PEL Topic Index

The ls -l command output format

Output format example	-rw-r--r--@ 1 jdoe staff ␣ 5111 9 Jun 14:30 readme.rst.txt									
Fields	-	rw-	r--	r--	@	1	jdoe	staff	5111	9 Jun 14:30	readme.rst.txt
	Device Type:	*Owner*	*Group*	*Word*	**On macOS only:**		ownership				

Description
 	
Note: use the **`info ls`** command to see more information related to your system.
 	
See Also: **ls @ wikipedia** with all the identified external links.
	• **-** Regular file.
	• **b** Block special file.
	• **c** Character special file.
	• **C** High performance (*contiguous data*) file.
	• **d** Directory.
	• **D** Door (Solaris).
	• **l** (letter `l`) Symbolic link.
	• **M** Off-line (migrated) file (Cray DMF).
	• **n** Network special file (HP-UX).
	• **p** FIFO (named pipe).
	• **P** Port (Solaris).
	• **s** Socket.
	• **?** Some other file type.
		Permissions:
		• **r**ead,
		• **w**rite,
		• other:
		  • **`s` :** If the set-user-ID or set-group-ID and corresponding executable bit are both set.
		  • **`S` :** If the set-user-ID or set-group-ID is set but the corresponding executable bit is not set.
		  • **`t` :** If the restricted deletion flag or sticky bit, and the other-executable bit, are both set. The restricted deletion flag is another name of the sticky bit.
		  • **`T` :** If the restricted deletion flag or sticky bit is set but the other-executable bit is not set.
		  • **`x` :** If the executable bit is set and none of the above apply.
		  • **`-` :** otherwise.
					• @ has extended attributes
					
					• % dataless file or directory
						Number of links or directories	**User** *ownership:* user that owns the file or directory	**Group** ownership	**Size** in bytes. With **`ls -lh`**, size format is human readable with units:
									• **k** : kilo
									• **M** : mega
									• **G** : giga
										Date of last modification	**Name** of the file

Extra Notes:	• Permissions	• **s** • **S**	The **s** and **S** bits identify whether the set user ID or set group ID permissions are active. These are special permissions bits that allow a program, when run by any user, to be run with the effective UID of the owner (identified by the ownership fields). • For example, if the user ownership is root and the s bit is set, another user will be able to run the program as if it was root. This permission is therefore a security risk and should be restricted to the programs that absolutely require this (as sudo does for example).									
With **-Z** option (on **SELinux**)	• **SELinux security context** • Shown only with the -Z option between the ownership and size for the **ls -l** output. • *This is where the ␣ is shown in the first row.*	• **?**	The **?** is displayed when the file has no associated SELinux security context.								
		SELinux contexts follow the SELinux **user:role:type:level** syntax with the following fields (as described in the SELinux RedHat web page):									
		• user (…_**u**)									
		• role (…_**r**)									
		• type (…_**t**)									
		• level									