

Compression and Un-compression of files

As the part of admin activity, it is very common requirement to pack and compress a group of files.

The main advantages are

- 1) It improves memory utilization
- 2) Transportation will become very easy.
- 3) It reduces download time

Compression process involves the following 2 activities

- 1) Creation of archive file
- 2) Apply compression algorithm on that archive file.

1) Creation of archive file

We can group multiple files and directory into single archive file by using tar command

A) To create an archive file syntax is :

```
tar option archive_file_name source_files
```

Example: tar -cvf Demo.tar F1.txt F2.txt F3.txt

B) To display table of content of tar file

```
tar -tvf tar_file_name
```

Example: tar -tvf Demo.tar

C) To extract content of tar file

```
tar -xvf tar_file_name
```

Example

```
tar -xvf Demo.tar
```

2) Apply Compression Algorithm on archive file

There are multiple compression and Un-compression Algorithm

1) gzip -> It is very fast but less compression power

2) bzip2 -> It is a bit slower but more compression power

1) Compression and Un-compression by using gzip command

Case 1: Compressing tar file using gzip

syntax: gzip tar_file_name

Example :

gzip Demo.tar

When above command get executed then we will get
Demo.tar.gz

Note: zip file has extensions .gz

Case 2: Compressing normal file using gzip

Syntax : gzip file_name

Example : **gzip F1.txt**

Ones above command get executed then we will get F1.txt.gz

Case 3: Compressing multiple normal files at a time .

gzip F1.txt F2.txt F3.txt

Note : we can compress multiple normal files at a time

Case 4:

with help of gzip command we cannot compress Directory.
If we want to compress directory then first we need to
convert it into archive file and that archive file can be converted
into zip file using gzip command

tar Demo.tar

gzip Demo.tar

Uncompression using gzip and gunzip command

1) Uncompression using **gzip command**

`gzip -d Demo.tar.gz`

2) Uncompression using **gunzip command**

`gunzip Demo.tar.gz`

Compression and Uncompression using bzip2 command

1) To compress tar file

`bzip2 Demo.tar`

When this command get executed we will get Demo.tar.bz2

2) To uncompress tar file

`bunzip2 Demo.tar.bz2`

Summary of Compression and Un-compression of files

1) To create archive file which command is used?

Ans: tar

2) while creating an archive file which option is used?

Ans: -cvf

3) While extracting an archive file which option is used with tar command?

Ans: -xvf

4) To display table content of archive file which command is used?

Ans: tar command with -tvf option

5) What are extensions of tar file?

Ans: .tar

6) To compress a file which commands are used?

Ans: gzip and bzip2

7) To un-compress a file which commands are used

Ans: 1) gzip command with -d option

2) gunzip command

3) bunzip2 command

8) Can we compress a directory directly using gzip command?

Ans: No, we cannot compress a directory directly but indirectly we can.