How to install nextnanopy

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Requirements

- Python 3.8 or later (recommended installation with Anaconda)

Anaconda takes care of installing Python and managing packages and includes Anaconda Prompt, which is like a Command Prompt on Windows or Terminal on Linux/Mac.

If the access is denied during installation, try to open Anaconda Prompt with administrator rights.

Option 1: Manual installation

The advantage of manual installation is that you have all the templates stored locally, based on which you can immediately start writing your own Python script.

Nextnanopy is an open repository; you are very welcome to contribute to the development!

1. Clone the source from GitHub
2. Open the Anaconda Prompt
3. Go to the directory of the nextnanopy project folder
4. Build by:
   `python setup.py install`
5. Open Spyder by:
   `spyder`
   Now you should be able to import nextnanopy package.
6. Follow Example 0 to set up the configuration

To upgrade to the latest version, from Anaconda Prompt,

1. 'git pull' the repository
2. Build by:
   `python setup.py install`

Option 2: Automatic installation

The advantage of automatic installation is that it does not require knowledge of the GitHub repository.

1. Open the Anaconda Prompt
2. Install by:
   `pip install nextnanopy`
3. Open Spyder by:
   `spyder`
   Now you should be able to import nextnanopy package.
4. Follow Example 0 to set up the configuration

To upgrade to the latest version, from Anaconda Prompt, type:

```
pip install --upgrade nextnanopy
```

Dependencies

Necessary packages:

- Python (tested with 3.8)
- NumPy
- PyVista (to load VTK files)

Optional packages to enhance nextnanopy:

- Gdspy (to import gds files)
- Shapely (to manipulate polygons from gds files)
- Matplotlib (to visualize imported polygons)
- Cycler (to visualize imported polygons)

Many of these packages come with Anaconda. If any package is missing, you can install from Anaconda Prompt with:

```
conda install <package_name>
```