TAR

tar archives without compression.

An archive contains one or more files or directories. (If archiving multiple files, it might be better to put them in one directory, so extracting will put the files into their own directory.)

Modes:

-c create an archive (files to archive, archive from files)
-x extract an archive (archive to files, files from archive)

Options:

-f FILE name of archive - must specify unless using tape drive for archive
-v be verbose, list all files being archived/extracted
-z create/extract archive with gzip/gunzip

Examples:

Compress (gzip) and package (tar) the directory myfiles to create myfiles.tar.gz:
$ tar -czvf myfiles.tar.gz myfiles

Uncompress (gzip) and unpack compressed package, extracting contents from myfiles:
$ tar -xzvf myfiles.tar.gz

There are two different conventions concerning gzipped tarballs. One often encounters .tar.gz. The other popular choice is .tgz. Slackware packages use the latter convention.

If you have access to a tape device or other backup medium, then you can use it instead of an archive file. If the material to be archived exceeds the capacity of the backup medium, the program will prompt the user to insert a new tape or diskette.

Use the following command to back up the myfiles directory to floppies:
$ tar -cvf /dev/fd0 myfiles

Restore that backup with:
$ tar -xvf /dev/fd0

You can also specify standard input or output -f - instead of an archive file or device. It is possible to use copy between directories by piping two "tar" commands together. For example, suppose we have two directories, from-stuff and to-stuff

```
lab2@lab1pc72:~/try/AAA$ ls -l
total 64
-rw-rw-r-- 1 lab2 lab2  1752 Sep 14 10:39 1q
-rw-rw-r-- 1 lab2 lab2   812 Sep 14 10:36 a1
-rw-rw-r-- 1 lab2 lab2  1752 Sep 14 10:39 a2.txt
-rw-rw-r-- 1 lab2 lab2     0 Sep 14 11:01 a2.zp
-rw-rw-r-- 1 lab2 lab2  9861 Sep 14 10:40 a3.c
-rw-rw-r-- 1 lab2 lab2 19272 Sep 14 10:57 f3
-rw-rw-r-- 1 lab2 lab2 19272 Sep 14 11:05 f31
```

lab2@lab1pc72:~/try/AAA$ tar -cvf backup.tar a*

```
a1
a2.txt
a2.zp
a3.c
lab2@lab1pc72:~/try/AAA$ ls -l
total 84
-rw-rw-r-- 1 lab2 lab2  1752 Sep 14 10:39 1q
-rw-rw-r-- 1 lab2 lab2   812 Sep 14 10:36 a1
-rw-rw-r-- 1 lab2 lab2  1752 Sep 14 10:39 a2.txt
-rw-rw-r-- 1 lab2 lab2     0 Sep 14 11:01 a2.zp
-rw-rw-r-- 1 lab2 lab2  9861 Sep 14 10:40 a3.c
-rw-rw-r-- 1 lab2 lab2 20480 Sep 14 11:37 backup.tar
-rw-rw-r-- 1 lab2 lab2 19272 Sep 14 10:57 f3
-rw-rw-r-- 1 lab2 lab2 19272 Sep 14 11:05 f31
lab2@lab1pc72:~/try/AAA$ mkdir PQR
lab2@lab1pc72:~/try/AAA$ cp *.tar PQR
lab2@lab1pc72:~/try/AAA$ cd PQR
lab2@lab1pc72:~/try/AAA/PQR$ ls
backup.tar
```

lab2@lab1pc72:~/try/AAA/PQR$ tar -xvf backup.tar

```
a1
a2.txt
a2.zp
a3.c
lab2@lab1pc72:~/try/AAA/PQR$ ls
a1  a2.txt  a2.zp  a3.c  backup.tar
lab2@lab1pc72:~/try/AAA/PQR$ cd ..
lab2@lab1pc72:~/try/AAA$ ls
1q  a1  a2.txt  a2.zp  a3.c  backup.tar  f3  f31  PQR
lab2@lab1pc72:~/try/AAA$ rm *.tar
lab2@lab1pc72:~/try/AAA$ ls
1q  a1  a2.txt  a2.zp  a3.c  f3  f31  PQR
```

lab2@lab1pc72:~/try/AAA$ tar -cvzf backup.tar.gz a*

```
a1
a2.txt
a2.zp
a3.c
lab2@lab1pc72:~/try/AAA$ ls -l
total 72
-rw-rw-r-- 1 lab2 lab2  1752 Sep 14 10:39 1q
-rw-rw-r-- 1 lab2 lab2   812 Sep 14 10:36 a1
-rw-rw-r-- 1 lab2 lab2  1752 Sep 14 10:39 a2.txt
-rw-rw-r-- 1 lab2 lab2     0 Sep 14 11:01 a2.zp
-rw-rw-r-- 1 lab2 lab2  9861 Sep 14 10:40 a3.c
-rw-rw-r-- 1 lab2 lab2   339 Sep 14 11:39 backup.tar.gz
-rw-rw-r-- 1 lab2 lab2 19272 Sep 14 10:57 f3
```

-rw-rw-r-- 1 lab2 lab2 19272 Sep 14 11:05 f31
drwxrwxr-x 2 lab2 lab2 4096 Sep 14 11:38 PQR

lab2@lab1pc72:~/try/AAA$ tar -tvf backup.tar.gz

-rw-rw-r-- lab2/lab2   812 2017-09-14 10:36 a1
-rw-rw-r-- lab2/lab2   1752 2017-09-14 10:39 a2.txt
-rw-rw-r-- lab2/lab2   0 2017-09-14 11:01 a2.zp
-rw-rw-r-- lab2/lab2   9861 2017-09-14 10:40 a3.c
lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c backup.tar.gz f3 f31 PQR
lab2@lab1pc72:~/try/AAA$ rm a1
lab2@lab1pc72:~/try/AAA$ ls
1q a2.txt a2.zp a3.c backup.tar.gz f3 f31 PQR

lab2@lab1pc72:~/try/AAA$ tar -xvzf backup.tar.gz a1

a1
lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c backup.tar.gz f3 f31 PQR
lab2@lab1pc72:~/try/AAA$ rm *.gz
lab2@lab1pc72:~/try/AAA$ clear

lab2@lab1pc72:~/try/AAA$ tar -cvf backup.tar a*

a1
a2.txt
a2.zp
a3.c
lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c backup.tar f3 f31 PQR

lab2@lab1pc72:~/try/AAA$ gzip backup.tar

lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c backup.tar.gz f3 f31 PQR
lab2@lab1pc72:~/try/AAA$ rm a1

lab2@lab1pc72:~/try/AAA$ tar -xvzf backup.tar.gz a1

a1
lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c backup.tar.gz f3 f31 PQR
lab2@lab1pc72:~/try/AAA$ rm *.gz
lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c f3 f31 PQR

lab2@lab1pc72:~/try/AAA$ tar -cvf backup.tar *

1q
a1
a2.txt
a2.zp
a3.c
f3
f31
PQR/
PQR/a2.zp

PQR/backup.tar
PQR/a2.txt
PQR/a3.c
PQR/a1
lab2@lab1pc72:~/try/AAA$ ls
1q a1 a2.txt a2.zp a3.c backup.tar f3 f31 PQR
lab2@lab1pc72:~/try/AAA$ rm -r PQR
lab2@lab1pc72:~/try/AAA$ rm -i *
rm: remove regular file ‘1q’? y
rm: remove regular file ‘a1’? y
rm: remove regular file ‘a2.txt’? y
rm: remove regular empty file ‘a2.zp’? y
rm: remove regular file ‘a3.c’? y
rm: remove regular file ‘backup.tar’? n
rm: remove regular file ‘f3’? y
rm: remove regular file ‘f31’? y
lab2@lab1pc72:~/try/AAA$ ls
backup.tar
lab2@lab1pc72:~/try/AAA$ cat >abc.txt
sd
fas
as
f
sdfsdf
sd
lab2@lab1pc72:~/try/AAA$ ls
abc.txt backup.tar

lab2@lab1pc72:~/try/AAA$ tar -tvf backup.tar

-rw-rw-r-- lab2/lab2   1752 2017-09-14 10:39 1q
-rw-rw-r-- lab2/lab2   812 2017-09-14 10:36 a1
-rw-rw-r-- lab2/lab2   1752 2017-09-14 10:39 a2.txt
-rw-rw-r-- lab2/lab2   0 2017-09-14 11:01 a2.zp
-rw-rw-r-- lab2/lab2   9861 2017-09-14 10:40 a3.c
-rw-rw-r-- lab2/lab2   19272 2017-09-14 10:57 f3
-rw-rw-r-- lab2/lab2   19272 2017-09-14 11:05 f31
drwxrwxr-x lab2/lab2   0 2017-09-14 11:38 PQR/
-rw-rw-r-- lab2/lab2   0 2017-09-14 11:01 PQR/a2.zp
-rw-rw-r-- lab2/lab2   20480 2017-09-14 11:38 PQR/backup.tar
-rw-rw-r-- lab2/lab2   1752 2017-09-14 10:39 PQR/a2.txt
-rw-rw-r-- lab2/lab2   9861 2017-09-14 10:40 PQR/a3.c
-rw-rw-r-- lab2/lab2   812 2017-09-14 10:36 PQR/a1

lab2@lab1pc72:~/try/AAA$ tar -rvf backup.tar abc.txt

abc.txt

lab2@lab1pc72:~/try/AAA$ tar -tvf backup.tar

-rw-rw-r-- lab2/lab2   1752 2017-09-14 10:39 1q
-rw-rw-r-- lab2/lab2   812 2017-09-14 10:36 a1
-rw-rw-r-- lab2/lab2   1752 2017-09-14 10:39 a2.txt

```
-rw-rw-r-- lab2/lab2        0 2017-09-14 11:01 a2.zp
-rw-rw-r-- lab2/lab2     9861 2017-09-14 10:40 a3.c
-rw-rw-r-- lab2/lab2    19272 2017-09-14 10:57 f3
-rw-rw-r-- lab2/lab2    19272 2017-09-14 11:05 f31
drwxrwxr-x lab2/lab2        0 2017-09-14 11:38 PQR/
-rw-rw-r-- lab2/lab2        0 2017-09-14 11:01 PQR/a2.zp
-rw-rw-r-- lab2/lab2    20480 2017-09-14 11:38 PQR/backup.tar
-rw-rw-r-- lab2/lab2     1752 2017-09-14 10:39 PQR/a2.txt
-rw-rw-r-- lab2/lab2     9861 2017-09-14 10:40 PQR/a3.c
-rw-rw-r-- lab2/lab2      812 2017-09-14 10:36 PQR/a1
-rw-rw-r-- lab2/lab2       22 2017-09-14 11:45 abc.txt
```

Compress an Entire Directory or a Single File

Use the following command to compress an entire directory or a single file on Linux. It'll also compress every other directory inside a directory you specify–in other words, it works recursively.

```
tar -czvf name-of-archive.tar.gz /path/to/directory-or-file
```

Here's what those switches actually mean:

-c: Create an archive.

-z: Compress the archive with gzip.

-v: Display progress in the terminal while creating the archive, also known as "verbose" mode. The v is always optional in these commands, but it's helpful.

-f: Allows you to specify the filename of the archive.

Let's say you have a directory named "stuff" in the current directory and you want to save it to a file named archive.tar.gz. You'd run the following command:

```
tar -czvf archive.tar.gz stuff
```

Or, let's say there's a directory at /usr/local/something on the current system and you want to compress it to a file named archive.tar.gz. You'd run the following command:

```
tar -czvf archive.tar.gz /usr/local/something
```

Compress Multiple Directories or Files at Once

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While tar is frequently used to compress a single directory, you could also use it to compress multiple directories, multiple individual files, or both. Just provide a list of files or directories instead of a single one. For example, let's say you want to compress the /home/ubuntu/Downloads directory, the /usr/local/stuff directory, and the /home/ubuntu/Documents/notes.txt file. You'd just run the following command:

```
tar -czvf archive.tar.gz /home/ubuntu/Downloads /usr/local/stuff /home/ubunt
```