

21 Robocopy Examples With Screenshots

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≡ Windows Server

```
C:\>robocopy c:\source \\srv-vm2\share /e

-----
ROBOCOPY      ::      Robust File Copy for Windows
-----

Started : Tuesday, August 9, 2022 6:23:27 AM
Source  : c:\source\
Dest    : \\srv-vm2\share\

Files   : *.*

Options : *.* /S /E /DCOPY:DA /COPY:DAT /R:1000000 /W:30

-----
```

Looking for a list of robocopy examples and useful commands? Then look no further.

Robocopy has many command line options and it can be overwhelming to know which commands to use. In this guide, I'll show you the best robocopy commands and examples.

Let's get started.

1. Test A File Copy Without Any Real Changes

You can test a file copy with the /l command. This is a great way to test a command without making any real changes, it will show you what it would have

done.

Here is an example.

```
robocopy c:\share c:\it\dst /l
```

You can see below this command would have copied one directory.

```
:>robocopy c:\source \\srv-vm2\share /l

ROBOCOPY      ::      Robust File Copy for Windows

-----
Started : Monday, August 8, 2022 1:34:12 PM
Source  : c:\source\
Dest    : \\srv-vm2\share\

Files : *.*

Options : *.* /L /DCOPY:DA /COPY:DAT /R:1000000 /W:30

-----
0      c:\source\

-----


|         | Total   | Copied  | Skipped | Mismatch | FAILED  | Extras  |
|---------|---------|---------|---------|----------|---------|---------|
| Dirs :  | 1       | 0       | 1       | 0        | 0       | 0       |
| Files : | 0       | 0       | 0       | 0        | 0       | 0       |
| Bytes : | 0       | 0       | 0       | 0        | 0       | 0       |
| Times : | 0:00:00 | 0:00:00 |         |          | 0:00:00 | 0:00:00 |


```

I'll run another test and include the /e option.

```
robocopy c:\share c:\it\dst /e /l
```

This time the test showed it would copy a bunch of files and directories.

```
➔ New File      725240      ProtectionManagement.dll
➔ New File      89334      ProtectionManagement.mof
New File      2570      ProtectionManagement_Uninstall.mof
New File      1091      ThirdPartyNotices.txt
New Dir        6      c:\source\Windows Defender\en-US\
New File      2560      EppManifest.dll.mui
New File      51200      MpAsDesc.dll.mui
➔ New File      43008      MpEvMsg.dll.mui
New File      35840      ProtectionManagement.dll.mui
New File      95866      ProtectionManagement.mfl
New File      1118      ProtectionManagement_Uninstall.mfl
New Dir        0      c:\source\Windows Defender\Offline\
New Dir        0      c:\source\Windows Defender\Platform\

-----


|         | Total | Copied | Skipped | Mismatch | FAILED | Extras |
|---------|-------|--------|---------|----------|--------|--------|
| Dirs :  | 13    | 12     | 1       | 0        | 0      | 0      |
| Files : | 36    | 36     | 0       | 0        | 0      | 0      |


```



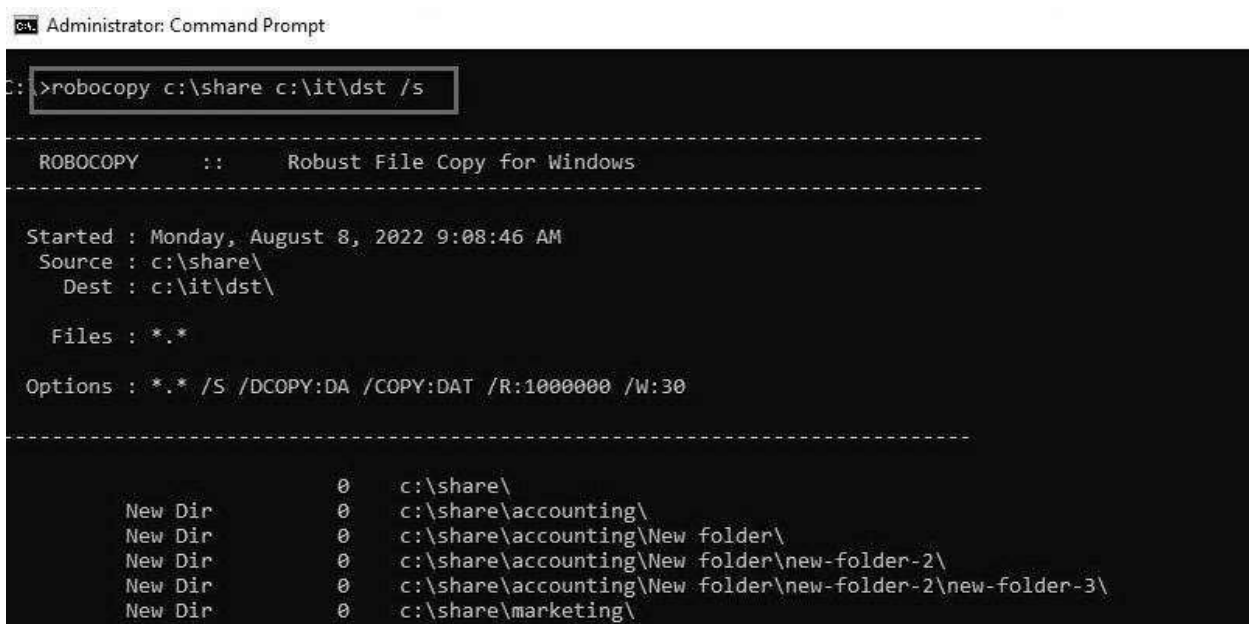
The /l is a great command to help you understand what it would have done without making any real changes.

2. Copy Contents Exclude Empty Subdirectories

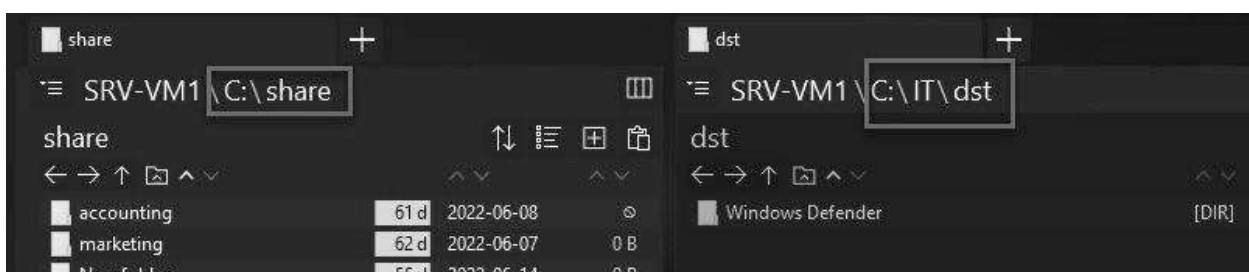
In this example, I'm going to copy all the files and folders from c:\share to the folder c:\it\dst on the same computer. This will exclude any empty subdirectories.

```
robocopy c:\share c:\it\dst /s
```

Here is a screenshot from my computer.



Here is a screenshot showing the comparison between the source and destination folders.



New folder (2)	2 h 15'	2022-08-08	0 B
pr	62 d	2022-06-07	0 B
public	62 d	2022-06-07	0 B
Windows Defender	60 d	2022-06-09	15.3 MB

Why did robocopy only copy the "Windows Defender" folder? Because the other folders are empty, the /s command will exclude subdirectories that are empty.

3. Copy Contents Include Empty Subdirectories

In this example, I'm going to copy all the files and folders from c:\share to the folder c:\it\dst on the same computer. This time I will use /e command to include empty subdirectories.

```
robocopy c:\share c:\it\dst /e
```

Here is a screenshot of the command from my computer.

```

Administrator: Command Prompt
C:\>robocopy c:\share c:\it\dst /e

ROBOCOPY      ::      Robust File Copy for Windows

-----
Started : Monday, August 8, 2022 9:16:01 AM
Source  : c:\share\
Dest    : c:\it\dst\

Files : *.*

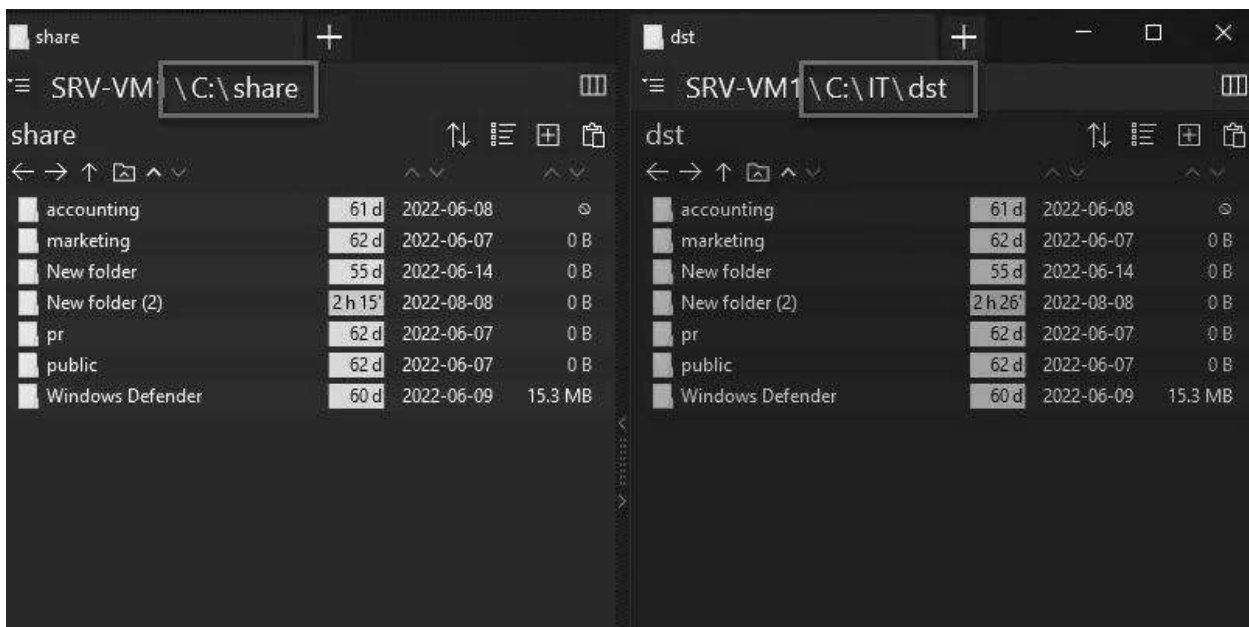
Options : *.* /S /E /DCOPY:DA /COPY:DAT /R:1000000 /W:30

-----

New Dir      0      c:\share\
New Dir      0      c:\share\accounting\
New Dir      0      c:\share\accounting\New folder\
New Dir      0      c:\share\accounting\New folder\new-folder-2\
New Dir      0      c:\share\accounting\New folder\new-folder-2\new-folder-3\
New Dir      0      c:\share\marketing\

```

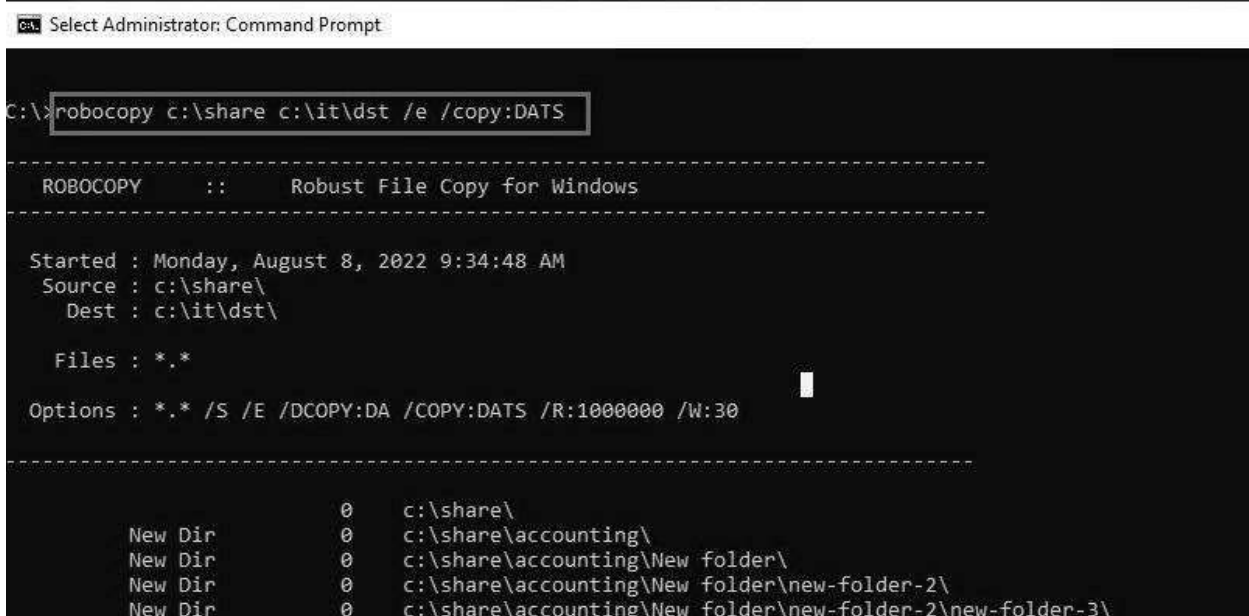
Here is the folder comparison. This time the destination folder looks just like the source folder.



4. Copy Contents With Security (ACL Permissions)

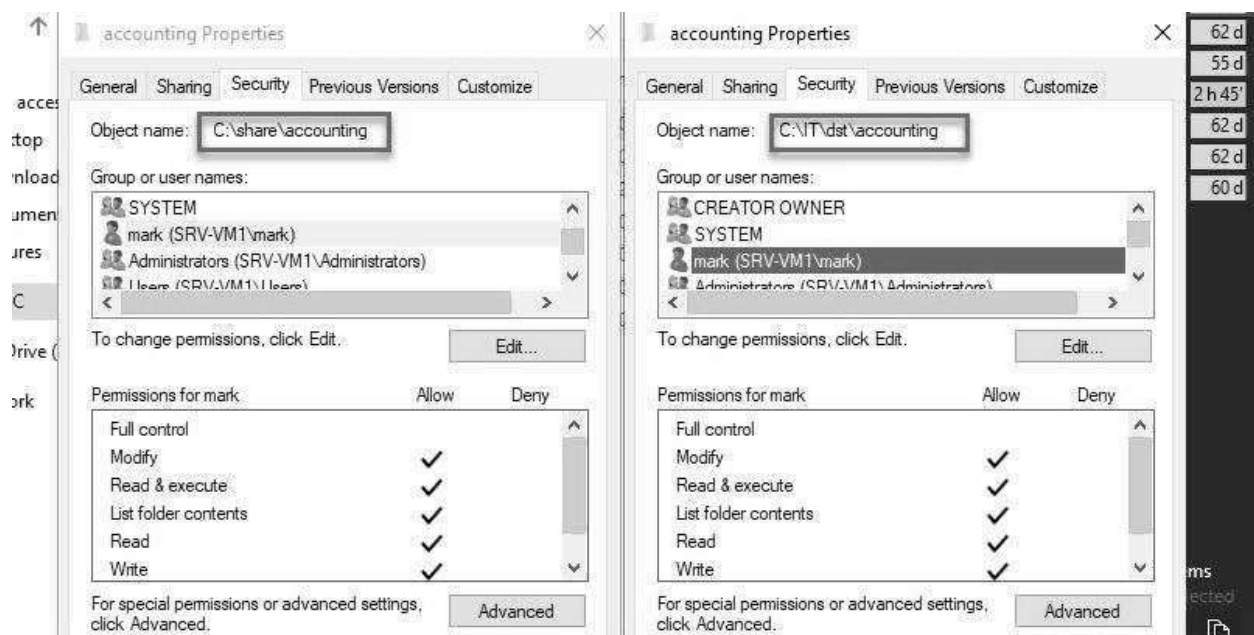
If you have modified the permissions on files and folders and want to keep those permissions, you need to use the **/copy:DATS** option. This does not copy owner information, see example 4 to include the owner.

```
robocopy c:\share c:\it\dst /e /copy:DATS
```



Here is a screenshot comparing the permissions on one of the folders. On the source, I modified the permissions on the accounting folder. You can see these

permissions copied over to the destination folder.

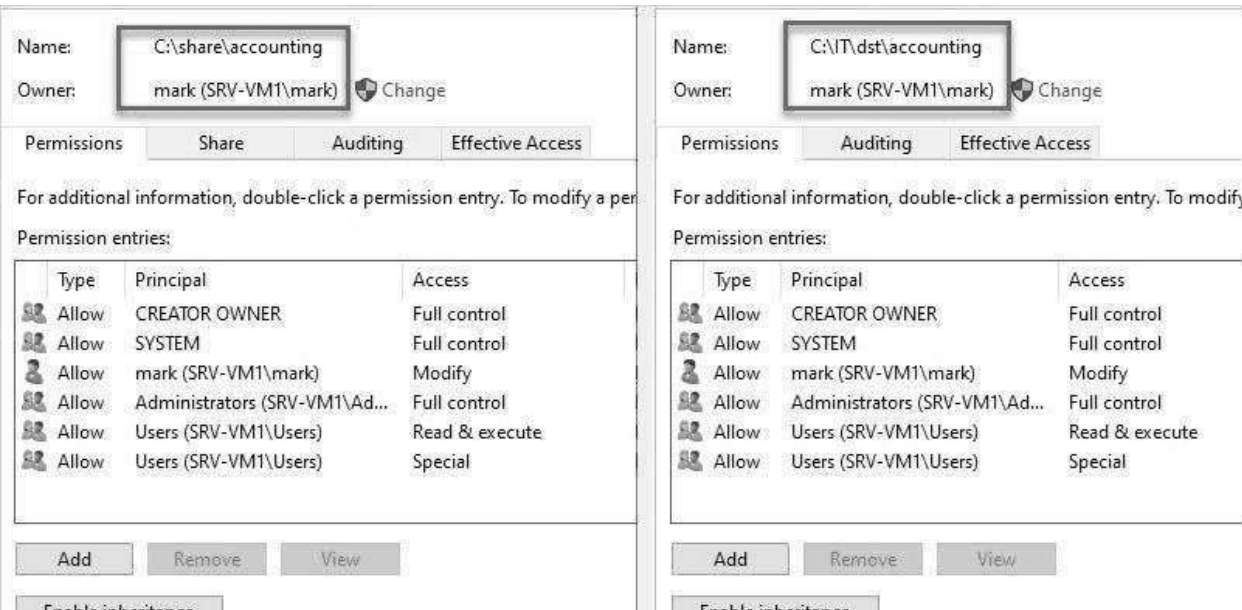


5. Copy Files With Security Including Owner

To include the owner of a file or folder use the /copy:DATSO command.

```
robocopy c:\share c:\it\dst /e /copy:DATSO
```

Here is a screenshot showing the owner information was copied over to the destination folder. Without this command, the folder would inherit the owner information.



6. Copy All File Information

To copy all file properties use /copyall, this is equivalent to /copy:DATSOU. I prefer to use /copyall instead of listing each property type.

```
robocopy c:\share c:\it\dst /e /copyall
```

This will copy the following file properties.

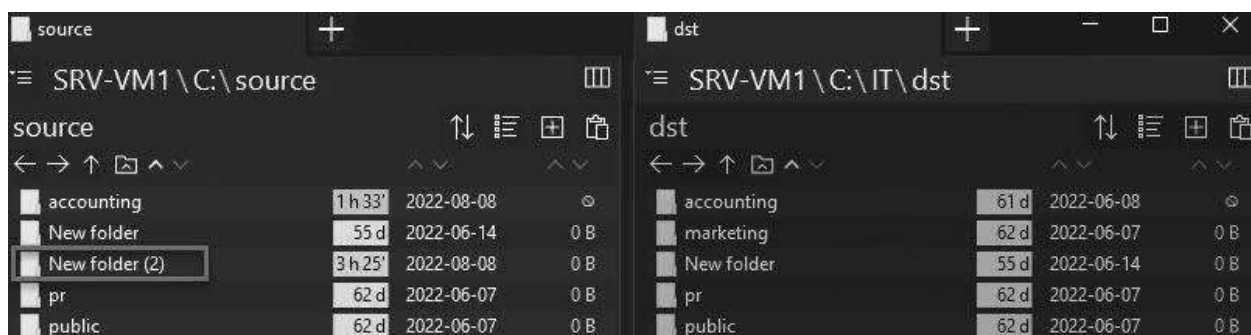
- D – Data
- A – Attributes
- T – Timestamps
- S – NTFS access control list (ACL)
- O – Owner information
- U – Auditing information

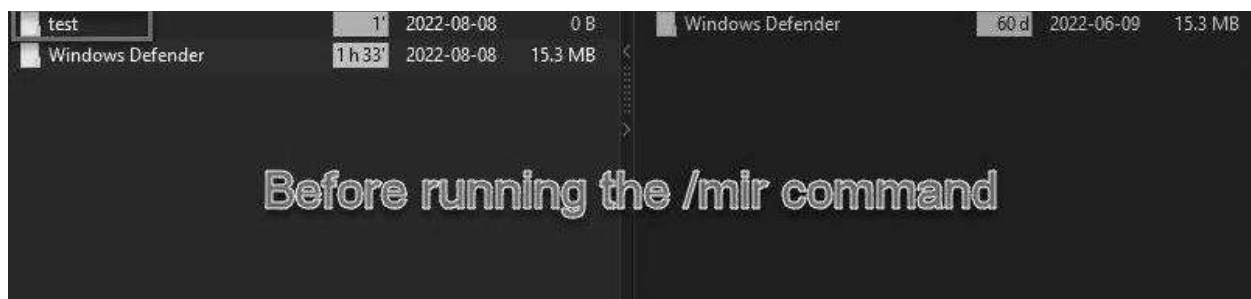
7. Mirror Source and Destination Directory

This command will mirror the source and destination directory. Whatever changes you make in the source directory will be mirrored in the destination. For example, if you add/remove a folder in the source, the same will occur in the destination.

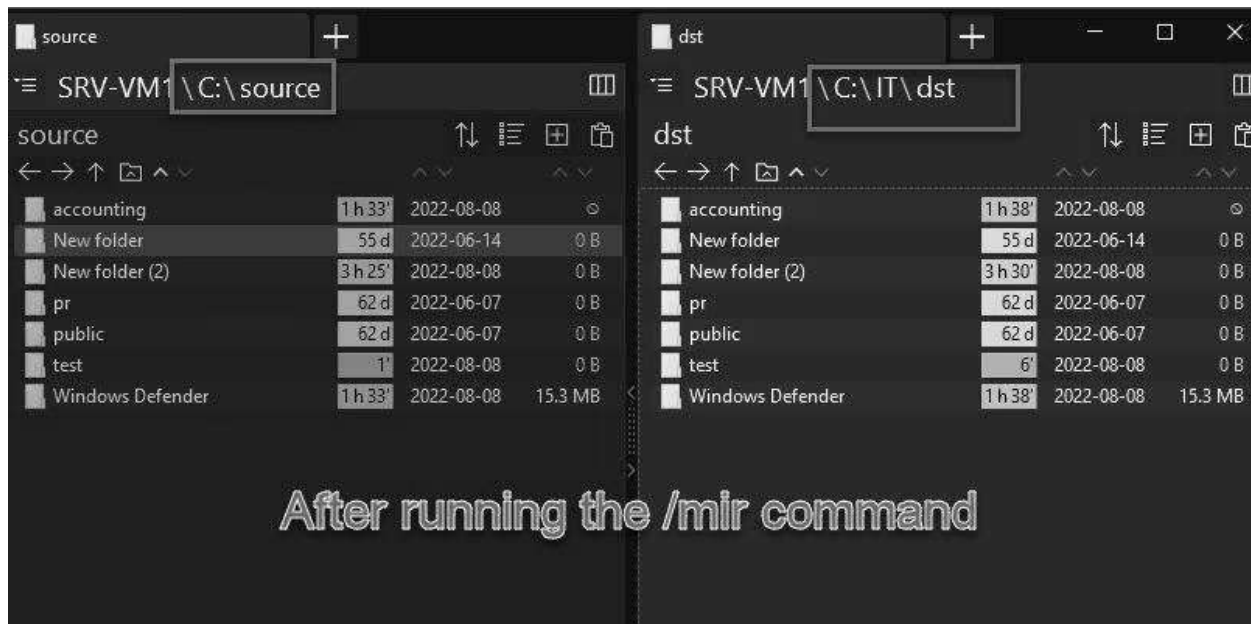
```
robocopy c:\source c:\it\dst /e /mir
```

Below is a screenshot before I run the /mir command. You can see the source and destination are different.

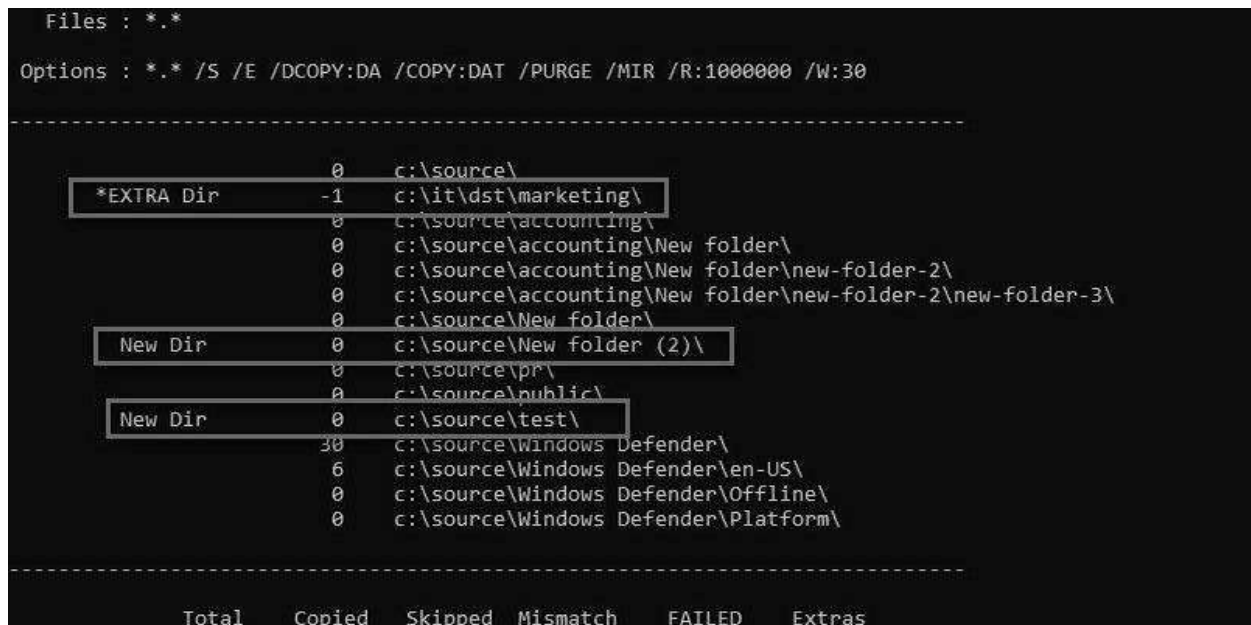




After I run the /mir command the destination will be the same.



The output of the /mir command will show you what changes there are between the source and destination.



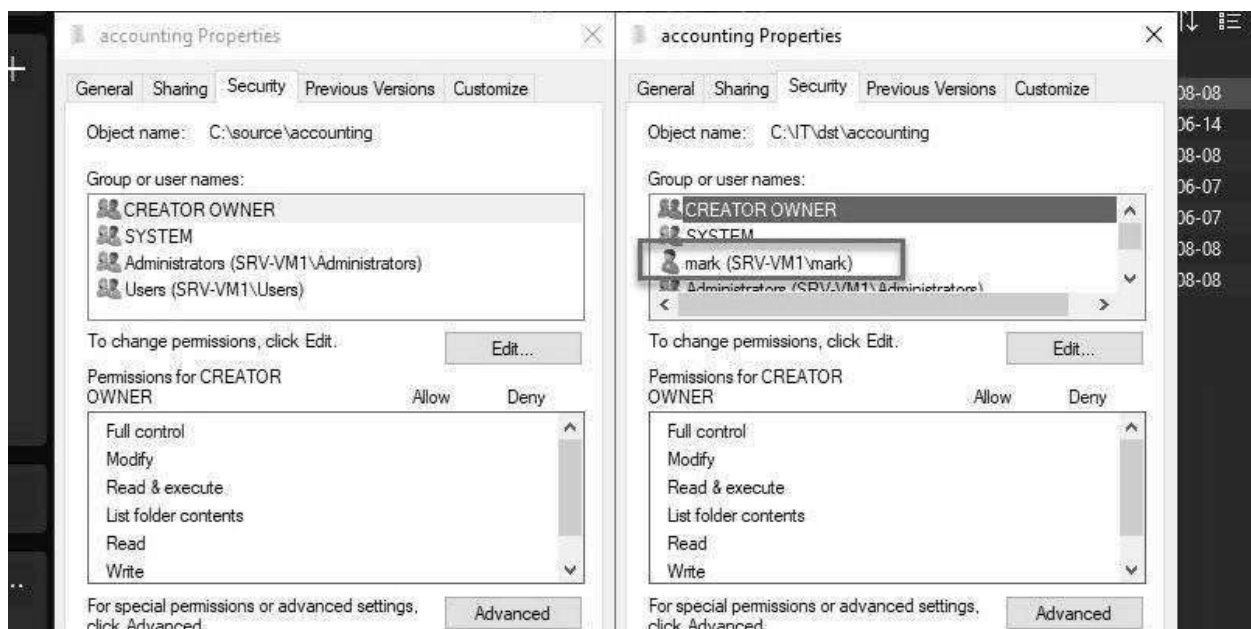
The above is saying the destination had an extra directory "Marketing" so it was removed. It then was missing two directories "new folder (2)" and "test" so it added these.

8. Mirror Directory With All File Properties

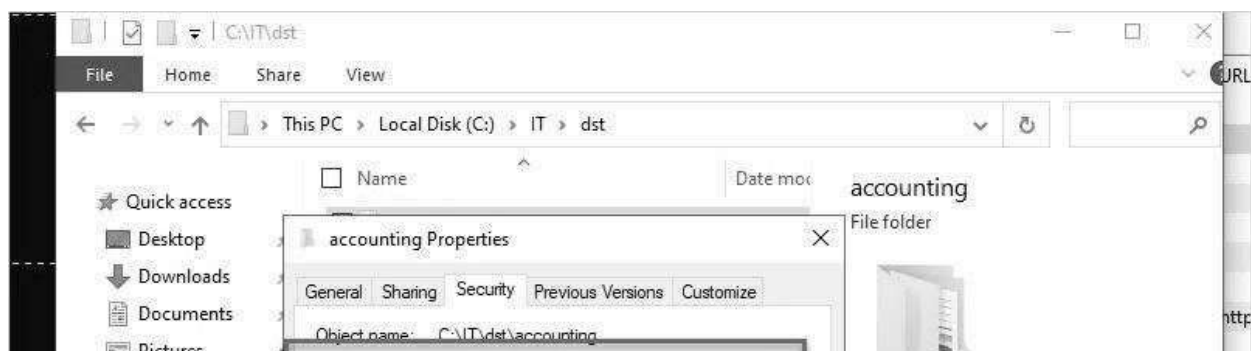
The previous example does not mirror the source directory file properties (ACL, owner, timestamp, etc). To mirror and include file properties use this command.

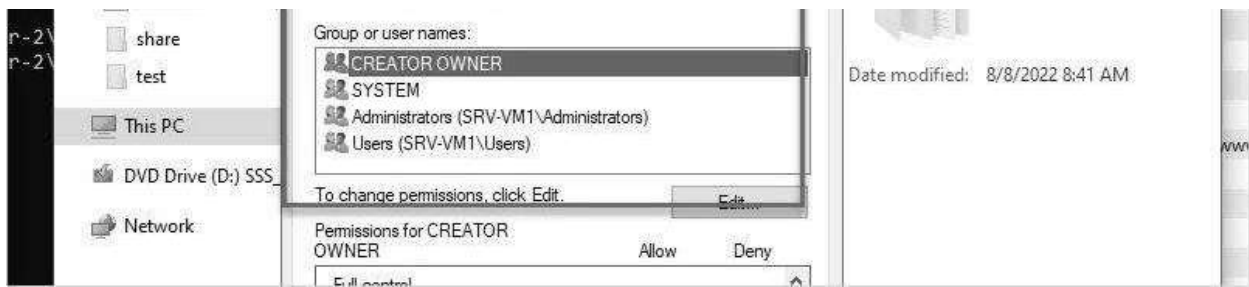
```
robocopy c:\source c:\it\dst /e /mir /copyall
```

For example, I'll remove the user "Mark" from the ACL on the source\accounting" folder. Now the source and destination are different.



After running the /mir /copyall command, "mark" will be removed from the it\dst\accounting folder.





9. Purge Files and Folders From The Destination Directory

If you have deleted a bunch of files/folders from the source and want to remove them from the destination folder, use the /purge option.

```
robocopy c:\source c:\it\dst /e /purge
```

The output will show you the folders it removed.

```
C:\>robocopy c:\source c:\it\dst /e /purge

-----
ROBOCOPY      ::      Robust File Copy for Windows
-----

Started : Monday, August 8, 2022 12:20:52 PM
Source  : c:\source\
Dest    : c:\it\dst\

Files   : *.*

Options : *.* /S /E /DCOPY:DA /COPY:DAT /PURGE /R:1000000 /W:30

-----
```

	0	c:\source\
*EXTRA Dir	-1	c:\it\dst\New folder\
*EXTRA Dir	-1	c:\it\dst\New folder (2)\
	0	c:\source\accounting\
	0	c:\source\accounting\New folder\
	0	c:\source\accounting\New folder\new-folder-2\
	0	c:\source\accounting\New folder\new-folder-2\new-folder-3\
	0	c:\source\pr\

10. Copy Files Over The Network

Copying files over the network is the same as copying locally. There are some additional commands that can help with the transfer of files over the network, I'll go over these next. **It is best to use the UNC path instead of a mapped driving when copying to a remote device.**

```
robocopy c:\source \\srv-vm2\share /z /e
```

The above command copies files from my local computer to another server. The /z option copies files in restartable mode. If the copy gets interrupted, robocopy can pick up where it left off.

11. Copy Files Over the Network with File Properties

If you want to copy the ACL and other file properties use /copyall. To copy just the ACL you can use /copy:DATS.

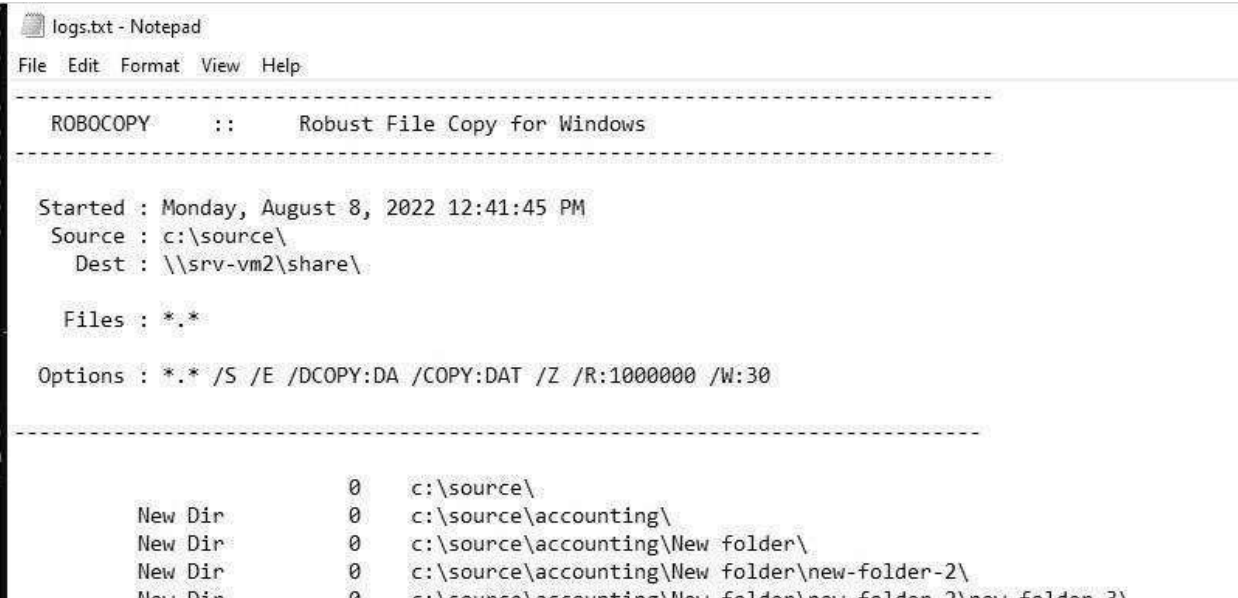
```
robocopy c:\source \\srv-vm2\share /z /e /copyall
```

12. Save Output to a Log File

To write the robocopy output to a log file use /log:logfile. This will overwrite the log file each time you run the command.

```
robocopy c:\source \\srv-vm2\share /z /e /log:c:\it\logs.txt
```

Here is a screenshot of the logfile. When running large jobs or migrations you definitely want to include a log file.



```
logs.txt - Notepad
File Edit Format View Help
-----
ROBOCOPY      ::      Robust File Copy for Windows
-----

Started : Monday, August 8, 2022 12:41:45 PM
Source  : c:\source\
Dest    : \\srv-vm2\share\
Files   : *.*
Options : *.* /S /E /DCOPY:DA /COPY:DAT /Z /R:1000000 /W:30

-----

New Dir      0      c:\source\
New Dir      0      c:\source\accounting\
New Dir      0      c:\source\accounting\New folder\
New Dir      0      c:\source\accounting\New folder\new-folder-2\
New Dir      0      c:\source\accounting\New folder\new-folder-2\new folder-3\
```

13. Append To An Existing Log File

Use the `/log+:logfile` command to append an existing log file. This will be added to the log file each time you run robocopy.

```
robocopy c:\source \\srv-vm2\share /z /e /log+:c:\it\logs.txt
```

14. Multi-threaded File Copy (Increase Copy Speed)

By default, robocopy will use 8 threads. To increase the threads use the `/mt` command. The below example will use 32 threads.

```
robocopy c:\source \\srv-vm2\share /z /e /mt:32
```

You will need to test this setting and see what thread count works best on your network and computer.

15. Include Verbose Logging

Verbose logging will show skipped files. If you are copying critical files or migrating to a new server I would include verbose logging in the output or even better, include it in a log file.

```
robocopy c:\source \\srv-vm2\share /v
```

Include verbose logging with a log file.

```
robocopy c:\source \\srv-vm2\share /v /log:c:\it\logs.txt
```

16. Specify Retries On Failed Copies

The `/r` command specifies the number of retries on failed copies. This is

recommended on large file copies and when copying over the network. Network file copies can get interrupted, the /r will auto-retry the copy for any failures.

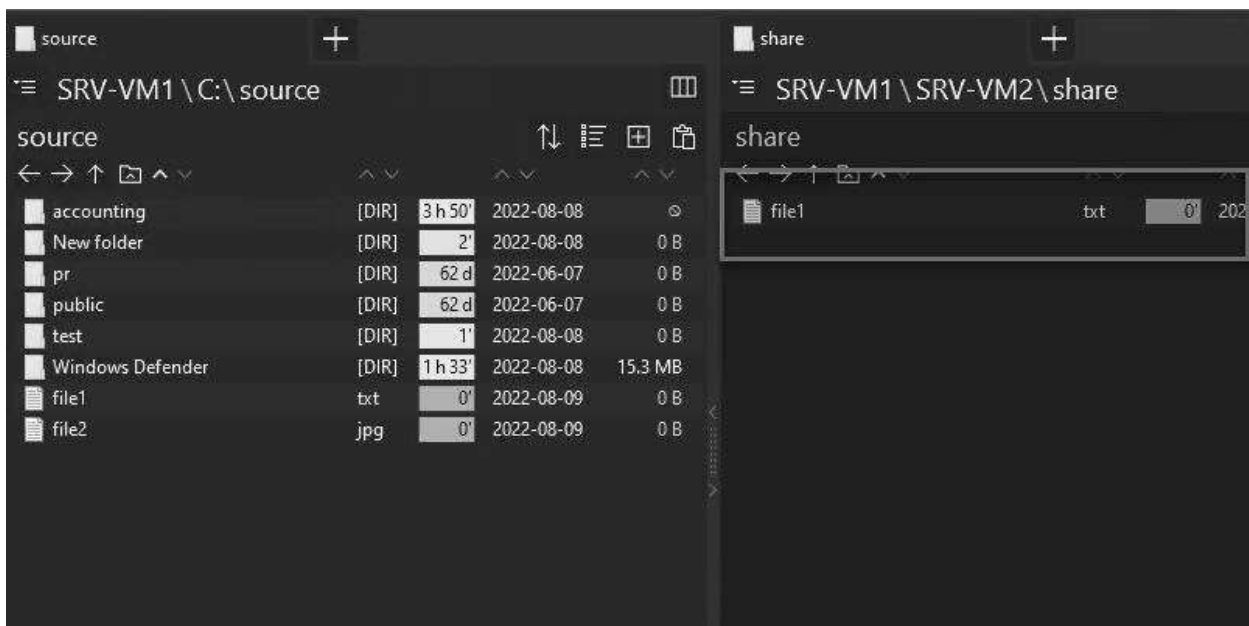
```
robocopy C:\source C:\it\dst /LOG+:c:\it\robolog.txt /MIR /copyall /z /w:1 /r:2
```

17. Copy Files By File Type

If you need to copy specific file types use the command below. In this example, I'm going to only copy files that are a txt file type.

```
robocopy C:\source \\srv-vm2\share *.txt
```

Below you can see robocopy only copied the file1.txt file to the destination directory.



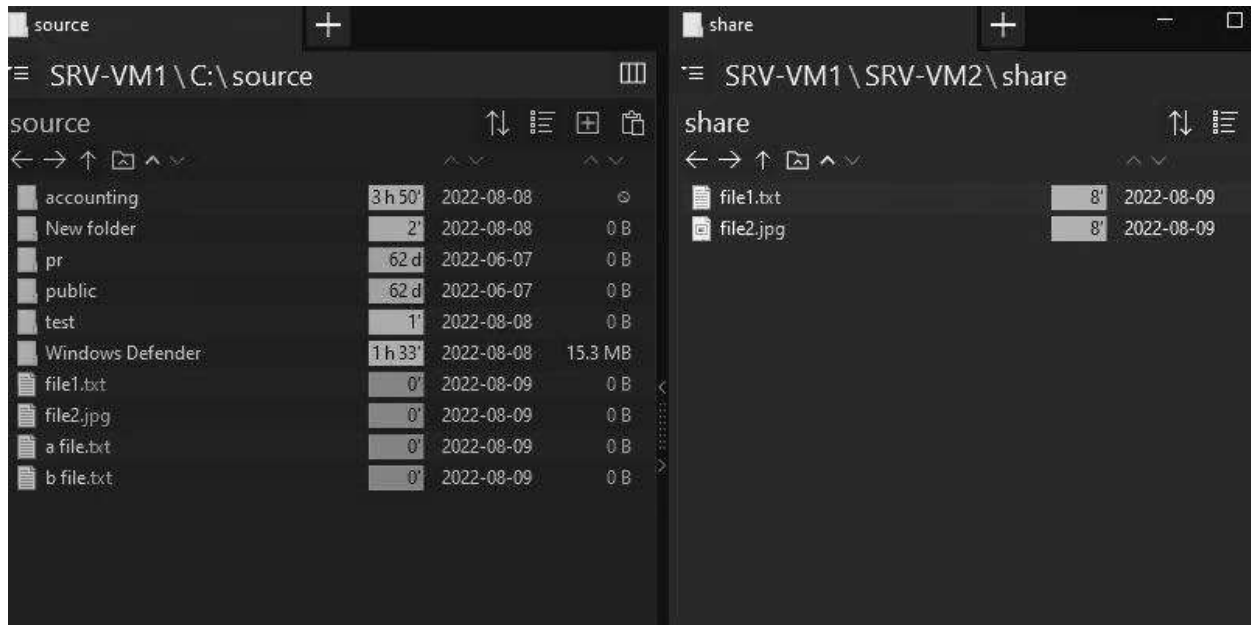
If I wanted to copy all images that are jpg type I would use *.jpg.

18. Copy Files That Start With

You can copy files that start with a specific character or word. For example, I will copy all files that start with the word "file".

```
robocopy C:\source \\srv-vm2\share file*
```

You can see below the command only copied the two files that had “file” in the name, everything else was skipped.

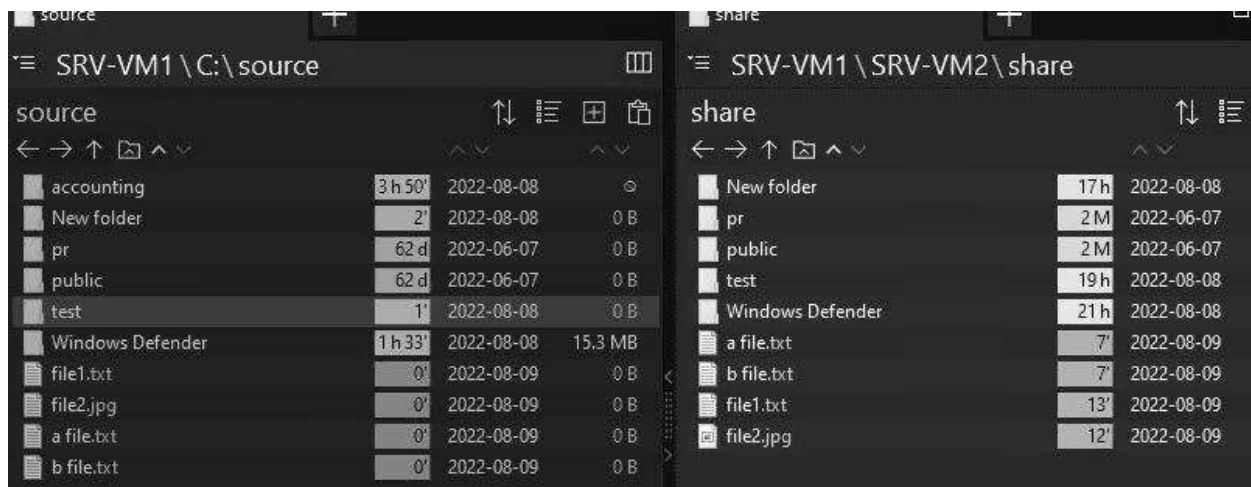


19. Exclude a Directory

To exclude a directory use the /XD option.

```
robocopy C:\source \\srv-vm2\share /XD /e "c:\source\accounting"
```

In this example, I’m going to copy everything except the “accounting folder”. You can see below the destination does not include the “accounting” folder.



20. Copy Files That are at least 14 Days Old

This will copy files that have a timestamp that is at least 14 days old.

```
ROBOCOPY C:\source \\srv-vm2\share /minage:14
```

21. Copy Files with Specific Size

This will copy files that do not exclude 2000 bytes.

```
robocopy C:\source \\srv-vm2\share /S /MAX:2000
```

You can also use /min, to specify the minimum file size.

That is my list. To learn more about the many robocopy commands check out the [Microsoft Syntax](#) documentation.

Do you have any robocopy examples to share? Let me know in the comments below.

15 thoughts on “21 Robocopy Examples With Screenshots”



Kamarge

This article is just WOW!. The best article I have found. It explains well than the Microsoft article. Thanks