

# SW2024-05-2STEP

Converts SolidWorks 2024 SP05 native files (`.sldprt`, `.sldasm`) to STEP format using the SolidWorks COM API.

## Requirements

Requirement	Version
Operating System	Windows
SolidWorks	2024 SP05
Python	<code>&gt;= 3.10 (dev/build only)</code>

## For End Users — Standalone Executable

No Python installation required.

1. Download `SW2024-05-2STEP.exe` from the releases page.
2. Double-click to launch the GUI.
3. Add one or more `.sldprt` / `.sldasm` files and click **Convert to STEP**.

## For Developers

### Setup

Run `setup.bat` once. It will:

- Install Python 3.11 automatically via `winget` if not already present.
- Create a virtual environment (`.venv`).
- Install all dependencies.

`setup.bat`

### Build Standalone Executable

After setup, run `build.bat` to produce `dist\SW2024-05-2STEP.exe`:

`build.bat`

### Create a Release

`release.bat` builds the `.exe`, tags the commit, and publishes a GitHub release with the executable attached — all in one step.

Requirements: - `setup.bat` has been run - GitHub CLI is installed and authenticated (`gh auth login`)

`release.bat`

You will be prompted for a version number (e.g. `1.0.0`).

## Run in Dev Mode

```
.venv\Scripts\activate

:: Launch GUI
python -m src --gui

:: Convert single file
python -m src path\to\file.sldprt
python -m src path\to\file.sldprt -o C:\output\result.step

:: Convert multiple files
python -m src file1.sldprt file2.sldasm file3.sldprt
python -m src file1.sldprt file2.sldasm -o C:\output\folder
```

## Dependencies

Package	Purpose
pywin32	SolidWorks COM API access
PyQt6	Graphical user interface
pyinstaller	Standalone .exe build (dev only)

## Project Structure

```
SW2024-05-2STEP/
    setup.bat           Developer setup (Python + venv + deps)
    build.bat          Build standalone .exe via PyInstaller
    sw2step.spec       PyInstaller build configuration
    pyproject.toml     Package metadata
    requirements.txt   Runtime dependencies
    requirements-dev.txt Development dependencies (includes PyInstaller)
    README.md          This file
    doc.pdf            Generated documentation
    src/
        __init__.py
        __main__.py      Entry point (CLI + GUI launcher)
        converter.py     SolidWorks COM API conversion logic
        gui.py           PyQt6 graphical interface
```

## Notes

- SolidWorks must be **installed and licensed** on the machine.
- The converter attaches to a running SolidWorks instance if one is open, or starts a new one automatically.
- Supported input formats: **.sldprt** (part), **.sldasm** (assembly).

- Output is always a `.step` file (ISO 10303).
- The `dist/` and `build/` folders are excluded from version control.

## Version History

Version	Date	Changes
0.5.0	2026-02-20	Batch conversion — multiple files via GUI list and CLI
0.4.0	2026-02-20	Run SolidWorks headless (no SW window during conversion)
0.3.0	2026-02-20	Add release.bat for one-step local GitHub release
0.2.0	2026-02-20	Add standalone .exe build via PyInstaller, replace install.py with setup.bat
0.1.0	2026-02-20	Initial release — CLI + GUI skeleton