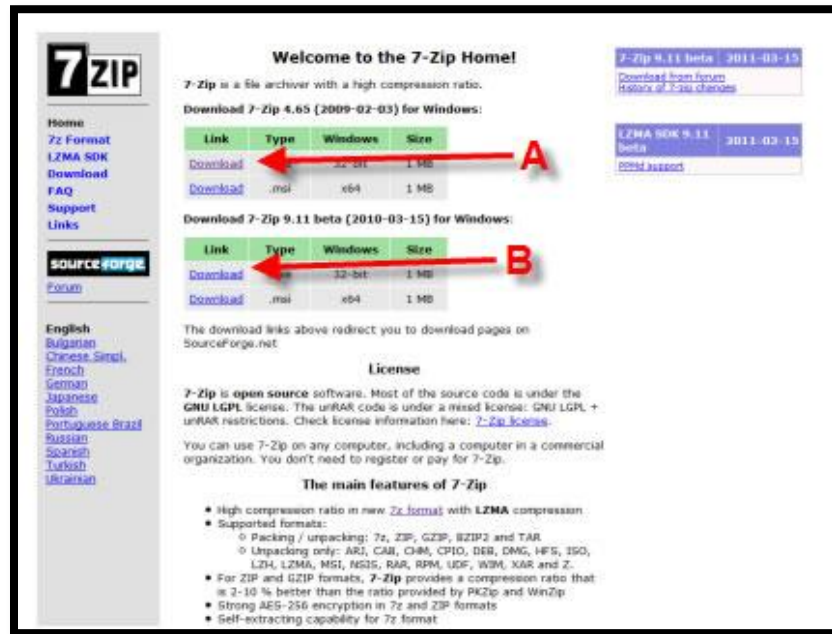


# Practical 10

## 1. Installing utility software 7Zip on Windows

Go to the 7zip home page and select the version of 7 Zip that you would like to download.



In our case the following version options applied:

A – Download 7zip 4.65 for Windows

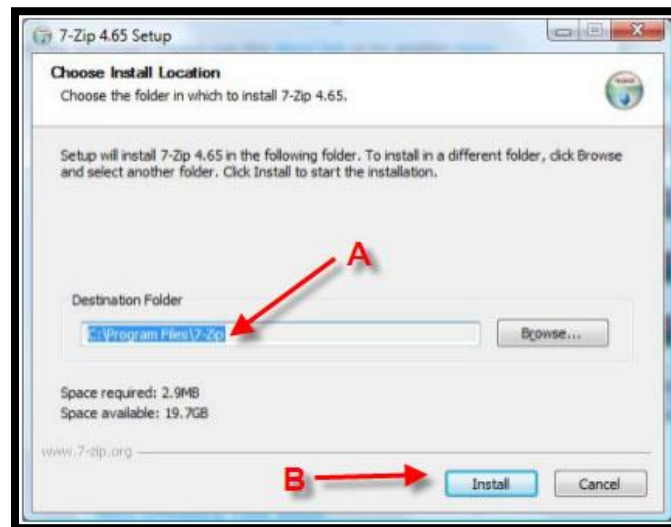
B – Download 7zip 9.11 Beta for Windows



A – Click "Save File"

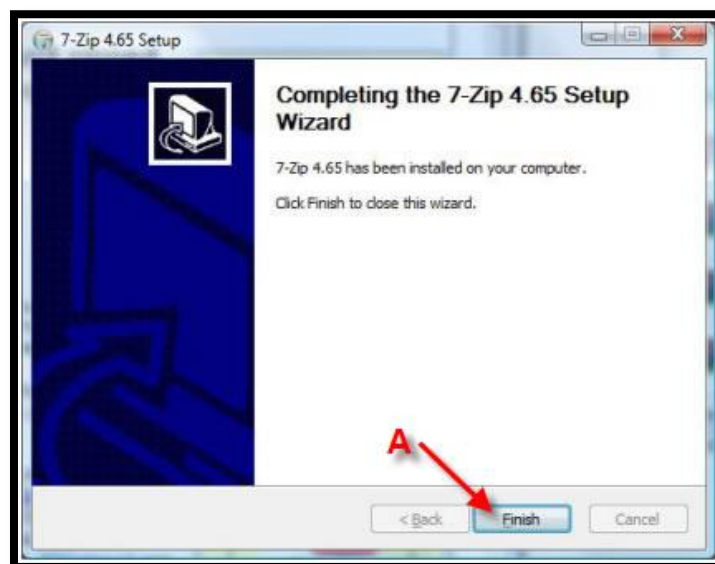
If the Z-Zip install file doesn't automatically run then manually open the executable file for 7zip.

A new window will then appear asking you in what directory do you want to install the 7Zip program. Select the preferred folder that you want to save the 7Zip program. Click “Install” after you have selected the directory.



A – Select the folder where you would like to Save the 7-zip program

B – Click “Install” after you choose an install directory.



A – After 7zip finishes installing, click “finish”

## 2. Installing utility software 7Zip on RedHat

7zip is an open-source archive program originally developed for Windows, which can pack or unpack a variety of archive formats including its native format 7z as well as XZ, GZIP, TAR, ZIP and BZIP2. 7zip is also popularly used to extract RAR, DEB, RPM and ISO files.

The first command that I used to install this package was :

```
$ sudo apt-get install p7zip
[sudo] password for himanshu:
Reading package lists... Done
Building dependency tree
Reading state information... Done
p7zip is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 50 not upgraded.
```

The output pointed that p7zip is already installed.

7z archiver as a command line utility, I need to install the **p7zip-full** package. So we tried to install this package:

```
$ sudo apt-get install p7zip-full
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  p7zip-rar
The following NEW packages will be installed:
  p7zip-full
0 upgraded, 1 newly installed, 0 to remove and 50 not upgraded.
Need to get 1,419kB of archives.
After this operation, 3,662kB of additional disk space will be used.
WARNING: The following packages cannot be authenticated!
  p7zip-full
Authentication warning overridden.
Get:1 http://archive.ubuntu.com/ubuntu/ lucid/universe p7zip-full 9.04~dfsg.1-1 [1,419kB]
Fetched 1,419kB in 29s (48.0kB/s)
Selecting previously deselected package p7zip-full.
(Reading database ... 133376 files and directories currently installed.)
Unpacking p7zip-full (from .../p7zip-full_9.04~dfsg.1-1_amd64.deb) ...
Processing triggers for man-db ...
Setting up p7zip-full (9.04~dfsg.1-1) ...
```

After both p7zip and p7zip-full are installed, you will see the following three command line utilities installed in your Linux box :

- 7z
- 7za
- 7zr

The package includes three binaries, /usr/bin/7z, /usr/bin/7za, and /usr/bin/7zr. Their manpages explain the differences:

- **7z** uses plugins to handle archives.
- **7za** is a stand-alone executable. 7za handles fewer archive formats than 7z, but does not need any others.
- **7zr** is a stand-alone executable. 7zr handles fewer archive formats than 7z, but does not need any others. 7zr is a "light-version" of 7za that only handles 7z archives.

Now all the three utilities were present and this can be confirmed by the 'whereis' command.

```
$ whereis 7z
7z: /usr/bin/7z /usr/share/man/man1/7z.1.gz
$ whereis 7za
7za: /usr/bin/7za /usr/share/man/man1/7za.1.gz
$ whereis 7zr
7zr: /usr/bin/7zr /usr/share/man/man1/7zr.1.gz
```

### Create an archive

This can be done by using the function letter 'a'. Here is a small example:

```
$ 7z a basic.7z basic
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)
Scanning
Creating archive basic.7z
Compressing basic/helloworld.c
Compressing basic/helloworld.o
Compressing basic/helloworld.i
Compressing basic/helloworld.s
Compressing basic/helloworld
Everything is Ok
$ ls
abc.txt basic basic.7z bufferoverflow.c
```

## Extract an archive

This can be done using the function letter 'e'.

Lets extract the archive created in the previous example:

```
$ 7z e basic.7z
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)
Processing archive: basic.7z
Extracting basic/helloworld.c
Extracting basic/helloworld.o
Extracting basic/helloworld.i
Extracting basic/helloworld.s
Extracting basic/helloworld
Extracting basic

Everything is Ok
Folders: 1
Files: 5
Size: 27541
Compressed: 5805

$ ls
abc.txt basic basic.7z bufferoverflow.c helloworld helloworld.c helloworld.i helloworld.o
helloworld.s
$
```

So we see that basic.7z was extracted and all the files were extracted into the same folder. The files extracted are shown in bold in the output above.

## List archive details

This can be done by using the function letter 'l'. Here is an example:

```
$ 7z l basic.7z
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)

Listing archive: basic.7z

----
Path = basic.7z
Type = 7z
```

```

Method = LZMA BCJ
Solid = +
Blocks = 2
Physical Size = 5805
Headers Size = 232

  Date   Time   Attr   Size  Compressed  Name
-----
2012-09-09 16:47:17 ....A    192    3600 basic/helloworld.c
2012-09-09 16:47:17 ....A   1568         basic/helloworld.o
2012-09-09 16:47:17 ....A  16700         basic/helloworld.i
2012-09-09 16:47:17 ....A    577         basic/helloworld.s
2012-09-09 16:47:17 ....A   8504    1973 basic/helloworld
2012-09-09 16:47:17 D....     0         0 basic
-----
                27541    5573 5 files, 1 folders

```

So we see that the details of the archive basic.7z were listed in the output.

### Test integrity of the archive

This can be done using the function letter 't'. Here is an example:

```

$ 7z t basic.7z basic
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)

Processing archive: basic.7z

Testing  basic/helloworld.c
Testing  basic/helloworld.o
Testing  basic/helloworld.i
Testing  basic/helloworld.s
Testing  basic/helloworld
Testing  basic

Everything is Ok

Folders: 1
Files: 5
Size:    27541
Compressed: 17566

```

## Delete a file from the archive

This can be done using the function letter 'd' along with the switch -r. This switch tells the 7zip utility to traverse the subdirectories.

Here is an example:

```
$ 7z l basic.7z
```

```
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30  
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)
```

```
Listing archive: basic.7z
```

```
----
```

```
Path = basic.7z  
Type = 7z  
Method = LZMA BCJ  
Solid = +  
Blocks = 3  
Physical Size = 6154  
Headers Size = 269
```

Date	Time	Attr	Size	Compressed	Name
2012-09-09	16:47:17	....A	192	3600	basic/helloworld.c
2012-09-09	16:47:17	....A	1568		basic/helloworld.o
2012-09-09	16:47:17	....A	16700		basic/helloworld.i
2012-09-09	16:47:17	....A	577		basic/helloworld.s
2012-09-09	17:33:51	....A	634	312	basic/bufferoverflow.c
2012-09-09	16:47:17	....A	8504	1973	basic/helloworld
2012-09-09	17:33:34	D....	0	0	basic

```
-----  
28175 5885 6 files, 1 folders
```

```
$ 7z d basic.7z helloworld -r
```

```
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30  
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)
```

```
Updating archive basic.7z  
Everything is Ok
```

```
$ 7z l basic.7z
```

```
7-Zip 9.04 beta Copyright (c) 1999-2009 Igor Pavlov 2009-05-30  
p7zip Version 9.04 (locale=en_IN,Utf16=on,HugeFiles=on,2 CPUs)
```

```
Listing archive: basic.7z
```

```
----
```

```
Path = basic.7z
Type = 7z
Method = LZMA
Solid = +
Blocks = 2
Physical Size = 4165
Headers Size = 253
```

```
-----
Date      Time      Attr      Size  Compressed  Name
-----
2012-09-09 16:47:17 ....A      192    3600 basic/helloworld.c
2012-09-09 16:47:17 ....A     1568          basic/helloworld.o
2012-09-09 16:47:17 ....A    16700          basic/helloworld.i
2012-09-09 16:47:17 ....A      577          basic/helloworld.s
2012-09-09 17:33:51 ....A      634     312 basic/bufferoverflow.c
2012-09-09 17:33:34 D....       0         0 basic
-----
                19671    3912 5 files, 1 folders
$
```

First we checked the files in the archive, next we tried to delete the 'helloworld' executable. Again when the entries in the archive were listed, no trace of 'helloworld' was found. So we can say that this file was successfully deleted from the archive.