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# **Archiving and Compression using tar**

* tar stands for tape archive
* tar is used to take tape drive backup.
* tar command creates an archive and then compress files/directory/file system.
* Archiving is act of collecting multiple files into single file. tar basically creates bundle of multiple files into single file. Note that, it will not reduce size.
* Compression is act of reducing size of existing archive file so that it will optimize space usage and ease file transfer over network.
* Compression methods:

|  |  |  |
| --- | --- | --- |
| **method** | **option** | **Extension** |
| gzip | z | .gz |
| bzip2 | j | .bz2 |
| xz | J | .xz |

* Up to RHEL 6, only gzip and bzip2 are available and gzip is faster than bzip2.
* In RHEL7, all above three method are available and xz is fastest among them.

**Mainly used Commands (using gzip compression method):**

* To only archive files,

Command: tar -cvf <filename>.tar <source>

Example: tar -cvf /tmp/backupetc.tar

* To archive and compress file,

Command: tar -cvzf <filename>.tar.gz <source>

Example: tar -cvzf /tmp/backupetc.tar.gz /etc

It will create archive and compress /etc directory and store archived file under /tmp.

* To list only content of archived & compressed file,

Command: tar -**t**vzf <filename>.tar.gz

Example: tar -tvzf /tmp/backupetc.tar.gz

* To extract/untar file,

Command: tar -**x**vzf <filename>.tar.gz

Example: tar -xvzf /tmp/backupetc.tar.gz

* To verify archived file,

Command: tar -**W**vf <filename>.tar

Compressed file verification is not possible.

* To add/append files to existing only archived file,

Command: tar -**r**vf <filename>.tar.gz <file to be added>

Example: tar -rvf /tmp/backupetc.tar.gz file1

* To extract only certain files,

Command: tar -xvzf <filename>.tar.gz <file names>

Command: tar -xvzf <filename>.tar.gz --wildcards <pattern>

Example: tar -xvzf /tmp/backupetc.tar.gz “file1” “file2”

Example: tar -xvzf /tmp/backupetc.tar.gz --wildcards ‘\*.txt’

* To check size of archived/compressed file,

Command: du -sh <filename>.tar.gz

|  |  |
| --- | --- |
| Option | Description |
| c | create archive |
| v | verbosity |
| f | filename |
| x | extract |
| t | list content of archive |
| r | append |
| W | verify |
| z | gzip compression |
| j | bzip2 compression |
| J | xz compression |