

## Meeting Notes

- History command can be used to check what you have tried
- What kinds of challenges on diff operating systems.
- Qualitative research approaches, open coding for categorization of problems.
- Start from a known base condition.
- Agreed upon method for tracking results.
- Use the same ROS (Melodic) types and test it on different OS.
- Document people's experiences with open-source software

Example for project data acquisition Open coding:

<https://ieeexplore.ieee.org/abstract/document/9812349>

Paper setup example: <https://ieeexplore.ieee.org/abstract/document/6698917>

Related work:

<https://dl.acm.org/doi/10.1145/3124680.3124733>

[https://link.springer.com/chapter/10.1007/978-3-319-54927-9\\_9#citeas](https://link.springer.com/chapter/10.1007/978-3-319-54927-9_9#citeas)

Open Coding

## Project Details

Known Base Condition: Cloud Instances AWS or Library Laptops(check permissions)

## Experiment Parameters

ROS TYPE: ros 1

ROS VER: Melodic

OS VER: linux, windows, osx

TUTORIALS: official ROS documentation tutorials



#### Schedule:

- # 0 Lit review and reading the papers referenced.
- # 1 Setup machines aws or machines from library
- # 2 Install ROS on different OSs.

#### Paper Links:

- 1) Open Coding:  
[https://research.phoenix.edu/content/research-methodology-group/open-coding-analysis  
#:~:text=Open%20coding%20is%20the%20systematic,to%20see%20how%20they%20interplay.](https://research.phoenix.edu/content/research-methodology-group/open-coding-analysis#:~:text=Open%20coding%20is%20the%20systematic,to%20see%20how%20they%20interplay)
- 2) How to access EC2 instance and download stuff:  
<https://www.ktexperts.com/how-to-install-python-boto3-on-aws-ec2/>
- 3)

#### Open Coding Description from Dr.Ore suggested paper:

Following the procedure for Open Coding [10], [11], two authors familiar with ROS independently review all questions and assign each one to a category, *without determining the categories beforehand*, so that the categories 'emerge' from the data itself. After both authors complete their first pass over all questions, they make a second pass over all questions, reevaluating how questions are assigned to categories that emerged from the first pass, and

consolidating or splitting categories if necessary. Then, all three compare categories and discuss individual questions until they converge on a set of categories and all questions are assigned to a category. Finally, one author organizes the categories into a hierarchy.

MAC password: ros-install-project23

MAC install instructions setup: macOS Mojave + native (Apple) Python 2.7.10 + XCode 11.2.1

Experiment MAC Setup 1: macOS Big Sur + Python 2.7.16 + Xcode 13.2

Experiment MAC Setup 2: macOS Big Sur + Python 2.7.16 + Xcode 13.2

Experiment Windows Setup 1: Windows 10 + Visual Studios 2022

## Paper Improvements

Review 1:

- 1) Further explanation of what exactly Open Coding is would be helpful to the reader. (Solution: Done)
- 2) One weakness of the paper is how it only explores one distribution of Linux. It is possible that similar issues as those encountered with Windows and macOS would arise with non-Ubuntu distributions of Linux. (DONE Solution: add this to limitations sections/future work)
- 3) Additionally, although the paper mentions no issues were encountered with Ubuntu, there was little to no discussion about it. The paper could be benefited from adding a larger snippet about how Linux worked well.(Solution: we didn't test ubuntu on the same 3 distros as we did the other two, that's why we don't have much discussion on it, so we could maybe just take out that we experimented with 1 distro in ubuntu and just say in the intro that the main issues on blogs/posts seem to arise with non ubuntu machines so we explored mac/windows, maybe also add while ubuntu is a solution to the install issues there are some drawbacks with some visualizations/simulation(gazebo riviz) and speed maybe cite intro) (Removed reference to ubuntu installation in methodology)
- 4) formatting clean up, as there is a mix of left-aligned and justified text. There were a few capitalization issues as well. (DONE solution: fix)

Review 2:

- 5) lack of citations in the paper. (solution: "Many developers' main machines are Windows and MAC and the inability to support these popular operating machines lead to many users having to use a virtual Ubuntu machine in order to use ROS." find citation intro) Done
- 6) opportunity for growth could be specifying if all the installations were completed.(DONE solution: add to discussion)
- 7) I also wondered why the issues of the ROS installation for Ubuntu 20.04.1 were not mentioned in the third table. (solution: yup lets just remove the ubuntu stuff since we didnt do all 3 intro/wherever else)
- 8) As a reader, it would have been helpful for the authors to introduce the categories before discussing the number of issues per category and distribution. (DONE solution: move tables results)

Review 3:

- 1) Tying it back to the title of the paper, how would one know whether a virtual machine is what they need? (DONE solution: in discussion when add that none of the machines got fully set up add that a virtual machine would be needed)

Review 4:

- 1) ROS issue is described but do not evaluate the effectiveness of the solution. (DONE solution: same as one above we just need to say none of us got a full install discussion)
- 2) We need to link the ros distro install guides i think? References the links are on our artifact proj github can grab them from there
- 3) section could be added to the paper about what improvements can be made and how future researchers can build on this paper. (DONE Solution: add a sentence in conclusion)
- 4) the paper's paragraphs should be formatted better. (DONE solution: fix)

IEEE format

<https://marathon.csee.usf.edu/~sarkar/IEEEformat.html>

## Bug Reports MAC: Setup Melodic (4 Issues)

Melodic Documentation:

<http://wiki.ros.org/melodic/Installation/macOS/Homebrew/Source>

Documentation says Tested On: macOS Mojave, Python 2.7, XCode 11.2.1

Our Setup: macOS BigSur, Python 2.7, ??

### **#1 ISSUE: Step 1.3 Install wxPython (python 2.7), install attrdict error**

**Isabella: category 1(package install issues)**

**Kelly: category 1 (installation issues)**

**Sana: category 1 (incompatible versions/ version issues)**

**All: category 1 (dependency issues)**

Terminal Output Saved: Terminal-output-issue-2.txt

```
ros-install-project@John-Pauls-MacBook-Pro ~ % sudo -H pip install -U wxPython
Collecting wxPython
  Downloading https://files.pythonhosted.org/packages/49/33/b616c7ed4742be6e0d111ca375b41379607dc7cc7ac7ff6aead7a5a0bf53/wxPython-4.2.0.tar.gz (71.0MB)
    100% |████████████████████████████████| 71.0MB 366kB/s
  Complete output from command python setup.py egg_info:
  Traceback (most recent call last):
    File "<string>", line 1, in <module>
      File "/private/tmp/pip-install-G4Cou8/wxPython/setup.py", line 27, in <module>
        from buildtools.config import Config, msg, opj, runcmd, canGetSOName, getSOName
    File "buildtools/config.py", line 30, in <module>
      from attrdict import AttrDict
  ImportError: No module named attrdict

  -----
  Command "python setup.py egg_info" failed with error code 1 in /private/tmp/pip-install-G4Cou8/wxPython/
You are using pip version 18.1, however version 20.3.4 is available.
[You should consider upgrading via the 'pip install --upgrade pip' command.
ros-install-project@John-Pauls-MacBook-Pro ~ %
```

## Solution: Install attrdict

```
ros-install-project@John-Pauls-MacBook-Pro ~ % sudo -H pip install -U attrdict
Collecting attrdict
  Downloading https://files.pythonhosted.org/packages/ef/97/28fe7e68bc7adfce67d4339756e85e9fcf3c6fd7f0c0781695352b70472c/attrdict-2.0.1-py2.py3-none-any.whl
Collecting six (from attrdict)
  Downloading https://files.pythonhosted.org/packages/d9/5a/e7c31adbe875f2abbb91bd84cf2dc52d792b5a01506781dbcf25c91daf11/six-1.16.0-py2.py3-none-any.whl
Successfully installed attrdict-2.0.1 six-1.16.0
You are using pip version 9.0.3, however version 23.0.1 is available.
[You should consider upgrading via the 'pip install --upgrade pip' command.
```

## #2 ISSUE: Step 1.3 Install wxPython (python 2.7), install attrdict, **syntax error**

Isabella: Category 2

Kelly: category 2 (terminal error)

Sana: category 2 (syntax errors)

All: Syntax errors

```

ros-install-project@John-Pauls-MacBook-Pro ~ % sudo -H pip install -U wxPython
Collecting wxPython
| Using cached https://files.pythonhosted.org/packages/d9/33/b616c7ed4742be6e0d111ca375b41379607dc7cc7ac7ff6ae7a5a0bf53/wxPython-4.2.0.tar.gz
Collecting pillow (from wxPython)
| Cache entry deserialization failed, entry ignored
| Cache entry deserialization failed, entry ignored
| Downloading https://files.pythonhosted.org/packages/d1/6a/41719faa7421602a85941867059f53787ac40c85c8fe9e6bb48809e3246e/Pillow-6.2.2-cp27-cp27m-macosx_10_6_intel.whl (3.9MB)
100% |██████████| 3.9MB 402kB/s
Requirement already up-to-date: six in /Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/site-packages (from wxPython)
Collecting numpy<1.17 (from wxPython)
| Cache entry deserialization failed, entry ignored
| Downloading https://files.pythonhosted.org/packages/09/96/84cf406fe7d589f3dba9fc0f737e65985a3526c6d8c783f02d4b5a10825d/numpy-1.16.6-cp27-cp27m-macosx_10_9_x86_64.whl (13.9MB)
100% |██████████| 13.9MB 124kB/s
Installing collected packages: pillow, numpy, wxPython
  Running setup.py install for wxPython ... error
    Complete output from command /Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python -u -c "import setuptools, tokenize;__file__='/private/tmp/pip-build-wVPDud/wxPython/setup.py';f=getattr(tokenize, 'open', open)(__file__);code=f.read();replace('\\r\\n', '\\n');f.close();exec(compile(code, __file__, 'exec'))" install --record /tmp/pip-BjFkRG-record/install-record.txt --single-version-externally-managed --compile:
    running install
    running build
    WARNING: Building this way assumes that all generated files have been
    generated already. If that is not the case then use build.py directly
    to generate the source and perform the build stage. You can use
    --skip-build with the bdist_* or install commands to avoid this
    message and the wxWidgets and Phoenix build steps in the future.

    "/Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python" -u build.py build
      File "build.py", line 805
        msg(f"CL.exe: {CL}")
        ^
SyntaxError: invalid syntax
Command "/Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python" -u build.py build' failed with exit code 1.

-----
Command "/Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python -u -c "import setuptools, tokenize;__file__='/private/tmp/pip-build-wVPDud/wxPython/setup.py';f=getattr(tokenize, 'open', open)(__file__);code=f.read();replace('\\r\\n', '\\n');f.close();exec(compile(code, __file__, 'exec'))" install --record /tmp/pip-BjFkRG-record/install-record.txt --single-version-externally-managed --compile" failed with error code 1 in /private/tmp/pip-build-wVPDud/wxPython/
You are using pip version 9.0.3, however version 23.0.1 is available.
You should consider upgrading via the 'pip install --upgrade pip' command.

```

Solution: Python version mismatch???, tutorial says tested with 2.7 but wxpython only works with 3.x

### #3 ISSUE: Step 1.3 Install wxPython (python 3), install pillow error

All: Category 1

**Kelly: category 1 (installation issues)**

**Sana: category 1 (incompatible versions/ version issues)**

Terminal Output Saved: Terminal-output-issue-3-4.txt

```

ros-install-project@John-Pauls-MacBook-Pro ~ % sudo -H pip3 install -U wxPython
Password:
Collecting wxPython
  Using cached wxPython-4.2.0.tar.gz (71.0 MB)
Collecting pillow
  Downloading Pillow-9.4.0.tar.gz (50.4 MB)
    |██████████| 50.4 MB 192 kB/s
Requirement already satisfied, skipping upgrade: six in /Library/Developer/CommandLineTools/Library/Frameworks/Python3.framework/Versions/3.8/lib/python3.8/site-packages (from wxPython) (1.15.0)
Collecting numpy
  Downloading numpy-1.24.2.tar.gz (10.9 MB)
    |██████████| 10.9 MB 9.2 MB/s
Installing build dependencies ... done
Getting requirements to build wheel ... done
  Preparing wheel metadata ... done
Building wheels for collected packages: wxPython, pillow, numpy
  Building wheel for wxPython (setup.py) ... error
    ERROR: Command errored out with exit status 1:
      command: /Library/Developer/CommandLineTools/usr/bin/python3 -u -c 'import sys, setuptools, tokenize; sys.argv[0] = '../../../../../private/tmp/pip-install-bhe_t9im/wxpython/setup.py';__file__= '../../../../../private/tmp/pip-install-bhe_t9im/wxpython/setup.py';f=getattr(tokenize, "'open'", open)(__file__);code=f.read().replace('\r\n', '\n');f.close();exec(compile(code, __file__, "'exec'))' bdist_wheel -d /private/tmp/pip-wheel-pvoiaemf
        cwd: /private/tmp/pip-install-bhe_t9im/wxpython/
    Complete output (1919 lines):
    running bdist_wheel
    running build
    WARNING: Building this way assumes that all generated files have been
    generated already. If that is not the case then use build.py directly
    to generate the source and perform the build stage. You can use
    --skip-Build with the bdist_* or install commands to avoid this
    message and the wxWidgets and Phoenix build steps in the future.

    //Library/Developer/CommandLineTools/usr/bin/python3" -u build.py build
    Will build using: "/Library/Developer/CommandLineTools/usr/bin/python3"
    3.8.9 (default, Oct 26 2021, 07:25:54)
    [Clang 13.0.0 (clang-1300.0.29.30)]
    Python's architecture is 64bit
    cfg.VERSION: 4.2.0

```

```

ERROR: Failed building wheel for wxPython
Running setup.py clean for wxPython
Building wheel for pillow (setup.py) ... error
    ERROR: Command errored out with exit status 1:
      command: /Library/Developer/CommandLineTools/usr/bin/python3 -u -c 'import sys, setuptools, tokenize; sys.argv[0] = '../../../../../private/tmp/pip-install-bhe_t9im/pillow/setup.py';__file__= '../../../../../private/tmp/pip-install-bhe_t9im/pillow/setup.py';f=getattr(tokenize, "'open'", open)(__file__);code=f.read().replace('\r\n', '\n');f.close();exec(compile(code, __file__, "'exec'))' bdist_wheel -d /private/tmp/pip-wheel-i8ubjykx
        cwd: /private/tmp/pip-install-bhe_t9im/pillow/
    Complete output (178 lines):
    running bdist_wheel
    running build
    running build_py
    creating build
    creating build/lib.macosx-10.14-x86_64-3.8
    creating build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/MpoImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/ImageMode.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/PngImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/KbmImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/PcxImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/SunImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/ImageFile.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/SpiderImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/TarIO.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/FitsStubImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/MpegImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/BdfFontFile.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/GribStubImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/ImageStat.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/PixarImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/GimpPaletteFile.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/ImageColor.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/ContainerIO.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/MspImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/MicImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/_version.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/ImtImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/GifImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
    copying src/PIL/PalmImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL

```

## #4 ISSUE: Step 1.3 Install wxPython (python 3), install pillow error, pillow individual installation failed

All: category 1

Isabella: Category 1

**Kelly: category 1 (installation issues)**

**Sana: category 1 (incompatible versions/ version issues) might also be missing package directories.**

```
ros-install-project@John-Pauls-MacBook-Pro ~ % sudo pip3 install pillow
WARNING: The directory '/Users/ros-install-project/Library/Caches/pip' or its parent directory is not owned or is not writable by the current user. The cache has been disabled. Check the permissions and owner of that directory. If executing pip with sudo, you may want sudo's -H flag.
Collecting pillow
  Downloading Pillow-9.4.0.tar.gz (50.4 MB)
    |██████████| 50.4 MB 12.0 MB/s
Building wheels for collected packages: pillow
  Building wheel for pillow (setup.py) ... error
    ERROR: Command errored out with exit status 1:
      command: /Library/Developer/CommandLineTools/usr/bin/python3 -u -c 'import sys, setuptools, tokenize; sys.argv[0] = '../../../../../private/tmp/pip-install-hzlv39k6/pillow/setup.py';f=getattr(tokenize, "open", open)(__file__);code=f.read().replace('"',"');f.close();exec(compile(code, __file__, "exec"))'
        cwd: /private/tmp/pip-install-hzlv39k6/pillow/
      Complete output (178 lines):
running bdist_wheel
running build
running build_py
creating build
creating build/lib.macosx-10.14-x86_64-3.8
creating build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_ImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_ImageMode.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_PngImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_XbmImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_PcxImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_SunImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_ImageFile.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_SpiderImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_TarIO.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_FitsStubImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_MpegImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_BdfFontFile.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_GribStubImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_ImageStat.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_PixarImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_GimpPaletteFile.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_ImageColor.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_ContainerIO.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
copying src/PIL/_MspImagePlugin.py -> build/lib.macosx-10.14-x86_64-3.8/PIL
```

## Bug Reports MAC: Setup Kinetic (3 Issues)

Kinetic Documentation: <http://wiki.ros.org/kinetic/Installation/OSX/Homebrew/Source>

**#1 Issue: Step 1.1 brew tap homebrew/science,**

**Isabella: Category 3**

**Kelly: category 2 (terminal error)**

**Sana: category 3 (package migration/package management)**

**All: category 3 package management**

Output: Terminal-Issue-1.txt

Solution:

<https://stackoverflow.com/questions/49104856/error-homebrew-science-was-deprecate-d-what-should-i-do>

```
[ros-install-project-2@John-Pauls-MacBook-Pro ~ % brew tap homebrew/science
Running 'brew update --auto-update'...
==> Auto-updated Homebrew!
Updated 2 taps (osrf/simulation and homebrew/core).
==> New Formulae
meta-package-manager

You have 7 outdated formulae installed.

Error: homebrew/science was deprecated. This tap is now empty and all its contents were either deleted or migrated.
ros-install-project-2@John-Pauls-MacBook-Pro ~ %
```

Says: Add our ROS dependencies tap and the Homebrew science tap so you can get some non-standard formulae but can just add as needed

## #2 ISSUE: Step 1.3 Install wxPython (python 2.7), syntax error

Isabella: Category 2

Kelly: category 2 (terminal error)

Sana: category 2 (syntax error)

All: category 2 (syntax)

Output: Terminal-Issue-2.txt

```
ros-install-project-2@John-Pauls-MacBook-Pro ~ % sudo -H python2 -m pip install wxPython
DEPRECATION: Python 2.7 reached the end of its life on January 1st, 2020. Please upgrade your Python as Python 2.7 is no longer maintained. pip 21.0 will drop support for Python 2.7 in January 2021. More details about Python 2 support in pip can be found at https://pip.pypa.io/en/latest/development/release-process/#python-2-support pip 21.0 will remove support for this functionality.
Collecting wxPython
  Using cached wxPython-4.2.0.tar.gz (71.0 MB)
Requirement already satisfied: pillow in /Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/site-packages (from wxPython) (6.2.2)
Requirement already satisfied: six in /Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/site-packages (from wxPython) (1.16.0)
Requirement already satisfied: numpy<1.17 in /Library/Frameworks/Python.framework/Versions/2.7/lib/python2.7/site-packages (from wxPython) (1.16.6)
Using legacy 'setup.py install' for wxPython, since package 'wheel' is not installed.
Installing collected packages: wxPython
  Running setup.py install for wxPython ... error
    ERROR: Command errored out with exit status 1:
      command: /Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python -u -c 'import sys, setuptools, tokenize; sys.argv[0] = """/private/tmp/pip-install-MNVCKN/wxpython/setup.py"""; __file__="""/private/tmp/pip-install-MNVCKN/wxpython/setup.py""";f=getattr(tokenize, """open""", open)(__file__);code=f.read().replace("""\r\n""", """\n""");f.close();exec(compile(code, __file__, """exec"""))' install --record /private/tmp/pip-record-0qdpfV/install-record.txt --single-version-externally-managed --compile --install-headers /Library/Frameworks/Python.framework/Versions/2.7/include/python2.7/wxPython
        cwd: /private/tmp/pip-install-MNVCKN/wxpython/
    Complete output (14 lines):
    running install
    running build
    WARNING: Building this way assumes that all generated files have been
    generated already. If that is not the case then use build.py directly
    to generate the source and perform the build stage. You can use
    --skip-build with the bdist_* or install commands to avoid this
    message and the wxWidgets and Phoenix build steps in the future.

    "/Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python" -u build.py build
      File "build.py", line 805
        msg(f"CL.exe: {CL!r}")
        ^
SyntaxError: invalid syntax
Command "/Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python" -u build.py build' failed with exit code 1.
-----
ERROR: Command errored out with exit status 1: /Library/Frameworks/Python.framework/Versions/2.7/Resources/Python.app/Contents/MacOS/Python -u -c 'import sys, setuptools, tokenize; sys.argv[0] = """/private/tmp/pip-install-MNVCKN/wxpython/setup.py"""; __file__="""/private/tmp/pip-install-MNVCKN/wxpython/setup.py""";f=getattr(tokenize, """open""", open)(__file__);code=f.read().replace("""\r\n""", """\n""");f.close();exec(compile(code, __file__, """exec"""))' install --record /private/tmp/pip-record-0qdpfV/install-record.txt --single-version-externally-managed --compile --install-headers /Library/Frameworks/Python.framework/Versions/2.7/include/python2.7/wxPython Check the logs for full command output.
ros-install-project-2@John-Pauls-MacBook-Pro ~ %
```

## #3 ISSUE: Step 1.3 Install wxPython (python 3.8.9), ssl issue

## Isabella: Category 4

## Kelly: category 3 (ssl issues)

**Sana: category 4 (library inconsistency, python uses own SSL libraries instead of system libraries)**

## All: category 4 (SSL library)

## Output: Terminal-Issue-2-2.txt

```
[ros-install-project-2@John-Pauls-MacBook-Pro ~ % sudo -H python3 -m pip install wxPython
>Password:
WARNING: pip is configured with locations that require TLS/SSL, however the ssl module in Python is not available.
Requirement already satisfied: wxPython in /usr/local/lib/python3.11/site-packages (4.2.0)
Requirement already satisfied: pillow in /usr/local/lib/python3.11/site-packages (from wxPython) (9.4.0)
Requirement already satisfied: six in /usr/local/lib/python3.11/site-packages (from wxPython) (1.16.0)
Requirement already satisfied: numpy in /usr/local/lib/python3.11/site-packages (from wxPython) (1.24.2)
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
WARNING: pip is configured with locations that require TLS/SSL, however the ssl module in Python is not available.
Could not fetch URL https://pypi.org/simple/pip/: There was a problem confirming the ssl certificate: HTTPSConnectionPool(host='pypi.org', port=443): Max retries exceeded with url: /simple/pip/ (Caused by SSLError("Can't connect to HTTPS URL because the SSL module is not available.")) - skipping
ros-install-project-2@John-Pauls-MacBook-Pro ~ %
```

## Bug Reports MAC: Setup Noetic (1 Issue)

**#1 Issue** Noetic Documentation: Does not exist.

**Isabella: Category 5**

**Kelly: category 4 (nonexistent)**

**Sana: category 5 (nonexistent)**

**All: category 5 (nonexistent)**

TOTAL OSX ISSUES: 8

## Bug Reports Windows: Setup Noetic (4 Issues)

Noetic Documentation: <http://wiki.ros.org/Installation/Windows>

**#1 ISSUE: Step 3**

**Isabella: Category 3**

**Kelly: category 5 (version issues)**

**Sana: category 1 (incompatible versions/ version issues)**

**All: category 6 (software installation)**

The older versions of Visual Studios require a login to install, but upon logging in, the only available version to download was the 2022 version and not the older versions. If you go back to the page that contains links to the older versions, the installation link takes you to the same page and does not allow you to install any of the older versions.

The screenshot shows the Microsoft 'Your Downloads' interface. At the top, there's a purple header bar with icons for benefits, downloads, product keys, subscriptions, help, and marketplace. Below the header, a message encourages opting in for subscription updates. A search bar and a dropdown menu are present. On the left, a 'FILTER BY PRODUCT FAMILY' sidebar lists 'Visual Studio Community 2022'. The main area displays a single download entry for 'Visual Studio Community 2022 (version 17.5)'. The entry includes a 'No key required' note, an 'Info' link, a release date of '11/Apr/2023', and download links for 'mul' (multiple languages) and 'exe'. A prominent blue 'Download' button is highlighted with a downward arrow icon. A 'Feedback' button is located on the right side of the main content area.

## #2 ISSUE: Step 6

**Isabella: Category 3**

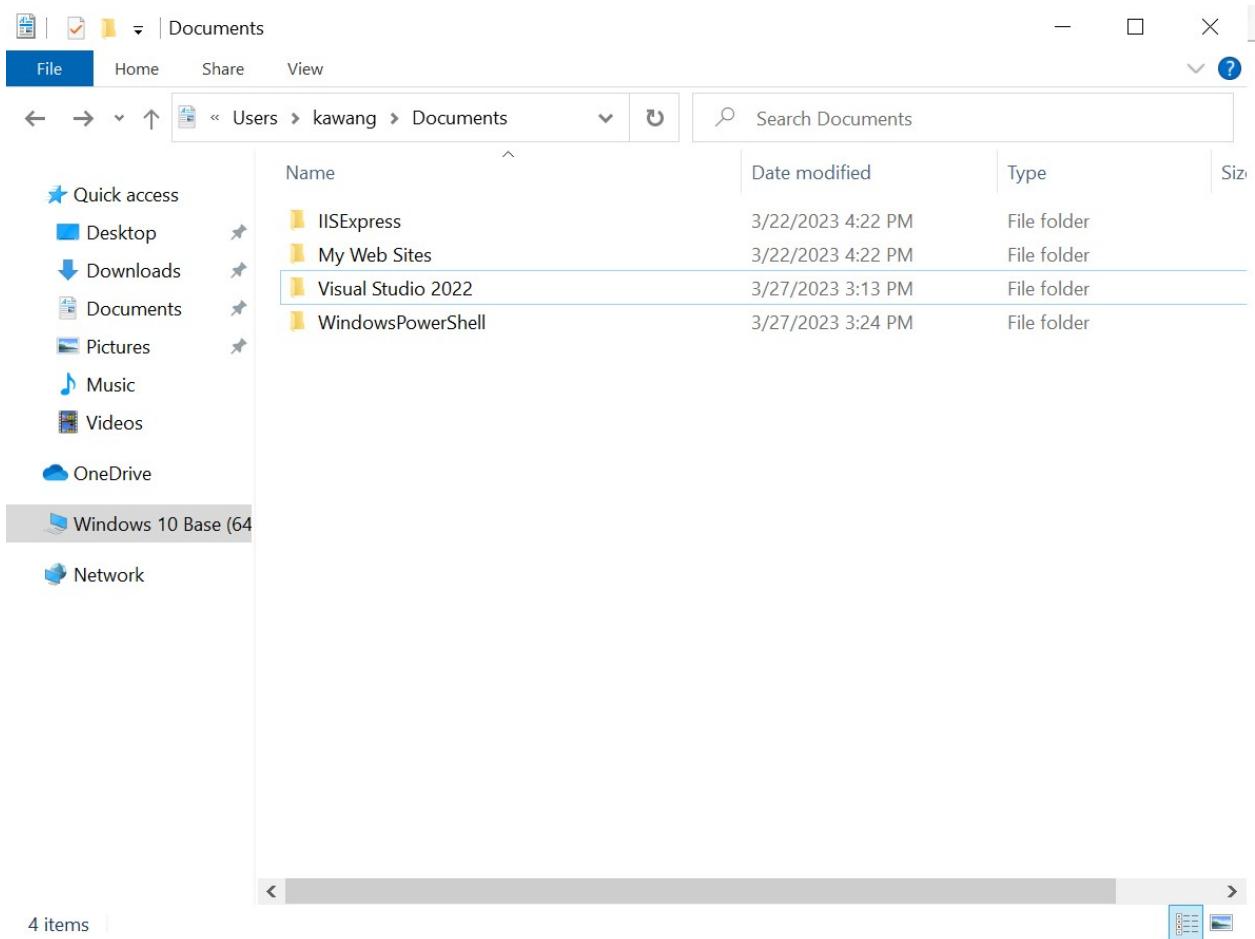
**Kelly: category 5 (version issues)**

**Sana: category 1 (incompatible versions/ version issues)**

**All: category 6 (software installation)**

The Visual Studio 2019 link provided for download on the installation page is not the intended version and does not work when creating the custom administrative ROS Noetic command line terminal.

```
'\"C:\\Program Files (x86)\\Microsoft Visual Studio\\2019\\Community\\Common7\\Tools\\VsDevCmd.bat\"' is not recognized  
as an internal or external command,  
operable program or batch file.  
C:\\WINDOWS\\system32>|
```



Installation for Visual Studios 2019 is somehow 2022 instead.

## #3 ISSUE: Step 6.1

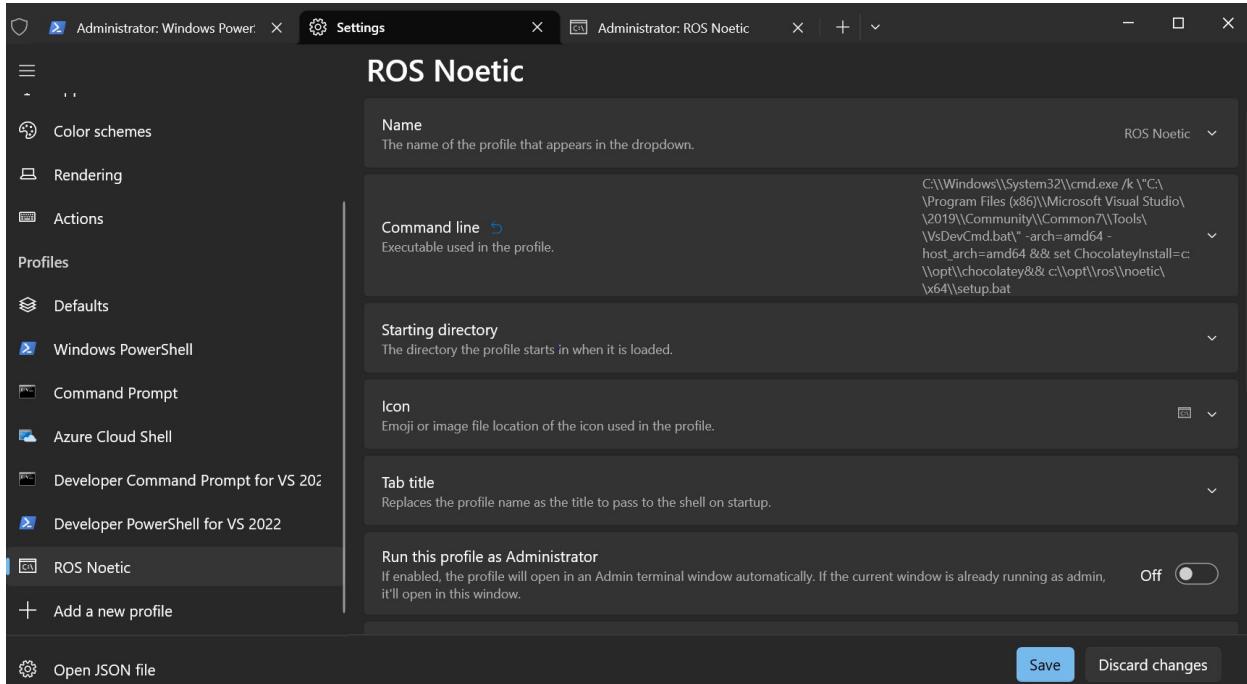
**Isabella: Category 6**

**Kelly: category 6 (custom console issues)**

**Sana: category 6 (missing custom configuration/custom console issues)**

**All: category 7 (custom configuration issue).**

There is no place to place the guide in.



## #4 ISSUE: Step 7

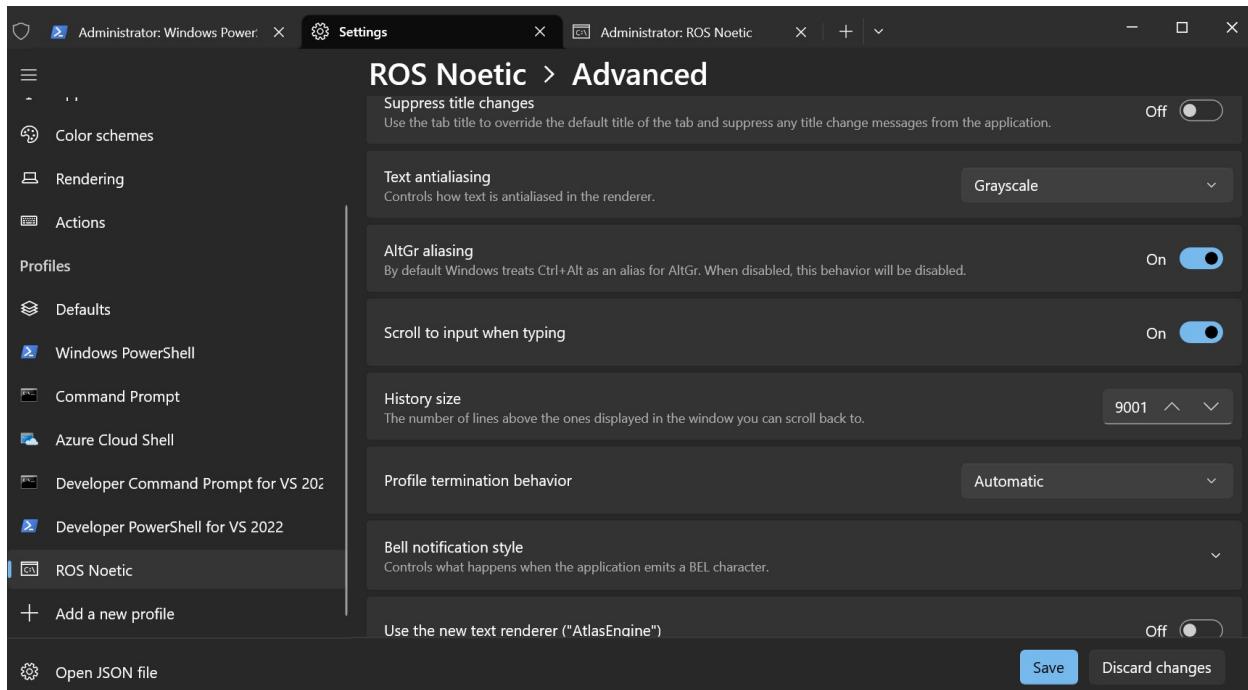
**Isabella: Category 6**

**Kelly: category 6 (custom console issues)**

**Sana: category 6 (custom console issues)**

**All: category 7 (custom configuration issue).**

Generating the new guide is useless because there is nowhere to put it, and the optional parameter is also absent from the settings.



## Bug Reports Windows: Setup Melodic (1 Issue)

### #1 ISSUE:

ROS Melodic Documentation: <http://wiki.ros.org/Installation/Windows>

**Kelly: category 5 (version issues)**

**Sana: category 1 (version issues)**

**All: category 6 (software installation)**

The screenshot shows the Microsoft 'Your Downloads' interface. At the top, there's a purple header bar with icons for benefits, downloads, product keys, subscriptions, help, and marketplace. Below the header is a purple banner with a user profile icon and a message about opting in for emails. A search bar and a dropdown menu are also present. The main content area shows a single download entry for 'Visual Studio Community 2022 (version 17.5)'. The entry includes a 'No key required' note, an 'Info' link, a release date of '11/Apr/2023', and download links for 'mul' (multiple languages) and 'exe'. A 'Download' button is highlighted in blue. On the right side of the page, there's a vertical 'Feedback' button.

## Bug Reports Windows: Setup Kinetic (1 Issue)

### #1 ISSUE:

**Isabella: Category 5**

**Kelly: category 4 (nonexistent)**

**Sana: category 5 (nonexistent)**

**All: category 5 (nonexistent)**

ROS Kinetic Documentation:

No documentation found.

<https://ncsu.zoom.us/j/97159826129?pwd=c29jUTRrdWJ3cWdlaDVzYXVKZjVsZz09>

## TOTAL WINDOWS ISSUES: 6

Sana: Abstract, Intro, methods, related work

Isabella: background, results categories 1,2,3

Kelly: second half results categories 4,5,6,7 , conclusion

All: Discussion