## Title

**markdoc** —— a general-purpose literate programming package for Stata that produce
various formats, such as **pdf**, **docx**, **odt**, **html**, **epub**, **markdown**, presentation
as dynamic Stata package help files **sthlp**.

To improve applications of the package for developing educational materials
lecturers to ask students to practice literate programming for taking notes
projects, MarkDoc was programmed to include unique features. For example, it
it recognizes markdown, html, and latex markup languages, it can render late
**pdf**, **docx**, **html**, **odt**, and **tex** documents, automatically capture graphs from S
document, creates dynamic tables, and supports writing dynamic text for inte
Moreover, a user-friendly GUI interface was developed for the package (try **d**
**MarkDoc** easier for newbies. These features make the package a complete tool
Stata packages, as well as a tool for producing educational materials within

The source code of the project is hosted on GitHub and also, the package doc
wiki. all contributions to the package, including improving the documentatio
are welcome. further resources are available in the webpages below.

Homepage
Journal Article
MarkDoc Documentation Manual
Release Notes
Examples
Please ask your questions on statalist.org

## Syntax

produce dynamic *documents*, *presentation slides*, or *help files* interactively

**markdoc** filename [, **pandoc**(*str*) **printer**(*str*) **install** **test** **replace** **export**(*nam*
**style**(*name*) **template**(*str*) **toc** **title**(*str*) **author**(*str*) **affiliation**(*str*) **a**
**master** **statax** **noisily** ]

where filename can be:

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| | |
|---|---|
| **smcl** | converts *smcl* log file to any of the supported document fo<br>for creating *dynamic document* as well as *dynamic slides*. |
| **do** | executes the *do-file* in a "cleared workspace" and produces<br>*slides*. A cleared workspace ensures the reproducibility<br>neglects the data that is already loaded in Stata and re<br>data that is used for the analysis in the do-file. |
| **ado** \| **mata** | MarkDoc handles Stata programs differently. It creates **st**<br>vignettes (**pdf**, **html**, **docx**, etc) from Stata programming |

merely extracts the documentation from the source. The d
with either smcl or Markdown or a combination of both.

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**MarkDoc** package also includes a few more commands that can be used to facilitate
or dynamic slides. These commands are briefly described below, while the complet
GitHub wiki:

write dynamic text using any of the supported markup languages. You can also use
within a loop or a program.

**txt** [**code**] [*display_directive* [*display_directive* [...]]]

include an image in the document. if *filename* is missing, **img** command captures,
graph from Stata automatically.

**img** [*filename*] [, **markup(***str***) title(***str***) width(***int***) height(***int***) markup(***str***)**

create a dynamic table in Markdown documents (Not supported in HTML and LaTeX).
directives for styling the table, creating nested tables, and aligning the c

**tbl** *(#[,#...] [\ #[,#...] [\ [...]]])* [, **title(***str***)**]

execute **pandoc** commands directly from Stata

**pandoc** *command* ]

convert html files to pdf using **wkhtmltopdf** software

**wkhtmltopdf** *command* ]

| *MarkDoc options* | Description |
|---|---|
| **pandoc(***str***)** | specify the path to Pandoc software on the operating syste |
| **printer(***str***)** | specify the path to PDF driver on the operating system |
| **install** | Installs the required packages and software automatically are not accessible |
| **test** | examines if MarkDoc is working properly by creating a test |
| **replace** | replace the exported file if already exists |
| **export(***name***)** | exports the *smclfile* to any of the supported document form pdf slides), **docx**, **odt**, **tex**, **html**, **epub**, and **md** |

| | |
|---|---|
| **markup(***name***)** | specify the markup language used for writing the document |
| **numbered** | numbers Stata commands in the dynamic document. |
| **unc** | specify that markdoc is being accessed from a Windows serv |
| **style(***name***)** | specify the style of the document for HTML, PDF, Docx, and available styles are **simple**, **stata**, and **formal**. If the d format, the **stata** option (also if used with **master** optio in the **Stata Journal** style, even if the document is writ words, you can write your stata journal article using Ma |
| **template(***str***)** | renders the document using an external style sheet file. W Markdown or HTML and exported to HTML or PDF, a CSS file the appearance of the document. Similarly, when the docu exported to Microsoft Word Docx or Open Office ODT, a re similar format can be used to alter the style of the exp reference document, change the styles and themes, and us the document is written in LaTeX, this option can also b packages to the dynamic document by providing a file tha template set up. |
| **toc** | creates table of content in PDF, Microsoft Word Docx, and |
| **title(***str***)** | specify the title of the document |
| **author(***str***)** | specify the author of the document |
| **affiliation(***str***)** | specify the author affiliation in the document |
| **address(***str***)** | specify the author's contact information in the document |
| **summary(***str***)** | specify the summary of the document |
| **date** | specify the current date in the document |
| **master** | while creating a LaTeX or HTML document, MarkDoc only tran file to tex or html respectively. Since the document doe layout, it cannot be compiled (although it can be import creates the layout in LaTeX and HTML to allow compiling the HTML document (that are written with HTML markup) su require this option. Otherwise, the user should build th |
| **build** | when generating dynamic package documentation in sthlp for create the **stata.toc** and **pkgname.pkg** automatically, so t version of the package on GitHub or your personal websit |
| **statax** | highlights the syntax of Stata codes in the HTML and PDF d a JavaScript syntax highlighter engine for Stata |
| **noisily** | enables extended log for debugging markdoc |

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## Installation

The latest release as well as archived older versions of **markdoc** are hosted on G
weekly updates on GitHub so I recommend you to "watch" (subscribe) the repositor
the latest news about the package.

**markdoc** depends on several other Stata modules. If you have the __github package
**markdoc** and all of its dependencies by typing:

```
. github install haghish/markdoc
```

The **github** command is used for searching, installing, and uninstalling Stata pac
from GitHub website. to install the **github** command, type:

```
. net install github, from("https://haghish.github.io/github/")
```

## Description

**markdoc** is a general-purpose literate programming package for Stata that produce
*package vignette documentation*, *dynamic presentation slides*, as well as dynamic

For creating a dynamic document or presentation slides, MarkDoc requires a smcl
it to other formats. For generating dynamic Stata help files or package vignette
requires a Stata script-file (do, ado, mata) as input and exports the documentat
Visit MarkDoc homepage for documentation about generating **dynamic Stata help fil**

MarkDoc supports three different markup languages which are Markdown, HTML, and
languages can also include an image in the document, support writing dynamic tex
MarkDoc can export documents in various file formats including **pdf** document and
Open Office and LibreOffice **odt**, LaTeX **tex**, **html**, **epub**, Markdown **md**, **slidy** HTML-
**smcl** for Stata documentation. If file format is not specified, MarkDoc creates a
requires the Weaver package for making use of the txt, tbl, and img commands whi
text, creating dynamic tables, and importing figures automatically in the docume
requires the Statax package which provides a JavaScript syntax highlighter for S
PDF documents.

MarkDoc creates the dynamic documents by converting *smcl* log-file to other file
parsing the documentation written in Stata script files. The documentation shou
files using a special notations that are seperated from regular comments. Weavin
dynamic slides can take place at any point without requiring closing the log-fil
of the document. This is the biggest advantage of MarkDoc and Weaver packages to
programming packages which cannot provide live-preview of the document in an int

MarkDoc supports both Stata and Mata languages. Therefore, advanced users who wo
Markdoc - with the same syntax and markup notation - to produce a dynamic docume

programs. The same source that is used for generating dynamic Stata **sthlp** help f
Microsoft Word **docx**, **pdf**, etc.

For a more detailed documentation and examples, visit **MarkDoc Homepage**.

## Writing mathematical notation

**markdoc** can render LaTeX mathematical notations not only when the document is ex
when the document is exported to **pdf** document or **slide**, Microsoft Office **docx**, O
and **html**.

Mathematical notations can be inline a text paragraph or on a separate line. Fo
place the notation between single dollar signs (e.g. 10^2 + b^2 = c^2$). For inc
line, place the notations between double dollar signs (e.g. $10^2 + b^2 = c^2$$)
demonstrates how to export a PDF presentation slides with notations:

```
. qui log using example, replace

    /***
    Mathematical notations can be inline a text paragraph e.g. $a^2 + b^2 = c^2$
    or on a separate line such as:

    $$a^2 + b^2 = c^2$$
            ***/

. qui log c
. markdoc example, export(slide) printer("/usr/texbin/pdflatex")
```

## Inserting an image or figure in the document

Any of the supported markup languages can be used to insert a figure in the docu
ways for inserting an image in the document. First, you can use Markdown, HTML,
an image —— that is already saved in your hard drive —— in the document. The oth
command. **img** command can take the filename of exsisting image on the hard drive
(Markdown, HTML, or LaTeX. the default is Markdown) int he document. **img** command
current graph and import it in the document. For more information in this regard
Examples and explanations on MarkDoc homepage

## Writing dynamic text

the **txt** command is borrowed from weaver package to print dynamic text in the the
can be used for interpreting the analysis results or dynamically referring to va
the dynamic document. Writing dynamic text allows the content of the text to cha
and thus is the desirable way for explaining the analysis results. The text and
of the supported markup languages in MarkDoc which are *markdown*, *LaTeX*, and *HTML*
documented in the txt help file.

## Creating dynamic tables with tbl command

the **tbl** command also belongs to weaver package. The syntax of this command is si
it can include *String*, digits, scalars, and macros to create a dynamic table. Th
in the tbl help file.

## Markers

In addition to 3 markup languages, MarkDoc also introduces a few handy markers f
log-file. These markers can be used to specify what parts of the log-file should
document. The table below provides a brief summary of these annotating markers.
they appear after a command - will be ignored in the dynamic document. However,
"special comments" that will influence the MarkDoc process.

| *Marker* | Description |
|---|---|
| Creating text block | |
| **/***<br>...<br>***/** | creates a block of comments in the smcl file tha<br>dynamic document |
| Hiding command or output | |
| **/**/** *command* | only include the **output** in the dynamic document |
| **/***/** *command* | only include the **command** in the dynamic document |
| Hiding a section | |
| **//OFF**<br>...<br>**//ON** | Anything placed after "**//OFF**" until "**//ON** marker<br>dynamic document |
| Appending external files | |
| **//IMPORT** filename | Include an external text file (Markdown, HTML, L |

Apart from the writing markers " **/*** " and " ***/** ", which are used for writing
**not supported within loops.** Simply because smcl log-file does not print the out
loop. Nonetheless, writing markup text within the loop is not recommended eithe
once. For active writing within the loop or a program, see the txt command or we

## Writing text in the do-file

As noted, MarkDoc package allows writing and styling text as a comment in the do
between "/***" and "***/" signs, where these signs are placed on separate lines
example:

```
/***

Text heading
————————————

subheading
——————————

When you write a dynamic document in MarkDoc, place text between
the "/***" and "***/" signs. But they should be placed on separate lines,
as shown in this example.

***/
```

## Hiding commands in dynamic document

Use "/**/" sign before each Stata command to hide it from the document. However,
command outputs, but only the command itself.

Here is an example:

```
/**/ sysuse auto
/**/ regress price mpg
```

## Hiding output in dynamic document

Use "/***/" sign before each Stata command to hide its output in the dynamic doc
not hide the command itself, but only the output. In contrast to quietly command
smcl log, the "/***/" sign only eliminates the output in the dynamic document an
in the smcl log file. Using this marker is very similar to the example above.

## Hiding a large part of the smcl file

If you want to register several commands and outputs in the smcl log, but you wi
dynamic document, begin the section you wish to hide with "**//OFF**" on a separate
will ignore anything that comes after this marker until you specify "**//ON**" marke
interpreting the smcl log. In contrast to turning the log off and log on for ign
document, these markers allow you to save everything in the log file and yet, ex
document. Note that these markers cannot be written in Stata interactively and s
do file.

```
//OFF
```

*command*
*command*
...

**//ON**

## Supported markup languages

MarkDoc supports three markup languages which are Markdown, HTML, and LaTeX. Wh
allows exporting the document in any format (including HTML and LaTeX), writing
exporting the document in **PDF** or **html** and
**tex** format respectively. Markup languages hould not be used together in one docu
each markup language differently.

## Markdown syntax

Writing with Markdown can make your script files appealing. It is a fairly minim
your text distinguishable from the computer code, in contrast to HTML and LaTeX,
the code. To learn about using Markdown syntax for styling text and importing g
Markdown in Stata.

## Software Installation

The MarkDoc package requires additional software which can be installed manually
software are Pandoc and wkhtmltopdf driver. They are both opensource freeware, s
operating system such as Microsoft Windows, Macintosh, and Linux. Naturally, use
for writing the documentation, will need a TeX distribution with pdfLaTeX.

After a manual installation, the path to executable Pandoc should be specified i
Similarly, the path to executable wkhtmltopdf or pdfLaTeX should be given to **pri
printer(***str***)** option is only needed for compiling **pdf** document.

With automatic installation (i.e. using the **install** option), Pandoc and Wkhtmlto
in Weaver directory which is located in /ado/plus/Weaver/ on your machine. To fi
directory on your machine use the sysdir command which returns the system direct
to the Weaver directory are shown below. Note that username refers to your machi

**Windows:** *C:\ado\plus\Weaver*

**Macintosh:** */Users/username/Library/Application Support/Stata/ado/plus/Weaver*

**Unix:** */home/username/ado/plus/Weaver*

## Set file paths permanently

After manual installation, the paths to the executable Pandoc, wkhtmltopdf, and
using **weave setup** command. This command will open *weaversetup.ado* document, wher
paths as global

```
weave setup
```

## Software troubleshoot

As mentioned, the required software can be installed manually or automatically. installation is expected to work properly in Microsoft Windows **XP**, Windows **7**, an **OSX 10.9.5**, Linux **Mint 17 Cinnamon** (32bit & 64bit), Ubuntu **14** (64bit), and **CentO** systems may require manual software installation.

However, if for some technical or permission reasons MarkDoc fails to download, it manually and provide the file path to Pandoc using **pandoc(***str***)** option. visit packages
for more information regarding manual installation of Pandoc.

## Calling Pandoc

Pandoc commands can also be executed from Stata. This command takes the path to MarkDoc and allows you to use Pandoc seamlessly for converting files within Stat

```
pandoc ./example.tex -o ./example.html
```

## Remarks

If the log-file is closed exactly using "**qui log c**" command, Markdoc automatical the end of the file.

Similarly, MarkDoc removes "**qui log off**" from the logfile. Therefore "**qui log of** to separate codes in the dofile that are not wanted in the dynamic document, but analysis. Nonetheless, this is not a proper practice and can harm the transparen log-file should include as much information about the history of the analysis as for hiding sections of the log-file in the dynamic document.

## Dynamic Document Examples

```
set linesize 90

  qui log using example, replace

        /***
        Introduction to MarkDoc (heading 1)
        ------------------------------------

        Using Markdown (heading 2)
        ---------------------------

        Writing with __markdown__ syntax allows you to add text and graphs to
```

```
        _smcl_ logfile and export it to a editable document format. I will demo
        the process by using the __Auto.dta__ dataset.

        ###Get started with MarkDoc (heading 3)
        I will open the dataset, list a few observations, and export a graph.
        Then I will export the logfile to Microsoft Office docx format.
        ***/

    /***/ sysuse auto, clear
    /**/  list in 1/5
    histogram price
    graph export graph.png,  width(400) replace

        /***
        Adding a graph or image in the report
        ____________________________________

        Adding a graph using Markdown
        _____________________________

        In order to add a graph using Markdown, I export the graph in PNG forma
        You can explain the graph in the "brackets" and define the file path in

        ![explain the graph](./graph.png)
        ***/

    qui log c

    markdoc example, replace export(html) install
    markdoc example, replace export(docx)
    markdoc example, replace export(tex) master
    markdoc example, replace export(pdf)
    markdoc example, replace export(epub)
```

## Dynamic Slide Examples

```
    qui log using example, replace

        /***
        ___
        title:MarkDoc Dynamic Slides
        author: E. F. Haghish
        ___

        Slide 1
        _______

        - Writing with __markdown__ syntax allows you to add text and graphs
        to _smcl_ logfile and export it to a editable document format. I will d
        the process by using the __Auto.dta__ dataset.
```

```
I will open the database, list a few observations, and export a graph.
Then I will export the logfile to Microsoft Office docx format.

Adding commands and output
--------------------------
***/



sysuse auto, clear
histogram price   graph export graph.png, width(400) replace

        /***
        Adding image in a slide
        -----------------------

        ![Histogram of the price variable](./graph.png)
        ***/

qui log c markdoc example, replace export(slide) install printer("/usr/texbin/pd
```

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MarkDoc Homepage
Package Updates on Twitter

## Also see

**Weaver**: HTML & PDF Dynamic Report producer

**Statax**: JavaScript syntax highlighter for Stata

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This help file was dynamically produced by MarkDoc Literate Programming package