

The skiing cube

Random geeky stuff

Understanding file associations in LXDE and PCManFM

OCTOBER 29, 2012 [6 COMMENTS \(HTTPS://LKUBASKI.WORDPRESS.COM/2012/10/29/UNDERSTANDING-FILE-ASSOCIATIONS-IN-LXDE-AND-PCMANFM/#COMMENTS\)](https://lkubaski.wordpress.com/2012/10/29/understanding-file-associations-in-lxde-and-pcmanfm/#comments)

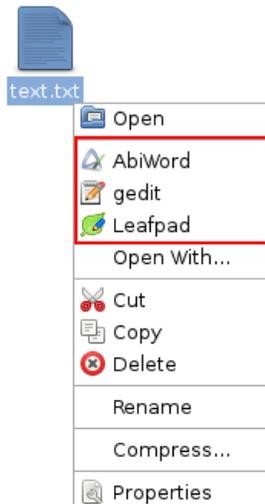
Or “understanding how PCManFM decides which program to launch when you double-click on a file”

Or “understanding the list of suggested programs when you right-click on a file in PCManFM”

Or “making sense of the mimeinfo.cache, defaults.list and mimeapps.list crazyness”

The problem

Create a text file (text.txt) file in PCManFM and right click on it: PCManFM displays a list of possible application that can open the file:



<https://lkubaski.files.wordpress.com/2012/10/suggested1.png>

Now if I double-click on the text.txt file, abiword (the first item highlighted in the screenshot above) is going to be launched.

- Where does this “AbiWord – gedit- Leafpad” list come from ?
- I want to use gedit instead of AbiWord when double-clicking on the file: how can I change this ?
- I want my text file to be opened by a program that is not listed: how can I do this ?
- Where in the world is Carmen SanDiego ?

Sit back and relax, I’m going to tell you the whole story.

At the beginning, there was the .desktop files

my [creating LXDE shortcuts](https://lkubaski.wordpress.com/2012/06/29/adding-lxde-start-menu-and-desktop-shortcuts/) (<https://lkubaski.wordpress.com/2012/06/29/adding-lxde-start-menu-and-desktop-shortcuts/>) post for more information.

Then there was mimeinfo.cache

This file is located in `/usr/share/applications/mimeinfo.cache` and it is basically a raw reverse cache for the `.desktop` information. Check [this link](http://wiki.debian.org/MIME) (<http://wiki.debian.org/MIME>) for more information.

More precisely, each `.desktop` file on your system (which can be located either in `/usr/share/applications`, in `/usr/local/share/applications` or in `~/.local/share/applications`) can contain a `MimeType` attribute which states the mimetype that the program associated to the `.desktop` file can handle.

On my Fedora installation, I have 3 text editors: Abiword, Leafpad and gedit and each one of them can open files that have a `text/plain` mimetype:

```
1 [laurent@localhost applications]$ cat fedora-abiword.desktop | grep text/plain
2 MimeType=application/x-abiword;text/x-abiword;text/x-xml-abiword;text/plain;
3
4 [laurent@localhost applications]$ cat gedit.desktop | grep text/plain
5 MimeType=text/plain;
6
7 [laurent@localhost applications]$ cat fedora-leafpad.desktop | grep text/plain
8 MimeType=text/plain;
```

Now if I have a look in `mimeinfo.cache`, I can find the reverse mapping that we just talked about:

```
1 [laurent@localhost applications]$ cat mimeinfo.cache | grep text/plain
2 text/plain=fedora-abiword.desktop;gedit.desktop;fedora-leafpad.desktop;
```

So this translates to “any file with a `text/plain` mimetype can be opened using either `abiword`, `gedit` or `leafpad`”.

Astute readers will notice that:

- This list (`abiword` + `gedit` + `leafpad`) is **exactly the one displayed in PCManFM when I right click on a file** (see screenshot above).
- The first item in this list (in my case: `abiword`) is the program that is launched when I double-click on a text file in PCManFM.

However, editing this `mimecache.info` file (to change the order of the `.desktop` files that are associated with the `text/plain` mimetype) is **not what you want to do**. The truth is you may lose all your changes after installing/removing a new Linux package.

This is because this file is generated by launching the “`update-desktop-database`” utility. This tool parses all your `.desktop` files and generates the `mimeinfo.cache` file... more or less each time you install a new package. This is where the `defaults.list` files join the party

Here comes defaults.list

`defaults.list` is a file where you configure the **default** program that should be used to open a file. To be very specific, this is where you configure the default “mime type -> `.desktop` file” association.

Like `.desktop` files, you can have a `defaults.list` file in any of the following locations (you can even have 3 files: one at each location).

- `/usr/share/applications`
- `/usr/local/share/applications`
- `~/.local/share/applications`

First, there is a global `defaults.list` file located in `/usr/share/applications` and then you can have one for each user, located in `~/.local/share/applications`. As you can guess, the “user-level” file has higher priority than the “global one”.

clicking on a text file in PCManFM will open gedit, no matter what the ordering of mimeinfo.cache is:

```
1 | [laurent@localhost applications]$ cat /usr/share/applications/defaults.list | grep text/plair
2 | text/plain=gedit.desktop
```

But if I also have a `~/.local/share/applications/default.list` file that contains a `"text/plain -> fedora-leafpad.desktop"` mapping, then double-clicking on a text file in PCManFM will open leafpad (since this file has "higher priority" than the files in the 2 other locations).

```
1 | [laurent@localhost applications]$ cat ~/.local/share/applications/defaults.list | grep text/pl
2 | text/plain=fedora-leafpad.desktop
```

But wait, there is more !

The mimeinfo.cache, the defaults.list and the mimeapps.list

Yes that's true, one more file to bother you (did I mention "crazyness" at the beginning of this post ?).

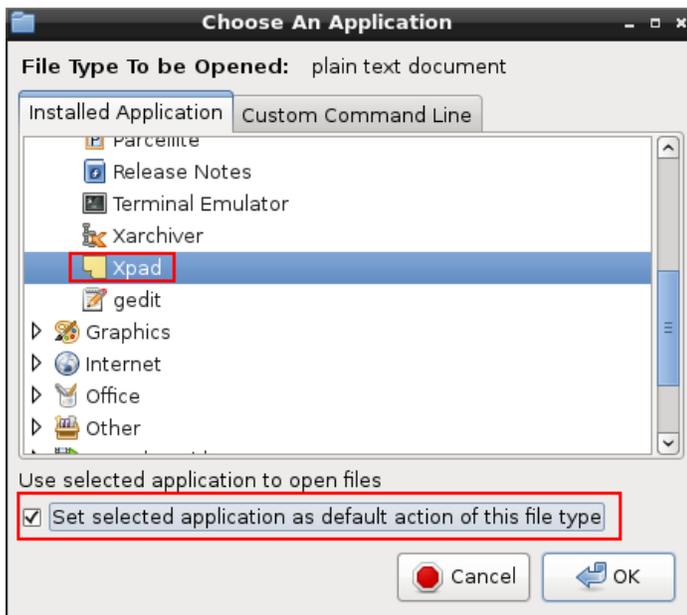
Now if you think that `~/.local/share/applications/defaults.list` has higher priority than `/usr/share/applications/defaults.list` which has higher priority than `/usr/share/applications/mimeinfo.cache`, you would still be incorrect because `~/.local/share/applications/mimeapps.list` has even higher priority than all these bastards.

`mimeapps.list` allows you to:

- add even more "right-click" options to PCManFM right click menu
- set the default program for a mimetype (exactly like in `defaults.list`)

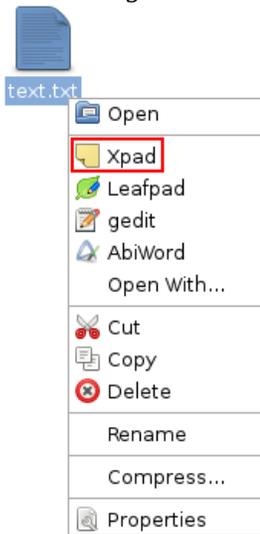
Although I'm not aware of any tool to help you deal with `defaults.list` file, there are at least 2 options to help you with `mimeapps.list`

OK, so let's say that you would like to open your text file with yet another program that is not listed in the PCManFM right-click menu. Just choose the "Open with..." option and select an application. In my case, I'll choose "Xpad", and I'll choose the "set selected application as default" option:



(<https://lkubaski.files.wordpress.com/2012/10/xpad.png>)

And there you are, `xpad` is now part of your right-click menu:



(<https://lkubaski.files.wordpress.com/2012/10/suggested21.png>)

Behind the scene, PCManFM created a mimeapps.list file:

```
1 | laurent@localhost applications]$ cat ~/.local/share/applications/mimeapps.list
2 |
3 | [Added Associations]
4 | text/plain=fedora-xpad.desktop;
5 |
6 | [Default Applications]
7 |
8 | text/plain=fedora-xpad.desktop
```

Another way to generate this file is to use the xdg-mime tool with “xdg-mime default fedora-xpad.desktop text/plain”

So let's recap

The list of program that is displayed when right-clicking on a file in PCManFM is the combination of:

- mimeinfo.cache
- mimeapps.list

The default program that is launched when you double-click on a file in PCManFM is (first match wins):

- The one from ~/.local/share/applications/mimeapps.list
- The one from ~/.local/share/applications/defaults.list
- The one from /usr/local/share/applications/defaults.list
- The one from /usr/share/applications/defaults.list
- The first one from /usr/share/applications/mimeinfo.cache

Laurent KUBASKI

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www.kubaski.com

6 Responses to *Understanding file associations in LXDE and PCManFM*

Cor says:

[April 21, 2013 at 12:37 pm](#)

Very well explained, thanks!

Reply

Maurício says:

[May 9, 2013 at 9:28 pm](#)

hi !

i use lubuntu, and i have a problem:

with pcmanfm, howto i open selected files (example: multiple video files, or multiple text files) ?

when i select multiple files, and hit , pcmanfm opens only the last on the selected list.

maybe a shortcut key ?

can you help me ?

anyway, thanks for attention !

(sorry my english...)

Maurício
from Brazil

Reply

shan says:

[November 8, 2013 at 7:12 pm](#)

cool info

really go to

`gedit ~/.local/share/applications/mimeapps.list`

and change there and all will follow

Reply

mhtrinh says:

[February 25, 2014 at 7:54 pm](#)

Thank you very much !!!

This kind of information is never documented on the package's doc/wiki sadly

And I like those lines that you put in the begining of the post so that even if we search with a different sentence, we still have

Reply

Am says:

[August 13, 2014 at 10:57 pm](#)

Thank you a lot for this article (too)

Reply

Daro says:

[November 16, 2014 at 4:55 pm](#)

Great job!

Reply

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