

# File permissions



# Linux File Permission Cheatsheet

## Basic File Permissions

brijkishore@terminal:~\$ ls -l

-rwx-rw-r--	2	brijkisharm	rajesharam	500	Nov 26 21:18	Data
-rwx-rw-r--	2	brijkishore	rajesharam	500	Nov 29 16:34	Data
--rwxr-xr-x	3	brijkishore	brijkishore	500	Nov 29 16:24	Data

Annotations:   
 - **Number of Linked Hard-Links**: points to the number '2' or '3'.   
 - **User Owner of the File**: points to the user name.   
 - **Group Owner of file**: points to the group name.   
 - **File in bytes**: points to the file size.   
 - **File size in bytes**: points to the file size.   
 - **File name**: points to the file name.   
 - **File Type**: points to the first character of the permissions.   
 - **Other (everyone) Permissions**: points to the last three characters of the permissions.

r	Read	4
w	Write	2
x	Execute	1
		<b>7</b>

Chmod u+s file

r	Read	4
w	Write	2
c	No Permissions	1

Chmod g+s file

r	Read	4
w	Write	2
c	No Permissions	1

Chmod g+s file

r	Read	1
w	Execute	5
c	Other Permissions	5

Chmod +t dtene



## Symbolic vs Numeric Representation

Binary	Octal	Permissions	Soabel
000	0	None (0-0+0)	----
001	1	Execute (0+0-)	--x
010	2	Write (0-1-0)	-w-
011	3	Write + Execute	-wx
100	4	Read (1-0+0)	r--
101	5	Read (1-0+1)	r-x
110	6	Read + Write	rw-
111	7	Read + Write + Execute	rwX

Capital 5 is an error if occurs if user has no execute bit (0) set

Capital T is an error if occurs if others have no execute bit (0) set but stif have write bit (2) set



## Special Permissions

**SUID Permission**  
 -rwsr-xr-x-  
 chmod u+s file

**SGID Permission**  
 drwxrwsr-x-  
 chmod g+s directory\_name

**Stick Bit Permission**  
 drwxrwxr-t--  
 chmod +t directory\_name

**Store Permission**  
 drwxrwxr-t==  
 chmod +t directory\_name

## Special Permissions

**SUID Permission**  
 -rwsr-xr-x-  
 chmod u+s file

**SGID Permission**  
 drwxrwsr-x-  
 chmod g+s directory\_name

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