

# Intro to TinyTex

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TinyTeX is

a lightweight, cross-platform, portable, and easy-to-maintain LaTeX distribution based on TeXLive

TinyTeX works best for R users. Other users can use it, too – it is just that missing LaTeX packages **won't** be automatically installed, and you need to install them manually.

## Install from R

- install R package *tinytex*
- download TinyTex.zip from <https://github.com/rstudio/tinytex-releases/releases>, say, “TinyTeX-v2022.11.zip”
- install TinyTex

```
tinytex::install_prebuilt(pkg = "e:/down/sftwr/TinyTeX-v2022.11.zip",  
                           dir = "d:/tinytex")
```

Here, `install_prebuilt()` is `tinytex`'s **non-exported function**

With code above, we install TinyTex from zip file into directory `d:/tinytex`. If we do not set parameter “`dir`”, TinyTex will be installed into the default path. We can get the path by `tinytex::tinytex_root()`

`install_prebuilt()` has a parameter named “`add_path`”, the default value is `TRUE`, this means we have added `d:/tinytex/bin/win32` into environment variables `PATH`. We can use “`xelatex`”, “`pdflatex`”, ..., from terminal

To uninstall TinyTeX, run `tinytex::uninstall_tinytex()`

## install LaTeX pkgs from R

List pkgs of TinyTeX from R

```
tinytex::tl_pkgs()
```

Here, `tl` refers “TeXLive”

set mirrors

```
tinytex::tlmgr_repo(url = "http://mirrors.tuna.tsinghua.edu.cn/CTAN/")
```

other mirrors

- [aliyun](#)
- [ustc](#)
- ...

search pkg

```
tinytex::tlmgr_search("titling.sty")
```

install pkg

```
tinytex::tlmgr_install("titling.sty")
```

`tinytex::install_yihui_pkgs()` installs packages needed for building PDF vignettes of many CRAN packages

update pkgs

```
tinytex::tlmgr_update()
```

If you see an error message “Remote repository newer than local”, it means it is time for you to upgrade (reinstall) TinyTeX manually:

```
tinytex::reinstall_tinytex()
```

## Using LaTeX

The content of file “e:/doc/test.tex”:

```
\documentclass{ctexart}
\title{Test File of TinyTex}
\author{Rho Zhang}
\date{}
\begin{document}
TinyTex is a light-weight, portable \LaTeX \ based on TeXLive, it was developed by Yihui, Xi

TinyTex      \LaTeX \      TeXLive,

\end{document}
```

method 1: R

```
tinytex::xelatex("e:/doc/test.tex")
```

method 2: terminal

```
cd e:/doc
xelatex test.tex
```

```
parse_packages("test.log")
```

```
ctex
```

```
tlmgr_install("ctex")
```

## commands with terminal

```
# change repos
tlmgr option repository https://mirrors.tuna.tsinghua.edu.cn/CTAN/systems/texlive/tlnet

# search
tlmgr search --global --file "unicode-math.sty"
```

```
# install
tlmgr install unicode-math

# list pkgs needed update
tlmgr update --list

# update pkgs
tlmgr update --self --all
```

## **Install TinyTeX without R**

Save the batch file from <https://yihui.org/tinytex/install-bin-windows.bat>, and double-click it.

The installation requires PowerShell (at least ver. 3.0)

The installation directory is %APPDATA%/TinyTeX, where APPDATA is an environment variable that typically points to the path C:/Users/YourName/AppData/Roaming

To uninstall TinyTeX, simply delete the folder from your file manager