GETTING STARTED
WITH LINKS

➢ LINKS:

- A link in LINUX is a pointer to a file. Meaning is connectivity between the filename and the actual data byte in the disk space.
- Creating links is a kind of shortcuts to access a file. Links allow more than one file name to refer to the same file, elsewhere.
- Link makes the file or directory easier to access if it has a long path name.
- There are two types of links:
  - Soft Link or Symbolic links
  - Hard Links

SOFT LINKS:

- A soft link is similar to the file shortcut feature which is used in Windows Operating systems.
- A soft link is not a standard file, but a special file that points to an existing file.
- The source and link file inode numbers are different.
- It can be created across the different file systems.
- If you delete the original file, the soft link render as useless.
- A symbolic link file is identified by the letter "l" in the file type field.

SYNTAX: **$ln -s <source_file> <link_file>**

→ Creating a soft link:

```
$ln -s /root/test  /tmp/test
$ls -l /tmp/test
```

→ To check both files inode numbers:

```
$ls -i /root/test
$ls -i /tmp/test
```

→ Removing original / source file, we can't access link file:

```
$rm -i /root/test
$cat /tmp/test
```

HARD LINKS:

- Every file on the Linux filesystem starts with a single hard link.
- Link is between the filename and the actual data stored on the filesystem.
- If you create a new hard link, the link count increments by 1.
- The source and link file inode numbers are same.
- We can't create a hard link across the file system.
- If delete any one of the files, it has no effect on the other file. Only the link count decrements.

SYNTAX: **$ln <source_file> <link_file>**

→ Creating a hard link:

$ln /root/myfile /tmp/myfile

$ls -l /tmp/myfile

→ To check Link count value is incremented by 1.

$ls -l /root/myfile

→ To verify both files inode values:

$ls -i /root/myfile

$ls -i /tmp/myfile

→ Remove original file and will be access a hard link file:

$rm -i /root/myfile

$cat /tmp/myfile

NOTE: If delete any one of the files, it has no effect on the other file. Only the link count decrements by 1.