

Hands-on Lab: Archiving and Compressing Files



Estimated time needed: **15** minutes

Learning Objectives

After completing this lab, you will be able to:

- Create archives for sets of files and folders
- Compress and decompress files
- Extract files and folders from an existing archive

Exercise 1 - File and folder archiving and compression

1.1. Create and manage file archives

`tar`

The `tar` command allows you to pack multiple files and directories into a single archive file.

The following command creates an archive of the entire `/bin` directory and writes the archive to a single file named `bin.tar`.

The options used are as follows:

| Option | Description |
|--------|--------------------------------|
| -c | Create new archive file |
| -v | Verbosely list files processed |
| -f | Archive file name |

```
1 tar -cvf bin.tar /bin
```

To see the list of files in the archive, use the `-t` option:

```
1 tar -tvf bin.tar
```

To untar the archive or extract files from the archive, use the `-x` option:

```
1 tar -xvf bin.tar
```

Use the `ls` command to verify that the folder `bin` is extracted.

```
1 ls -l
```

1.2. Package and compress archive files

zip

The **zip** command allows you to compress files.

The following command creates a zip file named **config.zip** consisting of all the files with extension **.conf** in the **/etc** directory.

```
1 zip config.zip /etc/*.conf
```

The **-r** option can be used to zip an entire directory.

The **-y** flag to prevent symbolic links from being followed recursively.

The following command creates an archive of the **/bin** directory.

```
1 zip -ry bin.zip /bin
```

1.3. Extract, list, or test compressed files in a ZIP archive

unzip

The **unzip** command allows you to extract files.

To list the files of the archive **config.zip**, enter the following:

```
1 unzip -l config.zip
```

The following command extracts all the files in the archive **bin.zip**.

```
1 unzip -o bin.zip
```

We added the **-o** option to force overwrite in case you run the command more than once.

You should see a folder named **bin** created in your directory.

```
Problems theia@theia-naimbenaalaya: /home/project theia@theia-naimbenaalaya: /home/project theia@theia-naimbenaalaya: /home/pr

theia@theia-naimbenaalaya: /home/project$ tar -cvf bin.tar /bin
tar: Removing leading '/' from member names
/bin
theia@theia-naimbenaalaya: /home/project$ tar -tvf bin.tar
lrwxrwxrwx root/root      0 2025-01-25 21:05 bin -> usr/bin
theia@theia-naimbenaalaya: /home/project$ tar -xvf bin.tar
bin
theia@theia-naimbenaalaya: /home/project$ ls -l
total 12
lrwxrwxrwx 1 theia users      7 Jan 25 21:05 bin -> usr/bin
-rw-r--r-- 1 theia users 10240 Jun 30 19:33 bin.tar
theia@theia-naimbenaalaya: /home/project$ zip config.zip /etc/*.conf
  adding: etc/adduser.conf (deflated 55%)
  adding: etc/ca-certificates.conf (deflated 76%)
  adding: etc/debconf.conf (deflated 56%)
  adding: etc/deluser.conf (deflated 40%)
  adding: etc/e2scrub.conf (deflated 49%)
  adding: etc/gai.conf (deflated 57%)
  adding: etc/host.conf (deflated 13%)
  adding: etc/ld.so.conf (deflated 6%)
  adding: etc/libaudit.conf (deflated 34%)
  adding: etc/mke2fs.conf (deflated 55%)
  adding: etc/mongod.conf (deflated 39%)
  adding: etc/nsswitch.conf (deflated 50%)
  adding: etc/pam.conf (deflated 62%)
  adding: etc/resolv.conf (deflated 26%)
  adding: etc/sensors3.conf (deflated 82%)
  adding: etc/sudo.conf (deflated 63%)
  adding: etc/sudo_logsrvd.conf (deflated 69%)
  adding: etc/sysctl.conf (deflated 60%)
  adding: etc/ucf.conf (deflated 61%)
  adding: etc/xattr.conf (deflated 55%)
theia@theia-naimbenaalaya: /home/project$ zip -ry bin.zip /bin
  adding: bin (stored 0%)
```

```

theia@theia-naimbenaalaya:/home/project$ unzip -l config.zip
Archive:  config.zip
  Length      Date    Time    Name
-----
  3028  2025-01-25  21:05  etc/adduser.conf
  6288  2025-03-27  17:36  etc/ca-certificates.conf
 2969  2022-02-20  09:42  etc/debconf.conf
   604  2018-09-15  18:14  etc/deluser.conf
   685  2022-01-08  15:02  etc/e2scrub.conf
 2584  2022-02-03  00:27  etc/gai.conf
   92   2021-10-15  06:06  etc/host.conf
   34   2020-12-16  06:04  etc/ld.so.conf
  191  2022-03-17  13:50  etc/libaudit.conf
  744  2022-01-08  15:02  etc/mke2fs.conf
  586  2013-12-19  00:41  etc/mongod.conf
  510  2025-03-27  17:35  etc/nsswitch.conf
  552  2020-08-11  20:15  etc/pam.conf
  104  2025-06-30  19:32  etc/resolv.conf
10593  2022-03-31  17:07  etc/sensors3.conf
 4573  2023-04-03  14:00  etc/sudo.conf
 9390  2023-04-03  14:00  etc/sudo_logsrvd.conf
 2355  2022-02-25  06:32  etc/sysctl.conf
 1260  2020-06-16  01:37  etc/ucf.conf
   681  2022-03-23  05:41  etc/xattr.conf
-----
 47823                20 files
theia@theia-naimbenaalaya:/home/project$ unzip -o bin.zip
Archive:  bin.zip
  linking: bin                -> usr/bin
finishing deferred symbolic links:
  bin                -> usr/bin
theia@theia-naimbenaalaya:/home/project$

```

Summary

In this lab, you learned that:

- `tar` allows you to pack multiple files and directories into a single archive file
- `zip` allows you to compress files
- `unzip` allows you to extract files