How to Create an Internet-Draft Using Markdown

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Why Markdown?

Because this...

```
--- middle
# Introduction
Here is some intro text.
```

is easier for *most* people to understand than this...

```
<middle>
    <section title="Introduction">
        <t>Here is some intro text.</t>
    </section>
</middle>
```

What is Markdown?

- Lightweight text formatting language
- Developed by John Gruber in 2004 with help from Aaron Swartz
- https://daringfireball.net/projects/markdown/
- Inspired by customs and conventions emerging out of text-based email

"The overriding design goal for Markdown's formatting syntax is to make it as readable as possible. The idea is that a Markdown-formatted document should be publishable as-is, as plain text, without looking like it's been marked up with tags or formatting instructions."

*"The idea for Markdown is to make it easy to read, write, and edit prose. HTML is a **publishing** format; Markdown is a **writing** format."*

Markdown example

```
# First level heading

Some text

## Second level heading

- first bullet with _italic text_
- second bullet with **bold text**
- third bullet

### Third level heading

Visit [the IETF's website](https://www.ietf.org)

## Second level heading
(you get the idea...)
```

Comparison of Markdown to other formats

RFC 7764 has this useful chart:

```
informal              /---------formatted text----------\        formal
<------v-------------------v--------------v------------------------v---->
  plain text      informal markup     formal markup      binary format
                  (Markdown)          (HTML, XML, etc.)
```

The many flavors of Markdown

- "Original" from John Gruber

- MultiMarkdown

- GitHub Flavored Markdown (GFM)

- pandoc

- kramdown

- Fountain

- CommonMark
    - An attempt at standardizing Markdown by a group of advocates
    - www.commonmark.org

- ***MANY*** other variants…

The text/markdown media type and an IANA Registry

Informational **RFC7763** (March 2016):

• registers the text/markdown media type

• defines a "Markdown Variants" registry established by IANA

• registers "Original" in that new registry

IANA Registry at:

• https://www.iana.org/assignments/markdown-variants/markdown-variants.xhtml

RFC 7764

- Informational RFC in March 2016
  - https://tools.ietf.org/html/rfc7764

- Title: "**Guidance on Markdown: Design Philosophies, Stability Strategies, and Select Registrations**"

- A good read to understand more about Markdown

- Registers with IANA:
  - a number of common Markdown variants, including:
    - kramdown-rfc2629
    - RFC7328 - Pandoc2rfc

Building an Internet Draft using Markdown

At a basic level, the various tools do this:

1. Take a markdown file and generate "xml2rfc" XML

- Originally often called "RFC 2629 XML", but then later defined in RFC 7749 "xml2rfc v2" and now **RFC 7991** "xml2rfc v3"

2. Run "xml2rfc" on the resulting XML to generate TXT

First step: choosing your markdown toolchain

- Kramdown-rfc
    - https://github.com/cabo/kramdown-rfc2629
    - Developed in Ruby by Carsten Bormann
    - Can be used online at: https://xml2rfc.tools.ietf.org/experimental.html

- mmark
    - https://github.com/miekg/mmark
    - Developed in Go by Miek Gieben
    - Supported by Docker image from Paul Jones:
      https://github.com/paulej/rfctools

- This tutorial today will only cover kramdown-rfc

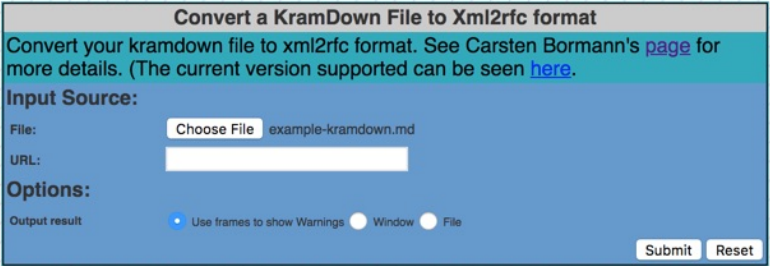# Getting Started with kramdown-rfc (locally)

1. Assuming your computer has Ruby, install the kramdown-rfc2629 package:
   `gem install kramdown-rfc2629`
   - May require "sudo" or other installation as root

2. Create your file using your favorite text editor
   - Many "markdown editors" also available
   - Convention is to end file with .md or .mkd

3. Just execute the `kdrfc` command:
   - `$ kdrfc draft-whomever-some-witty-name.md`

4. Output is two files: .xml and .txt

More info: https://github.com/cabo/kramdown-rfc2629

Note: Your system should be configured to work with UTF-8. (It should be in 2019, but older systems may not be. If it is not, and you use UTF-8 characters (ex. Smart quotes copied from Word), unpredictable things many happen.)

Getting started with kramdown remotely

1. Create your file using your favorite text editor

2. Visit https://xml2rfc.tools.ietf.org/experimental.html

3. Find the kramdown converter box:

4. Choose file and submit for processing.

5. The XML file will be downloaded to your computer.
   - *NOTE:* The XML file name is currently same name as input file, including .md extension.

Kramdown-rfc notes

- Based on kramdown parser by Thomas Leitner. Syntax:
  - https://kramdown.gettalong.org/syntax.html
- File starts with ---
- Header uses YAML. Example:

```
title: Your amazing title
abbrev: Your Abbreviation
docname: draft-todo-your-name-here
ipr: trust200902
area: General
author:
    ins: C. Bormann
    name: Carsten Bormann
    email: cabo@tzi.org
```

- References:
  - Normative: {{!RFC2119}}
  - Informative: {{?RFC1925}} or {{?I-D.nottingham-for-the-users}}

Finding markdown examples to get started

- Easiest way to begin is to find other people's Markdown I-Ds

- Examples provided in Dan York's tutorial Github repos of both kramdown-rfc and mmark

For people wanting a deeper dive:

- Martin Thomson provides a thorough git repo:
  - https://github.com/martinthomson/i-d-template
  - See features: https://github.com/martinthomson/i-d-template/blob/master/doc/FEATURES.md
  - Supports files in both kramdown-rfc and mmark formats

Final thoughts

- Markdown provides an easy way to rapidly create Internet Drafts without needing to know XML

- Markdown tools can be used to generate XML if you want to then work more in XML
  - Tools can only do Markdown -> XML
  - Some people who work in XML use Markdown as a way to bootstrap the creation of their XML files

- Markdown can be extended by embedding XML snippets (for example, if you want to use some feature in XML that is not yet in Markdown)

- The ecosystem of tools, apps, services, and sites that support Markdown continues to expand

Resources

- RFC 7763 - https://tools.ietf.org/html/rfc7763
- RFC 7764 - https://tools.ietf.org/html/rfc7764

- Carsten Bormann's repository:
  - https://github.com/cabo/kramdown-rfc2629

- Dan York's tutorial information:
  - https://github.com/danyork/writing-internet-drafts-in-markdown

Questions or suggestions?

Rfc-markdown mailing list:
https://www.ietf.org/mailman/listinfo/Rfc-markdown

RFC Editor:
rfc-editor@rfc-editor.org or stop by the desk this week

Please complete a short survey about this tutorial:

[[https://www.surveymonkey.com/r/104tools]]