

## 1. 打开 Rust 官网

Rust Programming Language: <https://www.rust-lang.org>

# Rust

GET STARTED

[Version 1.72.0](#)

A language empowering everyone  
to build reliable and efficient software.

### Why Rust?

#### Performance

Rust is blazingly fast and memory-efficient: with no runtime or garbage collector, it can power performance-critical services, run on embedded devices, and easily integrate with other languages.

#### Reliability

Rust's rich type system and ownership model guarantee memory-safety and thread-safety — enabling you to eliminate many classes of bugs at compile-time.

#### Productivity

Rust has great documentation, a friendly compiler with useful error messages, and top-notch tooling — an integrated package manager and build tool, smart multi-editor support with auto-completion and type inspections, an auto-formatter, and more.

## 2. 点击 Install 或 Get Started

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[Playground](#)

[Tools](#)

[Governance](#)

[Community](#)

[Blog](#)

English (en-US) ▼

GET STARTED

[Version 1.72.0](#)

## 3. Linux 安装

```
curl --proto 'https' --tlsv1.2 -sSf https://sh.rustup.rs | sh
```

## 4. Windows 安装

### 4.1. 下载安装包

## Using rustup (Recommended)

It looks like you're running Windows. To start using Rust, download the installer, then run the program and follow the onscreen instructions. You may need to install the [Visual Studio C++ Build tools](#) when prompted to do so. If you are not on Windows see "[Other Installation Methods](#)".

DOWNLOAD RUSTUP-INIT.EXE (32-BIT)

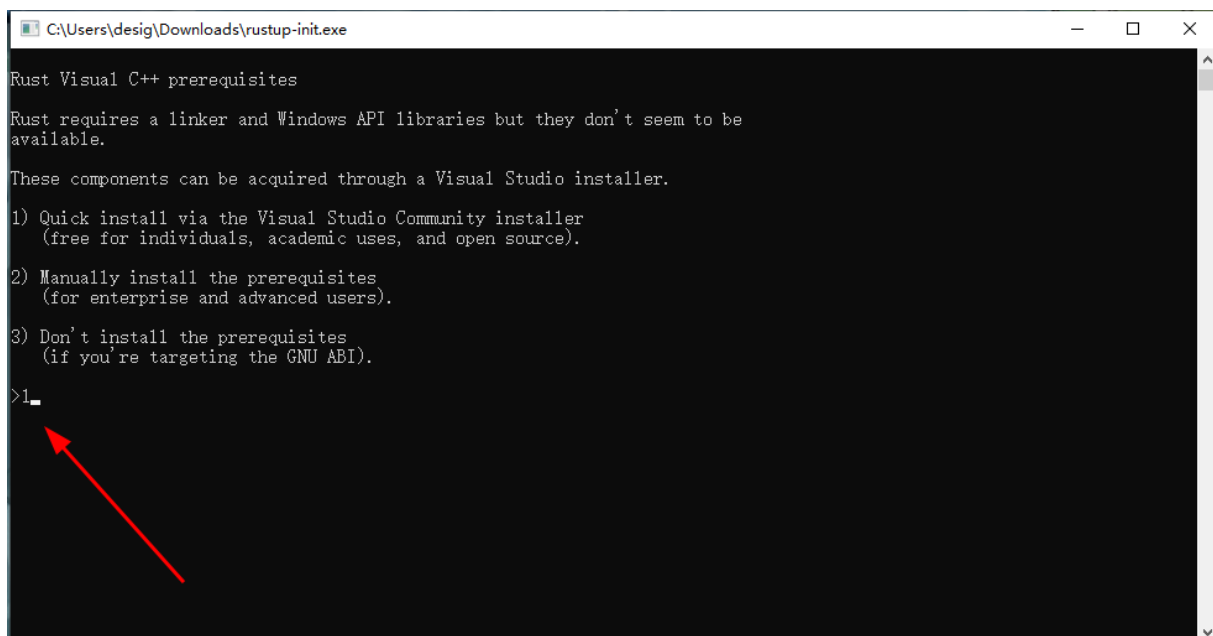
DOWNLOAD RUSTUP-INIT.EXE (64-BIT)

## Windows Subsystem for Linux

If you're a Windows Subsystem for Linux user run the following in your terminal, then follow the on-screen instructions to install Rust.

```
curl --proto '=https' --tlsv1.2 -sSf https://sh.rustup.rs | sh
```

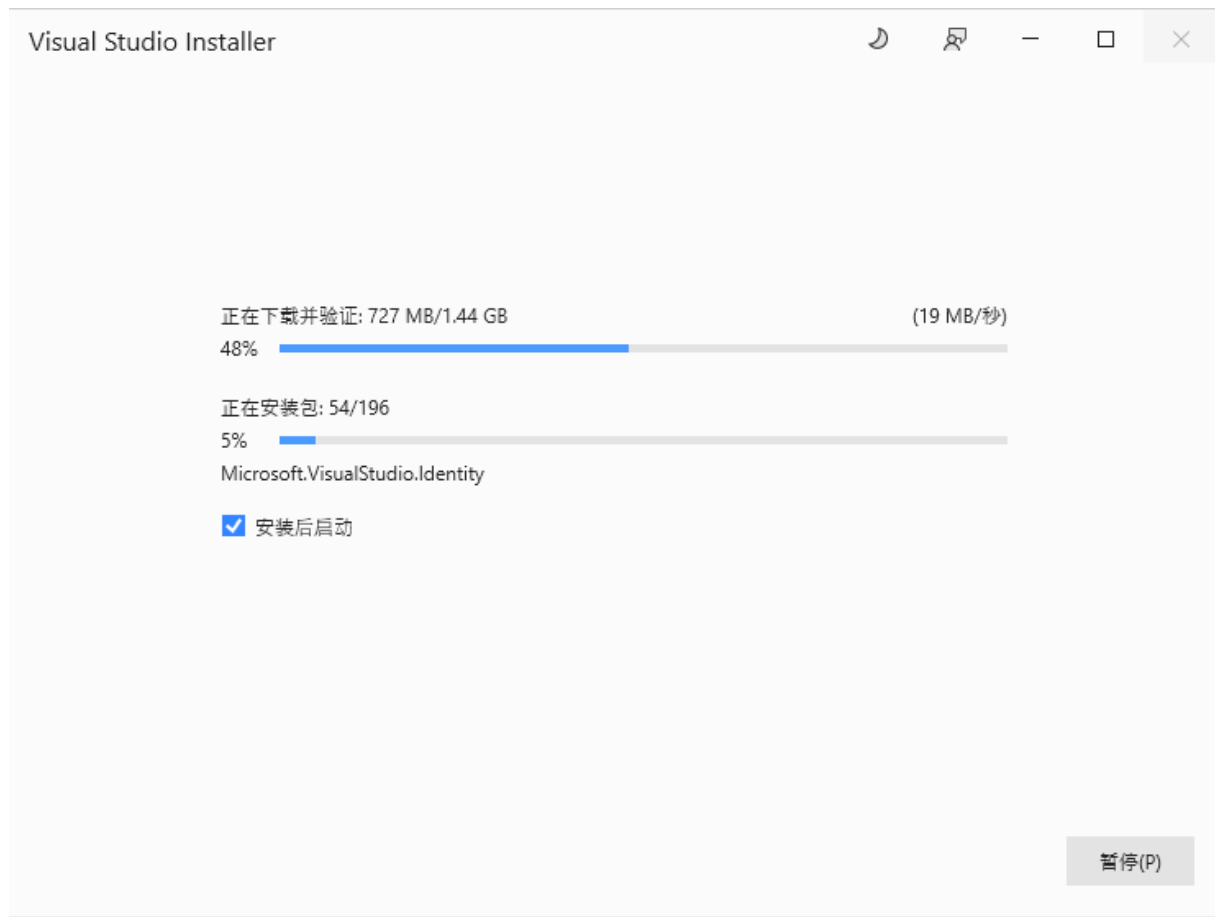
## 4.2. 安装 Visual Studio (需重启)



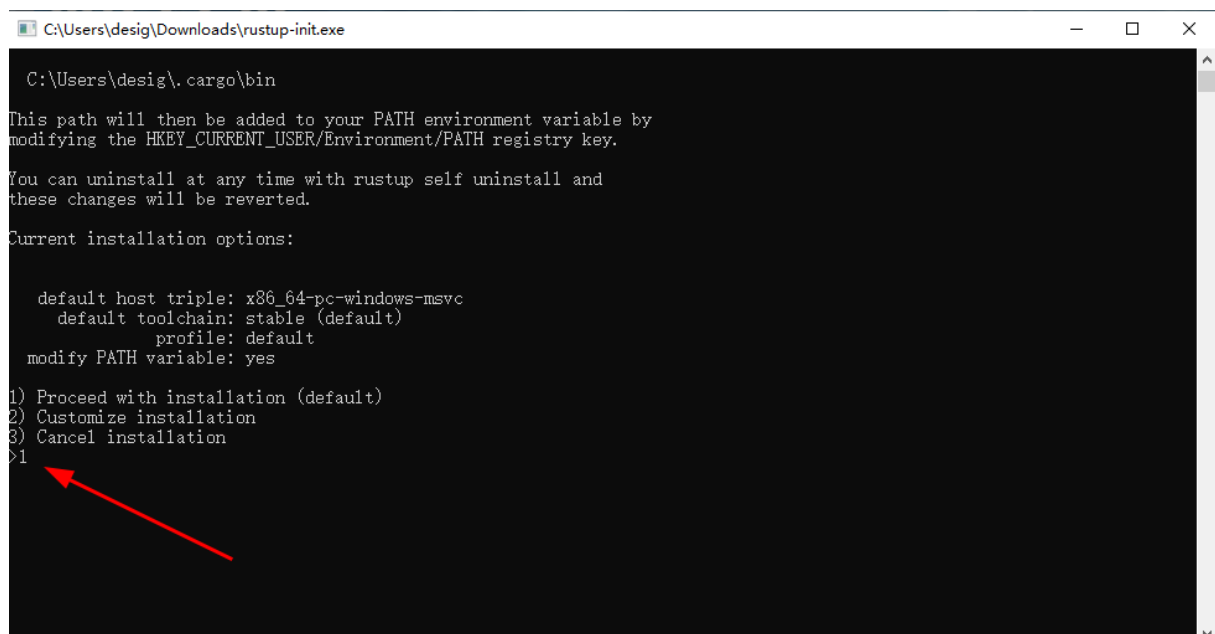
The screenshot shows a terminal window titled "C:\Users\desig\Downloads\rustup-init.exe". The text inside the terminal reads:

```
Rust Visual C++ prerequisites  
Rust requires a linker and Windows API libraries but they don't seem to be  
available.  
These components can be acquired through a Visual Studio installer.  
1) Quick install via the Visual Studio Community installer  
   (free for individuals, academic uses, and open source).  
2) Manually install the prerequisites  
   (for enterprise and advanced users).  
3) Don't install the prerequisites  
   (if you're targeting the GNU ABI).  
>1_
```

A red arrow points to the prompt ">1\_" at the bottom of the terminal.



## 5. 安装 Rust 工具链



```
C:\Users\desig\Downloads\rustup-init.exe
info: downloading component 'rust-docs'
13.7 MiB / 13.7 MiB (100 %) 255.8 KiB/s in 1m 2s ETA: 0s
info: downloading component 'rust-std'
23.7 MiB / 23.7 MiB (100 %) 408.7 KiB/s in 2m 38s ETA: 0s
info: downloading component 'rustc'
59.1 MiB / 59.1 MiB (100 %) 100.5 KiB/s in 8m 45s ETA: 0s
info: downloading component 'rustfmt'
1.6 MiB / 1.6 MiB (100 %) 107.6 KiB/s in 16s ETA: 0s
info: installing component 'cargo'
info: installing component 'clippy'
info: installing component 'rust-docs'
13.7 MiB / 13.7 MiB (100 %) 790.4 KiB/s in 14s ETA: 0s
info: installing component 'rust-std'
23.7 MiB / 23.7 MiB (100 %) 11.2 MiB/s in 2s ETA: 0s
info: installing component 'rustc'
59.1 MiB / 59.1 MiB (100 %) 12.1 MiB/s in 4s ETA: 0s
info: installing component 'rustfmt'
info: default toolchain set to 'stable-x86_64-pc-windows-msvc'

stable-x86_64-pc-windows-msvc installed - rustc 1.72.0 (5680fa18f 2023-08-23)

Rust is installed now. Great!

To get started you may need to restart your current shell.
This would reload its PATH environment variable to include
Cargo's bin directory (%USERPROFILE%\cargo\bin).

Press the Enter key to continue.
```

## 6. 检查是否安装成功

`rustc --version`

```
dream@pop-os:~$ rustc --version
rustc 1.72.0 (5680fa18f 2023-08-23)
```

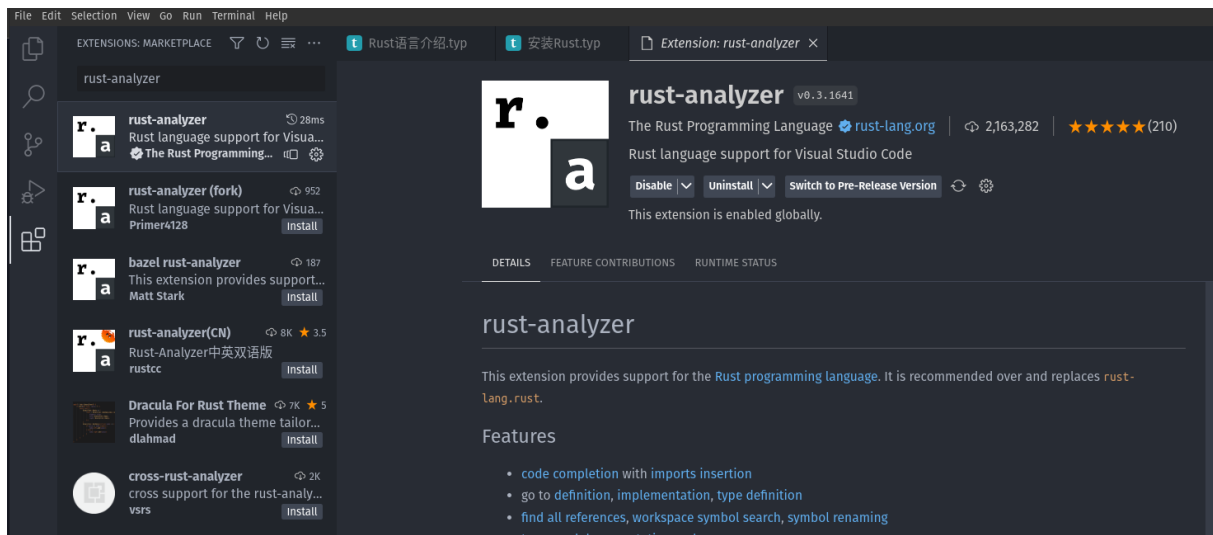
## 7. 更新 Rust 工具链

`rustup update`

```
dream@pop-os:~$ rustup update
info: syncing channel updates for 'stable-x86_64-unknown-linux-gnu'
info: syncing channel updates for 'nightly-x86_64-unknown-linux-gnu'
info: checking for self-update

stable-x86_64-unknown-linux-gnu unchanged - rustc 1.72.0 (5680fa18f 2023-08-23)
nightly-x86_64-unknown-linux-gnu unchanged - rustc 1.74.0-nightly (59a829484 2023-08-30)
```

## 8. 安装 VS Code 的 Rust 插件 rust-analyzer



## 9. 其它 VS Code 插件

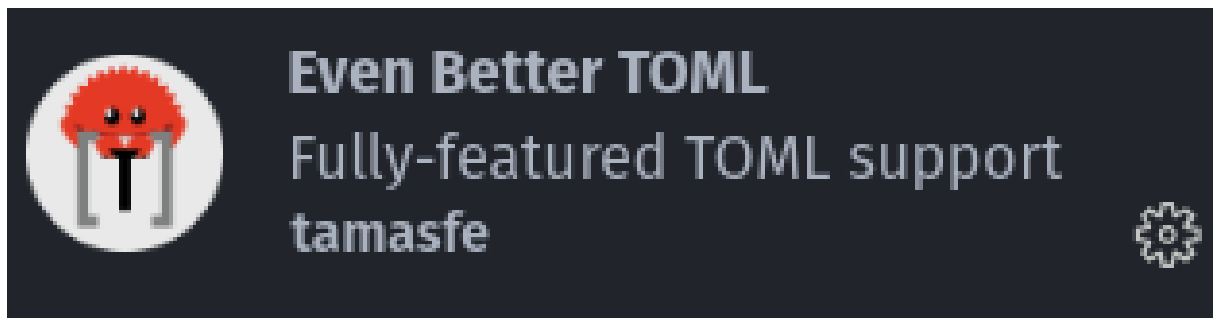


Figure 1: toml 语法高亮，代码提示



Figure 2: Rust 依赖管理



Figure 3: 高亮错误、警告

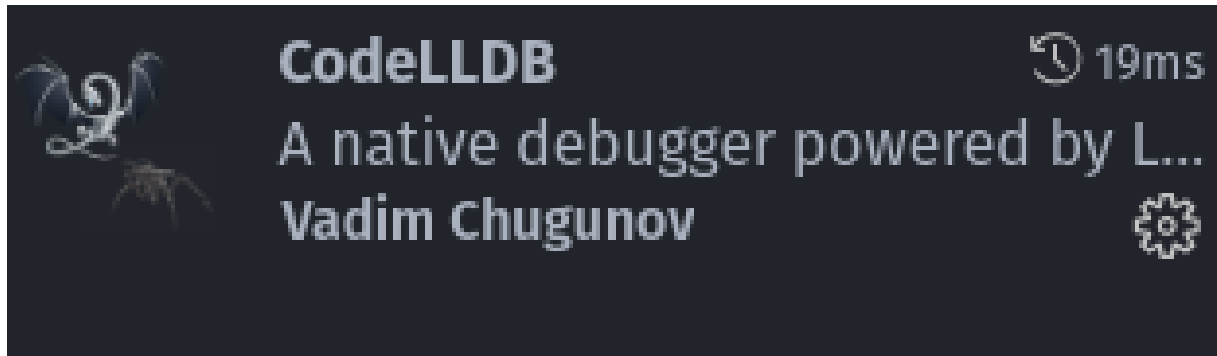


Figure 4: 调试代码插件