

# MarkdownDoc

## User Guide

Version: 1.4

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# MarkdownDoc User Guide

## Introduction

---

MarkdownDoc is a tool that basically does what the name sounds like. My intention with this tool was to be able to document my java opensource tools in markdown and be able to generate both html and PDF from it using a maven plugin.

So why not use mavens site plugin which does support markdown ? These days generating a whole site for your project seems a bit much. Both Bitbucket and GitHub supports markdown documentation right off in a nice and easy way. I want to choose where to put my documentation (ok, most locations in maven can be configured) and I also had the following requirements:

- Be able to generate one PDF document from a whole collection of separate markdown documents so that I can spread them out in different subproject for multi maven project projects. If you are reading this in PDF format this PDF have been put together from multiple sources.
- Be able to generate a table of contents and a title page.
- I just wanted to do it my way OK! :-)

It does also provide a java -jar executable variant. The main functionality is available as a library.

In short MarkdownDoc provides the following:

- Markdown document model.
- Markdown parser.
- Javadoc comment parser.
- PDF generator.
- HTML generator.
- Markdown generator.
- java -jar commandline executable.
- Markdown editor that formats Markdown while writing with preview and PDF + HTML generation. Can be run with `java -jar`.
- Maven plugin.

## Binaries

Binaries are made available at [Bintray](#) and Bintrays JCenter repository: <http://jcenter.bintray.com> which should also contain everything in maven central.

## Thanks

Thanks to [John Gruber](#) for the brilliant [markdown](#) document format, and to [iText Software Corp.](#) for making an excellent easy to use PDF library and making it available as open source.

## Version history

About versions, they are hell! After personal experience of having different versions for each module / produced jar which was close to impossible to keep track of which was compatible with which, I decided to go with just one and the same version for all modules of the tool. This has the side effect of changes in any submodule, even the editor, which probably not everyone uses, will change the version for all even though no changes have been done for some modules. What have changed for each version is documented below so that you can determine if upgrading to the latest version is wanted/needed or not.

## 1.4

- Added support for what I call *Markdown Style Sheet* or MSS for short. This is only applicable to PDF generation. For HTML there is CSS, and generating CSS from the MSS is a bad idea. The MSS is relatively simple and JSON based. This now gives the users of MarkdownDoc full control over styling of PDF documents, that is colors and fonts. It also supports ttf, otf, and any other format supported by iText for external fonts.
- Added support for `<div class="..">...</div>`. This tool is mainly for writing documentation and generating PDF, but I wanted to add more flexibility for generating HTML pages also. Even though you probably want to keep a common style throughout a document, I did add div support to MSS. Divs within divs inherit styles upward. This was relatively simple to do.

## 1.3.9

Only bugfix in editor when generating HTML directly from editor, which caused an NPE.

## 1.3.8

Bad internal version dependencies in well ... probably from version 1.3.4 up to 1.3.7. The markdowndoc-maven-plugin were using a too old (hardcoded!!) version of markdown-doc-lib, which is the core of MarkdownDoc! It was pointing to version 1.3.3. This means that fixes in 1.3.4 and 1.3.5 were not available when maven plugin was used! It now uses `${project.version}`. The command line jar and the editor have had the correct version dependency.

Very sorry for this!

## 1.3.7

- Bugfixes in the maven plugin.
- The maven plugin also no longer has any runtime dependency on CodeLicenseManager which is a build only plugin, something maven does not really distinguish.
- Includes a pull request submitted by both komarevsky and iorixxx that fixes an XML error in an example in the user guide. Thanks for seeing that and submitting pull requests!

## 1.3.6

Bug fixes in MarkdownDocEditor:

- Preformatted styling should now behave correctly.
- Preformatted font (monospace) settings now work. Also defaulted font size of monospace to 14 rather than 16.

## 1.3.5

What I did not mention in the information for version 1.3.4 is that the editor was converted from Java to Groovy. Here I apparently ran into a Groovy gotcha: What looked to be a member reference were actually a property reference to the same method that tried to reference member. In this case it was an anonymously implemented interface with a getter whose implementation tried to reference the outer class member of same name as getter property, and got the property rather than the member causing a never ending loop resulting in `java.lang.StackOverflowError`.

This affected only generating of PDF and HTML. The error occurred after writing generated output, but before opening the generated output (when told to do so by checkbox setting). This problem is now fixed by this version and is the only thing that differs from previous version.

## 1.3.4

Fixed a bug with relative path for images using *PDFGenerator* reported by Maher Gamal. There are now 5 ways to specify paths to images for PDF:

1. Absolute path

2. Relative to current directory.
3. Relative to markdown document.
4. Relative to resulting PDF document.
5. Relative to a supplied root dir. This can now be specified in the PDF generator options. If using the library, passing rootDir will override the options rootDir.

These paths will be automatically resolved.

### 1.3.3

Ironed out all *known* bugs in editor.

### 1.3.2

Added markdown formatting as you write.

### 1.3.1

Bug fixes. Monospaced font now rendering correctly.

Deleting text with backspace have strange effects on text layout. That is, the place where a senetence is broken to the right and moved down to the next line keeps moving around while deleting text, in some completely different paragraph! This is entirely handled by JTextPane. I have tried to find a way to intercept the delete key and handle delete myself, but I have not been successful in finding a way to do that if it is even possible. Continuing writing new text after deleting text seems to restore the layout. This oddity has no effect on the final text, it is just the layout while editing that is affacted. You will also only see this if you write paragraphs as one block of text that wraps around into multiple lines without pressing return until the end of the paragraph.

## 1.3

Made big changes to the editor, finally making it into what I want, with some markdown formatting as you write, and far more configuration in settings dialog, which have also been redone.

Bug fixes.

### 1.2.10

Added support for &lt;, &gt;, and &amp;.

### 1.2.9

Added markdown file reading feature by allowing markdown files to be dropped on the editor in preview mode, in whinch case the dropped file will be formatted and displayed without changing the content of the editor. Exiting preview and doing a preview again will again preview the editor content.

### 1.2.8

Headings can now **not** be more than one line (not include LF/CRLF). Before they were treated like paragraphs. This to be more compatible with other Markdown tools and Markdown documents.

### 1.2.7

Added settings for specifying top, bottom, left, and right margins in editor. Please note that I've been a bit lazy here. The sizes are in pixels, not characters/lines!

### 1.2.6

Added the new *.mddoc* format, which makes command line usage easier, but it is also supported by the maven plugin and the library has a utility that completely handles this format.

Added a Java Swing based editor for editing markdown with support.

## 1.2.5

Added *parserOptions* now used by JavadocParser to markdown parse javadoc comments if `markdownJavadoc=true` is provided. The Parser API is thus also updated to take a Properties object for the parser options.

## 1.2.4

Added *makeFileLinksRelativeTo* option for HTMLGenerator and MarkdownGenerator mostly to be able to manipulate *file*: references to images in the generated result so that the image paths still work in source when editing with a markdown tool and is still correct when generated to a different path.

## 1.2.3

If image paths are not absolute and not http referenced then they are now looked for relative to the source markdown file first, and then they are looked for relative to the result file as before. This makes it easier to generate a big document for a whole project containing several subproject with local markdown documents and referenced images. The image reference can still be relative to the subproject local markdown file.

## 1.2.2

Added support for *to be able to indent text. This is one more exception to no html passthrough.*

## How markdown is MarkdownDoc ?

Well, it implements the "specification" as documented on [daringfireball.net](http://daringfireball.net). This specification however is not extremely exact so there might be some differences.

The known (and intentional) differences are:

- No HTML pass-through! Well, there is a small exception to that. HTML comments are passed along. Mostly because there is no markdown comment format and I wanted to be able to put comments in my documents. "&nbsp;" is passed through to create indents that are not code blocks. "`div class=..."`" is also passed through. The start and end div has to be on their own lines! The reason for no general HTML pass-through is that MarkdownDoc takes it directly from markdown to a document model which is then used to generate PDF without any HTML rendering in between. The main purpose of this tool is to write documentation not generate HTML sites (though that has become easier in version 1.4 with the div support).
- Escaping with '\'. In MarkdownDoc you can escape any character with \ and it will be passed through as is without being acted on if it has markdown meaning.
- No entity encoding of email addresses.
- No multiple block quote levels (as of now).

## File specifications

---

With both the maven plugin and the command line execution jar file you can specify a set of files to use as input. These are basically a comma separated list of files, but with the following additions:

`/my/path`

*All files in the directory pointed to by the path.*

`/my/path/**`

*All files in the directory pointed to by the path and sub directories.*

`/my/path/**/regexp pattern`



*All files matching the pattern in the directory pointed to by the path and sub directories.*

*/my/path/regex pattern*

*All files matching the pattern in the directory pointed to by the path.*

*/my/path/fileset.fs*

*The above rules are applied to all file specifications in files having the .fs extension. # are comment lines within .fs files.*

# Command Line

## General

---

MarkdownDoc can be run using `java -jar markdowndoc-cmd-line-n.n.n-exec.jar`. If you just run it without any arguments you get the following:

```
Usage: java -jar markdowndoc-cmd-line-n.n[n].exec.jar <generator> --help
      or
      java -jar markdowndoc-cmd-line-n.n[n].exec.jar <generator> <fileSpec> --<generator option> ...
      or
      java -jar markdowndoc-cmd-line-n.n[n].exec.jar <generator> <fileSpec> parserOptions:<parserOptions>
--<generator option> ...
      or
      java -jar markdowndoc-cmd-line-n.n[n].exec.jar <path to a .mddoc file>
```

The last usage example requires an *.mddoc* file. See '*The mddoc file type*' (section 5) for more information on this file type.

What the generator options are depends on the specified generator.

The `markdowndoc-cmd-line-n.n.n-exec.jar` is a jar generated to contain all dependencies in the same jar, making it easy to execute with `java -jar`.

### generator

This should be either *pdf*, *html*, or *md*.

### fileSpec

This is a comma separated list of paths relative to the current directory. The filename part of the path can contain regular expressions and the directory part of the path can specify `.../*/...` to mean any levels of subdirectories.

Example: `root//docs/..md`

### parserOptions

These are in the format "option=value,...,option=value" with no spaces. Currently there is only one options for the JavadocParser: `markdownJavadoc=true`. When this is specified and java files are part of the input fileSpec then class and method texts are passed to the MarkdownParser instead of being added as text. This can be used in conjunction with a markdown doclet for javadoc.

### generatorOptions

These depends on the generator being run.

## PDF Generator

---

**--resultFile text (Required)** Where to write the result.

**--mss path** The path to the *.mss* file to use instead of default one. It tries to be a little smart in resolving relative paths. If a relative path is not found relative to current dir then it tries the parent dir and so on all the way up to the root.

**--pageSize text** The pagesize name like LETTER or A4.

**--title text** The title of the document

**--subject text** The subject of the document.

**--keywords text** Meta keywords

**--author text** The author of the document.

**--version text** The version to put on the title page. Must be specified to be rendered!

**--copyright text** The copyright message to put on the title page. Must be specified to be rendered!

**--hideLinks true/false** If true then links are not rendered as link the link text will be rendered as plain text.

**--unorderedListItemPrefix text** What item marking to use for unordered lists. Default is '- '.

**--firstLineParagraphIndent true/false** If true then the first line of each paragraph is indented. Default is false.

**--backgroundColor text** The background color of the document in "R:G:B" format where each R, G, and B are number 0 - 255.

**--blockquoteColor text** The blockquote color to use in this document in "R:G:B" format where each R, G, and B are number 0 - 255.

**--codeColor text** The code color to use in this document in "R:G:B" format where each R, G, and B are number 0 - 255.

**--generateTOC true/false** This generates table of contents. Default is false!

**--generateTitlePage true/false** This will generate one first page with title, version, author, and copyright. Default is false.

## HTML Generator

---

**--resultFile text (Required)** Where to write the result.

**--inlineCSS true/false** If true then the css will be included in the generated HTML.

**--css text** The path to CSS file.

**—makeFileLinksRelativeTo** "path[+prefix]". This affects links and images. When specified the resulting file: URLs in the result will be relative to the path specified by "path" if the absolute path of the URL starts with the specified path. If a plus sign (+) and a prefix path is specified it will be prefixed to the final URL.

## Markdown Generator

---

**--resultFile text (Required)** Where to write the result.

**—makeFileLinksRelativeTo** "path[+prefix]". This affects links and images. When specified the resulting file: URLs in the result will be relative to the path specified by "path" if the absolute path of the URL starts with the specified path. If a plus sign (+) and a prefix path is specified it will be prefixed to the final URL.

# Maven Plugin

The maven plugin is rather straight forward. It has 3 sets of configuration structures, one common and one for each generator.

## *generatorOptions*

---

There is a config section that is common to all generators and specifies which generator to run and what input files to include. The following example is from the generation of this manual:

```
<generatorOptions>
  <generator>pdf</generator>
  <inputPaths>
    Docs/parts/H1UserGuide.mdpart,
    Docs/MarkdownDoc.md,
    MavenPlugin/docs/*.md,
    CommandLine/docs/*.md,
    Library/docs/*.md,
    Docs/parts/H1Licenses.mdpart,
    Docs/licenses.md,
    Docs/parts/H1LicenseTexts.mdpart,
    Docs/*.md
  </inputPaths>
  <parserOptions>option=value,...</parserOptions>
</generatorOptions>
```

If the `<inputPaths>...</inputPaths>` section only contains one file of type `.mddoc` then no other parameters need to be specified, not even `<generator>...</generator>`! In this case all information needed to generate final documents resides in the `.mddoc` file. See *'The mddoc file type'* (section 5) for more information on this file type.

The current valid argument for `<generator>...</generator>` are *pdf*, *html*, and *md*.

The input paths are comma separated and are always relative to the root of the maven project. To clarify that, for a multi module maven build it is always the top root with the top pom that is the root even if you start the build at a lower level. This root is resolved by starting at `${basedir}` and going up until the parent directory does not have a pom. I have found no way to let maven tell me this path.

The paths can have wildcards in form of regular expressions for the file names. There is also a special directory name `**` that means any level of subdirectories.

All the input paths are parsed into the same document model that then gets passed to the generator. They are parsed in the order they are specified. When it comes to wildcards it is hard to say which order they will be in. It might differ on different platforms.

If you are wondering about the `.mdpart` extensions above it is just to hide them from GitHub. They are just very small header lines that I inject to the PDF document that I don't want in the main parts of the documentation since they are reused and linked from the README.md in the root.

I'm also using this possibility to generate from multiple sources to put the documentation for each module project in that project.

The `<parserOptions>option=value,...</parserOptions>` are passed to each parser. Currently only the *JavadocParser* has an option: `markdownJavadoc=true`. When this is specified then the class and method descriptions are passed to *MarkdownParser* instead of being added as text. This is useful in conjunction with using a markdown doclet for javadoc.

## *pdfGeneratorOptions*

---

Following is a complete plugin specification with all options specified:

```
<plugin>
  <groupId>se.natusoft.tools.doc.markdowndoc</groupId>
  <artifactId>markdowndoc-maven-plugin</artifactId>
  <version>n.n[.n]</version>

  <executions>
    <execution>
      <id>generate-docs</id>
      <goals>
        <goal>doc</goal>
      </goals>
      <phase>install</phase>
      <configuration>

        <generatorOptions>
          <generator>pdf</generator>
          <inputPaths>
            ...
          </inputPaths>
        </generatorOptions>

        <pdfGeneratorOptions>
          <!--
            The path to the pdf document to produce. Path is relative
            to project root (see comment about root above).
            Required.
          -->
          <resultFile>Docs/MarkdownDoc-User-Guide.pdf</resultFile>

          <!--
            The path to an MSS file to use instead of the default one.
          -->
          <mss>Docs/doc.mss</mss>

          <!--
            The page size. For example:A4, LETTER
            Optional. Default: A4
          -->
          <pageSize>A4</pageSize>

          <!--
            This will be put in PDF metadata and also rendered on
            title page.
            Required if generateTitlePage is true optional otherwise.
          -->
          <title>MarkdownDoc</title>

          <!--
            This will be put in PDF metadata and also rendered on
            title page.
            Optional.
          -->
          <subject>User Guide</subject>

          <!--
            This will be put in the PDF metadata.
            Optional.
          -->
          <keywords></keywords>

          <!--
            The version of the document. This will be rendered on the
            title page.
            Optional, but recommended if generateTitlePage is true.
          -->
          <version>1.0</version>

          <!--
            The author of the document. This will be put in PDF
            metadata and also be rendered on title page.
            Optional.
          -->
          <author>Tommy Svensson</author>

          <!--
            This will be rendered on the title page.
            Optional
          -->
          <copyright>Copyright © 2012 Natusoft AB</copyright>

          <!--
            If true then links will render as plain text and not be
            clickable.
            Optional. Default: false
          -->
          <hideLinks>false</hideLinks>

          <!--
            Specify this if you want to change the bullet for
            unordered lists.
            Optional. Default: • (including space after!)
          -->
          <unorderedListItemPrefix>• </unorderedListItemPrefix>

          <!--
            Specify true here to have the first line of each
```

```

        paragraph indented.
        Optional. Default: false
-->
<firstLineParagraphIndent>false</firstLineParagraphIndent>

<!--
Specify in R:G:B format to change the background color
of the document.
Optional. Default 255:255:255 (white)

NOTE: This is preferably set in a .mss file specified by the mss option.
      If set both here and in an .mss file then this will win! (for backwards
      compatibility).
-->
<backgroundColor>255:255:255</backgroundColor>

<!--
Specify in R:G:B format to change the text color
of block quotes.
Optional. Default: 128:128:128 (grey)

NOTE: This is preferably set in a .mss file specified by the mss option.
      If set both here and in an .mss file then this will win! (for backwards
      compatibility).
-->
<blockquoteColor>128:128:128</blockquoteColor>

<!--
Specify in R:G:B format to change the text color
of code blocks.
Optional. Default: 0:0:0 (black)

NOTE: This is preferably set in a .mss file specified by the mss option.
      If set both here and in an .mss file then this will win! (for backwards
      compatibility).
-->
<codeColor>0:0:0</codeColor>

<!--
Set to true to generate a title page.
Optional. Default: false
-->
<generateTitlePage>true</generateTitlePage>

<!--
Set to true to generate a table of contents.
Optional. Default: false
-->
<generateTOC>true</generateTOC>
</pdfGeneratorOptions>

</configuration>
</execution>
</executions>
</plugin>

```

## htmlGeneratorOptions

---

Following is a complete plugin specification with all options specified:

```

<plugin>
  <groupId>se.natusoft.tools.doc.markdowndoc</groupId>
  <artifactId>markdowndoc-maven-plugin</artifactId>
  <version>n.n[.n]</version>

  <executions>
    <execution>
      <id>generate-docs</id>
      <goals>
        <goal>doc</goal>
      </goals>
      <phase>install</phase>
      <configuration>

        <generatorOptions>
          <generator>html</generator>
          <inputPaths>
            ...
          </inputPaths>
        </generatorOptions>

        <htmlGeneratorOptions>
          <!--
            The path to the html document to produce. Path is relative
            to project root (see comment about root above).
            Required.
          -->
          <resultFile>Docs/MarkdownDoc-User-Guide.html</resultFile>

          <!--
            If set to true then the specified css will be inlined
            in the generated html document. Otherwise the generated
            html document will reference the specified css.
            Optional. Default: false
          -->
          <inlineCSS>false</inlineCSS>

          <!--
            The path to the css file for the generated html file.
            Required.
          -->
          <css>css/my.css</css>

          <!--
            This affects links and images. When specified the resulting
            file: URLs in the result will be relative to the path specified by
            "path" if the absolute path of the URL starts with the specified
            path. If a plus sign (+) and a prefix path is specified it will be
            prefixed to the final URL.
          -->
          <makeFileLinksRelativeTo>path[+prefix]</makeFileLinksRelativeTo>

        </htmlGeneratorOptions>

      </configuration>
    </execution>
  </executions>
</plugin>

```

## *mdGeneratorOptions*

---

Following is a complete plugin specification with all options specified:



```

<plugin>
  <groupId>se.natusoft.tools.doc.markdowndoc</groupId>
  <artifactId>markdowndoc-maven-plugin</artifactId>
  <version>n.n[.n]</version>

  <executions>
    <execution>
      <id>generate-docs</id>
      <goals>
        <goal>doc</goal>
      </goals>
      <phase>install</phase>
      <configuration>

        <generatorOptions>
          <generator>md</generator>
          <inputPaths>
            ...
          </inputPaths>
        </generatorOptions>

        <htmlGeneratorOptions>
          <!--
            The path to the markdown document to produce. Path is relative
            to project root (see comment about root above).
            Required.
          -->
          <resultFile>Docs/MarkdownDoc-User-Guide-Complete.md</resultFile>

          <!--
            This affects links and images. When specified the resulting
            file: URLs in the result will be relative to the path specified by
            "path" if the absolute path of the URL starts with the specified
            path. If a plus sign (+) and a prefix path is specified it will be
            prefixed to the final URL.
          -->
          <makeFileLinksRelativeTo>path[+prefix]</makeFileLinksRelativeTo>

        </htmlGeneratorOptions>

      </configuration>
    </execution>
  </executions>
</plugin>

```

# Library

The library is made up of a document model representing all formats of markdown, parsers and generators. The parsers produce a document model and the generators generate from that model. The document model represents the markdown formats. Thereby there are no HTML pass-through from a markdown document! This tool only deals with markdown, not HTML.

The API docs for the library can be found [here](#).

## Usage

---

In package `se.natusoft.doc.markdown.api` there are 3 API classes:

**Options** - This represents options for a generator. It should be seen as a narrow variant of `Object` representing only generator options, but any such. It has one method common to all `public boolean isHelp()`. Implementations should have a default constructor.

**Parser** - This represents a parser.

```
public interface Parser {
    public void parse(Doc document, File parseFile, Properties parserOptions) throws IOException,
    ParseException;
}
```

The parser gets passed an already created `Doc` model allowing the document to be built from multiple source files by parsing into the same document.

**Generator** - This represents a generator.

```
public interface Generator {
    public Class getOptionsClass();
    public void generate(Doc document, Options options, File rootDir) throws IOException,
    GenerateException;
}
```

`getOptionsClass()` returns the class implementing `Options` and holding all the options for the generator.

`generate(...)` generates the document provided by *document* using the specified *options* and producing the result in whatever *rootDir* relative path is specified in the *options*.

## Parsers

### `se.natusoft.doc.markdown.parser.MarkdownParser`

This parser parses markdown and only markdown! It ignores HTML with the exception of comments.

Example usage:

```
Parser parser = new MarkdownParser();
Doc document = new Doc();
Properties parserOptions = new Properties();
parser.parse(document, parseFile, parserOptions);
```

### `se.natusoft.doc.markdown.parser.JavadocParser`

This parser parses java source files and extracts class and method declarations and javadoc comment blocks. it produces a document model looking like this (in markdown format):

```

public _class/interface_ __class-name__ extends something [package] {
> class javadoc

__full method declaration__
> method javadoc
_Returns_
> description
_Parameters_
> _param_ - description
_Throws_
> _exception_ - description
_See_
> description

...
}

```

This allows you to include API documentation in your documentation without having to duplicate it. Please note that if `markdownJavadoc=true` parser option have been specified then *class javadoc* and *method javadoc* will not be formatted but passed to the `MarkdownParser` instead.

Example usage:

```

Parser parser = new JavadocParser();
Doc document = new Doc();
Properties parserOptions = new Properties();
parser.parse(document, parseFile, parserOptions);

```

## se.natusoft.doc.markdown.parser.ParserProvider

This is a utility to get a parser based on file extension. ".md", ".markdown", ".mdpart", and ".java" are valid extensions that will return a parser. If the passed file does not have a valid extension null will be returned.

Example usage:

```

Parser parser = ParserProvider.getParserForFile(parseFile);
Doc document = new Doc();
Properties parserOptions = new Properties();
parser.parse(document, parseFile, parserOptions);

```

## Generators

Example usage:

```

public static void main(String[] args) {
    Doc document = new Doc();

    ... parsing of document.

    Generator generator = new [PDF|HTML|Markdown]Generator();

    // I'm using OptionsManager to load the options in this example.
    // If you use maven or ant then those tools will have loaded
    // the options for you and getOptionsClass() is not relevant
    // in that case.
    CommandLineOptionsManager<Options> optMgr =
        new CommandLineOptionsManager<Options>(generator.getOptionsClass());
    Options options = optMgr.loadOptions("--", args);
    if (options.isHelp()) {
        optMgr.printHelpText("--", "", System.out);
    }
    else {
        File rootDir = new File();
        generator.generate(document, options, rootDir);
    }
}

```

Please note that the `CommandLineOptionsMangager` used in the example is part of the `OptionsManager` tool also by me. Available at [github.com/tombensve/OptionsManager](https://github.com/tombensve/OptionsManager).

## se.natusoft.doc.markdown.generator.PDFGenerator

This generator produces a PDF document.

## se.natusoft.doc.markdown.generator.HTMLGenerator

This generator produces an HTML document.

## se.natusoft.doc.markdown.generator.MarkdownGenerator

This generator produces a Markdown document. So why would we want to generate markdown ? Well, it became needed after I added the JavadocParser. Now I can have both markdown and java files as input and the PDF and HTML files contained the whole result including the javadoc information. The original markdown document however does not have the javadoc parts, and this markdown document is read as is on github and will then not be complete. Therefore I added this generator and moved my real source document into docs/src and also generate a markdown version into docs that will be as complete as the pdf and html version.

## se.natusoft.doc.markdown.util.MDDocFileHandler

This is a class with one static method that completely handles the *.mddoc* format.

Usage:

```
MDDocFileHandler.execute("<path to .mddoc file>");
```

This will generate all output formats as specified in the *.mddoc* file.

## MSS (Markdown Style Sheet)

---

The MSS format is a JSON document describing the styles (colors and fonts) to use for different sections of a markdown document (standard text, heading, bold, code, etc). It contains 3 main sections: front page, TOC, pages. There is a *default.mss* embedded in the jar that is used if no external mss files is provided. The default MSS should be compatible with styles used in previous versions.

Currently the MSS file is only used by the PDF generator. But it could also be relevant for other formats, like word if I ever add such a generator. I gladly take a pull request if anybody wants to do that :-).

The best way to describe the MSS file is to show the *default.mss* file:

```
{
```

This section is specific to PDF files, and specifies ttf, otf, and other font types supported by iText. For the *internal* fonts "HELVETICA" or "COURIER" is specified as "family", but to use a font specified here, just use the name set as "family" here. If you are using an external Helvetica font specified here, don't call it just "HELVETICA" since there will be confusion!

A best effort is used to resolve the font in "path":. If the specified path does not match relative to current directory then it will try the parent directory and so on all the way up to the filesystem root.

```
"pdf": {
  "extFonts": [
    {
      "family": "MDD-EXAMPLE",
      "encoding": "UTF-8",
      "path": "/fonts/ttf/some-font.ttf"
    }
  ]
},
```

The "colors" section just provide names for colors. This list was taken from the default color names for CSS colors, with the exception of the first 3. Any color specification in sections below that does not contain any ":" character will be taken as a name and looked up here.

```

"colors": {
  "white": "255:255:255",
  "black": "0:0:0",
  "mddgrey": "128:128:128",
  "AliceBlue": "F0F8FF",
  "AntiqueWhite": "FAEBD7",
  "Aqua": "00FFFF",
  "Aquamarine": "7FFFD4",
  "Azure": "F0FFFF",
  "Beige": "F5F5DC",
  "Bisque": "FFE4C4",
  "Black": "000000",
  "BlanchedAlmond": "FFEBCD",
  "Blue": "0000FF",
  "BlueViolet": "8A2BE2",
  "Brown": "A52A2A",
  "BurlyWood": "DEB887",
  "CadetBlue": "5F9EA0",
  "Chartreuse": "7FFF00",
  "Chocolate": "D2691E",
  "Coral": "FF7F50",
  "CornflowerBlue": "6495ED",
  "Cornsilk": "FFF8DC",
  "Crimson": "DC143C",
  "Cyan": "00FFFF",
  "DarkBlue": "00008B",
  "DarkCyan": "008B8B",
  "DarkGoldenRod": "B8860B",
  "DarkGray": "A9A9A9",
  "DarkGreen": "006400",
  "DarkKhaki": "BDB76B",
  "DarkMagenta": "8B008B",
  "DarkOliveGreen": "556B2F",
  "DarkOrange": "FF8C00",
  "DarkOrchid": "9932CC",
  "DarkRed": "8B0000",
  "DarkSalmon": "E9967A",
  "DarkSeaGreen": "8FBC8F",
  "DarkSlateBlue": "483D8B",
  "DarkSlateGray": "2F4F4F",
  "DarkTurquoise": "00CED1",
  "DarkViolet": "9400D3",
  "DeepPink": "FF1493",
  "DeepSkyBlue": "00BFFF",
  "DimGray": "696969",
  "DodgerBlue": "1E90FF",
  "FireBrick": "B22222",
  "FloralWhite": "FFFAF0",
  "ForestGreen": "228B22",
  "Fuchsia": "FF00FF",
  "Gainsboro": "DCDCDC",
  "GhostWhite": "F8F8FF",
  "Gold": "FFD700",
  "GoldenRod": "DAA520",
  "Gray": "808080",
  "Green": "008000",
  "GreenYellow": "ADFF2F",
  "HoneyDew": "F0FFF0",
  "HotPink": "FF69B4",
  "IndianRed": "CD5C5C",
  "Indigo": "4B0082",
  "Ivory": "FFFFFF",
  "Khaki": "F0E68C",
  "Lavender": "E6E6FA",
  "LavenderBlush": "FFF0F5",
  "LawnGreen": "7CFC00",
  "LemonChiffon": "FFFACD",
  "LightBlue": "ADD8E6",
  "LightCoral": "F08080",
  "LightCyan": "E0FFFF",
  "LightGoldenRodYellow": "FAFAD2",
  "LightGray": "D3D3D3",
  "LightGreen": "90EE90",
  "LightPink": "FFB6C1",
  "LightSalmon": "FFA07A",
  "LightSeaGreen": "20B2AA",
  "LightSkyBlue": "87CEFA",
  "LightSlateGray": "778899",
  "LightSteelBlue": "B0C4DE",
  "LightYellow": "FFFFE0",
  "Lime": "00FF00",
  "LimeGreen": "32CD32",
  "Linen": "FAF0E6",
  "Magenta": "FF00FF",
  "Maroon": "800000",
  "MediumAquaMarine": "66CDAA",
  "MediumBlue": "0000CD",
  "MediumOrchid": "BA55D3",
  "MediumPurple": "9370DB",
  "MediumSeaGreen": "3CB371",
  "MediumSlateBlue": "7B68EE",
  "MediumSpringGreen": "00FA9A",
  "MediumTurquoise": "48D1CC",
  "MediumVioletRed": "C71585",
  "MidnightBlue": "191970",
  "MintCream": "F5FFFA",

```

```

"MistyRose": "FFE4E1",
"Moccasin": "FFE4B5",
"NavajoWhite": "FFDEAD",
"Navy": "000080",
"OldLace": "FDF5E6",
"Olive": "808000",
"OliveDrab": "6B8E23",
"Orange": "FFA500",
"OrangeRed": "FF4500",
"Orchid": "DA70D6",
"PaleGoldenRod": "EEE8AA",
"PaleGreen": "98FB98",
"PaleTurquoise": "AFEEEE",
"PaleVioletRed": "DB7093",
"PapayaWhip": "FFEFD5",
"PeachPuff": "FFDAB9",
"Peru": "CD853F",
"Pink": "FFC0CB",
"Plum": "DDA0DD",
"PowderBlue": "B0E0E6",
"Purple": "800080",
"RebeccaPurple": "663399",
"Red": "FF0000",
"RosyBrown": "BC8F8F",
"RoyalBlue": "4169E1",
"SaddleBrown": "8B4513",
"Salmon": "FA8072",
"SandyBrown": "F4A460",
"SeaGreen": "2E8B57",
"SeaShell": "FFF5EE",
"Sienna": "A0522D",
"Silver": "C0C0C0",
"SkyBlue": "87CEEB",
"SlateBlue": "6A5ACD",
"SlateGray": "708090",
"Snow": "FFFAFA",
"SpringGreen": "00FF7F",
"SteelBlue": "4682B4",
"Tan": "D2B48C",
"Teal": "008080",
"Thistle": "D8BFD8",
"Tomato": "FF6347",
"Turquoise": "40E0D0",
"Violet": "EE82EE",
"Wheat": "F5DEB3",
"White": "FFFFFF",
"WhiteSmoke": "F5F5F5",
"Yellow": "FFFF00",
"YellowGreen": "9ACD32"
},

```

This section deals with document styles. It has 3 sections: "pages", "front\_page", and "toc". If a style is not set in a specific section it will fall back to what is specified in a more general section.

```

"document": {
  "color": "black",
  "background": "white",
  "family": "HELVETICA",
  "size": 10,
  "style": "Normal",
  "pages": {
    "block_quote": {
      "style": "Italic",
      "color": "mddgrey"
    },
    "h1": {
      "size": 20,
      "style": "BOLD"
    },
    "h2": {
      "size": 18,
      "style": "BOLD",
      "hr": true
    },
    "h3": {
      "size": 16,
      "style": "BOLD"
    },
    "h4": {
      "size": 14,
      "style": "BOLD"
    },
    "h5": {
      "size": 12,
      "style": "BOLD"
    },
    "h6": {
      "size": 10,
      "style": "BOLD"
    },
    "emphasis": {
      "style": "ITALIC"
    },
    "strong": {
      "style": "BOLD"
    },
    "code": {
      "family": "COURIER",
      "size": 9,
      "color": "64:64:64"
    },
    "anchor": {
      "color": "128:128:128"
    },
    "list_item": {
    },
    "footer": {
      "size": 8
    }
  }
},

"divs": {
  "mdd-example": {
    "color": "white",
    "background": "black",
    "block_quote": {
      "family": "COURIER",
      "color": "120:120:120",
      "background": "10:11:12"
    }
  }
}
},

```

Note the "label": in "version" and "author"! This is what is used for these 2 texts. So it can be translated to another language if wanted.

```

"front_page": {
  "color": "0:0:0",
  "background": "255:255:255",
  "family": "HELVETICA",
  "size": 10,
  "style": "NORMAL",
  "title": {
    "size": 25,
    "style": "UNDERLINE"
  },
  "subject": {
    "size": 15
  },
  "version": {
    "size": 12,
    "label": "Version:"
  },
  "copyright": {
  },
  "author": {
    "size": 12,
    "label": "Author:"
  }
},

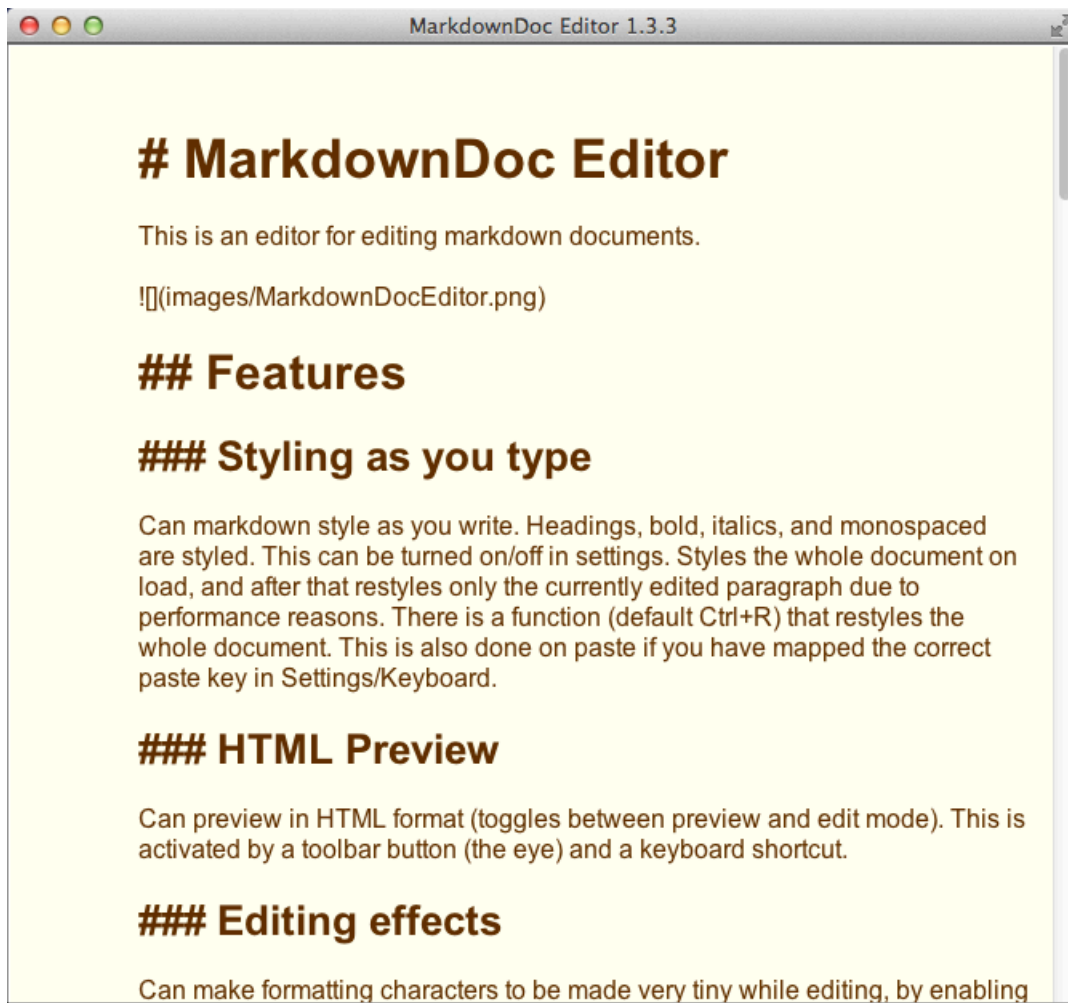
"toc": {
  "color": "0:0:0",
  "background": "255:255:255",
  "family": "HELVETICA",
  "size": 9,
  "style": "NORMAL",
  "toc": {
  },
  "h1": {
    "style": "BOLD"
  },
  "h2": {
  },
  "h3": {
  },
  "h4": {
  },
  "h5": {
  },
  "h6": {
  }
}
}

```



# MarkdownDoc Editor

This is an editor for editing markdown documents.



## Features

---

### Styling as you type

Can markdown style as you write. Headings, bold, italics, and monospaced are styled. This can be turned on/off in settings. Styles the whole document on load, and after that restyles only the currently edited paragraph due to performance reasons. There is a function (default Ctrl+R) that restyles the whole document. This is also done on paste if you have mapped the correct paste key in Settings/Keyboard.

### HTML Preview

Can preview in HTML format (toggles between preview and edit mode). This is activated by a toolbar button (the eye) and a keyboard shortcut.

### Editing effects

Can make formatting characters to be made very tiny while editing, by enabling a settings option. Try it to see the effect!

## Generate PDF & HTML

Can generate both PDF and HTML from the editor window. Use toolbar button or keyboard shortcut.

## Configurable

The settings dialog allows you to configure almost anything/everything:

- All keyboard shortcuts.
  - Don't write the keyboard shortcut in text, just press the keyboard shortcut you want to set.
  - Configured keyboard values are stored in their string representation and matched as strings.
    - This means that the code does not have to do a humongous if statement set for each possible alternative.
    - This also means that due to differences in java implementations and versions the string representation might be Ctrl+K or ^+K. So if you change java version you might also have to update keyboard mappings in settings.
- Margins.
- Editor font.
- Monospaced font.
- Preview font.
- Font sizes.
- Background color.
- Text color.
- Toolbar variant to use.

## Load file by drag & drop

Instead of using the GUI open dialog you can just drag and drop a file in the editor to edit it.

## Special preview drag & drop feature

While in preview mode, drag and drop a markdown file on the preview window to have it formatted and displayed. This does not affect the edit buffer in any way. Exiting preview mode will bring you back to whatever you have in the editor, and previewing again will preview the editor content.

But by just opening an empty editor and entering a blank preview you can quickly read multiple markdown documents formatted by just dropping them on the window.

## Mac OS X Fullscreen support

When you run this editor on a Mac with Lion+ you will get a litte double arrow in the right corner of the window titlebar, which will bring upp the editor window in fullscreen.

## Running

---

Can be run with `java -jar` or double clicked on. If you are using Windows 7 or 8 take a look at this page:

<http://johann.loefflmann.net/en/software/jarfix/index.html> (<http://johann.loefflmann.net/en/software/jarfix/index.html>).

The executable jar have the following name: `MarkdownDocEditor-n.n.n-App.jar`

One or more files can be specified as arguments.

## Requirements

---

This requires Java 7+!

## Functions

---

Do note that since all keyboard actions can be configured in settings this documents the default keyboard settings.

Also note that the defaults are adapted for Windows and Linux. On a mac you might want to change Ctrl to the Cmd key instead.

|                      | Keyboard default | Available in toolbar |
|----------------------|------------------|----------------------|
| Save file            | Ctrl+S           | Yes                  |
| Open file            | Ctrl+O           | Yes                  |
| Open new window      | Ctrl+N           | Yes                  |
| Insert heading       | Ctrl+T           | Yes                  |
| Insert bold          | Ctrl+B           | Yes                  |
| Insert italics       | Ctrl+I           | Yes                  |
| Insert list          | Ctrl+L           | Yes                  |
| Insert quote         | Ctrl+Q           | Yes                  |
| Insert image         | Ctrl+M           | Yes                  |
| Insert link          | Ctrl+N           | Yes                  |
| Preview              | Ctrl+F           | Yes                  |
| Generate PDF         | Ctrl+P           | Yes                  |
| Generate HTML        | Ctrl+H           | Yes                  |
| Settings             | Ctrl+E           | Yes                  |
| Restyle document     | Ctrl+R           | No                   |
| Restyle on paste (*) | Ctrl+V           | No                   |

(\*) This can be disabled by setting the key to anything other than the paste key.

## If you're on a Mac

---

If you are on a Mac you might want to change the keyboard mappings to use Cmd rather than Ctrl. Do note however that Cmd+H and Cmd+Q are really nasty on Mac OS X! Since these keys immediately kills the app these keys are impossible to set in the first place, but you will loose other unsaved settings when you try.

## Currently Missing

---

Fancy functions like search and replace.

Undo capability.

## Bugs

---

### By me

Only images with absolute path (even http: urls) are rendered in preview. Not sure I can fix this since the preview is generated in memory. I don't really know what the JTextPane sees links relative to then. Possibly if I can resolve the full path to a relative image using the same scheme as used in the PDFGenerator.

### By Oracle

- This editor uses the standard Swing component JTextPane. This is unfortunately not an optimal component. Specially for styling it gets slow for large documents. In earlier versions of Java 7 this component had a word wrap problem when deleting text either using backspace or cutting text. In that case it rerendered the text screwing up the format until new text was entered again. *As of Java 8 this bug is fixed*, but other new bugs have been added. They are however smaller and don't occur so often.
- Sometimes when the JTextPane is opened the pane will not render at all! Just increase the width of the window until text appears. Then save so that the window size for that file will be remembered. I have one and only one document for which this happens and I cannot tell what it is that causes the problem. This could be a mac only problem.

# The mddoc file type

There is a special file type that describes a complete document in any or all of the 3 output formats. It has the extension of *.mddoc*. It is really a properties file with *key: value* entries.

A path to an *.mddoc* file can be specified as only argument to command line variant, or as only file in `<inputPaths>...</inputPaths>` section in maven plugin (no other options/parameters are needed then) to produce output documents as described by the *.mddoc* file.

*.mddoc format (myfile.mddoc)*

---

```
# --- Generators to run ---
generate.pdf: true
generate.html: true
generate.markdown: true

# A comma separated list of paths to sources. A .fs file can also be
# specified as an input file in which case it is read for a further
# set of files to parse. The order of the specified files are important.
inputPaths: docs/intro.md,docs/install.md,docs/usage.md,docs/appendix.md

# --- PDF ---

# The name of the file to produce.
pdf.resultFile: MyDoc.pdf

# The page size. For example:A4, LETTER Optional. Default: A4
pdf.pageSize: A4

# Set to true to generate a title page. Optional. Default: false
generateTitlePage: true/false

# Set to true to generate a table of contents. Optional. Default: false
pdf.generateTOC: true/false

# This will be put in PDF metadata and also rendered on title page.
# Required if generateTitlePage is true optional otherwise.
pdf.title: MyDoc

# This will be put in PDF metadata and also rendered on title page.
# Optional.
pdf.subject: User Guide

# This will be put in the PDF metadata. Optional.
pdf.keywords: Markdown PDF

# The version of the document. This will be rendered on the title page.
# Optional, but recommended if generateTitlePage is true.
pdf.version: 1.0

# The author of the document. This will be put in PDF metadata and also
# be rendered on title page. Optional.
pdf.author: Your Name

# This will be rendered on the title page. Optional.
pdf.copyright: Copyright ?? 2013 Me Myself and I

# If true then links will render as plain text and not be clickable.
# Optional. Default: false
pdf.hideLinks: true/false

# Specify this if you want to change the bullet for unordered lists.
# Optional. Default: ??? (including space after!)
pdf.unorderedListItemPrefix: *

# Specify true here to have the first line of each paragraph indented.
# Optional. Default: false
pdf.firstLineParagraphIndent: true

# Specify in R:G:B format to change the background color of the document.
# Optional. Default 255:255:255 (white)
pdf.backgroundColor: 255:255:255

# Specify in R:G:B format to change the text color of block quotes.
# Optional. Default: 128:128:128 (grey)
pdf.blockQuoteColor: 128:128:128

# Specify in R:G:B format to change the text color of code blocks.
# Optional. Default: 0:0:0 (black)
pdf.codeColor: 0:0:0

# --- HTML ---

# The name of the file to produce.
html.resultFile: MyDoc.html

# The path to the css file for the generated html file. Required.
html.css: css/my.css

# If set to true then the specified css will be inlined in the generated html
# document. Otherwise the generated html document will reference the specified
# css. Optional. Default: false
html.inlineCSS: true/false

# This affects links and images. When specified the resulting file: URLs in the
# result will be relative to the path specified by "path" if the absolute path
# of the URL starts with the specified path. If a plus sign (+) and a prefix
# path is specified it will be prefixed to the final URL. Optional.
html.makeFileLinksRelativeTo: path[+prefix]

# --- Markdown ---

# The name of the file to produce.
markdown.resultFile: MyDoc.md

# This affects links and images. When specified the resulting file: URLs in the
# result will be relative to the path specified by "path" if the absolute path
```

```
# of the URL starts with the specified path. If a plus sign (+) and a prefix  
# path is specified it will be prefixed to the final URL. Optional.  
markdown.makeFileLinksRelativeTo: path[+prefix]
```

# Simple Markdown Reference

## Headings

---

```
# Heading level 1
## Heading level 2
...
##### Heading level 6
```

## Paragraphs

---

An empty line marks the end of a paragraph.

```
Paragraph 1 ...
More text in paragraph 1.

Paragraph 2 ...
```

Paragraph 1 ... More text in paragraph 1.

Paragraph 2 ...

## Italics

---

```
_This is in italics_

This is also italics but can't start a line with * since it will be treated as list.
```

*This is in italics*

This *is also italics* but can't start a line with *\** since it will be treated as list.

## Bold

---

```
__This text is bold.__

**This text is also bold.**
```

**This text is bold.**

**This text is also bold.**

## Blockquote

---

```
> This line is block quoted.
```

*This line is block quoted.*

## Lists

---

### Unordered lists (\* or -)

```
* item 1
  Also part of item 1.

- item 2
  * item 2.1 (this is indented 4 spaces!)
```

- item 1 Also part of item 1.

- item 2
  - item 2.1 (this is indented 4 spaces!)

## Ordered list (n.)

```
1. item 1.
2. item 2.
   1. item 2.1
```

1. item 1.
2. item 2.
  1. 1. item 2.1

Please note that the actual numbers does not matter! They could all be "1.!" The items will be enumerated automatically in order no matter what numbers you enter in the source.

## Code block (pre formatted with a fixed width font)

---

Each line starting with a tab or 4 spaces are considered belonging to a pre formatted block.

```
  This
    is
      a
        preformatted
          block!
```

## Horizontal rule

---

Any of:

```
* * *
***
*****...***
- - -
----
-----...---
```

## Links

---

```
[This is a link to markdown syntax on
daringfireball.net](http://daringfireball.net/projects/markdown/syntax)
```

[This is a link to markdown syntax on daringfireball.net](http://daringfireball.net/projects/markdown/syntax)

Short "autolink" version:

```
<http://www.daringfireball.net>
```

<http://www.daringfireball.net>

## Images

---

```
![Alt text](/path/to/img.png)
![Alt text](/path/to/img.png "title")
```

## backslash (\)

---

The \ character can be used to escape characters that have markdown meaning. \\ will for example produce \. \\* will produce \*.



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