Visual Studio Installation Guide and First Program

This README provides a beginner-friendly guide to:

- Install Rust and Visual Studio Code on a Windows system
- Write and run your first Rust "Hello, World!" program
- Understand the basic steps of using a Rust development environment

It is designed for students and beginners with no prior experience in Rust programming.

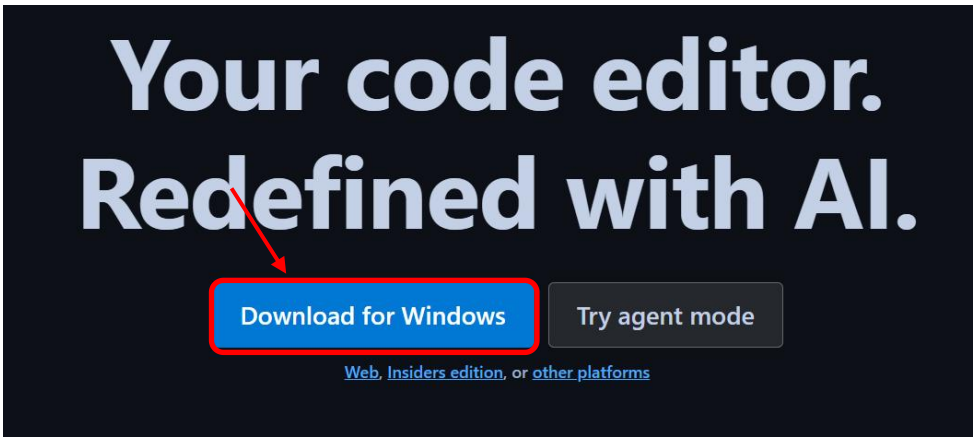
System Requirements

To install and run Rust in Visual Studio Code, your system should meet the following minimum requirements:

- **Operating System:** Windows 7, 8, 10, or 11 (64-bit recommended), macOS (Intel or Apple Silicon), Linux (Ubuntu, Fedora, Arch)
- **Processor:** 1 GHz or faster
- **RAM:** Minimum 2 GB (4 GB or more recommended)
- **Disk Space:** At least 500 MB of free space
- **Internet Connection:** Required for downloading Rust, Visual Studio Code, and extensions

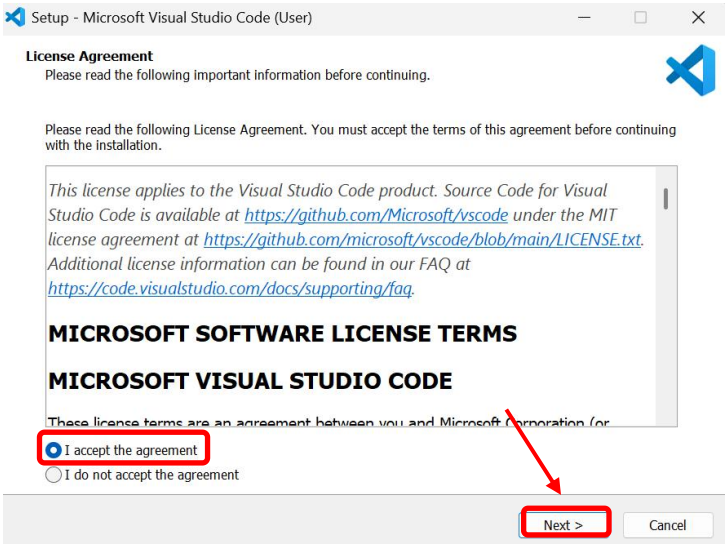
Step 1: Download Visual Studio Code

- Visit the official website: https://code.visualstudio.com
- Click on the "Download for Windows" button.

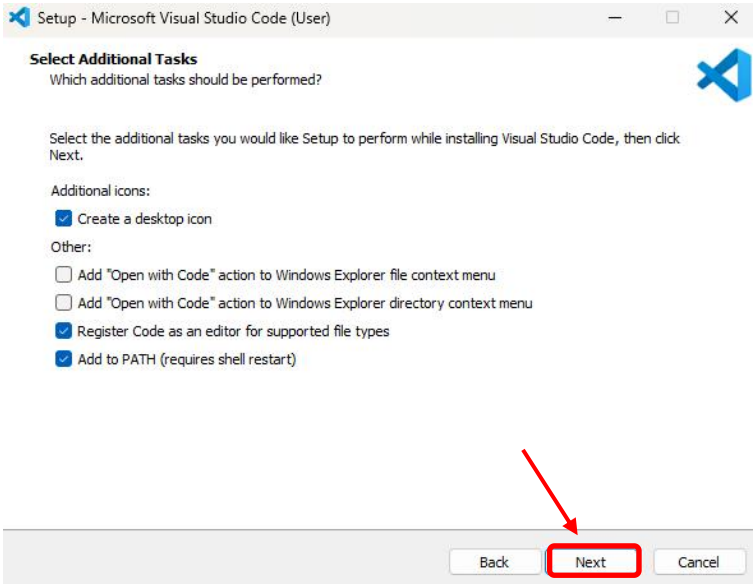


Step 2: Install VS Code

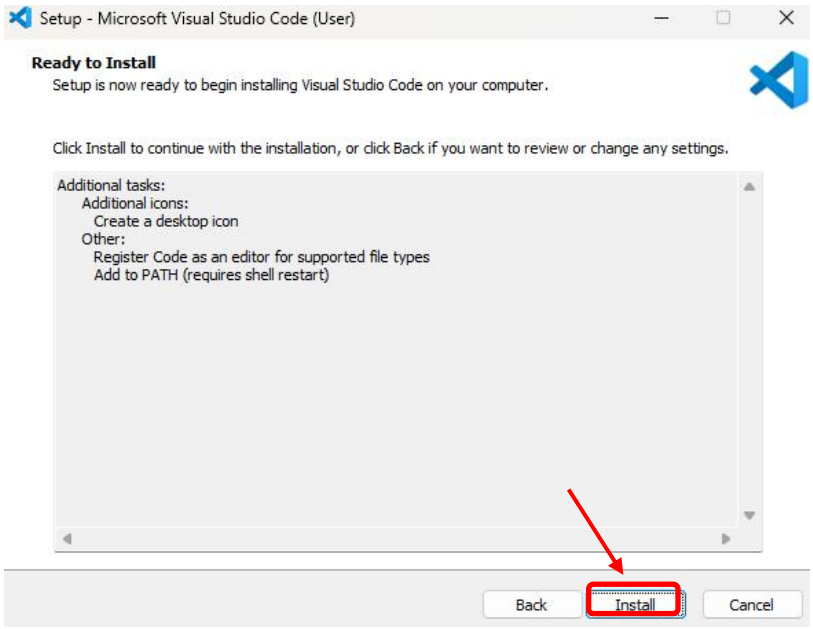
- Open the downloaded .exe file.
- Follow the installation wizard steps.
- Click "Next" and accept the license agreement.



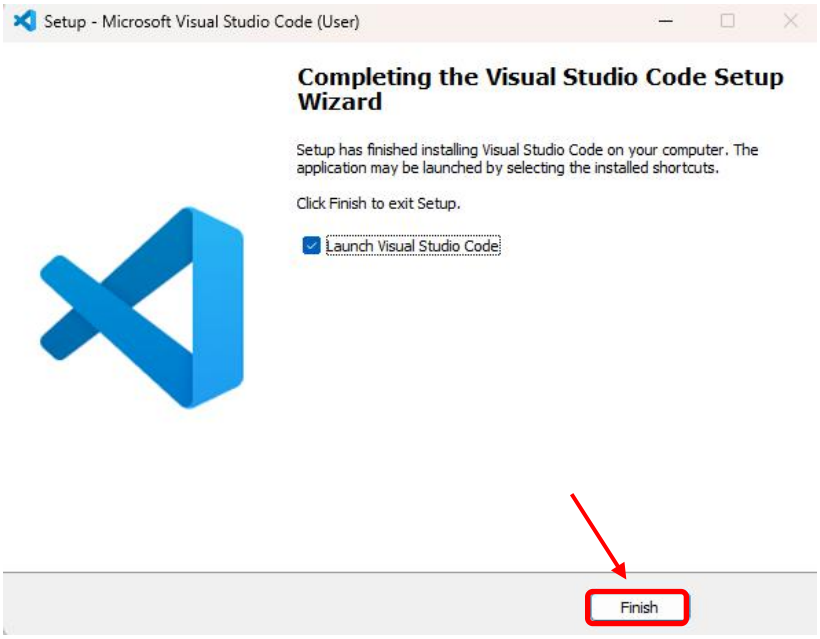
- Select the options like “Add to PATH” and “Create a desktop icon” (recommended).



- Click "Install" and wait for the process to finish.

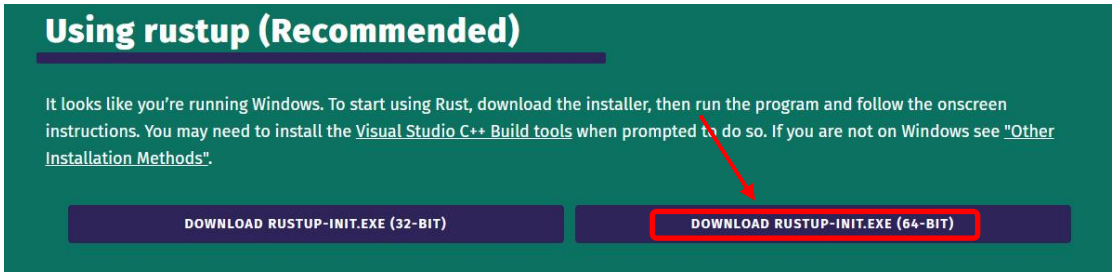


- Once installed, click "Finish" to open VS Code.



Step 3: Download Rust in VS Code

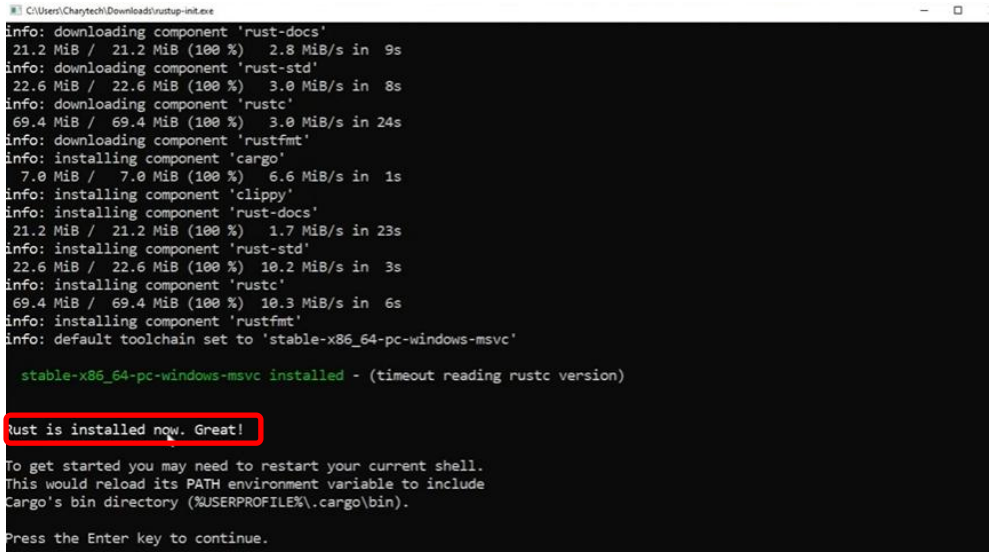
- Visit the official Rust website: (https://www.rust-lang.org/tools/install)
- Click on the "Download Rust" button.



- It will download a file named rustup-init.exe.

Step 2: Install Rust

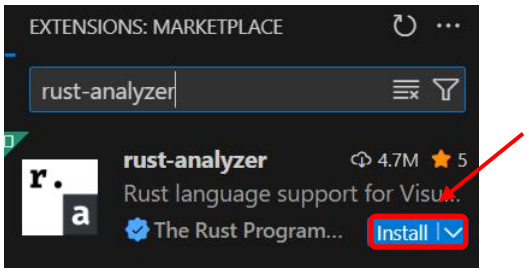
- Open the rustup-init.exe file.
- A terminal window will appear. Press "1" and hit Enter to proceed with the default installation.
- Rust and its tool cargo will start installing. It may take a few minutes.
- Once done, you will see a message like:
  Rust is installed now. Open a new terminal window to use it.



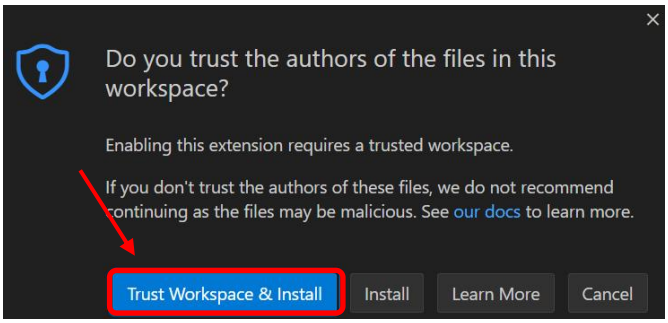
Step 3: Install Rust Extension in VS Code

- Open **Visual Studio Code**.
- Click on the **Extensions icon** (or press Ctrl+Shift+X).

- In the search bar, type **rust-analyzer**.
- Click **Install** on the rust-analyzer extension.



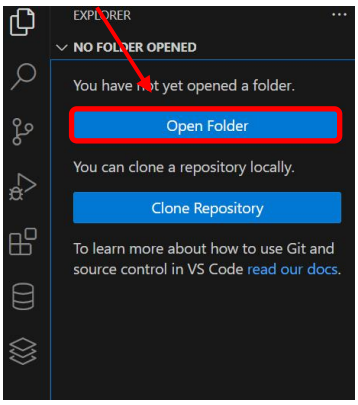
- Click on Trust and Install.



- Wait for the installation to complete.

Step 4: Create a New Rust Project

- In Explorer, Click on open Folder.



- Create new Folder in the respected directory where you want to save the projects and name it RustProjects.
- Now, Click on  icon to create a new project and name it as Hello with rs extension (Hello.rs)
- Press Enter button.

Step 5: Write Your First Rust Program

1. In the VS Code file explorer, open src > Hello.rs.
2. Replace the content with the provided source code file.
3. Save the code by clicking on Ctrl + S or go to file > Save it.

Step 6: Run the Program

- Click on RUN button  icon to see the output in terminal.