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# Note taking with Pandoc

Organize your notes with your favourite editor and markup-language

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Markup languages like *Markdown*, *ReStructuredText*, *asciidoc*, *textile*, *txt2tags* or *mediawiki* are perfectly suited for fast note taking. Type your

notes with your favourite editor, chose your favourite markup language<sup>1</sup> and view them with *Chromium*, *Chrome* or *Firefox*<sup>2</sup>.

All you need is this `pandoc-note` script, the [Pandoc](http://pandoc.org)<sup>3</sup> format converter, an editor of your choice and Chromium, Chrome or Firefox as live previewer. If not available, `pandoc-note` also works without `pandoc`.

`pandoc-note` runs under Linux and Windows. The script operates in four modes depending on its options (see [Invoking pandoc-note](#)):

### Create a new note

- creates a new context-dependent notes-plain-text-file with an YAML metadata header.

### Edit notes

- detects the markup-language of the note file, converts to html, launches an editor and a live-previewer (Firefox, Chrome or Chromium).

### View notes

- detects the markup-language of the note file, converts to html and launches a live-previewer (Firefox, Chrome or Chromium).

### Sync filename

- renames the filename to be in sync with the document's YAML metadata header.

The project is hosted on Github: [getreu/pandoc-notetaking](https://github.com/getreu/pandoc-notetaking)<sup>4</sup>. The project's webpage is on <http://blog.getreu.net><sup>5</sup>. There you also find a [pdf rendition](http://blog.getreu.net/_downloads/pandoc-notetaking.pdf)<sup>6</sup> of this document.

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<sup>1</sup> `pandoc-note` supports all Pandoc's plain text input formats (see: `pandoc --list-input-formats`). `pandoc-note` guesses the markup language from the file extension of the text file. Currently `md`, `markdown`, `mkd`, `rst`, `rest`, `txt`, `t2t`, `textile`, `twiki` and `mediawiki` are supported.

<sup>2</sup> As alternative editors with build-in previewer are supported.

<sup>3</sup> <http://pandoc.org>

<sup>4</sup> <https://github.com/getreu/pandoc-notetaking>

<sup>5</sup> <http://blog.getreu.net/projects/pandoc-notetaking/>

<sup>6</sup> [http://blog.getreu.net/\\_downloads/pandoc-notetaking.pdf](http://blog.getreu.net/_downloads/pandoc-notetaking.pdf)

Read more about the 2 most common **use cases** in Section [How students take notes](#).

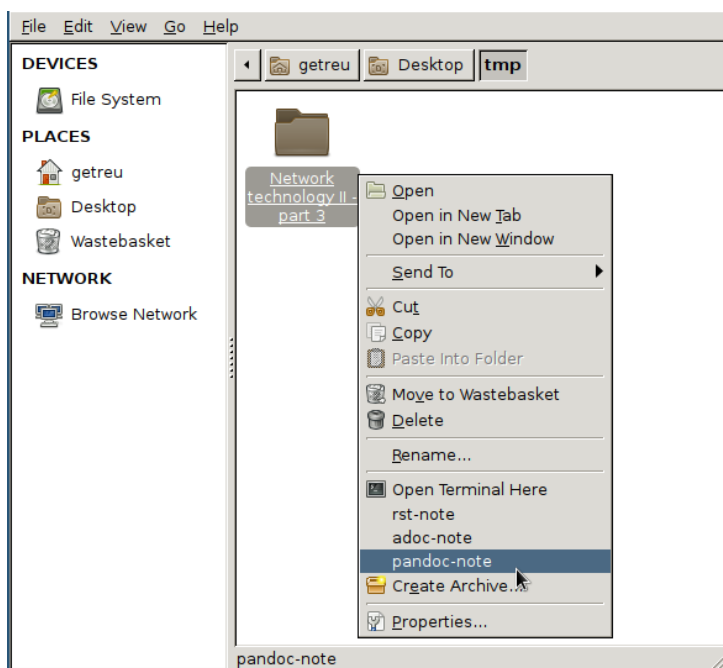
## 1. How students take notes

A fellow student still uses paper and pen. I ask her why and she replied “I can better concentrate. My computer distracts me. I will do all other things, but not listening.”.

This is certainly true. As far as I am concerned, I am not good at logistics. For me having all documents and notes in one little machine is a blessing.

To illustrate how to work with `pandoc-note` here my most common workflows.

### 1.1. The lesson starts



*Figure 1. The folder in which the new note will be created.*

Alternatively you can open the folder you want to create a new note in and right-click on some empty white space.

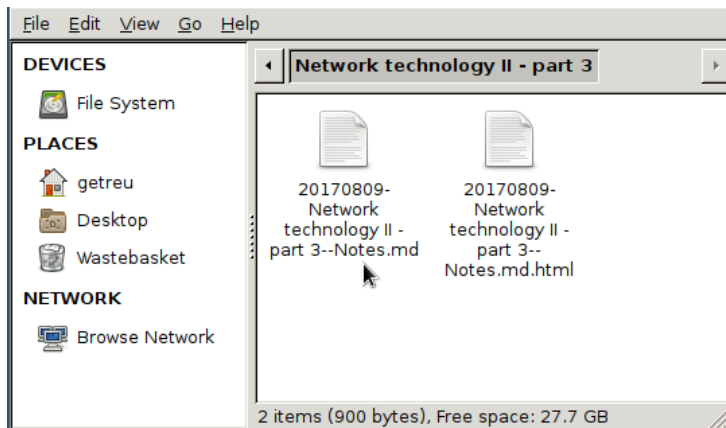


Figure 2. The new file

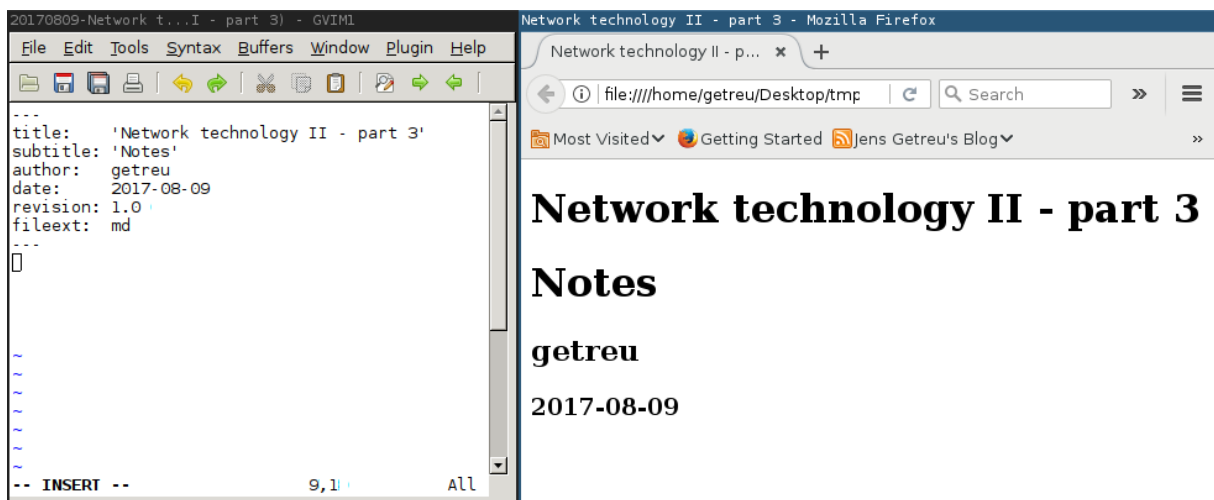


Figure 3. Editor and Browser windows with unmodified template

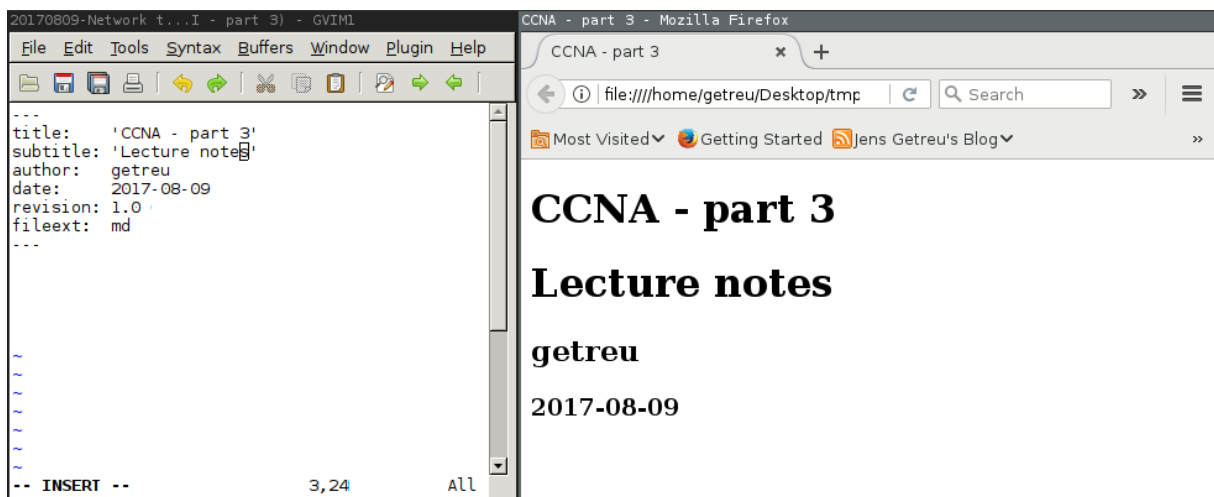
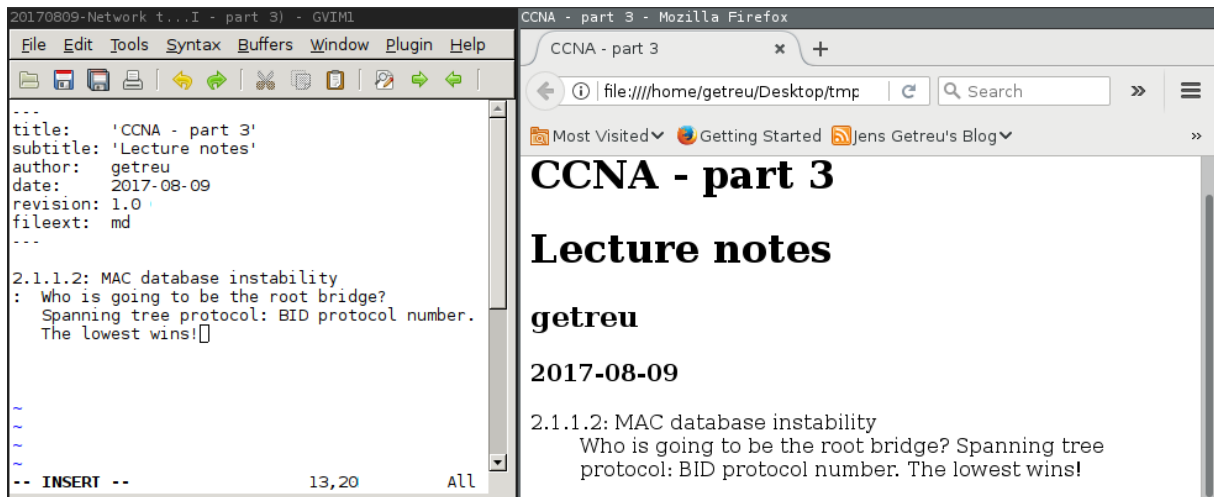
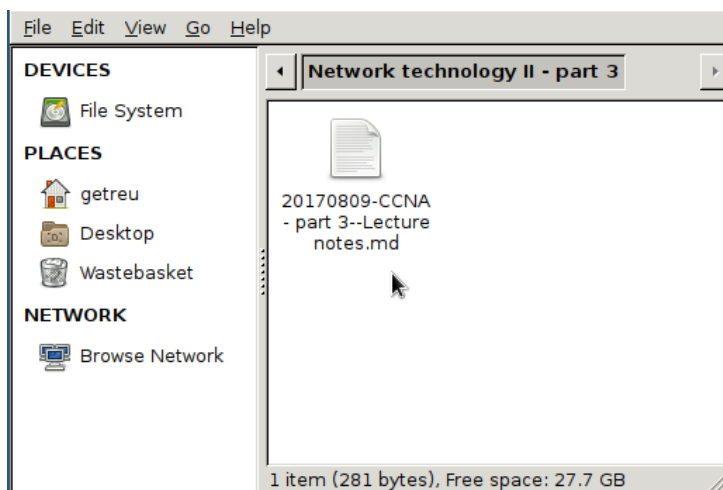


Figure 4. Title change



*Figure 5. Some text added*



*Figure 6. The new note file on disk after closing the editor*

### Note

Before and after launching the editor `pandoc-note` renames the file to be in sync with the document's metadata, i.e. title, subtitle and file-extension. For more details see [Document title - filename sync](#)

## 1.2. Taking notes about a file

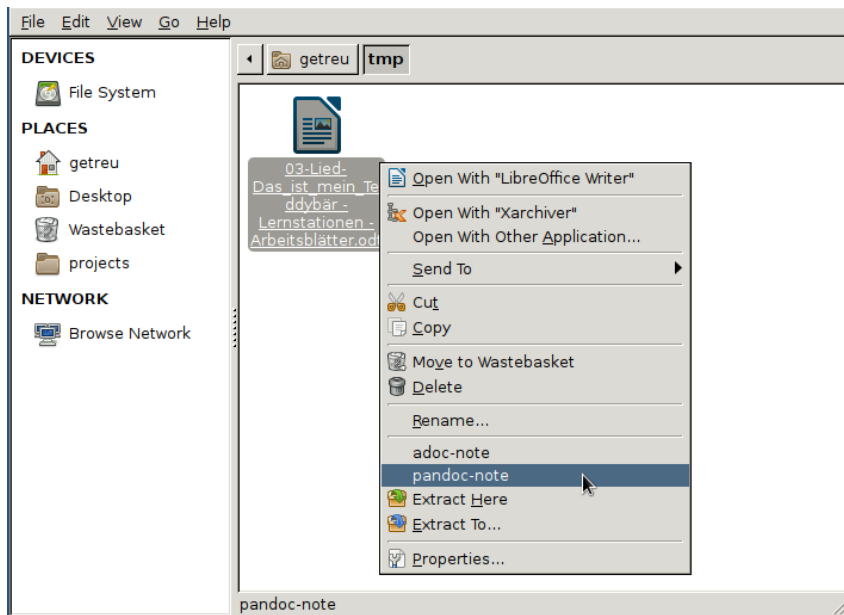


Figure 7. We want to take a note about a pdf

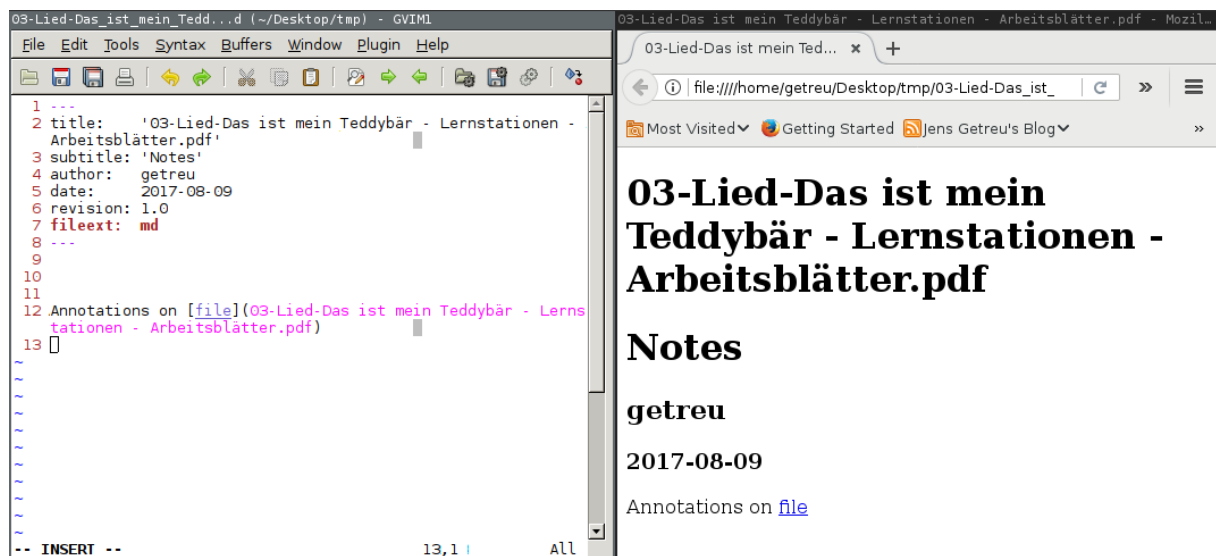


Figure 8. Editor and Browser windows with unmodified template

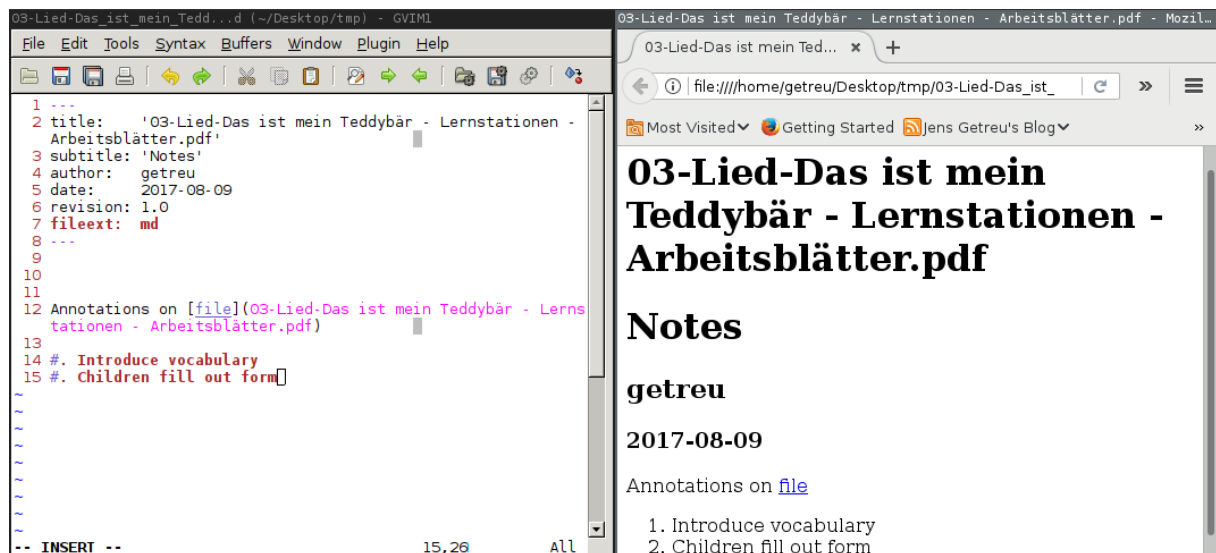


Figure 9. We add a note about the origin of the pdf

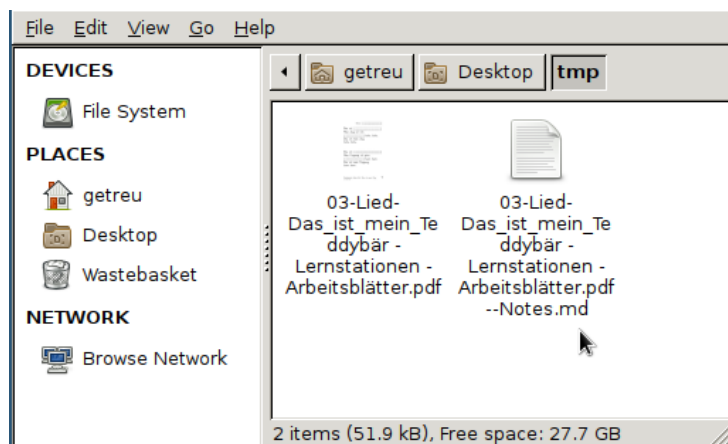


Figure 10. The new note file on disk after closing the editor

## 2. Quickstart

`pandoc-note` can be easily configured for your personal preferences and needs<sup>7</sup>. This section explains a basic standard setup to get you started quickly. The default setup runs under Linux and uses `leafpad` as editor and `firefox` as viewer.

### 2.1. Install dependencies

1. Install the following packages:

---

<sup>7</sup> For a personalized setup read the installation guide for [Linux](#) or [Windows](#).

```
apt-get install pandoc inotify-tools leafpad firefox
```

2. Install the [auto-reload-tab](#)<sup>8</sup> plugin in Firefox.

3. Get and install the `pandoc-note` -binary:

```
cd /usr/local/bin
sudo wget https://raw.githubusercontent.com/getreu/pandoc-
notetaking/master/bin/pandoc-note
sudo chmod a+x pandoc-note
```

## 2.2. Run `pandoc-note`

On a shell type:

```
pandoc-note
```

or:

```
pandoc-note <file-to-annotate>
```

## 2.3. Optional personalization

- Your preferred markup language is not *markdown*, but *reStructured-Text*, *t2t*, *textile*, *twiki*, *mediawiki* or *asciidoc*? Change it!
- Your preferred editor is not *leafpad*? Change it!
- Your preferred viewer is not *firefox*? Change it!

Read Section [Linux](#) or Section [Windows](#) for a personalized setup.

- You prefer working in a desktop environment instead of working on a shell?

Read [Linux file manager configuration](#).

---

<sup>8</sup> <https://addons.mozilla.org/en-US/firefox/addon/auto-reload-tab/>



## 3. Create a new note

There are several ways to launch `pandoc-note`.

### Linux

- Launch the commands in shell as described the Section [Invoking pandoc-note](#) below.
- Right click on a file or directory in your file-manger and choose *pandoc-note* in the context menu. See also [Linux file manager configuration](#).

### Windows

- Drag and drop a file or directory on the shortcut `pandoc-note.bat` on your desktop.

This method also works in very restricted environments. The only rights you need is to be allowed to execute portable binaries and batch scripts. You also need the permission to install the *markdown-viewer-webext* plugin in Chromium, Chrome or Firefox.

- Double-click the shortcut `pandoc-note.bat` on your desktop. This will place a new note on your desktop.
- Right click on a file or directory in file explorer and choose *pandoc-note* in the context menu. See also [Windows file explorer configuration](#).

### 3.1. Invoking pandoc-note

---

```
pandoc-note --help
pandoc-note -h
```

---

shows a short help text with available command line options:

---

```
/usr/local/bin/pandoc-note creates, edits or views a note with markups.
```

usage:

```
/usr/local/bin/pandoc-note [-h][-v|-e|-s] | [<Textfile>.<Ext>|<File>|
<Dir>]
```

<Dir>|<File>: directory where the new note file will be created (current directory if none).  
 If a binary <File> is given a new note file will be created next to <FILE>.  
 A given <Textfile> is opened and edited. <Ext> determines the markup-language such as Markdown, ReStructuredText, MediaWiki and others.  
 Filename of <File> is changed when not in sync with the file's metadata YAML block.

Options:

```
--view,
-v  Do not open editor, open viewer only.

--edit,
-e  Do not open viewer, only new note or, sync filename and edit.

--sync,
-s  Do not open editor or viewer, only new note or sync filename.

--help,
-h  Show this message.
```

**Table 1.** *pandoc-note options*

Option	Create a new note	Launch editor	Launch viewer	Sync title-filename
<i>without</i>	Y *	Y	Y	Y
-v, --view	Y *	N	Y	N
-e, --edit	Y *	Y	N	Y
-s, --sync	Y *	N	N	Y

## Legend:

Y = yes

N = no

\* = If a note with the same filename exists on disk already, no new note is created.

## 3.2. Directory as parameter

### Syntax

---

```
pandoc-note <path>/<dir>
```

---

creates the following document:

---

```
<path>/<dir>/YYYYMMDD-<dir>--Notes.md
```

---

---

```
---
title:    '<dir>'
subtitle: ''
author:   <login name>
date:     <current date>
revision: 1.0
---
```

---

### Example

---

```
pandoc-note 'doc/Lecture 1'
```

---

creates the following document:

---

```
doc/Lecture 1/20170809-Lecture 1--Notes.md
```

---

---

```
---
title:    'Lecture 1'
subtitle: 'Notes'
author:   getreu
date:     2017-08-09
revision: 1.1
```

---

---

### 3.3. No parameter

#### Syntax

It is also possible to invoke the script without options:

```
pandoc-note
```

The result is the same as above but the current working directory is used for `<path>/<dir>`.

#### Example

```
cd 'doc/Lecture 1'
pandoc-note
```

creates the following document:

```
doc/Lecture 1/20170809-Lecture 1--Notes.md
```

```
---
title:   'Lecture 1'
subtitle: 'Notes'
author:  getreu
date:    2017-08-09
revision: 1.0
---
```

### 3.4. Filename as parameter

The filename should be some existing local file you want to annotate. For example I use this feature to note from where I have downloaded a .pdf.

## Syntax

When invoke with a filename, no date stamp is prepended.

---

```
pandoc-note <path>/<dir>/<filename>.<ext>
```

---

The new file will be created here:

---

```
<path>/<dir>/<filename>.<ext>--Notes.md
```

---

And it will look like this:

---

```
---
title:    '<filename>.<ext>'
subtitle: 'Notes'
author:   <login name>
date:     <current date>
revision: 1.0
---
```

```
Annotations on [file](<path>/<dir>/<filename>.<ext>)
```

---

## Example

---

```
pandoc-note 'doc/Implementing the NIST Cybersecurity Framework.pdf'
```

---

creates the following document

---

```
doc/Implementing the NIST Cybersecurity Framework.pdf--Notes.md
```

---

with the content:

---

```
---
```

```
title: 'Implementing the NIST Cybersecurity Framework.pdf'
subtitle: 'Notes'
author: getreu
date: 2017-08-09
revision: 1.0
---
```

Annotations on [file](Implementing the NIST Cybersecurity Framework.pdf)

---

Before quitting the `pandoc-note` script executes its *editing-mode*. This opens in your editor the completed template (see example above) and a live-previewer showing the rendered text file:

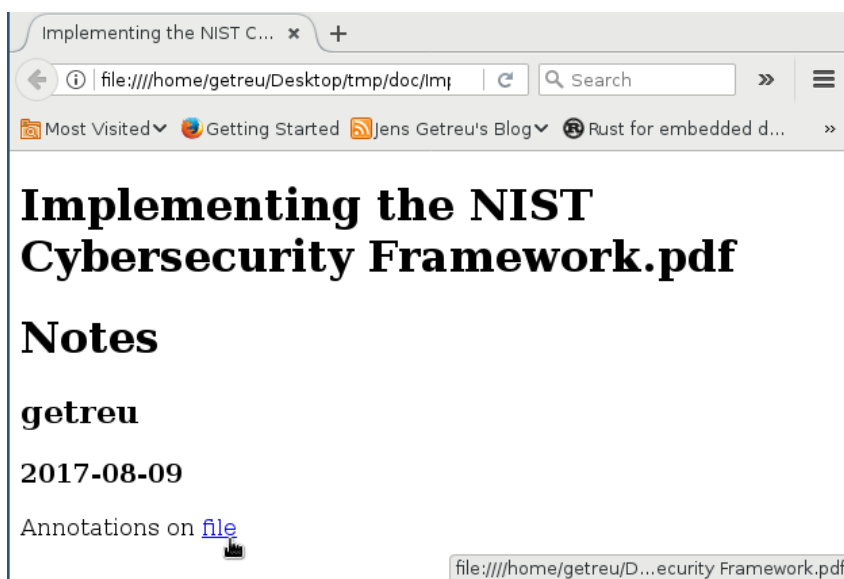


Figure 11. example filename

## 4. Editing notes

### 4.1. Syntax

---

```
pandoc-note <path>/<filename>.md
```

---

launches the the `gvim` editor by default. Replace `gvim` by any editor of your choice. At the same time a `chrome` or `chromium` window will pop up showing the live rendition of your markdown file.

You may want to use some autosave editor feature in order to observe changes immediately in the rendered preview live.

Before opening the editor and after closing it, `pandoc-note` calls the internal function `SyncFilename`. It guarantees that any change in the YAML header of the file you have been editing will replicate in the filename of that markdown file. This guarantees that **the filenames of markdown notes always correspond to their metadata** allowing you to find your notes quickly in your directory structure. See [Document title - filename sync](#) for more details.

## 4.2. Example

---

```
pandoc-note 'Implementing the NIST Cybersecurity Framework.pdf--
Notes.md'
```

---

The same result is obtained by repeating the same command you used to create this note <sup>9</sup>:

---

```
pandoc-note 'Implementing the NIST Cybersecurity Framework.pdf'
```

---

## 5. Viewing notes

### 5.1. Syntax

---

```
pandoc-note --view <path>/<filename>.<ext>
pandoc-note -v <path>/<filename>.<ext>
```

---

launches your preferred viewer: `firefox` or `chromium` <sup>10</sup>.

### 5.2. Example

---

```
pandoc-note -v 'Implementing the NIST Cybersecurity Framework.pdf--
Notes.md'
```

---

---

<sup>9</sup> This only works if you have not changed the original title of the note file in the meantime!

<sup>10</sup> `pandoc-note` can be also configured not to use a viewer when your editor has a build in *markdown-viewer*. In this case `-v` is ignored.



Figure 12. view invocation example

All text in the above example was automatically generated by the `pan-doc-note` script only the last link *Download pdf* was added “by hand”. This is particularly useful for quickly writing down the source of a downloaded document.

## 6. Document title - filename sync

Consider the following note file:

```
20151208-Make this world a better place--Suggestions.md
```

The filename has 4 parts:

```
<sort tag>-<simplified-title>--<simplified-subtitle>.<ext>
```

A `<sort tag>` can be a

- *chronological sort tag* or

```
20140211-
20151208-
```

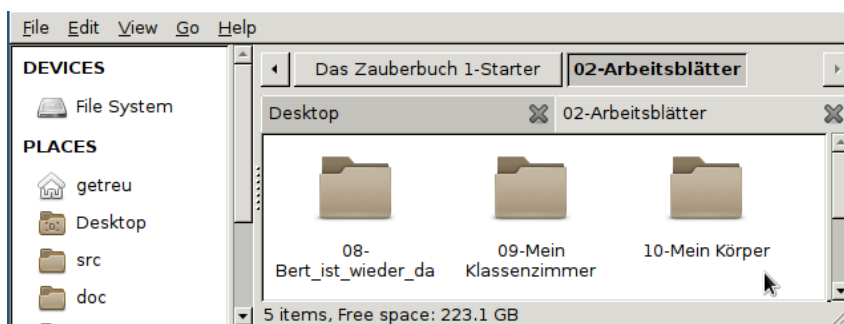
- *a sequence number sort tag.*



02-  
08-  
09\_02-

`<sort tag>` can be any combination of `0123456789-_`

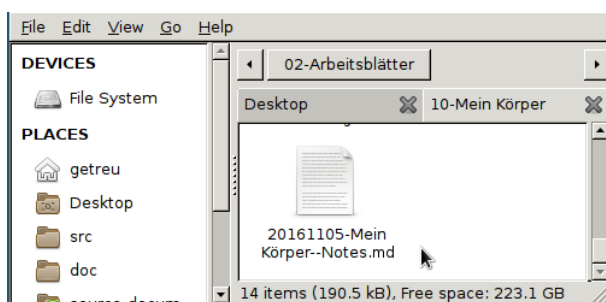
When `pandoc-note` creates a new note based on a directory it prepends a *chronological sort tag* of today. The `<simplified-title>` part is derived from the parent directory name omitting its own *sort tag*.



*Figure 13. filing system: sequence number sort tag*

```
pandoc-note '10-Mein Körper'
```

will result in a new file:



*Figure 14. filing system: chronological sort tag*

```
10-Mein Körper/20151209-Mein Körper--Notes.md
```

### Note

The parent directory's sort tag is never used to compose a filename for a new note.

When `pandoc-note` creates a new note based on a filename no *sort tag* is prepended.

Before and after editing the `pandoc-note` analyses the `title`, `subtitle` and `fileext` variables of the YAML header of the markdown file. Then it simplifies them in a filesystem friendly form. If the result does not equal to `<simplified-title>--<simplified-subtitle>.<ext>` the filename is changed on disk. Possible *sort tags* remain untouched.

### Important

`pandoc-note` might change the note's filename but never changes an *sort tag*!

For details about how the metadata is simplified into a `<simplified-title>--<simplified-subtitle>` string refer to the `SanitizeFilename()` function in `[src/pandoc-note]`.

## 7. Personalized installation and configuration

`pandoc-note` runs on Linux and Windows. For Windows installation and configuration see [Windows](#) below.

This Section tries to cover many setup variants and maybe confusing to beginners. If you just want to get started quickly go to the [Quickstart](#) section for a standard setup.

### 7.1. Choose your favourite markup language

#### Set the default markup language for new notes

The default markup language for new notes is *Markdown*. To change the default modify the `DEFAULT_EXT` variable in the `### CONFIGURATION SECTION` of `pandoc-note`, e.g. `DEFAULT_EXT="rst"` sets the default for new notes to *ReStructuredText*. Valid values are: `md`, `markdown`, `mkd`, `rst`, `rest`, `txt`, `t2t`, `textile`, `twiki` and `mediawiki` (cf. `Markups` variable in `pandoc-note`).

## Change the markup language for an existing note

`pandoc-note` determines the markup language by the note's filename extension. For example `md` means that the note is formatted in *Markdown*. Like the filename itself, the filename extension is kept in sync with the document's YAML metadata header (see Section [Document title - filename sync](#)). To change the markup language for a given note change the value of the `fileext` variable in the header to a filename extension Pandoc recognizes as input file. Valid values are: `md`, `markdown`, `mkd`, `rst`, `rest`, `txt`, `t2t`, `textile`, `twiki` and `mediawiki` (cf. `Markups` variable in `pandoc-note`). For example: in order to switch the markup language from *Markdown* to *ReStructuredText*, change `fileext: md` to `fileext: rst`. Be sure to save the note, close the editor, close the viewer and reopen the note for changes to take effect. Doing so will change the note's filename extension from `md` to `rst`.

### Warning

If the `fileext` variable is defined in the file header, you can not change the filename extension manually. Your change will be reverted next time you open the note with `pandoc-note`. Instead, change the `fileext` variable in the note's header.

## 7.2. Choose your favourite editor and favourite viewer

### Choose Editor

The editor must be a Unicode text editor. Under Linux every editor will do. Make sure that your editor does not “fork”, meaning that it must block the invoking shell as long as you are editing. This is the only way for `pandoc-note` to know when you finished editing. Most editors work this way, some like `vim` can be invoked with `vim --no-fork` to achieve this behaviour.

New notes are created with a Unicode BOM indicating Unicode encoding. Do not use the `notepad` editor with Windows older than Vista as older versions of `notepad` do not handle Unicode correctly. Use `Wordpad` or another modern Unicode editor instead.

## Configuration Linux

Edit in the `pandoc-note` the `LaunchEditor()` function. Uncomment one choice only.

## Configuration Windows

Edit the file `pandoc-note.bat` and uncomment one example only.

## Choose Live Previewer

The viewer of your choice implies a choice on how you will render *mark-down* into *html*. You can choose among the following:

- a. Render with *Pandoc* and view with *Firefox* (recommended)

For this work you need to install the following:

```
.....  
sudo apt-get install pandoc inotify-tools  
.....
```

In Firefox install the *auto-reload-tab* plugin from [here](#)<sup>11</sup>

This is my preferred solution because you are free to use any markup language Pandoc supports, e.g. *ReStructuredText*, *Textile*, *MediaWiki* and many others.

Currently this solution works only under Linux because it relies on the `inotify-tools` package with is not available in *BusyBox*.

- b. Render and view with *Firefox*

In Firefox install the *markdown-viewer-webext* plugin from [here](#)<sup>12</sup>.

The new MIME-type has to be registered in Firefox. This [blog](#)<sup>13</sup> explains how.

Optionally you can install viewer plugins for other markup languages you want to use, such as [Asciidoctor.js Live Preview](#)<sup>14</sup>.

---

<sup>11</sup> <https://addons.mozilla.org/en-US/firefox/addon/auto-reload-tab/>

<sup>12</sup> <https://addons.mozilla.org/en-US/firefox/addon/markdown-viewer-webext/>

<sup>13</sup> <https://superuser.com/questions/696361/how-to-get-the-markdown-viewer-addon-of-firefox-to-work-on-linux>

<sup>14</sup> <https://addons.mozilla.org/en-US/firefox/addon/asciidoctorjs-live-preview/>

c. Render and view with *Chrome* or *Chromium*<sup>[^5]</sup>

Install the following package

```
.....  
sudo apt-get install uni2ascii  
.....
```

[section pending]

d. Do not use a browser as previewer but use the editor's build-in previewer instead

Some editors have a build-in previewer like [ReText](#)<sup>15</sup>. For the [Atom-editor](#)<sup>16</sup> plug-ins for *Markdown*, *Asciidoc*, and *ReStructuredText* are available.

### Configuration Linux

Edit in the `pandoc-note` the `LaunchViewer()` function. Uncomment one choice only.

### Configuration Windows

Edit the file `pandoc-note.bat` and uncomment one example only.

## 7.3. Linux

1. Install an [Editor] and a [Live previewer] of your choice (see above).
2. Download the note-taking-script `bin/pandoc-note` from Github [getreu/pandoc-notetaking](#)<sup>17</sup>. Alternatively you can copy and paste the listing at end of this document.
3. Copy it in a location of your `$PATH` and make it executable for everyone.

```
.....  
sudo cp pandoc-note /usr/local/bin  
sudo chmod a+rx /usr/local/bin/pandoc-note  
.....
```

4. Configuration:

---

<sup>15</sup> <https://github.com/retext-project/retext>

<sup>16</sup> <https://atom.io/>

<sup>17</sup> <https://github.com/getreu/pandoc-notetaking>

At the beginning of `pandoc-note` you will find a section enclosed in the comments `CONFIGURATION SECTION START` and `CONFIGURATION SECTION END`.

Here you can specify what editor you want to use, if you choose `firefox`, `chrome` or `chromium` and you can specify the parameters these programs require. Make sure that your editor does not fork when launched. If it does fork, the script will still work but when you quit, no title-filename synchronization will occur. Outside the `CONFIGURATION SECTION` no changes should be necessary.

### Warning

The environment variables `PANDOC_EDITOR` or `PANDOC_VIEWER` -when set- have precedence over settings in the `CONFIGURATION SECTION` and will override them.

See the Section [Editor] and the Section [Live previewer] for details.

5. Test the installation: open a console window and type `pandoc-note`. An *editor* and *viewer* window containing a note template should open.
6. Optional: integrate the scripts with your file-manager (see [Linux file manager configuration](#)).

## 7.4. Windows

1. Install an [Editor] and a [Live previewer] of your choice (see above).
2. Download the files `bin/pandoc-note`, `bin/pandoc-note.bat` and `bin/busybox.exe` from Github [getreu/markdown-notetaking](#)<sup>18</sup>. Alternatively you can copy and paste the listings at end of this document. The version of `busybox` in the above repository is outdated. Download the *BusyBox* executable `busybox.exe`<sup>19</sup>.
3. Copy the 3 files in a directory of your choice. In the following I call this directory `BIN_DIR`.
4. Configuration:

---

<sup>18</sup> <https://github.com/getreu/markdown-notetaking>

<sup>19</sup> <http://frippersy.org/files/busybox/busybox.exe>

At the beginning of `pandoc-note.bak` you will find a section enclosed in the comments `CONFIGURATION SECTION START` and `CONFIGURATION SECTION END`.

### **Note**

The only file you edit to change the default choices for *editor* and *viewer* under Windows is `adco-note.bat`. **Not** `pandoc-note` !

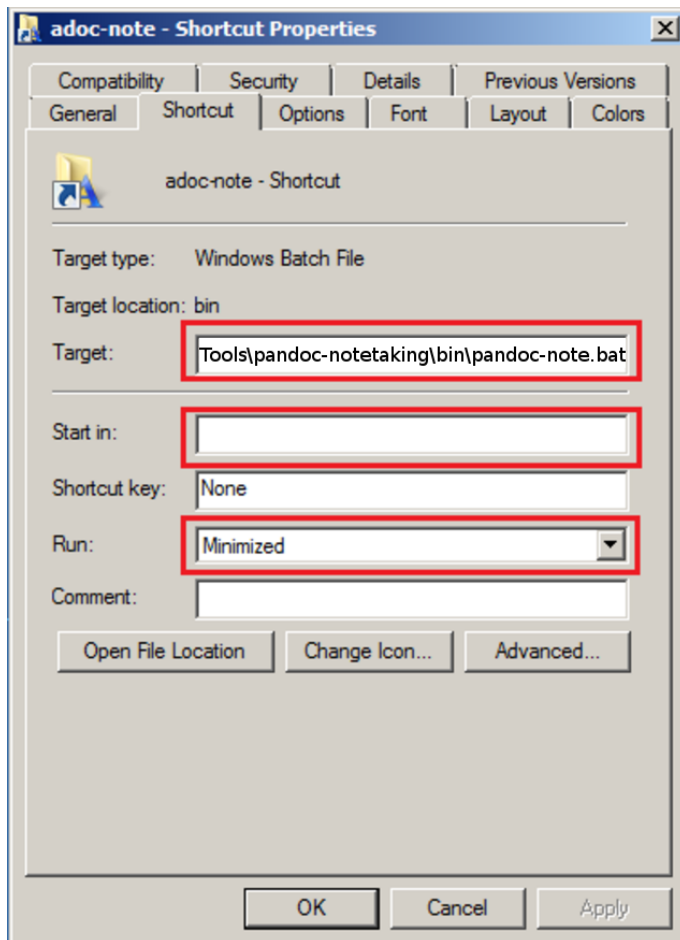
### **Important**

New notes are created with an Unicode BOM indicating Unicode encoding. Do not use the `notepad` editor coming with Windows older than Windows Vista. These old versions do not handle Unicode correctly. Use `Wordpad` or any other modern Unicode editor instead.

Here you can specify what browser you want to use, e.g. if you choose `firefox.exe` or `chromium.exe` and you can specify the parameters these programs require. Do the same for the editor of your choice. Make sure that your editor does not fork when launched. If it does fork, the script will still work but when you quit, no title-filename synchronization will occur. Outside the `CONFIGURATION SECTION` no changes should be necessary.

See the Section [Editor] and the Section [Live previewer] for details.

5. Create a shortcut to `pandoc-note.bat` on your desktop, click on properties and change the shortcut to *run minimized*. Let the *start in* path empty.



*Figure 15. shortcut properties*

6. Test the installation: drag a file or directory on the `pandoc-note Shortcut` on your desktop. An *editor* and *viewer* window should open.
7. Optional: integrate the scripts with your file-manager (see [Windows file explorer configuration](#)).

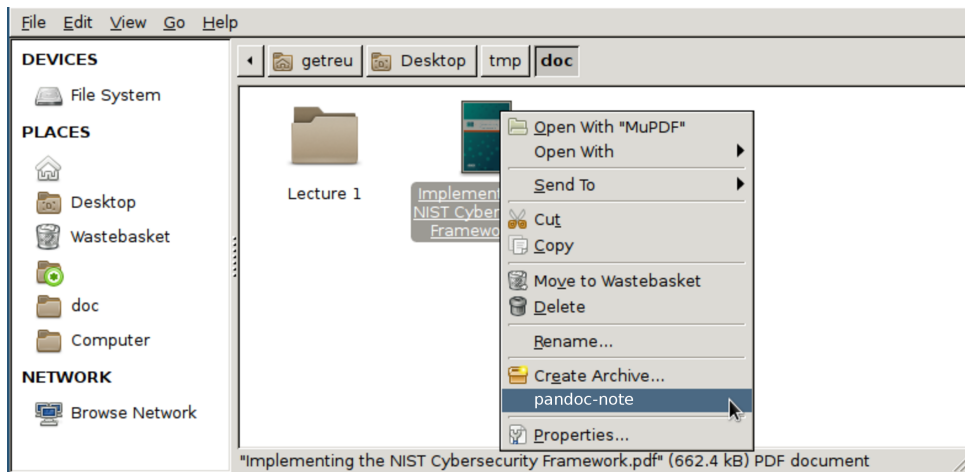
## 7.5. Integration with file manager

This section shows how to integrate `pandoc-note` with your file manager.

### Linux file manager configuration

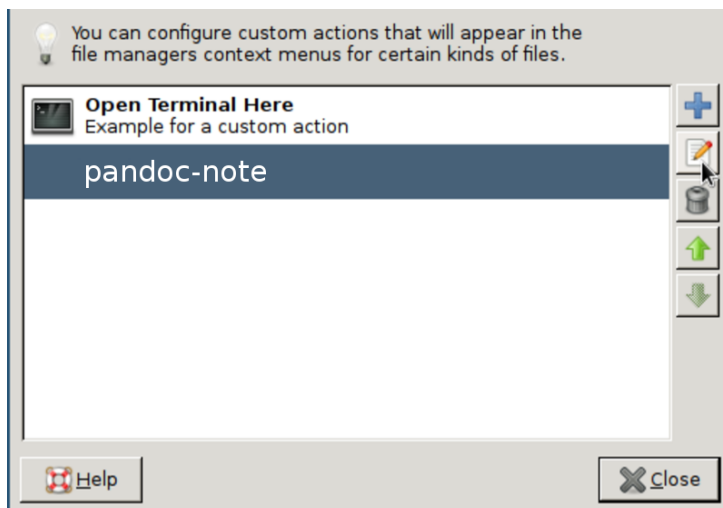
The example below shows the *Thunar* filebrowser's custom actions.





*Figure 16. Integration with file-manager*

Most file-managers allow extending the context menu. As an example the following images show the configuration of the Thunar-file-manager.



*Figure 17. Thunar custom action configuration*

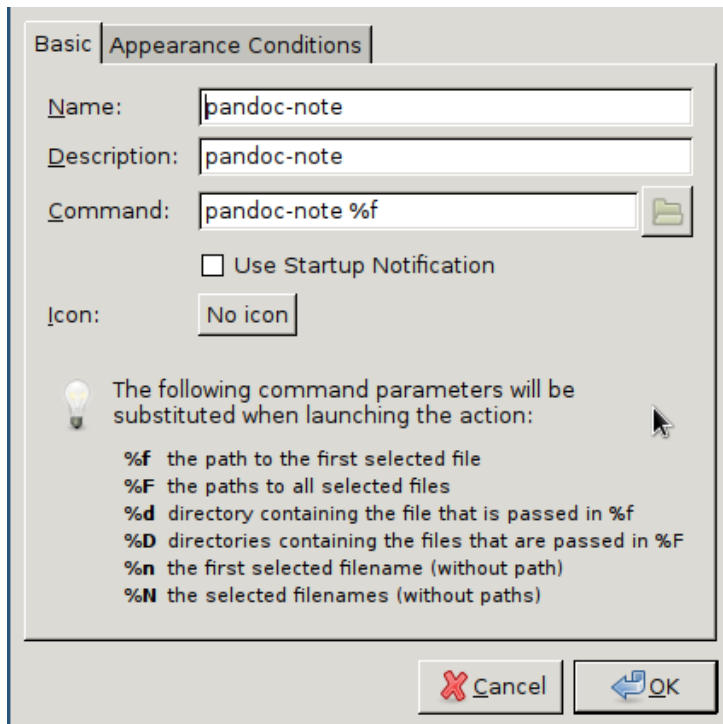


Figure 18. Edit custom action

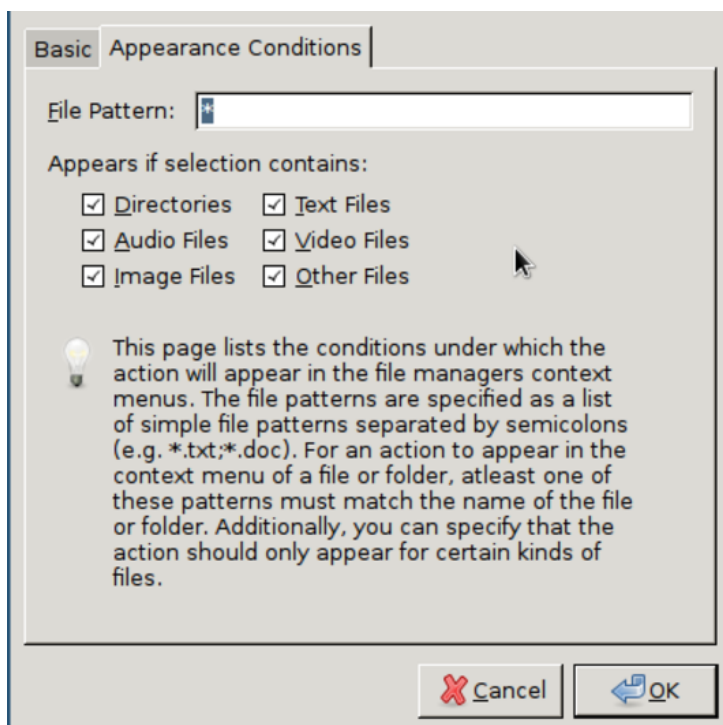


Figure 19. Appearance Condition

## Windows file explorer configuration

1. Open a folder containing an `.md` file.

2. Right-click the `.md` file and point to *Open with* and then click *Choose default program*.

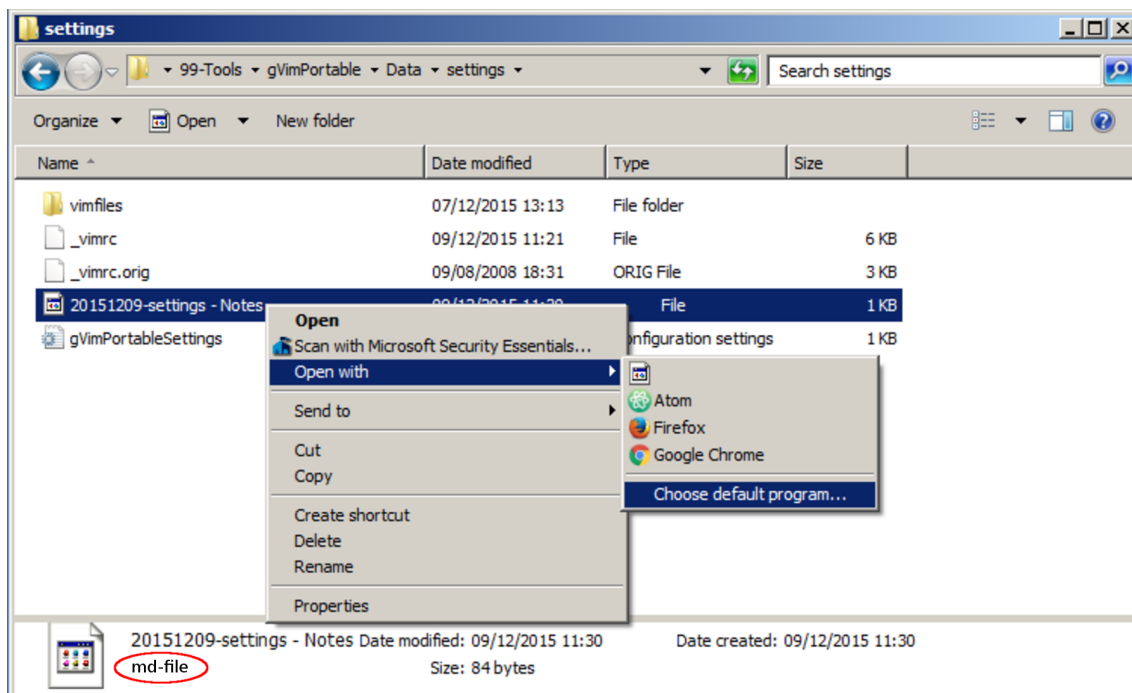


Figure 20. Choose default program...

3. Select the *Always use the selected program* and then click *Browse...*.

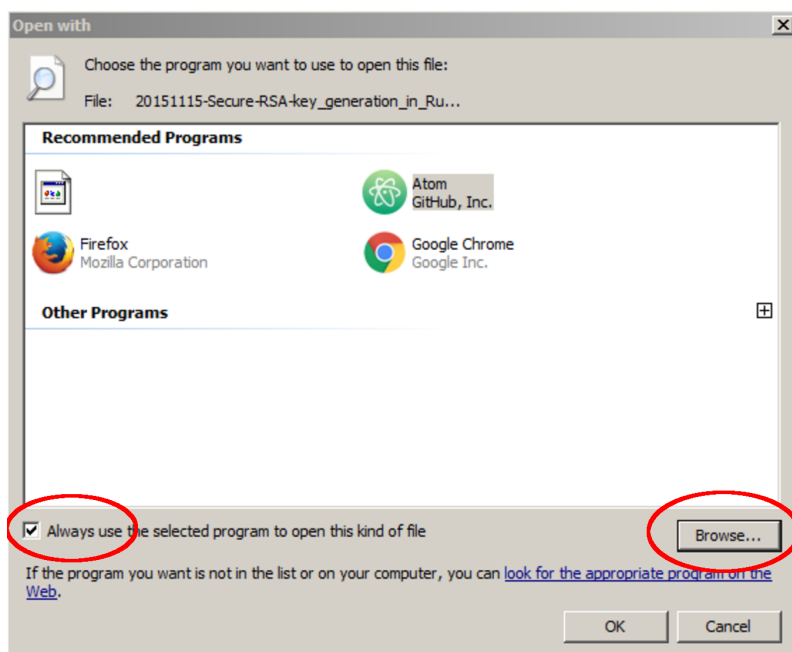
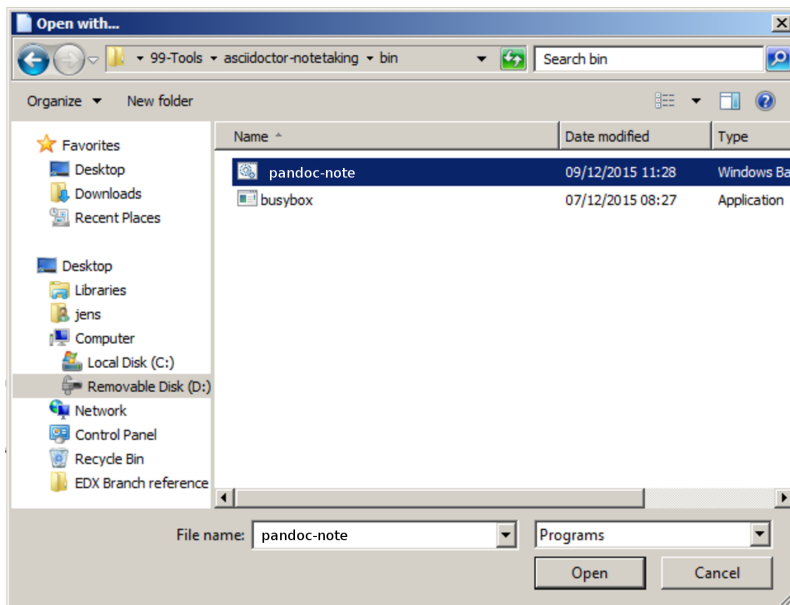


Figure 21. Browse to...

4. Click *Browse...* then browse to your `BIN_DIR` directory, select `pan-doc-note.bak` and click *Open* and later *Ok*.



*Figure 22. Browse to `pandoc-note`*

Further reading:

- [Change the program that opens a type of file<sup>20</sup>](http://windows.microsoft.com/en-us/windows/change-file-open-program#1TC=windows-7)
- [How to Add Any Application Shortcut to Windows Explorer's Context Menu<sup>21</sup>](http://www.howtogeek.com/107965/how-to-add-any-application-shortcut-to-windows-explorers-context-menu/).

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<sup>20</sup> <http://windows.microsoft.com/en-us/windows/change-file-open-program#1TC=windows-7>

<sup>21</sup> <http://www.howtogeek.com/107965/how-to-add-any-application-shortcut-to-windows-explorers-context-menu/>