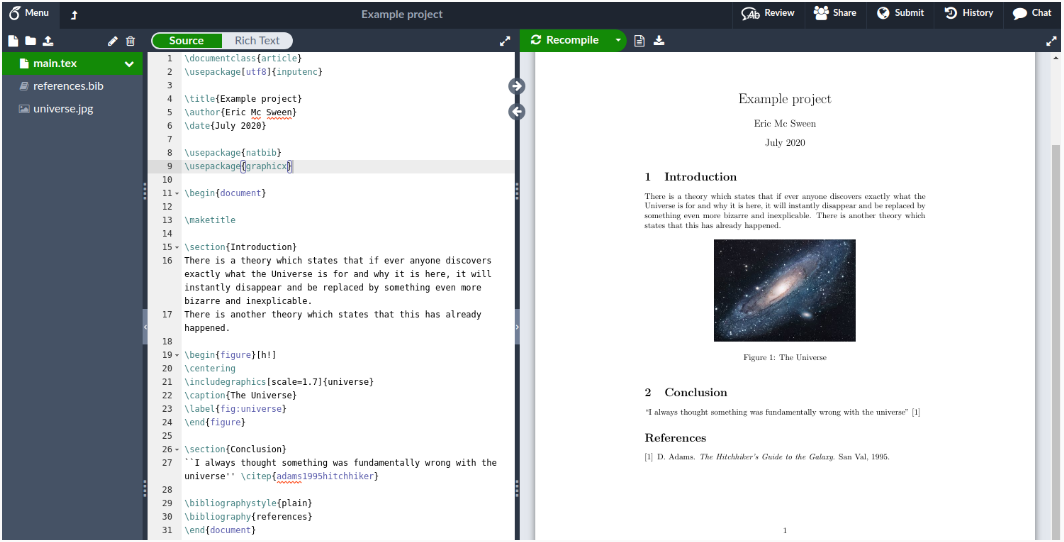
Making new TeX Live releases available on Overleaf

Eric Mc Sween

TUG 2020



```
\documentclass{article}
\usepackage[utf8]{inputenc}

\title{Example project}
\author{Eric Mc Sween}
\date{July 2020}

\usepackage{natbib}
\usepackage{graphicx}

\begin{document}

\maketitle

\section{Introduction}
There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable.
There is another theory which states that this has already happened.

\begin{figure}[h!]
\centering
\includegraphics[scale=1.7]{universe}
\caption{The Universe}
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\end{figure}

\section{Conclusion}
``I always thought something was fundamentally wrong with the universe'' \citep{adams1995hitchhiker}

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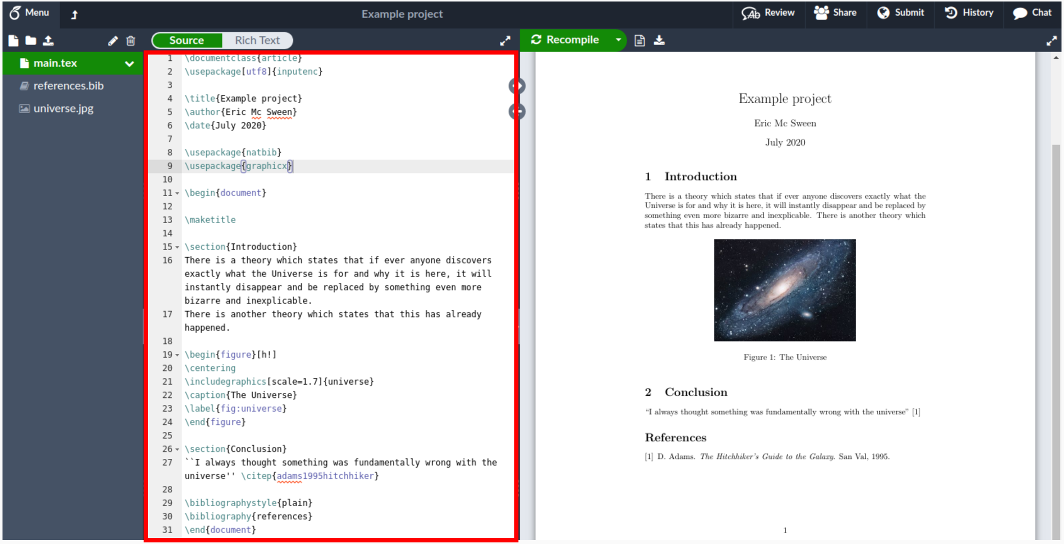

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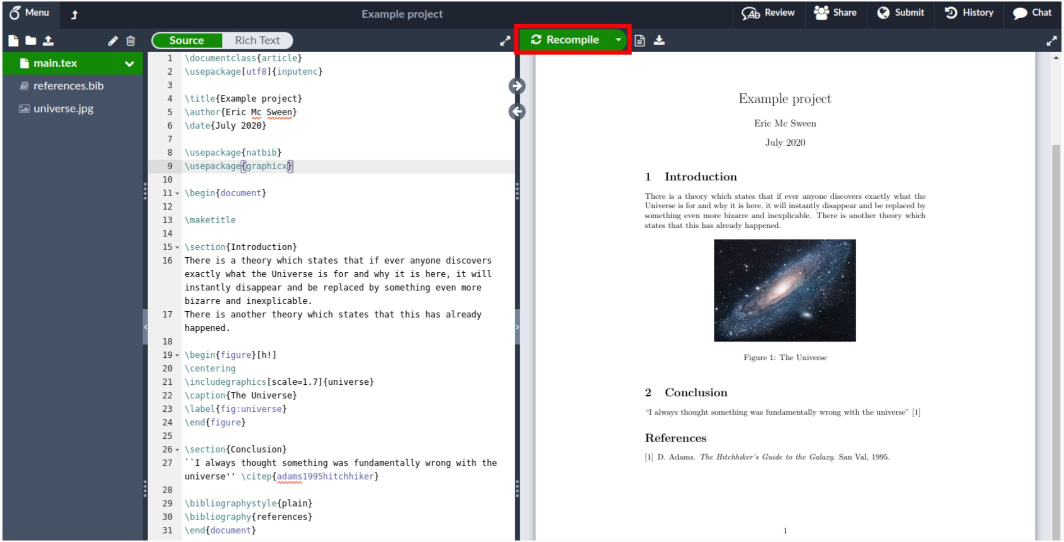

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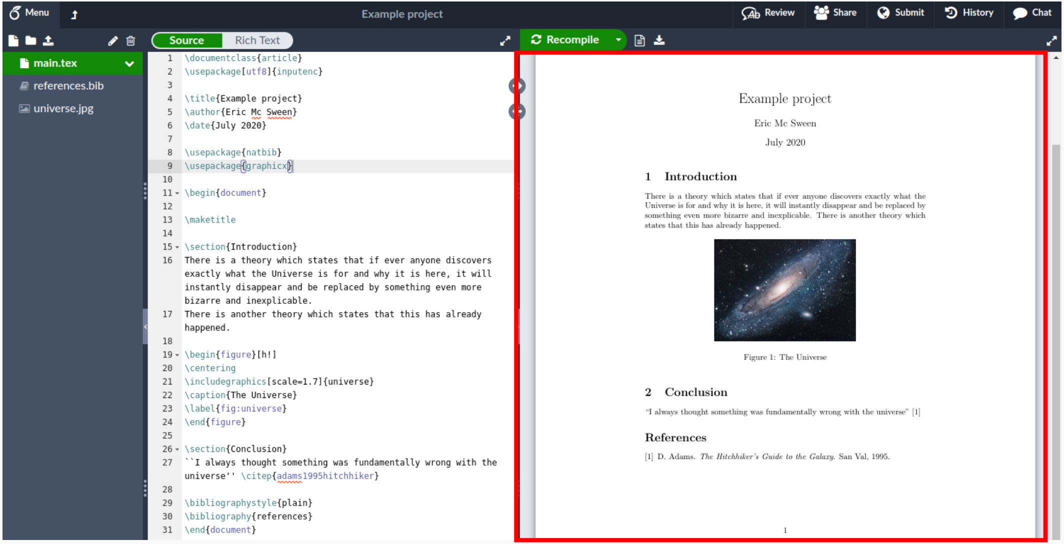

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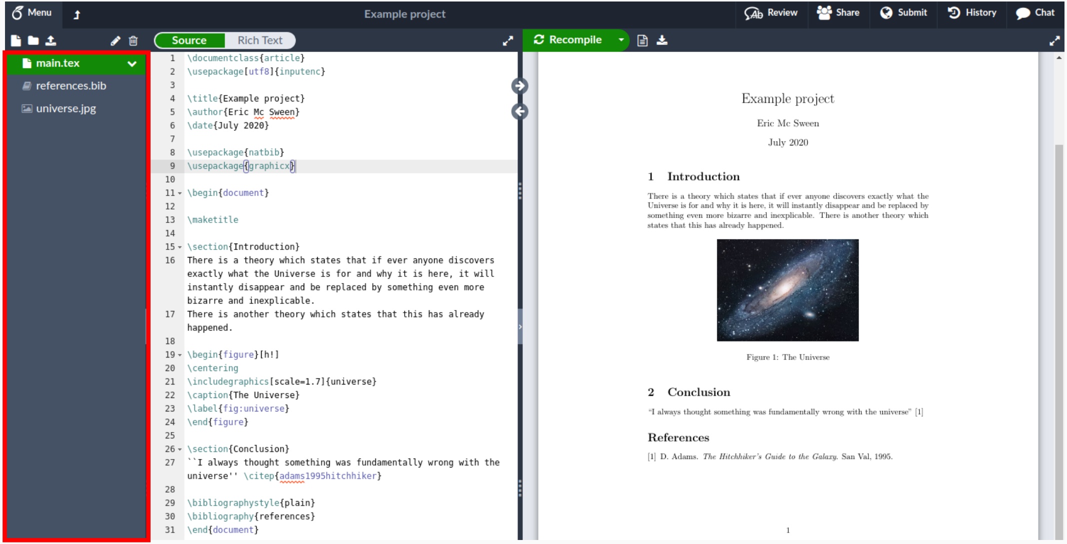

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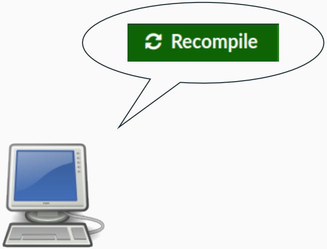

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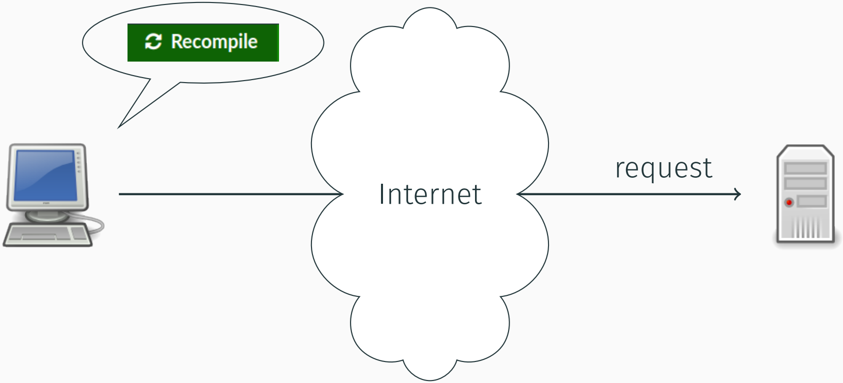
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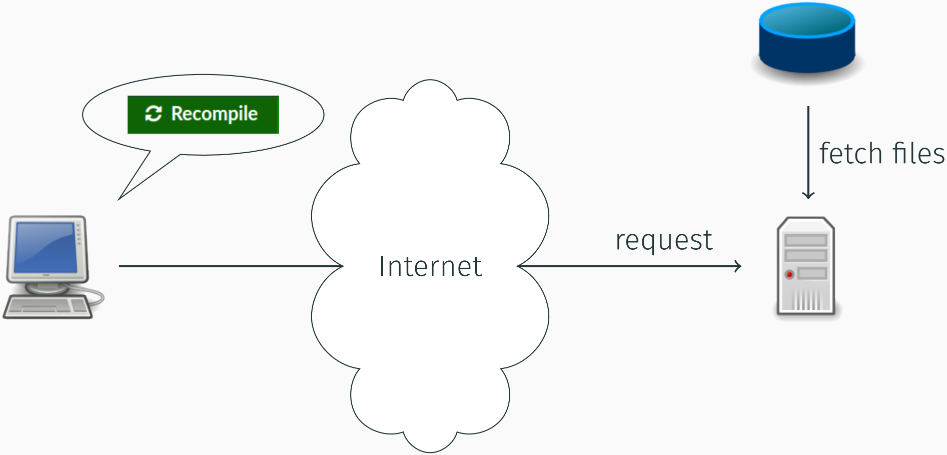
Internet
request

Icons from OSA Icon Library



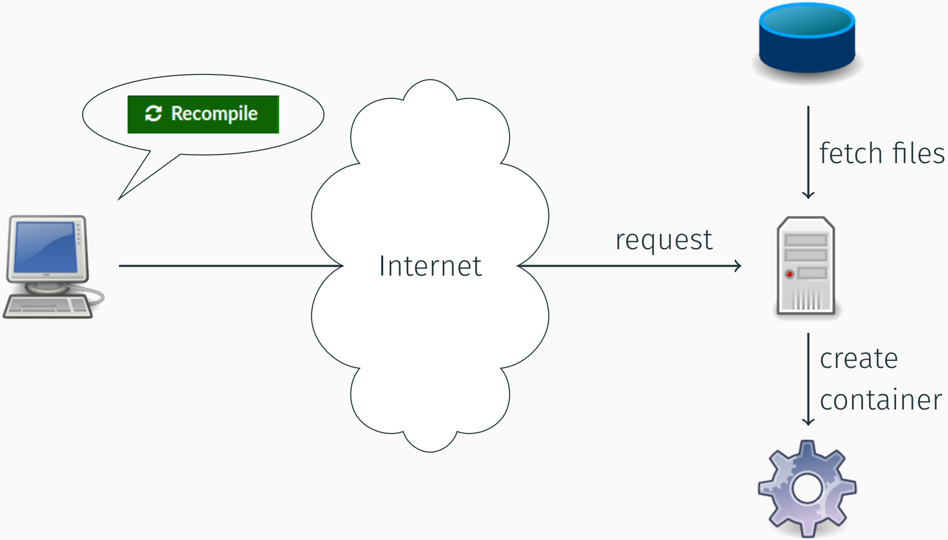
Recompile

Internet

request

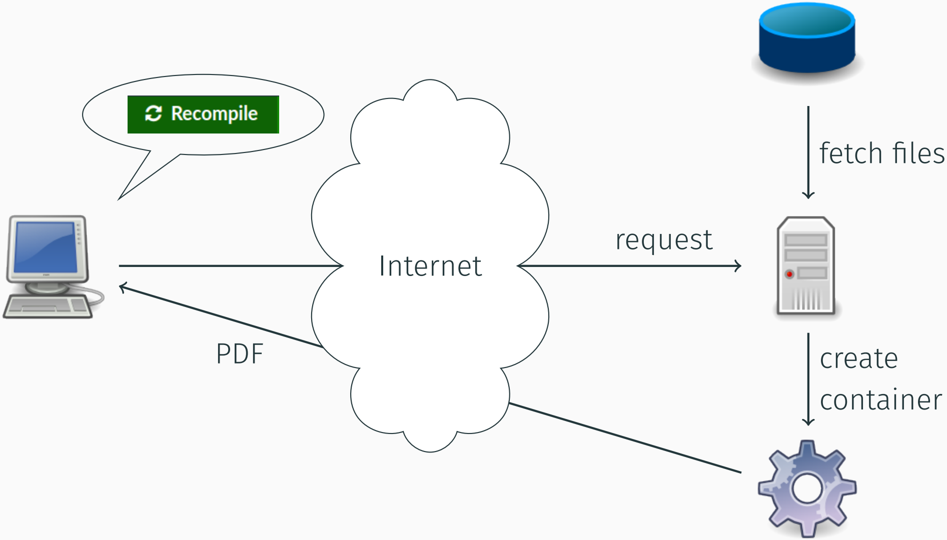
fetch files

Icons from OSA Icon Library

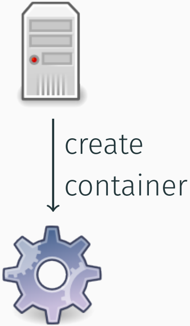


Recompile
Internet
request
fetch files
create container

Icons from OSA Icon Library


Recompile
Internet
request
PDF
fetch files
create
container

Icons from OSA Icon Library



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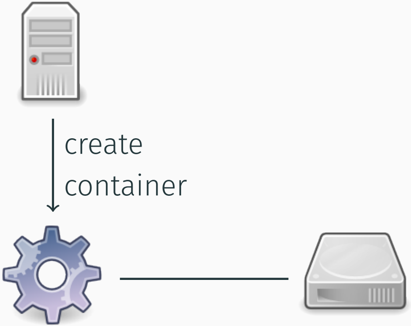

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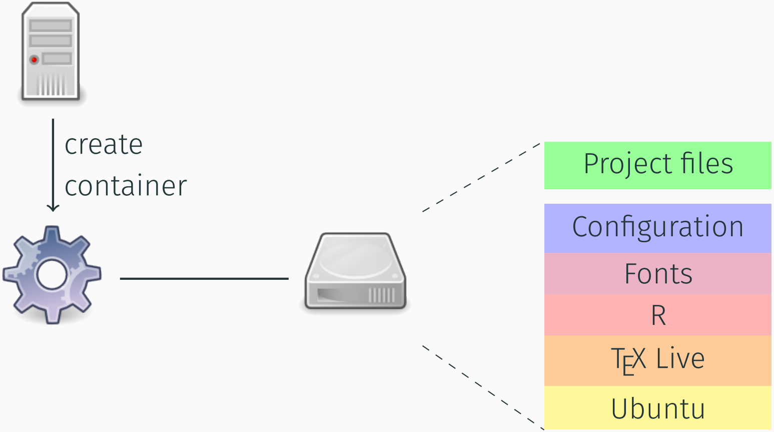


create container

Project files

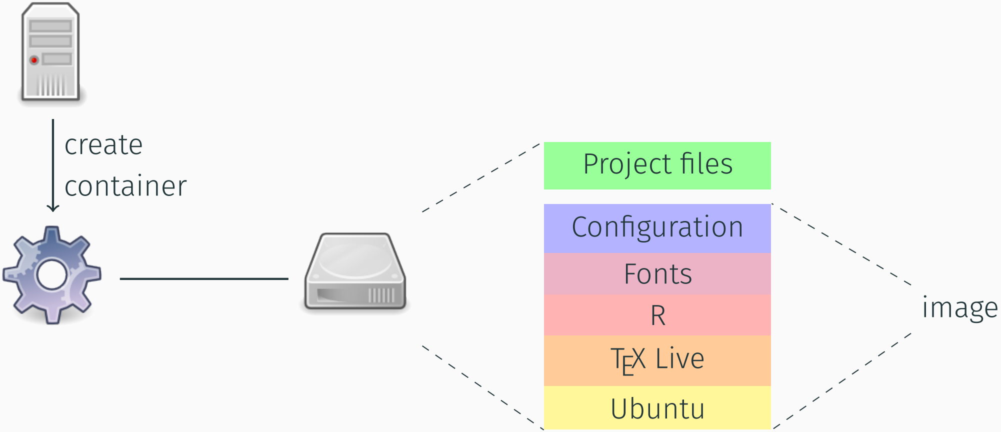
Configuration

Fonts

R

TeX Live

Ubuntu



create container

Project files

Configuration

Fonts

R

TeX Live

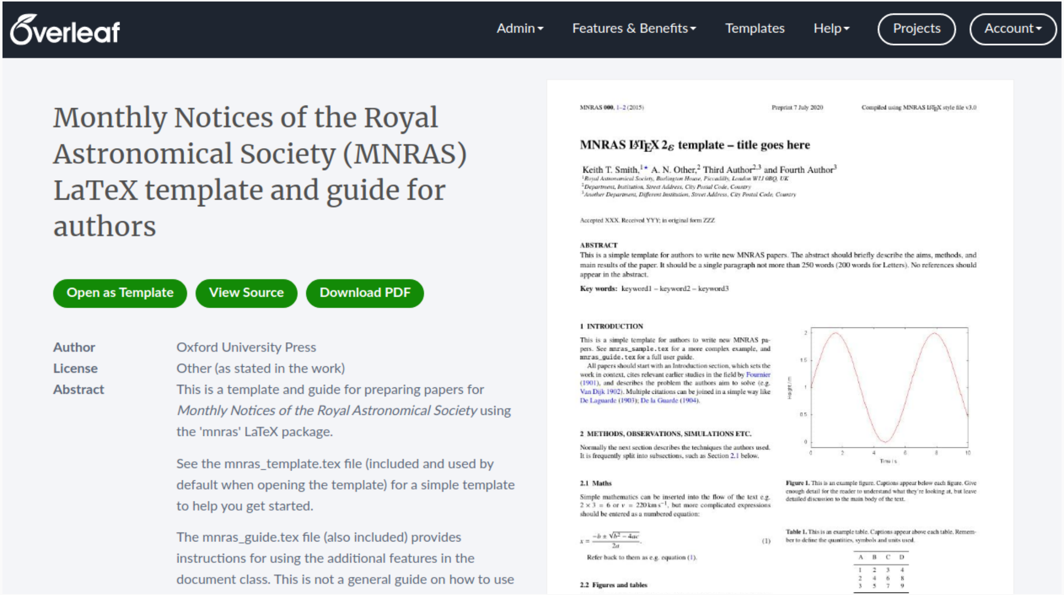
Ubuntu

image

1. Build the image well

Configuration	latexmkrc, texmf.cnf, font configuration, …
Fonts	not distributed with TeX Live
R	statistics and graphing software & packages package versions from CRAN
TeX Live	install-tl with “full scheme” package versions from CTAN
Ubuntu	latest long-term support version (18.04, 20.04, …)

2. Test



Monthly Notices of the Royal Astronomical Society (MNRAS) LaTeX template and guide for authors

Author	Oxford University Press
License	Other (as stated in the work)
Abstract	This is a template and guide for preparing papers for *Monthly Notices of the Royal Astronomical Society* using the 'mnras' LaTeX package.

See the mnras_template.tex file (included and used by default when opening the template) for a simple template to help you get started.

The mnras_guide.tex file (also included) provides instructions for using the additional features in the document class. This is not a general guide on how to use

MNRAS **000**, 1–2 (2015) Preprint 7 July 2020 Compiled using MNRAS LaTeX style file v3.0

MNRAS LaTeX 2_ε template – title goes here

Keith T. Smith,[1*] A. N. Other,[2] Third Author[2,3] and Fourth Author[3]
[1] *Royal Astronomical Society, Burlington House, Piccadilly, London W1J 0BQ, UK*
[2] *Department, Institution, Street Address, City Postal Code, Country*
[3] *Another Department, Different Institution, Street Address, City Postal Code, Country*

Accepted XXX. Received YYY; in original form ZZZ

ABSTRACT
This is a simple template for authors to write new MNRAS papers. The abstract should briefly describe the aims, methods, and main results of the paper. It should be a single paragraph not more than 250 words (200 words for Letters). No references should appear in the abstract.

Key words: keyword1 – keyword2 – keyword3

1 INTRODUCTION

This is a simple template for authors to write new MNRAS papers. See `mnras_sample.tex` for a more complex example, and `mnras_guide.tex` for a full user guide.

All papers should start with an Introduction section, which sets the work in context, cites relevant earlier studies in the field by Fournier (1901), and describes the problem the authors aim to solve (e.g. Van Dijk 1902). Multiple citations can be joined in a simple way like De Laguarde (1903); De la Guarde (1904).

2 METHODS, OBSERVATIONS, SIMULATIONS ETC.

Normally the next section describes the techniques the authors used. It is frequently split into subsections, such as Section 2.1 below.

2.1 Maths

Simple mathematics can be inserted into the flow of the text e.g. $2 \times 3 = 6$ or $v = 220\,\mathrm{km\,s^{-1}}$, but more complicated expressions should be entered as a numbered equation:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}. \quad (1)$$

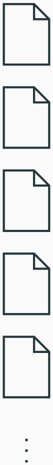
Refer back to them as e.g. equation (1).

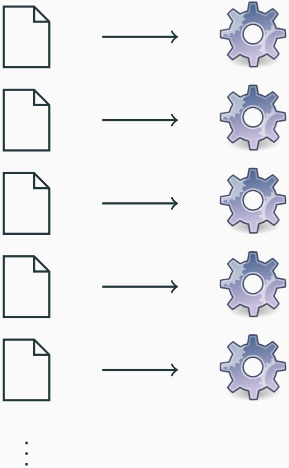
2.2 Figures and tables

Figure 1. This is an example figure. Captions appear below each figure. Give enough detail for the reader to understand what they're looking at, but leave detailed discussion to the main body of the text.

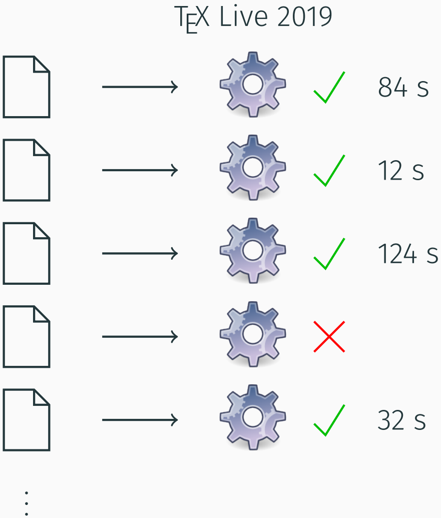
Table 1. This is an example table. Captions appear above each table. Remember to define the quantities, symbols and units used.

A	B	C	D
1	2	3	4
2	4	6	8
3	5	7	9





TeX Live 2019



TEX Live 2019

✓ 84 s

✓ 12 s

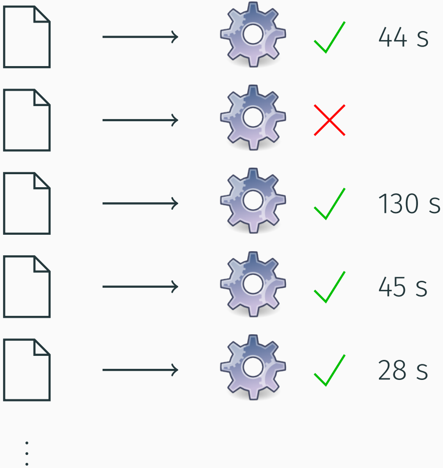
✓ 124 s

✗

✓ 32 s

⋮

TeX Live 2018



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✗

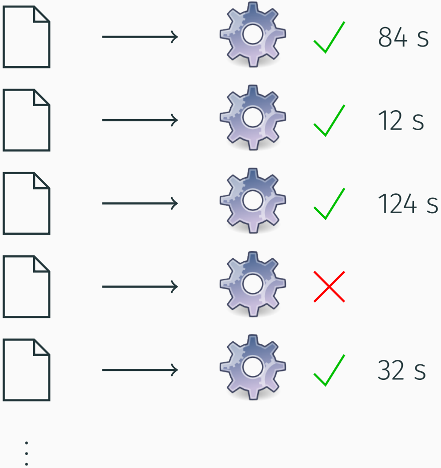
✓ 130 s

✓ 45 s

✓ 28 s

⋮

TeX Live 2019



✓ 84 s

✓ 12 s

✓ 124 s

✗

✓ 32 s

⋮

TeX Live 2018	TeX Live 2019	
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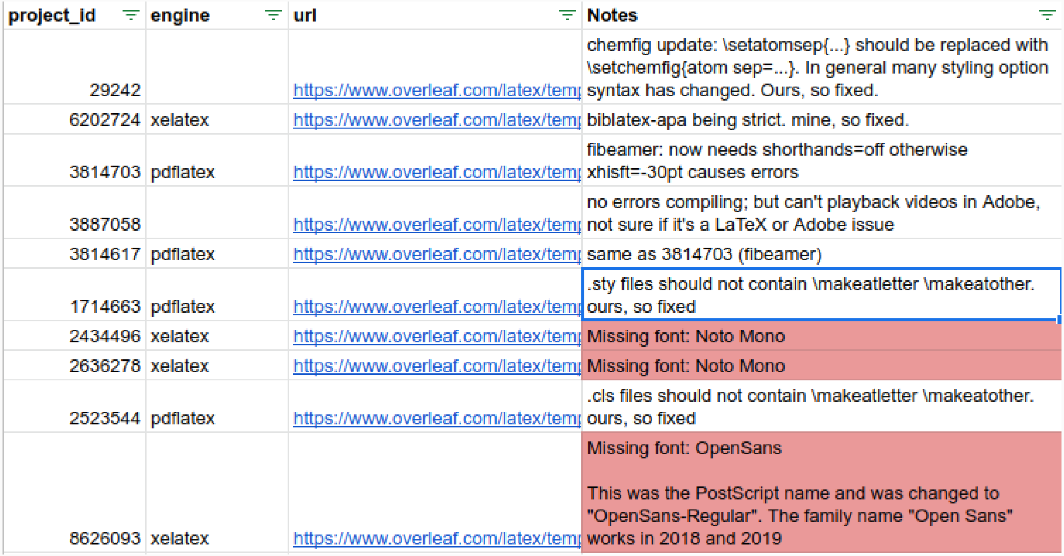
✓	✗	newly broken
✗	✗	already broken
✗	✓	fixed

Newly broken



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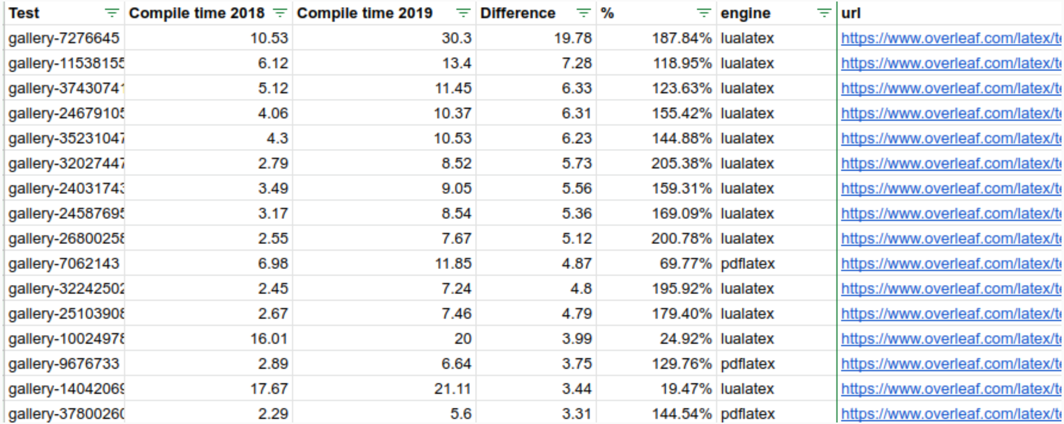
29242		https://www.overleaf.com/latex/temp	chemfig update: \setatomsep{...} should be replaced with \setchemfig{atom sep=...}. In general many styling option syntax has changed. Ours, so fixed.
6202724	xelatex	https://www.overleaf.com/latex/temp	biblatex-apa being strict. mine, so fixed.
3814703	pdflatex	https://www.overleaf.com/latex/temp	fibeamer: now needs shorthands=off otherwise xhisft=-30pt causes errors
3887058		https://www.overleaf.com/latex/temp	no errors compiling; but can't playback videos in Adobe, not sure if it's a LaTeX or Adobe issue
3814617	pdflatex	https://www.overleaf.com/latex/temp	same as 3814703 (fibeamer)
1714663	pdflatex	https://www.overleaf.com/latex/temp	.sty files should not contain \makeatletter \makeatother. ours, so fixed
2434496	xelatex	https://www.overleaf.com/latex/temp	Missing font: Noto Mono
2636278	xelatex	https://www.overleaf.com/latex/temp	Missing font: Noto Mono
2523544	pdflatex	https://www.overleaf.com/latex/temp	.cls files should not contain \makeatletter \makeatother. ours, so fixed
8626093	xelatex	https://www.overleaf.com/latex/temp	Missing font: OpenSans This was the PostScript name and was changed to "OpenSans-Regular". The family name "Open Sans" works in 2018 and 2019

Successful but slow



Test	Compile time 2018	Compile time 2019	Difference	%	engine	url
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gallery-11538155	6.12	13.4	7.28	118.95%	lualatex	https://www.overleaf.com/latex/t
gallery-37430741	5.12	11.45	6.33	123.63%	lualatex	https://www.overleaf.com/latex/t
gallery-24679105	4.06	10.37	6.31	155.42%	lualatex	https://www.overleaf.com/latex/t
gallery-35231047	4.3	10.53	6.23	144.88%	lualatex	https://www.overleaf.com/latex/t
gallery-32027447	2.79	8.52	5.73	205.38%	lualatex	https://www.overleaf.com/latex/t
gallery-24031743	3.49	9.05	5.56	159.31%	lualatex	https://www.overleaf.com/latex/t
gallery-24587695	3.17	8.54	5.36	169.09%	lualatex	https://www.overleaf.com/latex/t
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gallery-7062143	6.98	11.85	4.87	69.77%	pdflatex	https://www.overleaf.com/latex/t
gallery-32242502	2.45	7.24	4.8	195.92%	lualatex	https://www.overleaf.com/latex/t
gallery-25103908	2.67	7.46	4.79	179.40%	lualatex	https://www.overleaf.com/latex/t
gallery-10024978	16.01	20	3.99	24.92%	lualatex	https://www.overleaf.com/latex/t
gallery-9676733	2.89	6.64	3.75	129.76%	pdflatex	https://www.overleaf.com/latex/t
gallery-14042069	17.67	21.11	3.44	19.47%	lualatex	https://www.overleaf.com/latex/t
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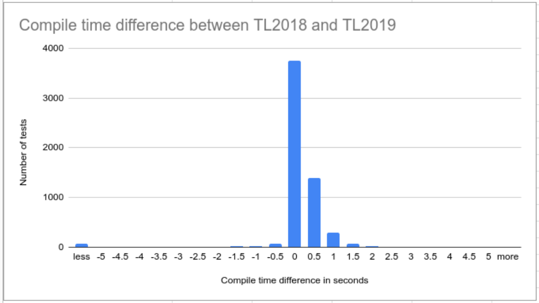
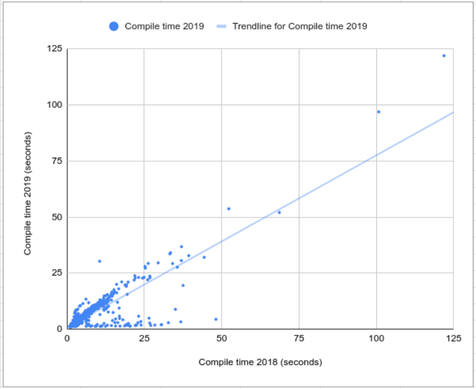
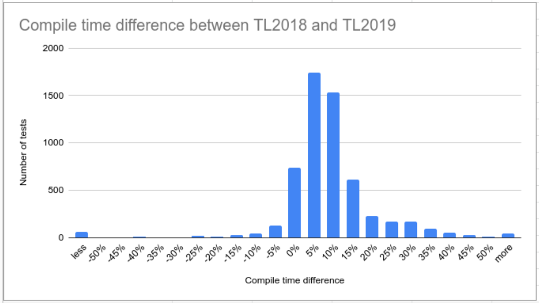

Compile time difference between TL2018 and TL2019

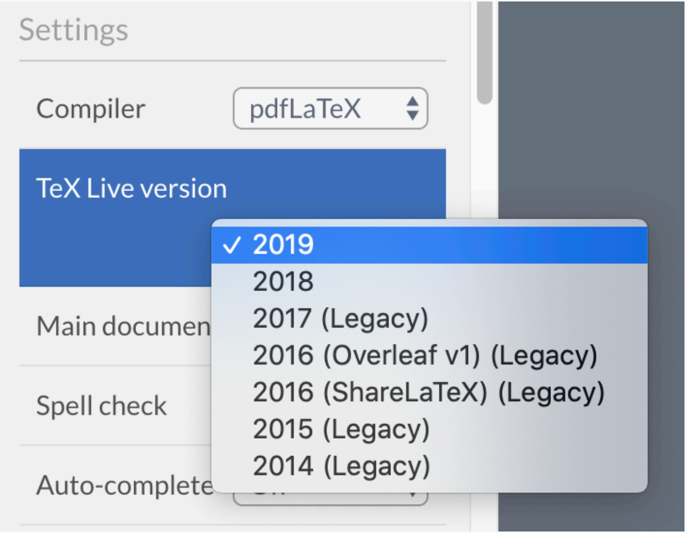



Compile time difference between TL2018 and TL2019

3. Release!

New projects are compiled with the new TeX Live version.

Existing projects are still compiled with the same version as before the release.


Settings
Main documen
Spell check
Auto-complete
2018
2017 (Legacy)
2016 (Overleaf v1) (Legacy)
2016 (ShareLaTeX) (Legacy)
2015 (Legacy)
2014 (Legacy)

Compiler pdfLaTeX

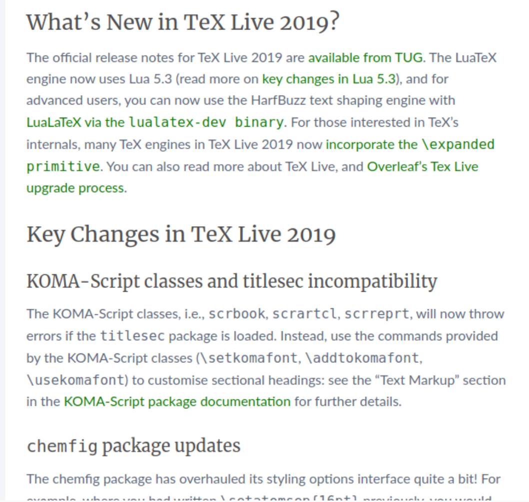
TeX Live version ✓ 2019

Blog

TeX Live 2019 Upgrade—January 2020

Posted on January 23, 2020

TEX
Live
2019



What's New in TeX Live 2019?

The official release notes for TeX Live 2019 are available from TUG. The LuaTeX engine now uses Lua 5.3 (read more on key changes in Lua 5.3), and for advanced users, you can now use the HarfBuzz text shaping engine with LuaLaTeX via the `lualatex-dev binary`. For those interested in TeX's internals, many TeX engines in TeX Live 2019 now incorporate the `\expanded primitive`. You can also read more about TeX Live, and Overleaf's Tex Live upgrade process.

Key Changes in TeX Live 2019

KOMA-Script classes and titlesec incompatibility

The KOMA-Script classes, i.e., `scrbook`, `scrartcl`, `scrreprt`, will now throw errors if the `titlesec` package is loaded. Instead, use the commands provided by the KOMA-Script classes (`\setkomafont`, `\addtokomafont`, `\usekomafont`) to customise sectional headings: see the "Text Markup" section in the KOMA-Script package documentation for further details.

`chemfig` package updates

The chemfig package has overhauled its styling options interface quite a bit! For example, where you had written `\setatomsep{16pt}` previously, you would

4. Maintenance

How to avoid trouble

No update to anything except to fix bugs.

$$\left.\begin{array}{l}\text{\TeX{} packages}\\ \text{Ubuntu packages}\\ \text{R packages}\end{array}\right\}\quad\text{are all frozen.}$$

Release schedule

Every (northern) summer, between the actual TeX Live release and the fall semester.

Future work

- Other benchmarks
- TEX Live pretests
- Compilation speed