
KNOWLEDGE BASE ARTICLE

Redirections, Pipes & Permissions in Linux

Guide to use redirections, Pipes and a summary of file permissions in Linux. Useful to manage a Linux installation.

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Redirections

Commands can redirect their output to specified locations instead of displaying them on the screen. For example, to write the list of a directory to a file, you could run the following command:

```
ls -al > filelist.txt
```

The above command will create the file if it does not exist and overwrite the existing file if it does. To append text, you can use double output signs '>>'.

```
ls -al >> filelist.txt
```

Below is an example of command input redirection. The file.txt file will input into the wc command, which counts the lines and words in the file. The result of this will then be written to the file count.txt.

```
wc < file.txt > count.txt
```

Pipes

Pipes allow you to put the output of one programme into the input of another. For example, we could pipe the output of a large list to the 'more' programme, allowing us to page through the directory listings.

```
ls -al /etc | more
```

File Permissions

Each file has the following security groups:

- Owner
- Group
- Others

Each of these groups has three flags that control the access status:

- Read
- Write
- Execute

The example below would allow the owner of the file to read, write, and execute, whilst the group can only read and write, and all other users can only read the file.

User			Group			Other (world)		
R	W	X	R	W	-	R	-	-

When changing the permissions or ownership of a file, these flags can be represented in a three-digit octal number, e.g. 760. To understand this, look at the table below.

User			Group			Other (world)		
R	W	X	R	W	X	R	W	X
4	2	1	4	2	1	4	2	1
Example file permissions: -rwx rw- --- 1 root root 56 Mar 27 11:31 ed.txt								
R	W	X	R	W	-	-	-	-
7			6			0		