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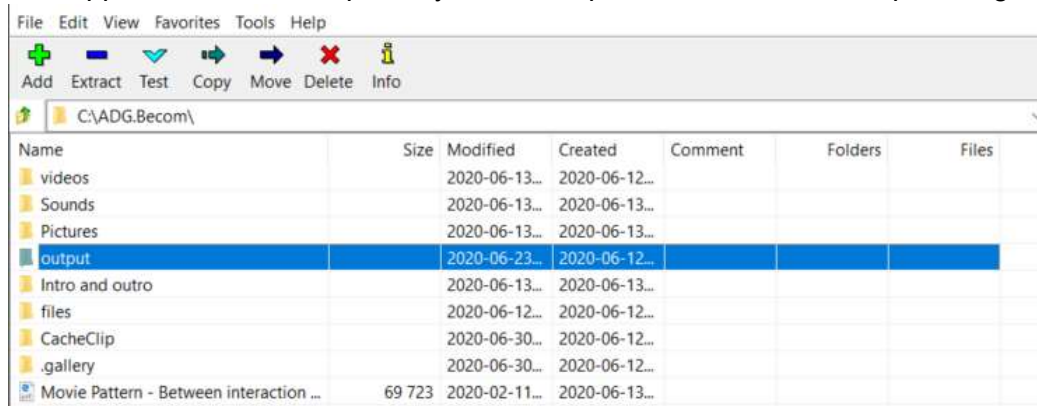:Be□m

Working with compressed archives

Archiving a collection of files or folders means creating a single file that groups together those files and directories. Archiving does not manipulate the size of files. They are added to the archive as they are.

Compressing a file means shrinking the size of the file.

There are software for archiving only, other for compressing only and (as you would expect) other that have the ability to archive and compress. This document will show you how to use a windows application called 7-zip (seven zip) to work with compressed archives.

7-zip integrates in the context menu that pops-up up whenever you right-click your mouse on a selection[1]. In this how-to we will look in the application interface and how we manipulate archives, their compression and contents.

1. Click the 'start' button and type '7-zip'

2. When the search brings up '7-zip File Manager' (as the best match) press 'Enter'

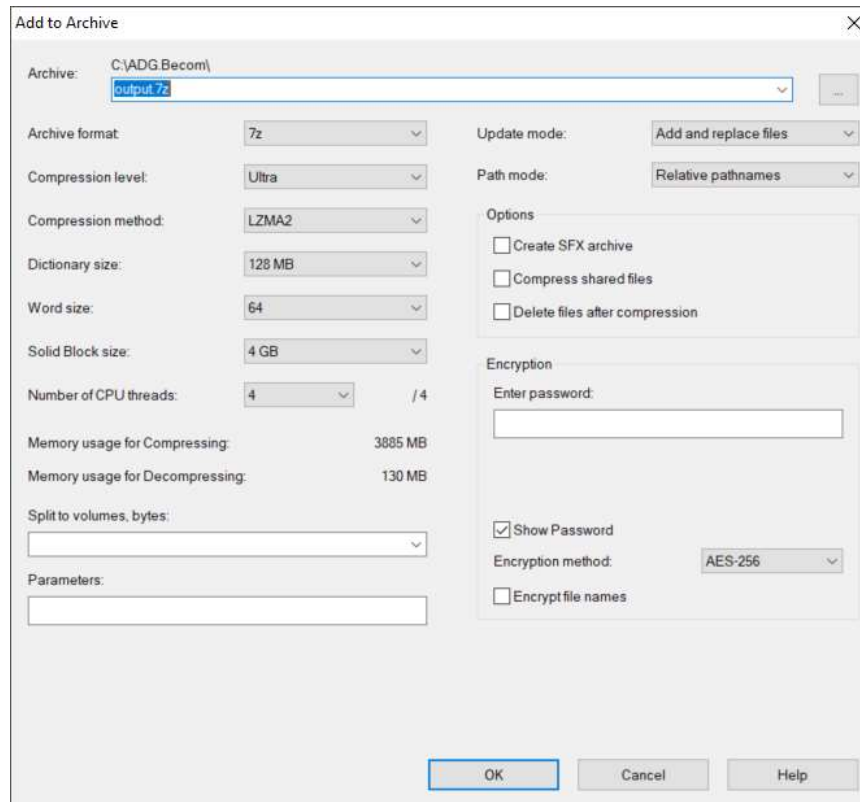3. The application will startup and you will be presented with the 7-zip manager interface

4. The program integrates both archiving, de/compression and file-management operations.

    a. The main area of the window provides a list of the files of the active directory. When not viewing the contents of an archive, the application acts like a file browser window. You can open folders to see their contents by just double-clicking on them

    b. Above the main area you have an address-like bar showing the name of the active directory (currently c:\ADG.Becom). You can use the 'back' icon on the far left to navigate back from where you are and go one directory up.

    c. Above the address bar there is the toolbar with some common commands

        i. The buttons add, extract, and test refer primarily to compressed files

        ii. The copy, move and delete buttons refer to any file as does the info button.

    d. Finally, above the toolbar there is the menu bar with access to the full functionality of the application.

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[1] There is a separate "how-to zip and unzip files" mini-guide demonstrating this operation.

To create a compressed archive:

1. Select the file or folder you want to include in the archive and click the 'Add' button. This will bring up an 'Add to archive' dialog requesting you to configure what will be added and how, and what the output archive format will be. The capture below demonstrates a dialog after having selected the 'output' folder.

Add to Archive

Archive: C:\ADG.Becom\
output.7z

Archive format:	7z	Update mode: Add and replace files
Compression level:	Ultra	Path mode: Relative pathnames
Compression method:	LZMA2	Options
Dictionary size:	128 MB	☐ Create SFX archive
Word size:	64	☐ Compress shared files
Solid Block size:	4 GB	☐ Delete files after compression
Number of CPU threads:	4 / 4	Encryption

Memory usage for Compressing: 3885 MB
Memory usage for Decompressing: 130 MB

Enter password:

Split to volumes, bytes:

☑ Show Password
Encryption method: AES-256

Parameters:

☐ Encrypt file names

OK   Cancel   Help

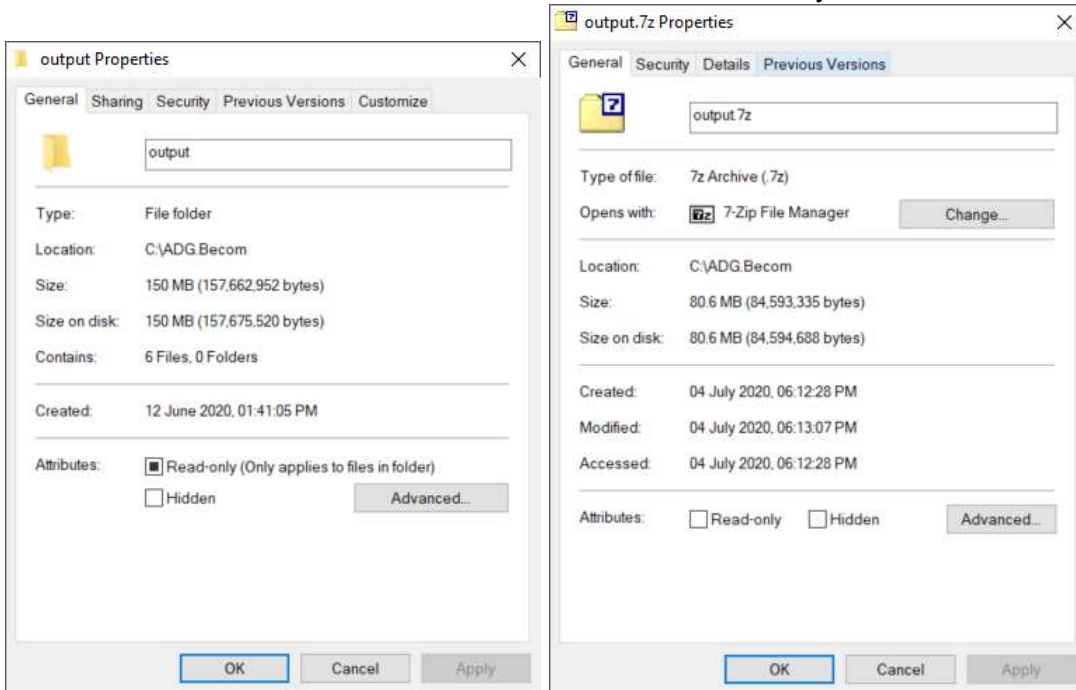|	
[archive]: provides a space to enter a name for the archive	[update mode]: specify how updates will work when a file is added, updated, deleted etc.
[archive format]: use this to specify what type of archive you want to create	[path mode]: specify how will the directory structure of the contents of the archive be stored
[compression level]: here you can control compression, from no compression (store) to maximum compression (ultra)	[options]: manipulate some options related to the archive or the files/folders to be included.
[compression method]: select the method with which the file will be compressed. There are quite a few alternatives with various options and settings (including dictionary size, word size, solid block size and cpu threads used)	[encryption]: enables you to protect the contents of the archive by using a password. There can be two levels of encryption
[split to volumes]: this is a useful feature of the program and allows you to split an archive into multiple (consecutive) files. If the archive will be of a size of 100MB you can possibly break that up to 10 files of 10MB by inserting '10m' in this field.	- Encrypt the compression, i.e. you can see the contents of the archive but require a password to extract the files/folders - Encrypt the compression and files, i.e. require a password to see the contents of the archive as well as to extract the files/folders

2. Once options are selected and set as required you can click 'OK' and the program will create the archive for you. The capture below shows the updated active directory.
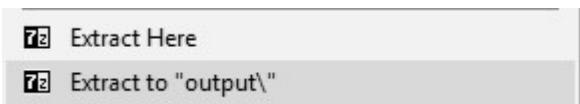
Name	Size	Modified	Created	Comment	Folders	Files
videos		2020-06-13...	2020-06-12...			
Sounds		2020-06-13...	2020-06-13...			
Pictures		2020-06-13...	2020-06-13...			
output		2020-06-23...	2020-06-12...			
Intro and outro		2020-06-13...	2020-06-13...			
files		2020-06-12...	2020-06-12...			
CacheClip		2020-06-30...	2020-06-12...			
.gallery		2020-06-30...	2020-06-12...			
output.7z	84 593 335	2020-07-04...	2020-07-04...			
Movie Pattern - Between interaction ...	69 723	2020-02-11...	2020-06-13...			

3. As you can see, there is a new output.7z file having a size of around 85MB. The two captures below demonstrate the properties of the original output folder (on the left) and the resulting output.7z compressed archive file (on the right). Notice how the original folder has a size of 150MB while the archive file size is considerably reduced down to 85MB.
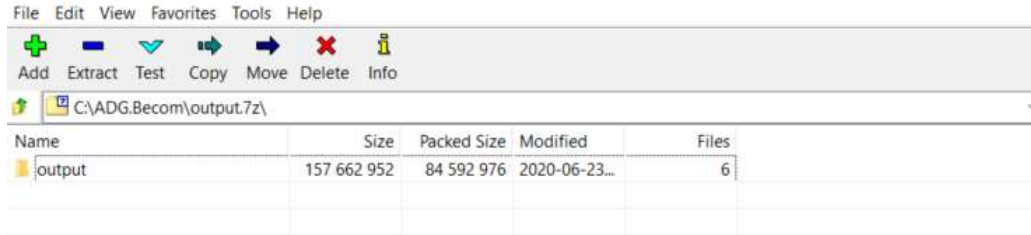

To extract the files from a compressed archive:

Extracting the files from an archive is made simple from the windows context menu when you want to extract the complete structure of files and folders. All you have to do is right-click on the archive file and select one of the two extract options
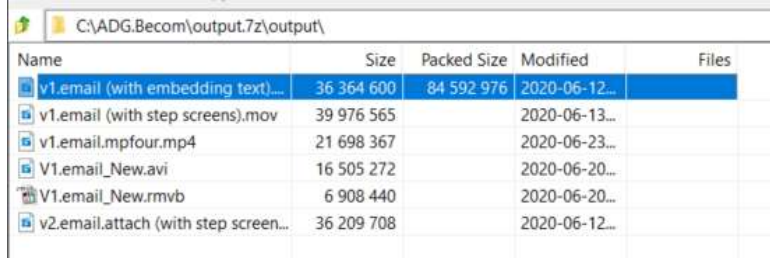
However, when you need to extract a specific file or folder then you have to open the archive, find the file you want to extract and then choose the extract command. Here are the steps:
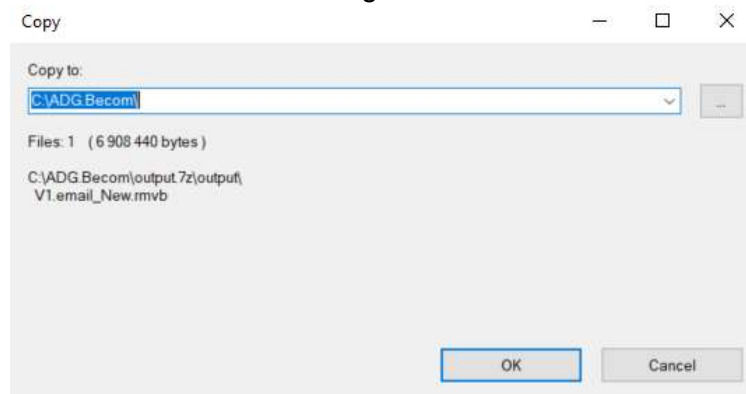
1. Find the file in the windows explorer and double click on it

2. The file opens up in 7-zip

3. Since it was a folder we compressed, the application shows the folder (notice how you can see the size of the folder and the fact that it contains 6 files). You can double click the folder icon to 'open' the folder and view the contents. The capture below demonstrates the folder being opened and the contents displayed.

   a. Select the file you want to use and then

   b. You can use 'Extract' command to extract the file and leave it in the archive. Assume that we wanted to extract the file 'v1email_new.rmvb', select it and click 'extract'. The following dialog comes up. You can type a new path or click the 'browse' button on the far right.

   c. You can use 'Test' to test the archive status and check whether anything is wrong with the files.

   d. You can use the 'Copy' command to extract the file and leave it in the archive.
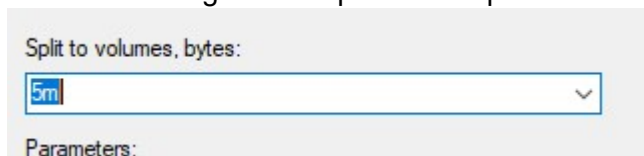
e. You can use the 'Move' command to extract the file and remove it from the archive.

f. You can use the 'Delete' command to delete the file from the archive (without extracting it).

To create a multiple volume compressed archive

1. Select the file or folder you want to add to the compressed archive. Suppose we wanted to compress a folder called 'Sounds'

.gallery	30/06/2020 5:15 PM	File folder
CacheClip	30/06/2020 5:15 PM	File folder
files	12/06/2020 9:21 AM	File folder
Intro and outro	13/06/2020 10:44 AM	File folder
output	23/06/2020 9:07 PM	File folder
Pictures	13/06/2020 10:44 AM	File folder
Sounds	13/06/2020 10:44 AM	File folder
videos	13/06/2020 10:42 AM	File folder

2. Right click on the selection and in the context menu select 'Add to archive'.

3. When the dialog comes up use the 'split' to volumes' and type 5m

Split to volumes, bytes:

5m

Parameters:

4. Click 'OK', the application will run and, following that, the archive 'file parts' will be created

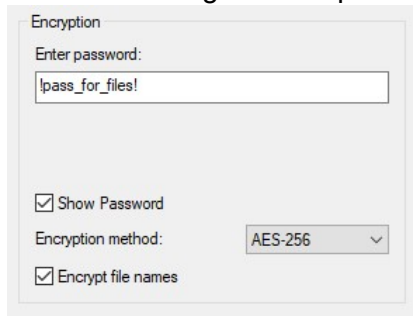|			
Sounds.7z.001	04/07/2020 7:31 PM	001 Archive	5,120 KB
Sounds.7z.002	04/07/2020 7:31 PM	002 File	5,120 KB
Sounds.7z.003	04/07/2020 7:31 PM	003 File	3,789 KB

5. Note how three files have been created. It is a 7z archive but the extensions are 001, 002 and 003 indicating that it is a multi-part archive. You can extract the contents using the context menu commands or by double-clicking the 001 file and it will open in 7-zip (as seen below)

C:\ADG.Becom\Sounds.7z.001\

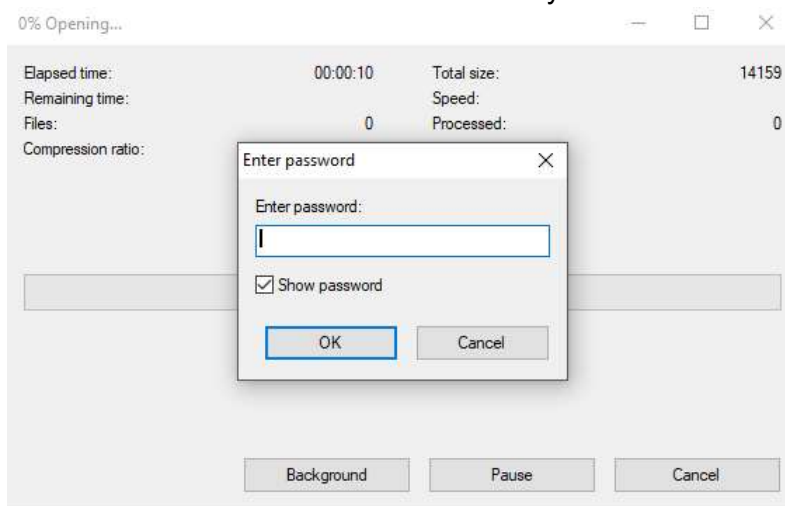| Name	Size	Packed Size	Modified	Files
Sounds	28 364 856	14 364 925	2020-06-13 10:44	3

To encrypt a compressed archive

1. Select the file or folder you want to add to the compressed archive. Supposed you want to encrypt the items in the folder called 'files'.

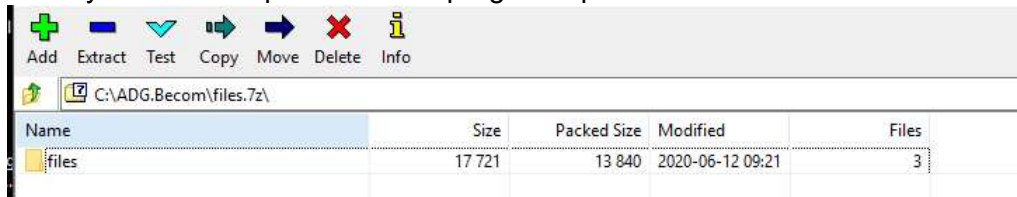2. Right click on the selection and in the context menu select 'Add to archive'

3. When the dialog comes up use the encryption fields and insert a password.

a. I have ticked the 'show password' tickbox so that I can see (and visually confirm) the password used.

b. I have also ticked the 'encrypt file names' so that the contents of the archive cannot be visible unless the password is entered.

4. Click 'OK' to create the archive

5. The file is created. If you double click to open it the following dialog will appear. So you cannot see the contents of the file unless you enter the correct password

6. Once you enter the password the program open the file and shows the contents

7-zip can create the following format archives: 7z, bzip2, gzip, tar, wim, xz and zip. The application can open all archives it can create plus the following (most common format): arj, cab, cpio, dmg, rar, split, iso and more.