Archiving and Compression

```
404  tar -cvf varfile.tar /var
405  ls
406  tar -tvf varfile.tar
407  tar -xvf varfile.tar -C /mnt
408  cd /mnt
409  ls
410  cd
411  du -sh /etc
412  -rvf varfile.tar /etc
413  tar -rvf varfile.tar /etc
414  cd /mnt
415  ls
416  cd
417  clear
418  ls
419  du -sh varfile.tar
420  du -sh /var
421  tar -czvf etcfile.gz /etc
422  du -sh /etc
423  du -sh etcfile.gz
424  tar -cjvf etcfile.bz2 /etc
425  du -sh etcfile.bz2
426  du -sh etcfile.tar
427  du -sh etcfile.bz2
428  du -sh etcfile.gz
429  tar -xjvf etcfile.bz2 /mnt
430  tar -xjvf etcfile.bz2 -C /mnt
431  cd /mnt ls
432  cd /mnt
433  ls
434  cd
435  cd /mnt
436  ls
437  rm -rvf etc var
438  cd
439  tar -cJvf etcfile.xz /etc
440  du -sh etcfile.gz
441  du -sh etcfile.bz2
442  du -sh etcfile.xz
443  ls
444  history
```

Archiving:

```
[root@vbox ~]# du -sh /var
603M    /var
[root@vbox ~]# tar -cvf varfile.tar /var
tar: Removing leading `/' from member names
/var/
/var/lib/
/var/lib/dnf/
/var/lib/dnf/history.sqlite
/var/lib/dnf/history.sqlite-wal
/var/lib/dnf/history.sqlite-shm
/var/lib/dnf/repos/
/var/lib/dnf/repos/extras-common-581a10b8a62294e3/
/var/lib/dnf/repos/extras-common-581a10b8a62294e3/countme
/var/lib/dnf/repos/baseos-044cae74d71fe9ea/
/var/lib/dnf/repos/baseos-044cae74d71fe9ea/countme
/var/lib/dnf/repos/appstream-831abc7e9d6a1a72/
/var/lib/dnf/repos/appstream-831abc7e9d6a1a72/countme
/var/lib/rpm/
/var/lib/rpm/rpmdb.sqlite
/var/lib/rpm/rpmdb.sqlite-wal
/var/lib/rpm/rpmdb.sqlite-shm
/var/lib/rpm/.rpm.lock
/var/lib/games/
/var/lib/misc/
/var/lib/rpm-state/
/var/lib/rpm-state/kernel/
/var/lib/selinux/
/var/lib/selinux/tmp/
/var/lib/selinux/targeted/
/var/lib/selinux/targeted/semanage.read.LOCK
/var/lib/selinux/targeted/semanage.trans.LOCK
/var/lib/selinux/targeted/active/
/var/lib/selinux/targeted/active/modules/
/var/lib/selinux/targeted/active/modules/100/
/var/lib/selinux/targeted/active/modules/100/abrt/
/var/lib/selinux/targeted/active/modules/100/abrt/cil
```

```
/var/.updated
[root@vbox ~]# ls
ABCDE     anaconda-ks.cfg   Documents   file    file10  hardsakshi  Pictures   sakshi    softSakshi   tasks      testfile      Videos
acldir  Desktop           Downloads   file1   h1      Music         Public     softlink  task         Templates  varfile.tar
[root@vbox ~]#
```

```
[root@vbox ~]# tar -tvf varfile.tar
drwxr-xr-x root/root              0 2025-06-14 23:20 var/
drwxr-xr-x root/root              0 2025-06-14 23:20 var/lib/
drwxr-xr-x root/root              0 2025-07-07 11:01 var/lib/dnf/
-rw-r--r-- root/root         368640 2025-07-10 10:08 var/lib/dnf/history.sqlite
-rw-r--r-- root/root        6744472 2025-07-07 11:01 var/lib/dnf/history.sqlite-wal
-rw-r--r-- root/root          32768 2025-07-10 10:08 var/lib/dnf/history.sqlite-shm
drwxr-xr-x root/root              0 2025-06-15 19:52 var/lib/dnf/repos/
drwxr-xr-x root/root              0 2025-06-15 19:52 var/lib/dnf/repos/extras-common-581a10b8a62294e3/
-rw-r--r-- root/root             26 2025-07-08 20:39 var/lib/dnf/repos/extras-common-581a10b8a62294e3/countme
drwxr-xr-x root/root              0 2025-06-15 19:52 var/lib/dnf/repos/baseos-044cae74d71fe9ea/
-rw-r--r-- root/root             26 2025-07-07 10:59 var/lib/dnf/repos/baseos-044cae74d71fe9ea/countme
drwxr-xr-x root/root              0 2025-06-15 19:52 var/lib/dnf/repos/appstream-831abc7e9d6a1a72/
-rw-r--r-- root/root             25 2025-07-08 08:53 var/lib/dnf/repos/appstream-831abc7e9d6a1a72/countme
drwxr-xr-x root/root              0 2025-05-07 19:49 var/lib/rpm/
-rw-r--r-- root/root       93773824 2025-07-07 11:01 var/lib/rpm/rpmdb.sqlite
-rw-r--r-- root/root              0 2025-07-07 11:01 var/lib/rpm/rpmdb.sqlite-wal
-rw-r--r-- root/root          32768 2025-07-10 10:08 var/lib/rpm/rpmdb.sqlite-shm
-rw-r--r-- root/root              0 2025-06-14 23:03 var/lib/rpm/.rpm.lock
drwxr-xr-x root/root              0 2024-06-25 19:53 var/lib/games/
drwxr-xr-x root/root              0 2024-06-25 19:53 var/lib/misc/
drwxr-xr-x root/root              0 2025-06-14 23:13 var/lib/rpm-state/
drwxr-xr-x root/root              0 2025-06-14 23:09 var/lib/rpm-state/kernel/
drwxr-xr-x root/root              0 2025-06-14 23:05 var/lib/selinux/
drwxr-xr-x root/root              0 2025-02-28 13:41 var/lib/selinux/tmp/
drwxr-xr-x root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/
-rw------- root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/semanage.read.LOCK
-rw------- root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/semanage.trans.LOCK
drwx------ root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/active/
drwx------ root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/
drwx------ root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/
drwx------ root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/abrt/
-rw------- root/root           8495 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/abrt/cil
-rw------- root/root          18405 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/abrt/hll
-rw------- root/root              2 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/abrt/lang_ext
drwx------ root/root              0 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/accountsd/
-rw------- root/root           1870 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/accountsd/cil
-rw------- root/root          10568 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/accountsd/hll
-rw------- root/root              2 2025-06-14 23:07 var/lib/selinux/targeted/active/modules/100/accountsd/lang_ext
```

```
[root@vbox ~]# tar -xvf varfile.tar -C /mnt
var/
var/lib/
var/lib/dnf/
var/lib/dnf/history.sqlite
var/lib/dnf/history.sqlite-wal
var/lib/dnf/history.sqlite-shm
var/lib/dnf/repos/
var/lib/dnf/repos/extras-common-581a10b8a62294e3/
var/lib/dnf/repos/extras-common-581a10b8a62294e3/countme
var/lib/dnf/repos/baseos-044cae74d71fe9ea/
var/lib/dnf/repos/baseos-044cae74d71fe9ea/countme
var/lib/dnf/repos/appstream-831abc7e9d6a1a72/
var/lib/dnf/repos/appstream-831abc7e9d6a1a72/countme
var/lib/rpm/
var/lib/rpm/rpmdb.sqlite
var/lib/rpm/rpmdb.sqlite-wal
var/lib/rpm/rpmdb.sqlite-shm
var/lib/rpm/.rpm.lock
var/lib/games/
var/lib/misc/
var/lib/rpm-state/
var/lib/rpm-state/kernel/
var/lib/selinux/
var/lib/selinux/tmp/
var/lib/selinux/targeted/
var/lib/selinux/targeted/semanage.read.LOCK
var/lib/selinux/targeted/semanage.trans.LOCK
var/lib/selinux/targeted/active/
var/lib/selinux/targeted/active/modules/
var/lib/selinux/targeted/active/modules/100/
var/lib/selinux/targeted/active/modules/100/abrt/
var/lib/selinux/targeted/active/modules/100/abrt/cil
var/lib/selinux/targeted/active/modules/100/abrt/hll
var/lib/selinux/targeted/active/modules/100/abrt/lang_ext
var/lib/selinux/targeted/active/modules/100/accountsd/
var/lib/selinux/targeted/active/modules/100/accountsd/cil
var/lib/selinux/targeted/active/modules/100/accountsd/hll
var/lib/selinux/targeted/active/modules/100/accountsd/lang_ext
var/lib/selinux/targeted/active/modules/100/acct/
```
```
var/.updated
[root@vbox ~]# cd /mnt
[root@vbox mnt]# ls
var
[root@vbox mnt]#
```

```
[root@vbox ~]# tar -rvf varfile.tar /etc
tar: Removing leading `/' from member names
/etc/
/etc/mtab
tar: Removing leading `/' from hard link targets
/etc/fstab
/etc/crypttab
/etc/lvm/
/etc/lvm/devices/
/etc/lvm/devices/system.devices
/etc/lvm/archive/
/etc/lvm/archive/cs_vbox_00000-1070700864.vg
/etc/lvm/backup/
/etc/lvm/backup/cs_vbox
/etc/lvm/cache/
/etc/lvm/profile/
/etc/lvm/profile/cache-mq.profile
/etc/lvm/profile/cache-smq.profile
/etc/lvm/profile/command_profile_template.profile
/etc/lvm/profile/lvmdbusd.profile
/etc/lvm/profile/metadata_profile_template.profile
/etc/lvm/profile/thin-generic.profile
/etc/lvm/profile/thin-performance.profile
/etc/lvm/profile/vdo-small.profile
/etc/lvm/lvm.conf
/etc/lvm/lvmlocal.conf
/etc/nvme/
/etc/nvme/hostnqn
/etc/nvme/hostid
/etc/nvme/discovery.conf
/etc/resolv.conf
/etc/dnf/
```

After add /etc into varfile.tar size is increased

```
[root@vbox ~]# ls
ABCDE    anaconda-ks.cfg  Documents  file    file10  hardsakshi  Pictures  sakshi    softSakshi  tasks      testfile     Videos
acldir   Desktop          Downloads  file1   h1      Music       Public    softlink  task        Templates  varfile.tar
[root@vbox ~]# du -sh varfile.tar
626M    varfile.tar
[root@vbox ~]# du -sh /var
602M    /var
```

Compression: using gzip,bzip2,xz

```
[root@vbox ~]# tar -czvf etcfile.gz /etc
tar: Removing leading `/' from member names
/etc/
/etc/mtab
/etc/fstab
/etc/crypttab
/etc/lvm/
/etc/lvm/devices/
/etc/lvm/devices/system.devices
/etc/lvm/archive/
/etc/lvm/archive/cs_vbox_00000-1070700864.vg
/etc/lvm/backup/
/etc/lvm/backup/cs_vbox
/etc/lvm/cache/
/etc/lvm/profile/
/etc/lvm/profile/cache-mq.profile
/etc/lvm/profile/cache-smq.profile
/etc/lvm/profile/command_profile_template.profile
/etc/lvm/profile/lvmdbusd.profile
/etc/lvm/profile/metadata_profile_template.profile
/etc/lvm/profile/thin-generic.profile
/etc/lvm/profile/thin-performance.profile
/etc/lvm/profile/vdo-small.profile
/etc/lvm/lvm.conf
/etc/lvm/lvmlocal.conf
/etc/nvme/
/etc/nvme/hostnqn
/etc/nvme/hostid
/etc/nvme/discovery.conf
/etc/resolv.conf
/etc/dnf/
/etc/dnf/modules.d/
/etc/dnf/aliases.d/
/etc/dnf/modules.defaults.d/
/etc/dnf/plugins/
/etc/dnf/plugins/kpatch.conf
/etc/dnf/plugins/copr.d/
/etc/dnf/plugins/copr.conf
/etc/dnf/plugins/debuginfo-install.conf
```

```
[root@vbox ~]# du -sh /etc
29M     /etc
[root@vbox ~]# du -sh etcfile.gz
5.4M    etcfile.gz
[root@vbox ~]#
```

```
[root@vbox ~]# tar -cjvf etcfile.bz2 /etc
tar: Removing leading `/' from member names
/etc/
/etc/mtab
/etc/fstab
/etc/crypttab
/etc/lvm/
/etc/lvm/devices/
/etc/lvm/devices/system.devices
/etc/lvm/archive/
/etc/lvm/archive/cs_vbox_00000-1070700864.vg
/etc/lvm/backup/
/etc/lvm/backup/cs_vbox
/etc/lvm/cache/
/etc/lvm/profile/
/etc/lvm/profile/cache-mq.profile
/etc/lvm/profile/cache-smq.profile
/etc/lvm/profile/command_profile_template.profile
/etc/lvm/profile/lvmdbusd.profile
/etc/lvm/profile/metadata_profile_template.profile
/etc/lvm/profile/thin-generic.profile
/etc/lvm/profile/thin-performance.profile
/etc/lvm/profile/vdo-small.profile
/etc/lvm/lvm.conf
/etc/lvm/lvmlocal.conf
/etc/nvme/
/etc/nvme/hostnqn
/etc/nvme/hostid
/etc/nvme/discovery.conf
/etc/resolv.conf
/etc/dnf/
/etc/dnf/modules.d/
/etc/dnf/aliases.d/
/etc/dnf/modules.defaults.d/
/etc/dnf/plugins/
```

```
[root@vbox ~]# du -sh etcfile.bz2
4.4M    etcfile.bz2
[root@vbox ~]# du -sh etcfile.gz
5.4M    etcfile.gz
[root@vbox ~]#
```

```
tar: Exiting with failure status due to previous errors
[root@vbox ~]# tar -xjvf etcfile.bz2 -C /mnt
etc/
etc/mtab
etc/fstab
etc/crypttab
etc/lvm/
etc/lvm/devices/
etc/lvm/devices/system.devices
etc/lvm/archive/
etc/lvm/archive/cs_vbox_00000-1070700864.vg
etc/lvm/backup/
etc/lvm/backup/cs_vbox
etc/lvm/cache/
etc/lvm/profile/
etc/lvm/profile/cache-mq.profile
etc/lvm/profile/cache-smq.profile
etc/lvm/profile/command_profile_template.profile
etc/lvm/profile/lvmdbusd.profile
etc/lvm/profile/metadata_profile_template.profile
etc/lvm/profile/thin-generic.profile
etc/lvm/profile/thin-performance.profile
etc/lvm/profile/vdo-small.profile
etc/lvm/lvm.conf
etc/lvm/lvmlocal.conf
etc/nvme/
etc/nvme/hostnqn
etc/nvme/hostid
etc/nvme/discovery.conf
etc/resolv.conf
etc/dnf/
etc/dnf/modules.d/
etc/dnf/aliases.d/
etc/dnf/modules.defaults.d/
etc/dnf/plugins/
etc/dnf/plugins/kpatch.conf
etc/dnf/plugins/copr.d/
etc/dnf/plugins/copr.conf
etc/dnf/plugins/debuginfo-install.conf
```

```
[root@vbox ~]# cd /mnt
[root@vbox mnt]# ls
etc  var
[root@vbox mnt]#
```

```
[root@vbox ~]# tar -cJvf etcfile.xz /etc
tar: Removing leading `/' from member names
/etc/
/etc/mtab
/etc/fstab
/etc/crypttab
/etc/lvm/
/etc/lvm/devices/
/etc/lvm/devices/system.devices
/etc/lvm/archive/
/etc/lvm/archive/cs_vbox_00000-1070700864.vg
/etc/lvm/backup/
/etc/lvm/backup/cs_vbox
/etc/lvm/cache/
/etc/lvm/profile/
/etc/lvm/profile/cache-mq.profile
/etc/lvm/profile/cache-smq.profile
/etc/lvm/profile/command_profile_template.profile
/etc/lvm/profile/lvmdbusd.profile
/etc/lvm/profile/metadata_profile_template.profile
/etc/lvm/profile/thin-generic.profile
/etc/lvm/profile/thin-performance.profile
/etc/lvm/profile/vdo-small.profile
/etc/lvm/lvm.conf
/etc/lvm/lvmlocal.conf
/etc/nvme/
/etc/nvme/hostnqn
/etc/nvme/hostid
/etc/nvme/discovery.conf
/etc/resolv.conf
```

```
[root@vbox ~]# du -sh etcfile.gz
5.4M    etcfile.gz
[root@vbox ~]# du -sh etcfile.bz2
4.4M    etcfile.bz2
[root@vbox ~]# du -sh etcfile.xz
3.4M    etcfile.xz
[root@vbox ~]# ls
ABCDE    anaconda-ks.cfg  Documents  etcfile.bz2  etcfile.xz  file1   h1            Music     Public  softlink    task    Templates  varfile.tar
acldir   Desktop          Downloads  etcfile.gz   file         file10  hardsakshi  Pictures  sakshi  softSakshi  tasks   testfile   Videos
[root@vbox ~]#
```

```
[root@vbox ~]# gzip varfile.tar
[root@vbox ~]# du -sh varfile.tar.gz
455M    varfile.tar.gz
```

```
[root@vbox ~]# bzip2 varfile.tar.gz
[root@vbox ~]# du -sh varfile.tar.gz.bz2
456M    varfile.tar.gz.bz2
[root@vbox ~]# ls
ABCDE    anaconda-ks.cfg  Documents  etcfile.bz2  etcfile.xz  file1   h1            Music     Public  softlink    task    Templates  varfile.tar.gz.bz2
acldir   Desktop          Downloads  etcfile.gz   file         file10  hardsakshi  Pictures  sakshi  softSakshi  tasks   testfile   Videos
[root@vbox ~]# bunzip varfile.tar.gz.bz2
bash: bunzip: command not found...
Similar command is: 'unzip'
[root@vbox ~]# bunzip2 varfile.tar.gz.bz2
[root@vbox ~]# ls
ABCDE    anaconda-ks.cfg  Documents  etcfile.bz2  etcfile.xz  file1   h1            Music     Public  softlink    task    Templates  varfile.tar.gz
acldir   Desktop          Downloads  etcfile.gz   file         file10  hardsakshi  Pictures  sakshi  softSakshi  tasks   testfile   Videos
[root@vbox ~]# bunzip2 varfile.tar.gz
bunzip2: Can't guess original name for varfile.tar.gz -- using varfile.tar.gz.out
bunzip2: varfile.tar.gz is not a bzip2 file.
[root@vbox ~]# du -sh varfile.tar.gz
455M    varfile.tar.gz
[root@vbox ~]#
```

```
[root@vbox ~]# xz varfile.tar.gz
[root@vbox ~]# ls
ABCDE    anaconda-ks.cfg  Documents  etcfile.bz2  etcfile.xz  file1   h1            Music     Public  softlink    task    Templates  varfile.tar.gz.xz
acldir   Desktop          Downloads  etcfile.gz   file         file10  hardsakshi  Pictures  sakshi  softSakshi  tasks   testfile   Videos
```

varfile.tar.gz.xz.zip, and cannot find varfile.tar.gz.xz.zip, period.
[root@vbox ~]# unxz varfile.tar.gz.xz
[root@vbox ~]# ls
ABCDE   anaconda-ks.cfg Documents etcfile.bz2 etcfile.xz file1   h1   Music   Public   softlink   task   Templates varfile.tar.gz
acldir Desktop   Downloads etcfile.gz   file   file10 hardsakshi Pictures sakshi   softSakshi tasks testfile   Videos
[root@vbox ~]#