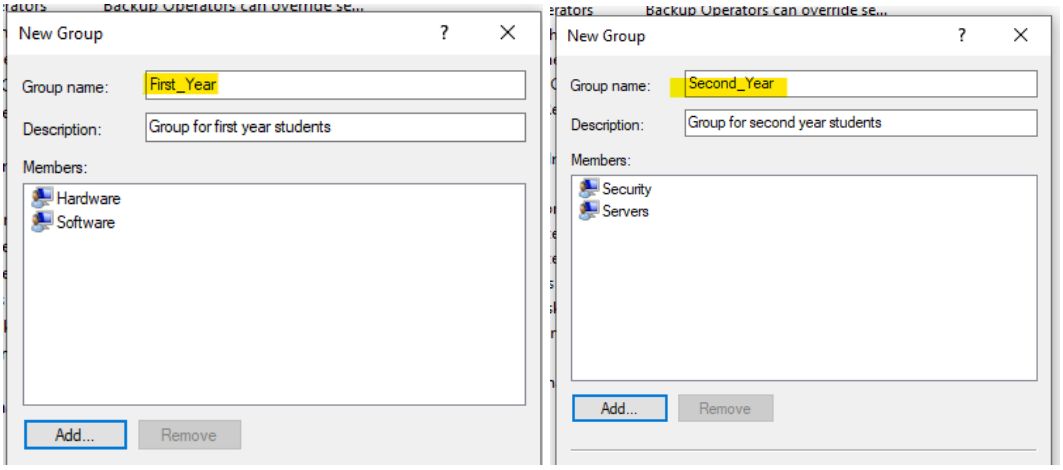
a) Explain the users and groups required for the computer.

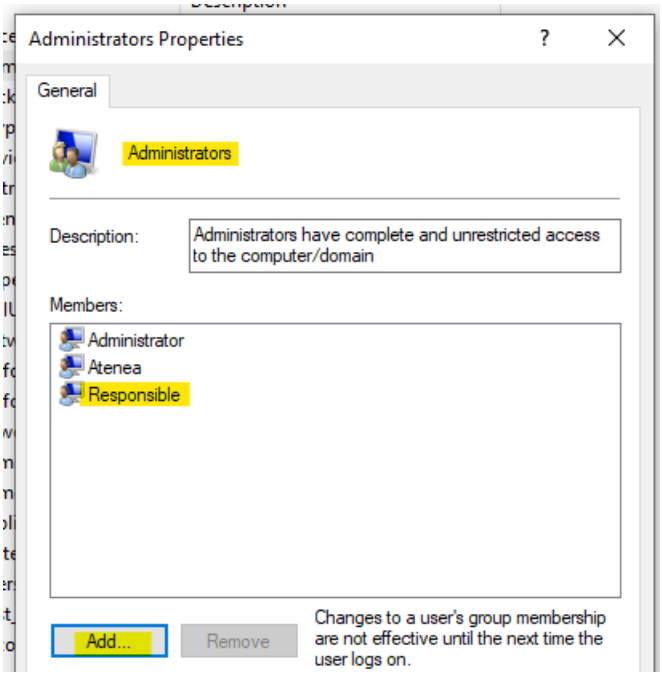
To follow the exercises, I need to create the following groups and users:

- The password that I have used for the students' accounts is: student1234
- The password for the administrator is: admin1234

Group	*User*
Administrators	Responsible
First_Year	Hardware
	Software
Second_Year	Security
	Servers

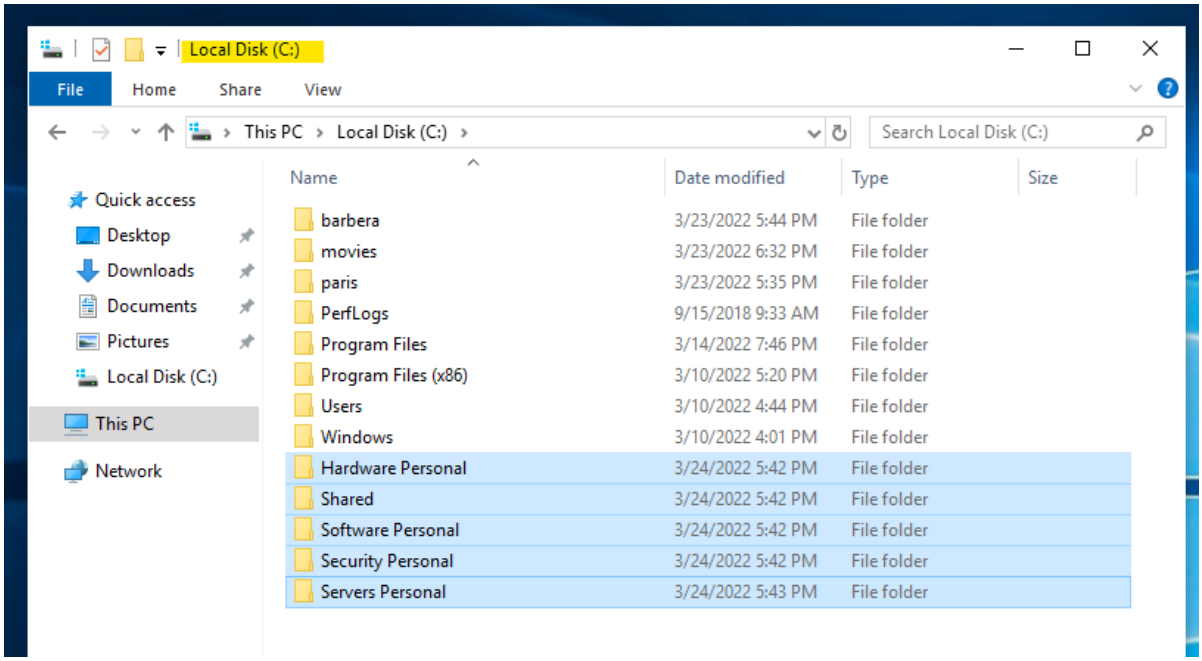
These are the steps that I have been taken to create the groups and add the users:





b) Explain the folders we need according to the criteria above.

I create the folders logged in as Administrator in C:\, named as *Hardware Personal*, *Shared*, *Software Personal*, *Security Personal*, *Servers Personal*.



c) Set the NTFS permissions for all the users and groups in each folder created in part B. For the subfolders, consider two scenarios: inheritance and non-inheritance.

We want to create some folders in D:\ according to the following criteria:

- A **personal folder** for each user, which can only be accessed by the corresponding user. They can do everything. You only need to create the folder for one of the users, since the others are similar.

Hardware Personal

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
software	X	X	X	X	X					

- A **read-only folder** for all the students called "**shared**". The **responsible** user is able to create or delete files and folders. The **software** user cannot access this folder.

As the group can increase in the future, it' s better to deny *read* permissions. Modify is the minimum permission to create and delete software.

Shared

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
First_Year			X	X						
Second_Year			X	X						
Software									X	
Responsible		X	X	X	X					

- A folder only for **first year** students into the shared folder, where they can **create** files and folders, **but not delete** them. **Second year** students will **not be able to access**.

I keep permissions for the administrator "responsible", with inheritance to keep the permissions from the parent folder.

Keeping inheritance - Shared

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
First_Year (INHERITED)			X	X						
Second_Year (INHERITED)			X	X						
Software (INHERITED)									X	
Responsible (EXPLICIT)		X	X	X	X					
First_Year (EXPLICIT)			X	X	X					
Second_Year (EXPLICIT)									X	

- Do the same as above for **second year** students (into the shared folder too). **First year** students will not be able to access.

They can only create files and folders but not delete them, so they will only have read permissions.

I keep permissions for the administrator "responsible", with inheritance to keep the permissions from the parent folder.

Without inheritance - Shared

	Allow					Deny				
User/Group	Full Control	Modify	Read & Execute	Read	Write	Full Control	Modify	Read & Execute	Read	Write
First_Year			X	X	X					
Responsible		X	X	X	X					

In addition, "software students" will not be able to access the folder, since first-year is a subfolder of "Shared" and they do not have permissions for the parent.

For second-year will be similar, but swapping first and second permissions. In this case, I'm not denying any user that belongs to the "second group". For this folder, all the second-year users will

access the folder:

With inheritance – Shared

	Allow					Deny				
User/Group	**Full Control**	**Modify**	**Read & Execute**	**Read**	**Write**	**Full Control**	**Modify**	**Read & Execute**	**Read**	**Write**
first (inherited)			X	X						
second (inherited)			X	X						
software (inherited)									X	
responsible (inherited)		X	X	X	X					
second (explicit)			X	X	X					
first (explicit)									X	

Without inheritance – Shared. The user "responsible" it's keeped because he/she is the "Administrator"

	Allow					Deny				
User/Group	**Full Control**	**Modify**	**Read & Execute**	**Read**	**Write**	**Full Control**	**Modify**	**Read & Execute**	**Read**	**Write**
second			X	X	X					
responsible		X	X	X	X					