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	>= 3.10 (dev/build only)

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. Select your `.sldprt` or `.sldasm` file 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 via CLI
python -m src path\to\file.sldprt
python -m src path\to\file.sldprt -o C:\output\result.step
```

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
0.4.0	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