LaTeX support for Lato
Version 3.0

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Contents
1 Introduction 1
2 Installation 2
3 Usage 2
   3.1 Calling Lato ......................................................... 2
   3.2 Options ............................................................... 3
      3.2.1 Lato as default (sans-serif) font ............................. 3
      3.2.2 OpenType vs. Type 1 ........................................... 3
      3.2.3 Font scaling .................................................... 3
      3.2.4 Figure versions ................................................ 3
      3.2.5 Encodings ....................................................... 5
   3.3 Available weights, shapes and variants ......................... 7
   3.4 Math support ....................................................... 7
4 Known bugs and improvements 7
   4.1 Compatibility with previous versions ........................... 7
      4.1.1 Legacy f1a family ......................................... 7
      4.1.2 Smallcaps .................................................... 7
5 License 8

1 Introduction

Lato is a sans-serif typeface family designed in the Summer 2010 by Warsaw-based
designer Łukasz Dziedzic [1] for the tyPoland foundry.

Lato consists of nine weights (plus corresponding italics) and supports more
than 100 Latin-based languages, more than 50 Cyrillic-based languages as well as
Greek and IPA phonetics.
The font is available at its web site [2] as TTF-flavored OpenType files licensed under the OFL version 1.1 [3].

This package provides support for this font in \LaTeX, including \TeXeX and \LaTeXe. It includes the original OpenType fonts, as well as Type 1 versions, converted for this package using FontForge [4] and \texttt{cfftot1} [5] for full support with \TeXeX and Dvips.

# 2 Installation

These directions assume that your \TeX distribution is TDS-compliant.

Once the \texttt{lato.zip} archive extracted:

1. Copy \texttt{doc/}, \texttt{fonts/}, and \texttt{tex/} directories to your \texttt{texmf/} directory (either your local or global \texttt{texmf/} directory).

2. Run \texttt{mktexlsr} to refresh the file name database and make \TeX aware of the new files.

3. Run \texttt{updmap --enable Map lato.map}¹ to make Dvips, dvipdf and \TeX aware of the new fonts.

Note that this package requires the following packages to work:

- \texttt{fontaxes}
- \texttt{fontspec} (for \TeXeX/LaTeXe support)
- \texttt{ifluatex}
- \texttt{ifxetex}
- \texttt{xkeyval}

# 3 Usage

## 3.1 Calling Lato

You can use the Lato font in a \LaTeX document by adding the command

\begin{verbatim}
\usepackage{lato}
\end{verbatim}


to the preamble. The package supplies the \texttt{lato} command to switch the current font to Lato.

¹Starting with \TeXLive 2017, use \texttt{updmap-user} for a local installation, or \texttt{updmap-sys} for a global one.
3.2 Options

3.2.1 Lato as default (sans-serif) font

You can set \LaTeX{} to use Lato as standard font throughout the whole document by passing the `default` option to the package:

\usepackage[default]{lato}

To set Lato as default sans-serif only, use the `defaultsans` option:

\usepackage[defaultsans]{lato}

3.2.2 OpenType vs. Type 1

Depending on the \LaTeX{} rendering engine used, the package will automatically use:

- OpenType fonts with Xe\LaTeX{} and Lua\LaTeX{} (the `fontspec` package will be therefore loaded)
- Type 1 fonts with all other \LaTeX{} rendering engines (especially pdf\LaTeX{})

The package was written to provide same functionalities whatever the \TeX{} rendering engine used. Notice that OpenType fonts supply more typographic features like additional ligatures or stylistic alternatives. The table 1 on the following page describes all OpenType features supported by the Lato font family. Please refer to the `fontspec` package documentation [6] to enable such features in your documents with Xe\LaTeX{} or Lua\LaTeX{}.

To force Type 1 fonts with Xe\LaTeX{} or Lua\LaTeX{}, use the `type1` option. This may be useful to avoid loading the `fontspec` package.

3.2.3 Font scaling

The font can be up- and downscale by any factor. This can be used to make Lato more friendly when used in company with other type faces, e.g., to adapt the x-height. The package option `scale=ratio` will scale the font according to `ratio` (1.0 by default), for example:

\usepackage[scale=0.95]{lato}

3.2.4 Figure versions

Lato provides two figure styles (see table 2 on page 5):

- *Lining figures*, designed to match the uppercase letters in size and color
- *Old style figures* (also known as text figures), designed to match lowercase letters
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>fontspec option</th>
</tr>
</thead>
<tbody>
<tr>
<td>calt</td>
<td>Contextual Alternates</td>
<td>Contextuals=Alternate</td>
</tr>
<tr>
<td>case</td>
<td>Case-Sensitive Forms</td>
<td>Letters=Uppercase</td>
</tr>
<tr>
<td>dlig</td>
<td>Discretionary Ligatures</td>
<td>Ligatures=Rare</td>
</tr>
<tr>
<td>dnom</td>
<td>Denominators</td>
<td>VerticalPosition=Denominator</td>
</tr>
<tr>
<td>frac</td>
<td>Fractions</td>
<td>Fractions=On</td>
</tr>
<tr>
<td>kern</td>
<td>Kerning</td>
<td>Kerning=On</td>
</tr>
<tr>
<td>liga</td>
<td>Standard Ligatures</td>
<td>Ligatures=Common</td>
</tr>
<tr>
<td>lnum</td>
<td>Lining Figures</td>
<td>Numbers=Uppercase</td>
</tr>
<tr>
<td>mark</td>
<td>Mark Positioning</td>
<td>Diacritics=MarkToBase</td>
</tr>
<tr>
<td>numr</td>
<td>Numerators</td>
<td>VerticalPosition=Numerator</td>
</tr>
<tr>
<td>onum</td>
<td>Oldstyle Figures</td>
<td>Numbers=Lowercase</td>
</tr>
<tr>
<td>ordn</td>
<td>Ordinals</td>
<td>VerticalPosition=Ordinal</td>
</tr>
<tr>
<td>pnum</td>
<td>Proportional Figures</td>
<td>Numbers=Proportional</td>
</tr>
<tr>
<td>salt</td>
<td>Stylistic Alternates</td>
<td>Style=Alternate</td>
</tr>
<tr>
<td>sinf</td>
<td>Scientific Inferiors</td>
<td>VerticalPosition=ScientificInferior</td>
</tr>
<tr>
<td>ss01</td>
<td>Stylistic Set 1</td>
<td>Alternate=1</td>
</tr>
<tr>
<td>ss02</td>
<td>Stylistic Set 2</td>
<td>Alternate=2</td>
</tr>
<tr>
<td>ss03</td>
<td>Stylistic Set 3</td>
<td>Alternate=3</td>
</tr>
<tr>
<td>ss04</td>
<td>Stylistic Set 4</td>
<td>Alternate=4</td>
</tr>
<tr>
<td>subs</td>
<td>Subscript</td>
<td>VerticalPosition=Inferior</td>
</tr>
<tr>
<td>sups</td>
<td>Superscript</td>
<td>VerticalPosition=Superior</td>
</tr>
<tr>
<td>tnum</td>
<td>Tabular Figures</td>
<td>Numbers=Monospaced</td>
</tr>
</tbody>
</table>

Table 1: OpenType font features supported by Lato fonts
The `lato` package uses lining figures by default (lining option). To select old style figures, use the oldstyle option.

Two figure widths are also available:

- **Tabular figures**, which each have the same width
- **Proportional figures**, which vary in width according to their shape

The `lato` package uses tabular figures by default (tabular option). To select proportional figures, use the proportional option.

Notice that some characters, like math operators in text mode and currency units, will adapt to the select figure width and style combination.

The package also supports and loads the `fontaxes` [7] package. This package supplies macros to individually select figure style and width locally [8].

### 3.2.5 Encodings

The following \LaTeX encodings are supported:

- **Latin** OT1, T1, TS1 (partial)
- **Cyrillic** T2A, T2B, T2C, X2
- **Greek** LGR (monotonic and polytonic)

To use one or another encoding, give the \LaTeX name to the `fontenc` package as usual, as in

```latex
\usepackage[T1]{fontenc}
\usepackage{lato}
```

As usual with OT1 encoded fonts, kerning with accented characters is treated poorly, if at all. Note difference in kerning between these two encoding in table 3 on the following page. It is therefore advised to always use the Lato font family in any encoding than OT1 when typing diacritics.
<table>
<thead>
<tr>
<th>Font</th>
<th>Series</th>
<th>Shape</th>
<th>OpenType font file</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lato Hairline</td>
<td>ul</td>
<td>n</td>
<td>Lato-Hairline.ttf</td>
</tr>
<tr>
<td>Lato Hairline Italic</td>
<td>ul</td>
<td>it (sl)</td>
<td>Lato-HairlineItalic.ttf</td>
</tr>
<tr>
<td>Lato Thin</td>
<td>el</td>
<td>n</td>
<td>Lato-Thin.ttf</td>
</tr>
<tr>
<td>Lato Light Thin</td>
<td>el</td>
<td>it (sl)</td>
<td>Lato-LightItalic.ttf</td>
</tr>
<tr>
<td>Lato Light</td>
<td>l</td>
<td>n</td>
<td>Lato-Light.ttf</td>
</tr>
<tr>
<td>Lato Light Italic</td>
<td>l</td>
<td>it (sl)</td>
<td>Lato-LightItalic.ttf</td>
</tr>
<tr>
<td>Lato Regular</td>
<td>m</td>
<td>n</td>
<td>Lato-Regular.ttf</td>
</tr>
<tr>
<td>Lato Italic</td>
<td>m</td>
<td>it (sl)</td>
<td>Lato-Italic.ttf</td>
</tr>
<tr>
<td>Lato Medium</td>
<td>mb</td>
<td>n</td>
<td>Lato-Medium.ttf</td>
</tr>
<tr>
<td>Lato Medium Italic</td>
<td>mb</td>
<td>it (sl)</td>
<td>Lato-MediumItalic.ttf</td>
</tr>
<tr>
<td>Lato Semibold</td>
<td>sb</td>
<td>n</td>
<td>Lato-Semibold.ttf</td>
</tr>
<tr>
<td>Lato Semibold Italic</td>
<td>sb</td>
<td>it (sl)</td>
<td>Lato-SemiboldItalic.ttf</td>
</tr>
<tr>
<td>Lato Bold</td>
<td>b (bx)</td>
<td>n</td>
<td>Lato-Bold.ttf</td>
</tr>
<tr>
<td>Lato Bold Italic</td>
<td>b (bx)</td>
<td>it (sl)</td>
<td>Lato-BoldItalic.ttf</td>
</tr>
<tr>
<td>Lato Heavy</td>
<td>eb</td>
<td>n</td>
<td>Lato-Heavy.ttf</td>
</tr>
<tr>
<td>Lato Heavy Italic</td>
<td>eb</td>
<td>it (sl)</td>
<td>Lato-HeavyItalic.ttf</td>
</tr>
<tr>
<td>Lato Black</td>
<td>ub</td>
<td>n</td>
<td>Lato-Black.ttf</td>
</tr>
<tr>
<td>Lato Black Italic</td>
<td>ub</td>
<td>it (sl)</td>
<td>Lato-BlackItalic.ttf</td>
</tr>
</tbody>
</table>

Table 3: Kerning with OT1 and T1 encodings

Table 4: Available font styles
3.3 Available weights, shapes and variants

Table 4 on the previous page lists the available font series and shapes with their NFSS classification. Parenthesized combinations are provided via substitutions.

In addition, each font variant combination (figure width/figure style) corresponds to a NFSS family (see table 5).

Samples of the font are available in the lato-samples.pdf file.

3.4 Math support

The lato package doesn’t provide math support. However the mdsymbol package [9] provides mathematical symbol fonts which fit very well with Lato. In addition, the mathspec [10] package (for XeLaTeX or LuaLaTeX engines) or the mathastext [11] package (for other LaTeX engines) can be called to use Lato as math font.

4 Known bugs and improvements

Please send bug reports and suggestions about the Lato LaTeX support to Mohamed El Morabity.

4.1 Compatibility with previous versions

4.1.1 Legacy fla family

Previous versions of the package used to provide fla as default NFSS family for Lato, and the corresponding \texttt{\textbackslash fla\family switch command. Such family and macro are still available in newer package versions. In particular, the fla family is now an alias for the lato-TLF one.

4.1.2 Smallcaps

Since the Lato font family doesn’t provide yet "real" smallcaps, faked ones were supplied by previous versions of the lato package (by scaling down uppercase letters), with a very poor result. Furthermore, there’s no convenient way to generate fake smallcaps with XeLaTeX or LuaLaTeX engines and native OpenType fonts.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|}
\hline
 & Lining figures & Old style figures \\
\hline
Tabular figures & lato-TLF & lato-T0sF \\
\hline
Proportional figures & lato-LF & lato-0sF \\
\hline
\end{tabular}
\caption{Available NFSS families}
\end{table}
For these reasons, faked small caps are no longer provided, starting with version 3.0 of the \texttt{lato} package. Anyway \LaTeX{} should automatically substitute missing smallcap shapes by normal ones.

5 License

This package is released under the \LaTeX{} project public license, either version 1.3c or above [12]. Anyway both OpenType and Type 1 files are delivered under the Open Font License version 1.1 [3].

References

[1] \url{http://www.lukaszdziedzic.eu/}
[2] \url{http://www.latofonts.com/}
[3] \url{http://scripts.sil.org/OFL_web}
[5] \url{https://www.lcdf.org/type/cfftot1.1.html}
[7] \url{https://www.ctan.org/pkg/fontaxes}
[8] \url{http://mirrors.ctan.org/macros/latex/contrib/fontaxes/fontsaxes.pdf}
[9] \url{https://www.ctan.org/pkg/mdsymbol}
[10] \url{https://www.ctan.org/pkg/mathspec}
[12] \url{http://www.latex-project.org/lppl/lppl-1-3c.html}