Archiving and compression tools.

Jan Trdlička

Department of Computer Systems
Faculty of Information Technology
Czech Technical University in Prague

trdlicka@fit.cvut.cz

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Contents

Data archivation

- Login to the server `fray1.fit.cvut.cz`.
- How to create a directory `~/ps1-11` and set the working directory to the directory?

```
mkdir ~/ps1-11
cd ~/ps1-11
```

- How to create a tar archive `~/ps1-11/a.tar` of the directory `/etc/init.d`?

```
cd /etc ; tar cvf ~/ps1-11/a.tar ./init.d ; cd -
```

- How to verify a content of the archive `~/ps1-11/a.tar` ?

```
tar tvf a.tar | less
```

- How to extract a content of the archive `~/ps1-11/a.tar` in the directory `~/ps1-11`?

```
tar xvf a.tar
```

Data compression

- How to create a tar archive ~/ps1-11/etc-01.tar of the directory /etc?

```
cd / ; tar cvf ~/ps1-11/etc-01.tar ./etc ; cd -
```

- How to create three copies of the archive ~/ps1-11/etc-01.tar in the same directory?

```
cp etc-01.tar etc-02.tar
cp etc-01.tar etc-03.tar
cp etc-01.tar etc-04.tar
```

- How to compress the previous copy of archive by commands compress, gzip, bzip?

```
compress etc-02.tar
gzip etc-03.tar
bzip2 etc-04.tar
```

- What command has the best compression ratio?

Data compression

- How to recover all data from `etc-02.tar.Z`, `etc-03.tar.gz` and `etc-04.tar.bz2` to direcories `etc-02`, `etc-03`, and `etc-04`, respectively?

```
zcat etc-02.tar.C | tar xvf -
cp etc etc-03
```

```
gzcat etc-03.tar.gz | tar xvf -
cp etc etc-03
```

```
bzcat etc-04.tar.bz2 | tar xvf -
cp etc etc-04
```

Data compression

- Login to Linux system.
- How to create compressed archive of /etc in one step?

```
cd / ; tar cZvf ~/ps1-11/etc-05.tar.Z etc ; cd -
```

```
cd / ; tar czvf ~/ps1-11/etc-05.tar.gz etc ; cd -
```

```
cd / ; tar cjvf ~/ps1-11/etc-05.tar.bz2 etc ; cd -
```

- How to recover data from the compressed archive in one step?

```
tar xZvf ~/ps1-11/etc-05.tar.Z
```

```
tar xzvf ~/ps1-11/etc-05.tar.gz
```

```
tar xjvf ~/ps1-11/etc-05.tar.bz2
```

Archiving

- Copy all data from your home directory, that were modified during the last 24 hours, to the compressed archive.
    - Solution 1

      ```
      tar cjvf a.tar.bz2 \
        $(find ~ \! -name "a.tar.bz2" -mtime -1)
      ```

    - Solution 2

      ```
      find ~ \! -name "list.txt" -mtime -1 > list.txt
      ```

      ```
      tar cjvf a.tar.bz2 -I list.txt   # Solaris
      ```

      ```
      tar cjvf a.tar.bz2 -T list.txt   # Linux
      ```

Homework

- Copy all files from the directory /tmp, that are readable for you, to the compressed archive.

- Verify, that the content of the archive is correct.

- Create the new directory $HOME/tmp-backup. Restore all date from the previous archive to this directory.