Archiving, Compressing, and Uncompressing in Linux

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Introduction

In the world of Linux, archiving, compressing, and uncompressing are fundamental operations that help manage and optimize file storage and transmission.

These processes are especially important for Cloud Engineers like you, as they can reduce storage costs and make data transfer more efficient.

Why Archive ?

Archiving involves bundling multiple files or directories into a single file.

This is useful for organizing related files, creating backups, or preparing files for sharing. Archiving helps maintain a structured file system.

Why Compress ?

Compressing is the process of reducing the size of a file or directory to save disk space and speed up data transfer.

t's particularly valuable when dealing with large files or when transferring data over networks with limited bandwidth.

Why Uncompress ?

Uncompressing is the reverse of compressing.

It allows you to restore a compressed file or directory to its original state so that you can access its contents.

How to Archive ?

Archiving Files and Directories

To create an archive, you can use the tar command. For example, to archive a directory called "my_directory," you would use:

tar -cvf my_archive.tar <file or directory>
tar -xvf my_archive.tar <file or directory>

Analysing the Command

tar: This is the main command for working with tar archives. Tar stands for "tape archive," and it's a common tool used for archiving and compressing files and directories in Unix-like operating systems.

-c: This option stands for "create."

-v: This option stands for "verbose."

-f: This option stands for “file”

ZIP

Zip is a command-line utility in Linux used for compressing files and directories into compressed zip archives. Zip archives are commonly used for bundling files together and reducing their size for efficient storage and transmission.

Types:

Gunzip

Bunzip

Commands

To create a compressed tar archive (commonly called a "tarball") using gzip compression,

tar -zcvf my_archive.tar.gz m <fileor directory>

To Extract,
tar -zxvf my_archive.tar.gz

Commands

To create a compressed tar archive using bzip2 compression,

tar -jcvf my_archive.tar.bz2 my_directory

To Extract,

tar -jxvf my_archive.tar.bz2