

# Documentation Template

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## Abstract

A template for generating documents in multiple formats using a simple Latex source file.

## Prerequisites

What you need:

- a Linux (or similar UNIX-y OS) computer
- a text editor (vim, from vim-enhanced)
- tetex-latex (latex2html)
- texinfo (texi2dvi)
- ghostscript (dvipdf)
- tetex-dvips (dvips)
- tar
- rcs (ci)
- openssh (scp)

Some optional items to have handy are:

- rsync

## The Latex Source File

The Latex source file can be as simple as you like, but it needs to contain a few elements, and you may want to include others to help the readability of your document.

The instructions here should give the reader a jump start to making Latex documents, but there are many (and much better) references on Latex. Some of these references are listed near the end of this document.

## Beginning and Ending

The beginning of the document should look like this:

```
\documentclass[10pt,letterpaper]{article}

\usepackage{palatino,url}

\usepackage[left=2cm,top=3cm,bottom=2cm,right=2cm,nohead,nofoot]{geometry}
```

```
\begin{document}

\title{The Title Of This Document}

\author{Authors Name}

\date{\today}

\maketitle

\begin{abstract}
Breif summary of the documents content.
\end{abstract}
```

and the end of the document should look like this:

```
\indent \end{document}
```

## Sections

Divide the document into sections with the this tex syntax:

```
\section*{Section One}
```

and subdivide those into subsections if they get too large:

```
\subsection*{Subsection A}
```

Sections (and subsections) end when another section (or subsection) element beings.

## Examples and Fonts

Set examples, commands, and file contents apart from the rest of the text by using different fonts. These contents may have to be protected from interpretation from latex or some other processor, so encase them in a verbatim element set as a matter of course:

```
{\ttfamily \begin{verbatim}
  Some example text
\end {verbatim} }
```

This example includes a space character between the 'end' element and the 'verbatim' element. This is an error in the example. It is necessary as I don't know how to correct it (right now) and have the example "work right". Remove this space in real Latex documents or the example section will not end properly.

## Indenting and Spacing

If the document uses indentation to set examples and code sections apart from the main text, it may be necessary to use the 'noindent' element before every paragraph of main body text. There is probably a much better way to accomplish this.

```
\noindent This is the beginning of a long paragraph that
I do not wish to indent. ...
```

## URLs

Make URLs in the document functional by using the 'url' element:

```
\url{http://www.caosity.org/}
```

This element is 'imported' on the second (non-blank) line of the Latex document:

```
\usepackage{palatino,url}
```

## Odd Characters

There may be characters you wish to include that don't mesh well with the syntax of Latex. You can try some of these tricks:

```
$>$  
\verb:<
```

If you need to use a mathematical formula (or many) in you document, Latex is the bee's knees and the cat's pajamas. Read one of the references to find out how to include them in a document.

## The Makefile

The Makefile allows the automatic generation of HTML, Postscript, PDF, and DVI formats. It also makes an archive of all the formats, can use 'scp' to copy the documents to a web site, and creates a clean rsync directory (for transferring with 'rsync').

Here is the Makefile in it's current form:

```
DOCNAME=template  
  
TEX=$(DOCNAME).tex  
HTMLDIR=html  
HTML=$(HTMLDIR)/$(DOCNAME).html  
TGZ=$(DOCNAME).tgz  
DVI=$(DOCNAME).dvi  
PDF=$(DOCNAME).pdf  
PS=$(DOCNAME).ps  
MAKE=Makefile  
  
L2HFILES=$(HTMLDIR)/labels.pl $(HTMLDIR)/WARNINGS $(HTMLDIR)/images.aux $(HTMLDIR)/images.tex  
T2DFILES=$(DOCNAME).aux $(DOCNAME).log  
IMAGEDIR=/usr/share/latex2html/icons  
IMAGETYPE=png  
  
LATEX2HTML=/usr/bin/latex2html  
PERL=/usr/bin/perl  
TEXI2DVI=/usr/bin/texi2dvi  
DVIPDF=/usr/bin/dvipdf  
DVIPS=/usr/bin/dvips  
RM=/bin/rm  
CP=/bin/cp  
MKDIR=/bin/mkdir  
TAR=/bin/tar  
LN=/bin/ln
```

```

CI=/usr/bin/ci
SCP=/usr/bin/scp

RSYNCTARGET=rsync
SCPTARGET=www:/usr/local/apache/htdocs/caos/$(DOCNAME)

all: html dvi pdf ps tgz

html: $(HTML)

$(HTML): $(TEX)
$(RM) -rf $(HTMLEDIR)
$(LATEX2HTML) -image_type $(IMAGETYPE) -local_icons -dir $(HTMLEDIR) -mkdir $(TEX)
$(RM) -f $(L2HFILES)

tgz: $(TGZ)

$(TGZ): $(HTML) $(TEX) $(DVI) $(PDF) $(PS)
$(RM) -f $(TGZ)
$(CP) $(TEX) $(DVI) $(PDF) $(PS) $(HTMLEDIR)/
$(TAR) czvf $(TGZ) $(HTMLEDIR)

dvi: $(DVI)

$(DVI): $(TEX)
$(RM) -f $(DVI)
$(TEXI2DVI) -o $(DVI) $(TEX)

pdf: $(PDF)

$(PDF): $(DVI)
$(RM) -f $(PDF)
$(DVIPDF) $(DVI) $(PDF)

ps: $(PS)

$(PS): $(DVI)
$(RM) -f $(PS)
$(DVIPS) -o $(PS) $(DVI)

rcs: $(TEX) $(MAKE)
[ -d RCS ] || $(MKDIR) RCS
$(CI) -l -mmake $(TEX)
$(CI) -l -mmake $(MAKE)

rsync: all rcs
$(MKDIR) -p $(RSYNCTARGET)/$(HTMLEDIR)
$(CP) $(HTMLEDIR)/* $(RSYNCTARGET)/$(HTMLEDIR)/
$(CP) $(TEX) $(PDF) $(DVI) $(PS) $(TGZ) $(RSYNCTARGET)/

scp: rsync
$(SCP) $(HTMLEDIR)/* $(SCPTARGET)/$(HTMLEDIR)/
$(SCP) $(TEX) $(PDF) $(DVI) $(PS) $(TGZ) $(MAKE) $(SCPTARGET)/

```

It is meant to reside in the same directory as the Latex source file.

## Other Formats

There are other formats available for this document:

```
template.pdf
template.ps
template.tex
template.dvi
```

## References

There are many reference materials available for Latex and the tools used to manipulate it:

```
http://www.phy.duke.edu/~rgb/General/project_tex.php
http://www.ling.ohio-state.edu/events/lcc/tutorials/intro-latex.pdf
http://www.seas.upenn.edu/~cis500/resources/latex-tut.pdf
http://www.duke.edu/~hpgavin/tutorial.pdf
http://ljsavage.wharton.upenn.edu/Computing/Tutorial/Latex.pdf
http://www.google.com/search?q=tex+tutorial&btnG=Google+Search
http://directory.google.com/Top/Computers/Software/Typesetting/TeX/LaTeX/?tc=1
http://www.cs.usask.ca/grads/wew036/latex/
http://www.cs.usask.ca/grads/wew036/latex/latex4wp.pdf
http://www.physics.helsinki.fi/~tfo_www/instr/latex-guide.html
http://www-h.eng.cam.ac.uk/help/tpl/textprocessing/
http://www.latex-project.org/guides/usrguide/usrguide.html
http://www.latex-project.org/
http://www.iam.ubc.ca/~newbury/tex/title.html
```