

MarkdownDoc

User Guide

Version: 1.1.2

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1 MarkdownDoc User Guide

1.1 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 ? Since maven3 the site plugin is not what it used to be and 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.

1.1.1 How markdown is MarkdownDoc ?

Well, it implements the "specification" as documented on daringfireball.net. This specification however is not extremely exact so there might be some differences.

The known (and intentional) differences are:

- No HMTL 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. The reason for no HTML pass-through is that MarkdownDoc takes it directly from markdown to PDF without any HTML rendering in between. The main purpose of this tool is to write documentation not generate HTML sites.
- 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).

1.2 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/regexp 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.

2 Maven Plugin

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

If you dont what to checkout and build this code, add the following to your pom:

```
<project>
  ...
  <repositories>
    ...
    <repository>
      <id>maven-natusoft-se</id>
      <name>Natusoft maven repository</name>
      <url>http://maven.natusoft.se/</url>
    </repository>
  </repositories>
  ...
</project>
```

to have maven download it from my repository.

2.1 generatorOptions

There is a config section that is common to all generators and specifys 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>
</generatorOptions>
```

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.

2.2 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>1.0</version>

  <dependencies>
    <dependency>
      <groupId>se.natusoft.tools.doc.markdowndoc</groupId>
      <artifactId>markdown-doc-lib</artifactId>
      <version>1.0</version>
    </dependency>
  </dependencies>

  <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 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 sill be put in 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)
-->
<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)
-->
<blockQuoteColor>128:128:128</blockQuoteColor>

<!--
    Specify in R:G:B format to change the text color
    of code blocks.
    Optional. Default: 255:255:255 (white)
-->
<codeColor>255:255:255</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>

```

2.3 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>1.0</version>

  <dependencies>
    <dependency>
      <groupId>se.natusoft.tools.doc.markdowndoc</groupId>
      <artifactId>markdown-doc-lib</artifactId>
      <version>1.0</version>
    </dependency>
  </dependencies>

  <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>

        </htmlGeneratorOptions>

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

2.4 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>1.0</version>
```



```

<dependencies>
  <dependency>
    <groupId>se.natusoft.tools.doc.markdowndoc</groupId>
    <artifactId>markdown-doc-lib</artifactId>
    <version>1.0</version>
  </dependency>
</dependencies>

<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>

      </htmlGeneratorOptions>

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

```

3 Command Line

3.1 General

MarkdownDoc can be run using `java -jar markdowndoc-cmd-line-1.0-exec.jar`. If you just run it without any arguments you get the following:

```
Usage: java -jar markdowndoc-cmd-line-1.0-exec.jar <generator> --help
      or
      java -jar markdowndoc-cmd-line-1.0-exec.jar <generator> <fileSpec> --
<generator option> ...
```

What the generator options are depends on the specified generator.

The `markdowndoc-cmd-line-1.0-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`

3.2 PDF Generator

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

--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 unuredered 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.

3.3 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.

3.4 Markdown Generator

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

4 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](#).

4.1 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)
        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*.

4.1.1 Parsers

4.1.1.1 `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();
parser.parse(document, parseFile);
```

4.1.1.2 `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.

Example usage:

```

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

```

4.1.1.3 **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();
parser.parse(document, parseFile);

```

4.1.2 **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.

4.1.2.1 **se.natusoft.doc.markdown.generator.PDFGenerator**

This generator produces a PDF document.

4.1.2.2 **se.natusoft.doc.markdown.generator.HTMLGenerator**

This generator produces an HTML document.

4.1.2.3 **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.

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