GETTING STARTED
WITH
FILE SYSTEM BACKUPS

➢ MANAGING BACKUPS & RESTORE:

- It always good idea to keep on backup data on our computers, this can either be done manually or configured to work automatically.
- As a system administrator, you can use the **xfsdump** to back up an XFS file system into a file or on a tape. This provides a simple backup mechanism.
- Types of backups are:
  - Full Backups
  - Incremental Backups
  - Differential Backups

FULL BACKUP:

- It writes all files (every single file), to the backup media.
- If the data being backed up never changes, every full back up being created will be the same.
- A full backup does not check to see if a file has changed since the last backup; it blindly writes everything to the backup media whether it has been modified or not.

SYNTAX: #xfsdump -l level [-L label] -f backup-destination path <mount-point name>
Here: Use 0 to perform a full backup or 1 to 9 to perform consequent incremental backups.

→ **Creating a full backup:**
#xfsdump -l 0 -L “My Full Backup” -f /dev/st0 /cloud-data
#ls -l /dev/st0

INCREMENTAL BACKUP:

- It writes files that have been created or modified since the last usually full backup.
- Incremental backups are used in conjunction with a regularly-occurring full backups.
- When restoring a complete file system, it is necessary to restore the last full backup and every subsequent incremental backup.

→ **Create an incremental dumps/backup:**

#xfsdump -l 1 -L "Incremental bkp-1" -f /dev/st1 /cloud-data

#ls -l /dev/st1

RESTORING AN XFS FILE SYSTEM FROM BACKUP:

- The command to restore the backup varies depending on whether you are restoring from a full backup or an incremental one:

SYNTAX: #xfsrestore [-r] [-S session-id] [-L session-label] [-i]

-f backup-location restoration-path

Here: -S session ID, -L session label.

→ **To restore from a tape device by using session label:**

#xfsrestore -f /dev/st0 -L "backup_boot" /mnt/boot/

(or)

→ **To restore from a tape device using session ID:**

#xfsrestore -f /dev/st0 -S "45e9af35-efd2-4244" /cloud-data

#ls /cloud-data

→ **To restore incremental backup using session ID:**

#xfsrestore -f /dev/st1 -S "45e9af35-efd2-4244" /cloud-data

#ls /cloud-data

DIFFERENTIAL BACKUPS:

- It is similar to incremental backups in that both backups only modified files. However, differential backups are **cumulative** - - in other words, once file has been modified it continues to be included in all subsequent differential backups.
- Each differential backup contains all the files modified since the last full backup.

CPIO (copy-in, copy-out):

- The **cpio** utility is an excellent general-purpose program for moving data from one place to another and, as such, can serve well as a backup program.
- It is an archive-based tool, much like tar.
- cpio reads the names of the files it is to process via standard input.

OPTIONS:

-o (create) **:** Create the archive and it runs only in copy-out mode.
-t, (list) **:** Print a table of contents of all the inputs present.
-p (pass-through) **:** Run in copy-pass mode.
-i (extract) **:** Extract files from an archive and it runs copy-in mode.

→ **Create all current working directory files into backup.cpio:**
#ls | cpio -ov > /opt/backup.cpio
#ls -l /opt/backup.cpio

→ **To view backup.cpio file:**
#cpio -tv < /opt/backup.cpio

→ **To extract/Restore tar/cpio archive file:**
#cpio -iv < /opt/backup.tar

→ **Extract a tar archive using this command.**
#cpio -i -F < archive.tar

→ **Create /home data backup to /opt/home-backup.cpio:**
#find /home/ | cpio -o > /opt/home-backup.cpio

→ **This example copies the contents of /home/student/projects to /devteam/projects without creating an archive.**
#find /home/student/projects | cpio -pdv /devteam/projects