

Agenda

Why python

General workflow

Pyradiance

frads

Why Scripting / Python

Why scripting

- Customizable and reusable workflow
- More control over computation for individual needs
- (One less layer (GUI) between you and metal)

Why Python

- Rich ecosystem
- Gradual learning curve

General workflow



Model authoring

Geometry authoring
Material definition



Computation/Analysis

Simulation
Computation
Analysis
Visualization

pyradiance

pyradiance

“Battery” included

```
pip install pyradiance
```

- Python code
- Radiance executables
- Radiance library

Windows Users: WSL recommended, run

```
wsl --install
```

Now enjoy multiprocessing

https://github.com/taoning/pyrad_workshop_24

Git clone

Or

Download the zip folder

Use git clone if you're in WSL

pyradiance

Install Python

Create virtual environment (recommended)

```
python -m venv .venv
```

Windows:

```
.venv/bin/activate.bat (.ps1)
```

Others (include WSL):

```
Source .venv/bin/activate
```

Install jupyter notebook (recommended)

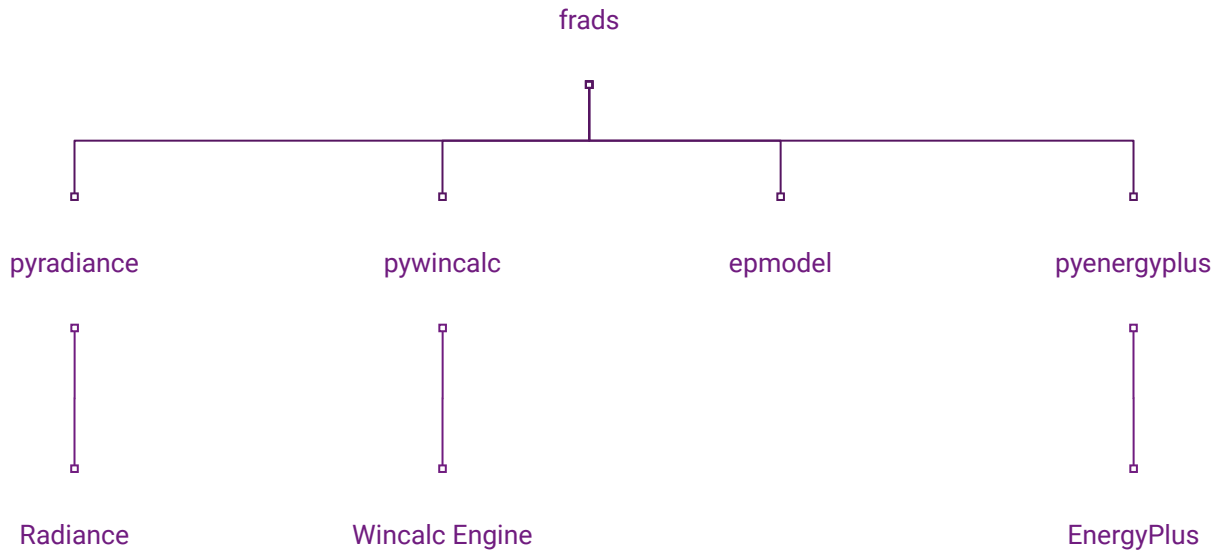
```
pip install notebook ipykernel
```

```
python -m ipykernel install --user --name=.venv
```

Install pyradiance:

```
pip install pyradiance numpy matplotlib
```

frads



frads

Create virtual environment (recommended)

```
python -m venv .venv
```

Windows:

```
.venv/bin/activate.bat (.ps1)
```

Others:

```
Source .venv/bin/activate
```

Install jupyter notebook

```
pip install notebook ipykernel
```

```
python -m ipykernel install --user --name=.venv
```

Install frads

```
pip install frads matplotlib
```