

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)

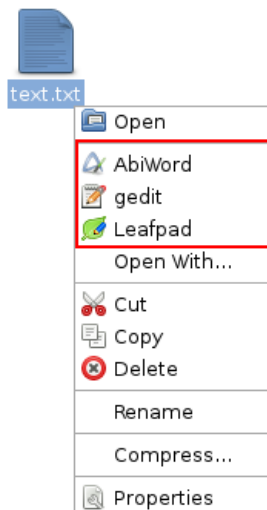
Or “understanding how PCManFM decides which program to launch when you double-click on a file”

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 ?).

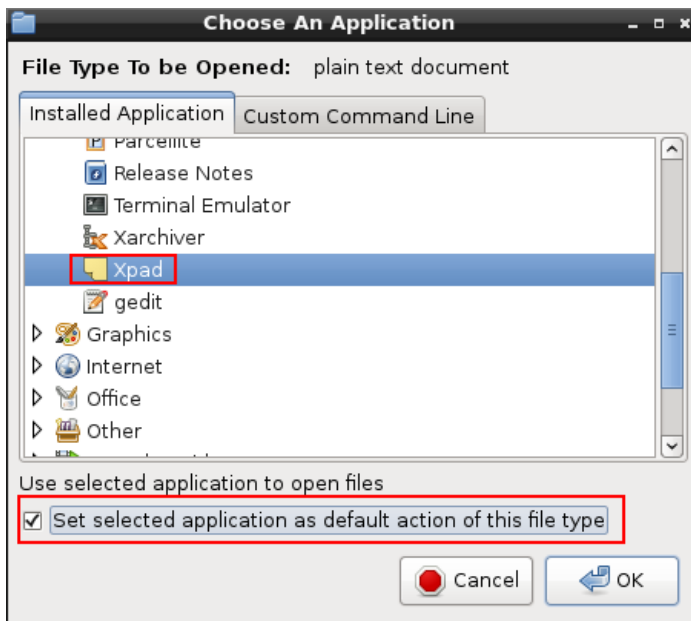
Now if you think that `~/.local/share/applications/defaults.list` has higher priority than `/usr/share/applications/defaults.list` which has higher priority than `/usr/share/applications/mimeinfo.cache`, you would still be incorrect because `~/.local/share/applications/mimeapps.list` has even higher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

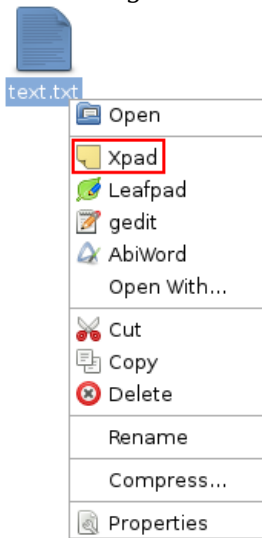
Although I'm not aware of any tool to help you deal with defaults.list file, there are at least 2 options to help you with mimeapps.list

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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About lkubaski

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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