

Do you use LaTeX for your document processing requirements? Then why switch to any other application when you need to create presentations? Try Beamer instead.

Beamer (latex-beamer.sourceforge.net) is a LaTeX class for making presentation slides. In LaTeX parlance, it's just another Document Class.

Why would you want to hack LaTeX to create slides? Hasn't OpenOffice.org, or worse, a certain Microsoft PowerPoint, already won that battle?

You shouldn't even attempt to use Beamer if you have no idea what LaTeX is. However, if you already use LaTeX—chances are you swear by it—then Beamer is for you. With Beamer, you can create slides for *that* upcoming talk without compromising on eye candy, and with the comfort levels of your favourite document preparation system.

As an aside, explore and learn LaTeX. If you are a student, you will create better-looking project reports; and if you are a writer, you will create more professional looking articles, manuals and books. The *Resources* section at the end will have some links to learn more about LaTeX. To make the best use of the rest of this article, I shall assume an intermediate knowledge of LaTeX.

Installation

The easiest way to install LaTeX Beamer is to use the package manager on your Linux distribution. On Debian and Ubuntu, the package is named as *latex-beamer*. Do an *apt-get* install:

```
# apt-get install latex-beamer
```

You will see that some more packages that provide extra LaTeX classes need to be installed. Prominent among these are *latex-xcolor* and *pgf*. Hit a *y* for the installation of the packages to start. You should have the Beamer LaTeX installation in `/usr/share/texmf/tex/latex/beamer/`. (Note that if you do not have LaTeX installed, it might ask you to install more packages.)

There is, of course, the option of installing LaTeX class manually. It's easy to do, but not easier than the previous method. The LaTeX Beamer user guide shows you how to do it.

Now that we are done with the installation, let us create our first presentation with LaTeX Beamer. In the rest of this article, I shall assume that we have used the package manager to install the Beamer LaTeX class. If you have installed it manually, it will just need a little bit of correlation between the article details and the source code.

Simple presentations

Before we create our own presentation, let us compile one of the shipped examples. Copy the *beamerexample-conference-talk.tex* files from *usr/share/doc/latex-beamer/examples/a-conference-talk* to a sub-directory under your home, say *~/beamer/examples*. Now, compile the *.tex* file using *latex*:

```
$ latex beamerexample-conference-talk.tex . .
./beamerexample-conference-talk.toc [2] [3] [4] [5] [6] [7] [8] [9] [10]
[11] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25]
[26] [27] [28] [29] [30] [31] (./beamerexample-conference-talk.aux)
Output written on beamerexample-conference-talk.dvi (31 pages, 763500
bytes).
Transcript written on beamerexample-conference-talk.log.
```

If you see some errors reported, a fix is needed somewhere. We should have the presentation ready in the *.dvi* file. Now, use the *dvipdf* utility to convert it into a PDF file and open it using a PDF reader, such as Evince. Figure 1 is a screenshot of the first slide.

Impressed? I am. Let's continue getting impressed.

Diving in, open the *.tex* file in a LaTeX editor of your choice. VIM-LaTeX (vim-latex.sourceforge.net) brings you the best of both worlds. The first line after the comments is `\documentclass{beamer}`. So Beamer is just another LaTeX document class. Good, just the thing I promised. The theme for your presentation is specified using `\usetheme{Darmstadt}`. You can view all the current themes installed in */usr/share/texmf/tex/latex/beamer/themes/theme*. Then you specify other appearance-specific settings such as the template, font, etc. After specifying the author and the title, the main document or the presentation starts from `\begin{document}`, and a new slide is enclosed by `\begin{frame}` and `\end{frame}`. Let us now create a new presentation and learn more while we put to use what we have already learnt.

Creating a new presentation

We will create a slide deck consisting of a *Title* slide, a *Table of Contents* and two other slides—*Introduction* and *Summary*. Listing 1 gives the complete code for the *.tex* file, which we will call *example.tex*:

```
% A simple presentation in LaTeX using Beamer
% Can be used as a template for larger, specific presentations
% example.tex

\documentclass{beamer}
```



Figure 1: An example presentation created using Beamer

```
\mode<presentation>
{
    \usetheme{Berkeley}
    \setbeamercovered{transparent}
}

\usepackage[english]{babel}
\usepackage[latin1]{inputenc}

\usepackage{times}
\usepackage[T1]{fontenc}

\title{Beam it with Beamer}
\subtitle{Presentations in LaTeX}
\author{Amit Saha}
\date{October 1, 2009/ LFY}

\begin{document}

\begin{frame}
\titlepage
\end{frame}

\begin{frame}{Outline}
\tableofcontents
\end{frame}

\section{Introduction}

\begin{frame}{What is Beamer?}{Beam it up!}
\begin{itemize}
\item A LaTeX class for creating high quality presentations.
\end{itemize}
\end{frame}

\section{Summary}

\begin{frame}{Did we like Beamer?}
```

```
\begin{itemize}
\item Yes!
\end{itemize}
\end{frame}
```

```
\end{document}
```

Some of the LaTeX elements are generic to any LaTeX document, such as `\title`, `\author` and `\usepackage`. Here are some Beamer-specific elements:

- **New Slide:** A slide is enclosed by `\begin{frame}` and `\end{frame}`.
- **New Section:** The section name before a `\begin{frame}` is the entry for the new slide in the *Table of Contents*, generated by `\tableofcontents`.

You can now compile the LaTeX file similarly.


With what we have learnt so far, we can easily create presentations that would contain only text.

More things to try out

- **Working with graphics:** Working with images here is the same as you would do for any LaTeX document class by making use of the *graphics* or *graphicsx* package.
- **Using multimedia in your slides:** Beamer ships with the *multimedia* package that you can use to insert sound, animation or movies. I haven't tried this feature. So you will have to use it to see how well it works!

- **Notes and handouts:** Besides creating the presentation, you might also want to create notes for yourself or to distribute as handouts. Beamer class also has support for creating these.

Still hooked?

If you have been following this article and at the same time typing in some of the LaTeX class, I am hoping that Beamer has impressed you, or at the very least, you'll now consider it as an option. The Beamer user guide has a lot more detailed information on the topics I have touched and more, and is a very handy reference while you create your presentation. For queries, doubts and suggestions, please feel free to e-mail me.  **END**

Resources

- Beamer: latex-beamer.sourceforge.net
- Beamer Documentation: *In /usr/share/doc/latex-beamer or in your source tarball*
- LaTeX resources: en.wikipedia.org/wiki/LaTeX#Further_reading

By: Amit Saha

No two of the last two articles that have been published by the author has the same bio. This time he hasn't yet created any!(do we want to carry this?) The author blogs at amitsaha.wordpress.com and can be reached at amitsaha.in@gmail.com.