

Steps to install Genesis AI

The following steps were followed to avoid the following error:

```
Downloading zipp-3.21.0-py3-none-any.whl (9.6 kB)
Building wheels for collected packages: genesis-world, pygltflib, pycollada
Building editable for genesis-world (pyproject.toml) ... error
error: subprocess-exited-with-error

× Building editable for genesis-world (pyproject.toml) did not run successfully.
  exit code: 1
  > [22 lines of output]
    running editable_wheel
    creating C:\Users\ritwi\AppData\Local\Temp\pip-wheel-9elmzd09\.tmp-tobbrb1c\gene
    writing C:\Users\ritwi\AppData\Local\Temp\pip-wheel-9elmzd09\.tmp-tobbrb1c\genes
    writing dependency links to C:\Users\ritwi\AppData\Local\Temp\pip-wheel-9elmzd09
```

1. Create the Anaconda Environment:

```
conda create -n total_robotics python=3.10 -y
conda activate total_robotics
```

2. Install core dependencies:

```
pip install taichi gym numpy matplotlib
conda install git
```

3. Install Microsoft C++ Build Tools:

3.1. Go to the official link: <https://visualstudio.microsoft.com/visual-cpp-build-tools/>

3.2. Download and run the installer for "Build Tools for Visual Studio".

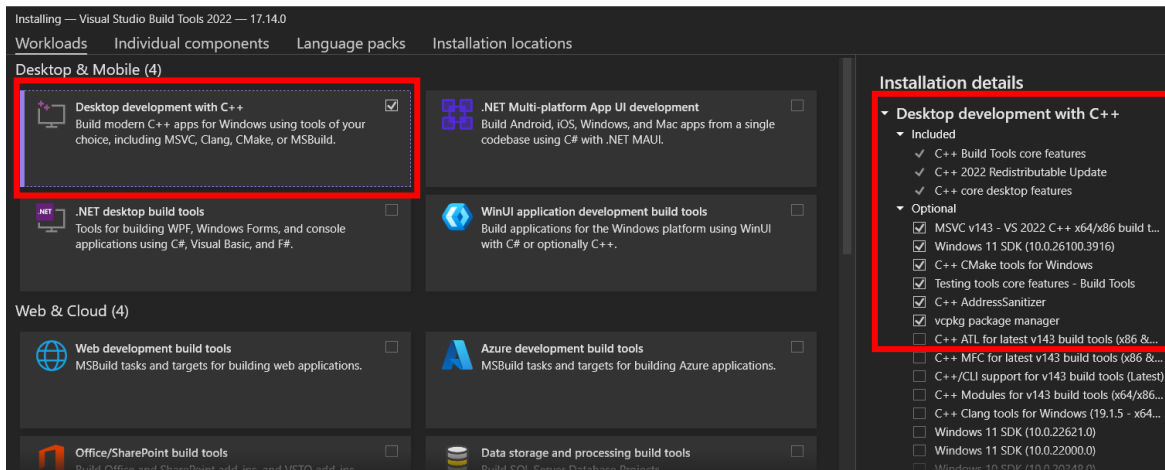
In the installer:

3.2.1. Select *C++ build tools*

3.2.1.1. Under it, make sure the following workloads are selected:

- i. MSVC v14.x (e.g., MSVC v143 for VS 2022)
- ii. Windows 10 SDK (or Windows 11, depending on system)
- iii. CMake tools for Windows (optional but useful)

Install

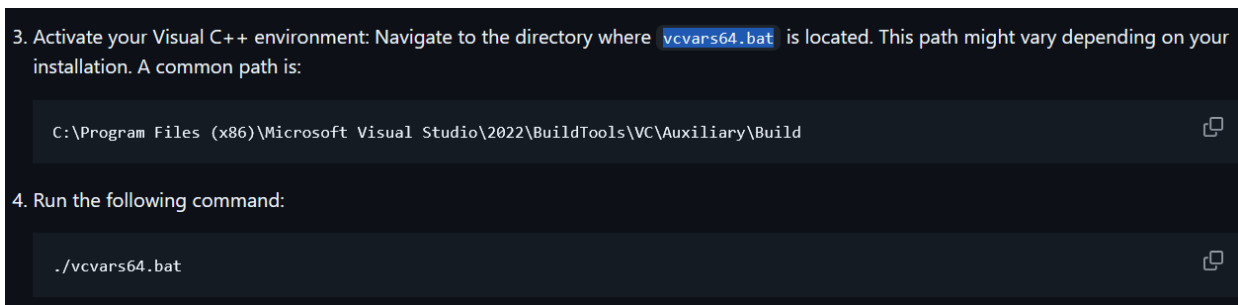


4. Install a Few Required Packages:

```
conda install -c conda-forge pybind11
```

```
conda install -c conda-forge eigen
```

5. Run vcvars64.bat File: Go to the location as shown in the picture below and run the vcvars64.bat file by double click. [[Source](#)]



**** If step 6 gives an error regarding PyTorch, go to step 8 and install PyTorch. Then come back to step 6.**

6. Install gsplat:

```
git clone --recursive https://github.com/nerfstudio-project/gsplat.git
```

```
cd gsplat
```

```
pip install .
```

```
cd..
```

7. Install Wheel:

```
pip install --upgrade pip setuptools wheel build
```

8. Install PyTorch:

For CPU-only (since you're starting with CPU):

```
conda install pytorch torchvision torchaudio cpuonly -c pytorch
```

To use GPU (and have a compatible GPU):

```
conda install pytorch torchvision torchaudio pytorch-cuda=11.8 -c pytorch -c nvidia
```

9. Change sympy version:

```
Pip uninstall sympy
```

```
pip install sympy==1.13.1
```

10. Finally install Genesis:

```
git clone https://github.com/Genesis-Embodied-AI/Genesis.git
```

```
cd Genesis
```

```
pip install -e "[dev]"
```

11. Check the Installation:

Open the file, `check_genesis_installation_status.ipynb` in Jupyter Notebook and run.

There should not be any errors when executed.

12. Run Simulation:

To run any simulation properly, the IDE needs to be opened from the Anaconda prompt and the file location where the simulation files are located.

```
(total_robotics) C:\Users\ritwi\Desktop\total_robotics\genesis_AI_sims>spyder
```

Open the test file, `run_test_sim_robot_arm.py` in Spyder, and run.