Configuration options for LaTeX 2_ε

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Contents

1 Configuring LaTeX

Since one of the main aims of the new standard LaTeX is to provide a highly portable document format, the number of configuration possibilities is strictly limited. An important consequence of this is that any document that relies on any extension package must declare this package within the document file; this helps to ensure that the document will work at a different site, where the LaTeX system may be configured differently.

Local configuration options are, by convention, placed in 'configuration files', which have extension `cfg`. This file lists the possibilities for configuration in the most recent release of LaTeX.

2 System configuration

2.1 texsys.cfg

This is the only configuration file that *must* be present. During installation, if LaTeX can not find a file with this name then a default file `texsys.cfg`, consisting entirely of comments, is written out and used. Note that, until this file has been read, LaTeX is not able to test reliably whether a given file exists on the system.

The contents of the file `texsys.cfg` allow LaTeX to cope with various differences between the behaviour of different TeX systems, mainly in relation to file handling. The default version of this file contains, in its comments, possible settings that may be needed for a range of TeX systems. For more information, typeset the file `ltdirchk.dtx`.

If you have copied your LaTeX installation from a computer that used a different operating system then you may well have a version of `texsys.cfg` that will make it difficult to create the LaTeX format on your system. If this happens then start the process again with an empty `texsys.cfg` file; this will produce a format that should always 'work' and, at least, allow you to typeset the documentation. However, it is possible be that LaTeX can find only those files that are in the current directory. In that case you must set the macro `\input@path` correctly for your system.

3 Configuring the LaTeX format

There are four configuration files to control personal preferences that may be incorporated into the LaTeX format file, `latex.fmt`. The range of preferences that can be configured by these files is strictly limited to ensure document portability.

All four files work in the same way: if the file ⟨*file*⟩`.cfg` is found, it will be input by iniTeX; otherwise a default file ⟨*file*⟩`.ltx` will be input instead. Thus providing one of these `.cfg` files completely overrides any settings in the corresponding standard `.ltx` file.

3.1 fonttext.cfg

The file `fonttext.cfg` contains declarations relating to the use of fonts in text modes.

It defines which font shapes are normally used in text mode, as well as the behavior of font attribute commands such as `\textbf` etc. It can be used, for example, to produce a LaTeX format that by default typesets documents in Times.

Please note that use of this configuration file has the following consequences.

- Documents are portable only in the sense of being processable at a different site—the actual formatting will not be the same if different fonts are used.
- The LaTeX3 project team will not be able to support you in diagnosing problems if these cannot be reproduced with a format that does not use this configuration file.

The default file `fonttext.ltx` comes from the documented file `fontdef.dtx` so this file should be consulted for further information.

3.2 fontmath.cfg

The file `fontmath.cfg` contains declarations relating to the use of fonts in math mode.

It defines which font shapes are used in math mode. It also defines all the math mode commands that 'are likely to' depend on the choice of math fonts used (e.g. commands that depend on the position of a glyph in a math font).

The main reason for the existence of this file is to provide for future updates when a standard math font encoding is available. Right now we do *not* encourage the use of this configuration file other than for special applications. Writing a proper configuration file for math mode needs expert knowledge!

Please note that use of this configuration file has the following consequences.

- Since the content of this configuration file is likely to change in the future, anyone writing such a file must be prepared to update it for use with future releases.

- Documents are portable only in the sense of being processable at a different site—the actual formatting will not be the same if different fonts are used.
- The LaTeX3 project team will not be able to support you in diagnosing problems if these cannot be reproduced with a format that does not use this configuration file.

The default file `fontmath.ltx` comes from the documented file `fontdef.dtx` so this file should be consulted for further information.

3.3 preload.cfg

The contents of the file `preload.cfg` control the preloading of commonly used fonts. Preloading fonts speeds up the processing of documents but, because fonts can not be 'unloaded', you should not preload too many; otherwise you may be unable to process documents requiring unusual font families.

The default file `preload.ltx` is produced from `preload.dtx`. It loads only a few fonts and these are a good choice if you normally use documents at the default, 10 pt, size. If you normally use 11 pt or 12 pt then the time for LaTeX to startup may be noticeably decreased if you preload the corresponding fonts for the sizes you use. Similarly, if you normally use a different font family, for example Times Roman, `ptm`, then you may want to preload fonts in this family rather than the default Computer Modern fonts.

3.4 hyphen.cfg

The contents of the file `hyphen.cfg` control which hyphenation patterns are loaded. Since patterns can be loaded only by iniTeX, this choice must be made when the format is created. The 'babel' collection contains many examples of setting up a multi-lingual LaTeX format.

The default file `hyphen.ltx` is produced from the file `lthyphen.dtx`.

4 Configuring Compatibility mode

When processing documents that begin with `\documentstyle`, LaTeX 2_ε tries to emulate the old LaTeX 2.09 system as far as possible.

4.1 latex209.cfg

The LaTeX 2.09 set-up allowed the format itself to be customised. When making the format with iniTeX, the process ended with this request.

```
Input any local modifications here.
```

If your site did input any modifications at that point, the $\LaTeX\,2_\varepsilon$ 'compatibility mode' will not fully emulate $\LaTeX$ 2.09 *as installed at your site.*

In this case you should put all these 'local modifications' into a file called `latex209.cfg` and put this file in the default input path at your site. These 'local modifications', although not stored in the format, will then be loaded before any old-style document is processed. This should ensure that you can continue to process any old documents that made use of this local customisation.

5 Configuration files for standard packages and classes

Most of the packages in the distribution do not have any associated configuration files. The exceptions are listed here.

5.1 sfonts.cfg

This file is used to customise the fonts used in the slides class. If it exists, it is read instead of the file `sfonts.def`.

5.2 ltxdoc.cfg

The file `ltxdoc.cfg` is used to customise some aspects of the behaviour of the ltxdoc class; this class is used to typeset the documented code in the `.dtx` files. If this file is present then it is read in at the beginning of the file `ltxdoc.cls`.

As this file is read before the article class is loaded, you may pass options to article. For example the following line might be added to `ltxdoc.cfg` to format the documentation for A4 paper instead of the default US letter paper size.

```
\PassOptionsToClass{a4paper}{article}
```

You should note however, that even if paper size options are specified, the ltxdoc class always sets the `\textwidth` parameter to 355 pt, to enable 72 columns of text to appear in the verbatim code listings. If you really need to over-ride this you could use:

```
\AtEndOfClass{\setlength{\textwidth}{  }}
```

To set the `\textwidth` to your desired value at the end of the ltxdoc class.

By default, most of the `.dtx` documented code files in the distribution will produce a 'description' section followed by full source listing of the package. If you wish to suppress the source listings you may add the following line to `ltxdoc.cfg`

```
\AtBeginDocument{\OnlyDescription}
```

The documentation of the ltxdoc package, which may be typeset from the file `ltxdoc.dtx`, contains more examples of the use of this configuration file.

5.3 ltxguide.cfg

The class ltxguide is used by the 'guide' documents, such as this document, in the LaTeX distribution. A configuration file, `ltxguide.cfg`, may be used with this class in a way very similar to the customisation of the ltxdoc class described in the previous section.

6 Configuration in other supported packages

The 'graphics' bundle of packages needs two configuration files, primarily to specify the driver used to process the `.dvi` file that LaTeX produces. More documentation on these files comes with the graphics bundle but we mention them here for completeness.

6.1 graphics.cfg

Normally this file just specifies a default option, by calling `\ExecuteOptions`, for example `\ExecuteOptions{dvips}` or `\ExecuteOptions{textures}`.

This file is read by the graphics package, and so affects all the packages in the bundle that are based on graphics: graphicx, epsfig, lscape.

6.2 color.cfg

Normally this file is identical to `graphics.cfg`. It specifies the default driver option for the colour package.