LAB TASK -6 423132

TAR COMMAND-TAPE ARCHIVE

1.) Creating a Tar Archive
GZIPPED TAR.BZIPPED TAR(bz2)
C: create a new archive,,v:To verbosely list files being processed.,f:give a filename

2.)Creating an Uncompressed Archive using tar Command

Need fast compression? → `gzip` or `zip`
Need high compression? → `xz`
Need balance? → `bzip2`
Archiving multiple files? → `tar` + compression (`.tar.gz` or `.tar.xz`)

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3.)extracting

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar xvf myarchive.tar
DATA/
DATA/qa13.sh
DATA/qa10.sh
DATA/qa3.sh
DATA/g/
DATA/qa1.sh
DATA/qa9.sh
DATA/qa5.sh
DATA/qa15.sh
DATA/qa7.sh
DATA/qa14.sh
DATA/data1/
DATA/data1/hello.sh
DATA/data1/qa11.sh
DATA/data1/qa12.sh
DATA/qa8.sh
DATA/qa6.sh
DATA/qa2.sh
DATA/qa4.sh
student@ai-HP-ProDesk-600-G4-MT:~$
```

4.)Extracting a gzipped tar:

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar xvf myarchive.tar.gz
DATA/
DATA/qa13.sh
DATA/qa10.sh
DATA/qa3.sh
DATA/g/
DATA/qa1.sh
DATA/qa9.sh
DATA/qa5.sh
DATA/qa15.sh
DATA/qa7.sh
DATA/qa14.sh
DATA/data1/
DATA/data1/hello.sh
DATA/data1/qa11.sh
DATA/data1/qa12.sh
DATA/qa8.sh
DATA/qa6.sh
DATA/qa2.sh
DATA/qa4.sh
```

5.)Listing an uncompressed archive using the tar command to view the contents..similarly in uncompressed archive.

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```
student@ai-HP-ProDesk-600-G4-MT:~$ tar tvf myarchive.tar
drwxrwxr-x student/student   0 2025-02-04 17:45 DATA/
-rwxrwxr-x student/student 230 2025-02-04 17:45 DATA/qa13.sh
-rwxrwxr-x student/student 354 2025-02-04 16:43 DATA/qa10.sh
-rwxrwxr-x student/student 281 2025-02-04 15:21 DATA/qa3.sh
drwxrwxr-x student/student   0 2025-02-04 17:40 DATA/g/
-rwxrwxr-x student/student 150 2025-02-04 14:57 DATA/qa1.sh
-rwxrwxr-x student/student 113 2025-02-04 16:33 DATA/qa9.sh
-rwxrwxr-x student/student 490 2025-02-04 15:52 DATA/qa5.sh
-rwxrwxr-x student/student 342 2025-02-04 17:30 DATA/qa15.sh
-rwxrwxr-x student/student  58 2025-02-04 16:06 DATA/qa7.sh
-rwxrwxr-x student/student 331 2025-02-04 17:29 DATA/qa14.sh
drwxrwxr-x student/student   0 2025-02-04 17:18 DATA/data1/
-rwxrwxr-x student/student 132 2025-02-04 14:40 DATA/data1/hello.sh
-rwxrwxr-x student/student 160 2025-02-04 16:59 DATA/data1/qa11.sh
-rwxrwxr-x student/student 229 2025-02-04 17:09 DATA/data1/qa12.sh
-rwxrwxr-x student/student 137 2025-02-04 16:16 DATA/qa8.sh
-rwxrwxr-x student/student  72 2025-02-04 16:01 DATA/qa6.sh
-rwxrwxr-x student/student 369 2025-02-04 15:05 DATA/qa2.sh
-rwxrwxr-x student/student 228 2025-02-04 15:40 DATA/qa4.sh
student@ai-HP-ProDesk-600-G4-MT:~$
```

Note: If there are lots of files in the archive, you can use a “less” command to read through the list.

6.) extracting single file

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar xvf myarchive.tar DATA/qa1.sh
DATA/qa1.sh
student@ai-HP-ProDesk-600-G4-MT:~$
```

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar xvfz myarchive.tar.gz /DATA/qa1.sh
```

xvfj for bzipped

7.)when dealing with multiple files sharing the same extension, you can use the wildcard option

* → a symbol that Matches any files based on pattern

- ? → Matches a single character
- [abc] → Matches specific characters
- [a-z] → Matches a range
- {} → Matches multiple patterns

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar xvf myarchive.tar --wildcards '*.sh'
DATA/qa13.sh
DATA/qa10.sh
DATA/qa3.sh
DATA/qa1.sh
DATA/qa9.sh
DATA/qa5.sh
DATA/qa15.sh
DATA/qa7.sh
DATA/qa14.sh
DATA/data1/hello.sh
DATA/data1/qa11.sh
DATA/data1/qa12.sh
DATA/qa8.sh
DATA/qa6.sh
DATA/qa2.sh
DATA/qa4.sh
```

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8.) Extract directory from tar, tar.gz, tar.bz2 file

Make sure to use the ‘z’ or ‘j’ option based on whether the file is gzip or bzip2 compressed.

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar xvf myarchive.tar DATA/data1
DATA/data1/
DATA/data1/hello.sh
DATA/data1/qa11.sh
DATA/data1/qa12.sh
student@ai-HP-ProDesk-600-G4-MT:~$
```

9.)appending files(first create a file)

```
student@ai-HP-ProDesk-600-G4-MT:~$ ls -l abc.txt
ls: cannot access 'abc.txt': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~$ touch abc.txt
student@ai-HP-ProDesk-600-G4-MT:~$ cd myarchive.tar
bash: cd: myarchive.tar: Not a directory
student@ai-HP-ProDesk-600-G4-MT:~$ tar rvf myarchive.tar abc.txt
abc.txt
student@ai-HP-ProDesk-600-G4-MT:~$
```

You cannot add files or directories to a compressed archive. Attempting to do so will result in a “tar: Cannot update compressed archives” error.

10.) updating files in an archive

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar rvf myarchive.tar abc.txt
abc.txt
```

11.)Concatenating Multiple Tar Files

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar -Af merged.tar myarchive1.tar myarchive2.
tar.gz
```

12.) Estimate the tar archive size

```
student@ai-HP-ProDesk-600-G4-MT:~$ tar -cf - DATA/data1 | wc -c
10240
student@ai-HP-ProDesk-600-G4-MT:~$
```

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Backup: Protects files using tools like `tar`, `rsync`, and `dd`.

- **File Distribution:** Transfers files using `scp`, `rsync`, `ftp`

When creating an archive, cpio takes the list of files to be processed from the standard input, and then sends the archive to the standard output.Usually find or ls is used to provide this list to the standard input.

CPIO COMMAND "copy in and out"Simply, it is a tool for creating and extracting archives, or copying files from one place to another.

1.)**Create an Archive with `cpio`**

find . -type f | cpio -o > archive.cpio

2.)Extract an Archive with `cpio`

cpio -idv < archive.cpio

3.)List Files Inside a `cpio` Archive

cpio -t < archive.cpio

4.) Copy Files Using `cpio`

find /home/user/docs -type f | cpio -pdv /backup/

Command	Description
`cpio -o > archive.cpio`	Create an archive
`cpio -i < archive.cpio`	Extract files
`cpio -t < archive.cpio`	List files inside archive
`cpio -pd /destination/`	Copy files to another location