

# Scripting

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Goal : You are a eavy downloader. Songs, movies, documents mainly. You download so much that your Download folder, on your computer became some extension of your trash folder, and needs to be sorted. However, the task is hudge, and you don't want to do it yourself.

The goal of this practical work is to solve this solution

We are going to automatically move files after downloads.

When a **.pdf** file will be created in **/home/user/Downloads** folder, it will automatically be moved to **/home/user/Documents**.

When a **.mp3** file will be created in **/home/user/Downloads** folder, it will automatically be moved to **/home/user/Music**.

When a **.mp4** file will be created in **/home/user/Downloads** folder, it will automatically be moved to **/home/user/Videos**.

Some sorting remains, so if you want to add new features to your solution, keeps imaginative !

## First step : detect IO in Downloads folder

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Install **incron** package.

Allow yourself to use incron :

```
echo $USER | sudo tee -a /etc/incron.allow
```

The syntax of incon is the following :

Ex :

```
/home/user/Downloads IN_CLOSE_WRITE /home/user/Documents/incron_script.sh
```

Now, read manual and find the command to use to display absolute file name of new files in **Downloads** folder. Use **incron -e** to edit the incron. You might specify the **EDITOR** environment variable to **nano**.

Create several files in **Downloads** folder. Check **/var/log/syslog** file to see if it behaves as specified.

## Second step : Detecting file extension

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Create a script for parsing file extension.

Here is sample input and expected result to test your script :

Note : To fail with error code 1 use **exit 1**

```
$ ./parse_extension.sh /home/direcory/file.ext
ext

$ ./parse_extension.sh /home/direcory/file
Failed error code 1

$ ./parse_extension.sh /home/direcory/file.trap.ext
ext

$ ./parse_extension.sh /home/direcory/ext.trap.ext
ext

$ ./parse_extension.sh /home/direcory.trap/file.ext
ext

$ ./parse_extension.sh /home/direcory/file.
Failed error code 1

$ ./parse_extension.sh /home/direcory/
Failed error code 1
```

Don't forget to give it execution right.

## Third step : extract file name from absolute path

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To test your script :

```
$/parse_file_name.sh /home/directory/file.ext
file.ext

$/parse_file_name.sh /home/directory/file
file

$/parse_file_name.sh /file.ext
file.ext

$/parse_file_name.sh file.ext
file.ext

$/parse_file_name.sh /home/directory/
Failed error code 1
```

## Fourth step : classification script

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Use previously written scripts to write classification script.

To test it :

```
# For documents
$ ls ~/Documents
No test.pdf file

$ touch test.pdf

$ ./classify.sh test.pdf

$ ls ~/Documents
test.pdf file present
```

```
# For music
$ ls ~/Music
No test.mp3 file

$ touch test.mp3

$ ./classify.sh test.mp3

$ ls ~/Music
test.mp3 is present

# For movies
$ ls ~/Videos
No test.mp4 file

$ touch test.mp4

$ ./classify.sh test.mp4

$ ls ~/Videos
test.mp4 is present

# Working with absolute paths
$ ls ~/Videos
No abs.mp4

$ touch /home/user/Downloads/abs.mp4

$ ./classify.sh /home/user/Downloads/abs.mp4

$ ls ~/Videos
abs.mp4 should be present
```

## Fiveth step : plug it into incron

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Edit **incron -e** to class classify.sh script with full path name upon writes close in Download folder.

To test it :

```
# For documents
$ ls ~/Documents
No test.pdf file

$ touch ~/Downloads/test.pdf

$ ls ~/Documents
test.pdf file present

# For music
$ ls ~/Music
No test.mp3 file

$ touch ~/Downloads/test.mp3

$ ls ~/Music
test.mp3 is present

# For movies
$ ls ~/Videos
No test.mp4 file

$ touch ~/Downloads/test.mp4
```

```
$ ls ~/Videos  
test.mp4 is present
```

# You still have time

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Improve the script !

You can :

- Handle more extensions
- Verify file extensions
- Have finer sorting decisions (ex : based on size, classify movies and series (shorter) )
- Whatever you can imagine