

ADCP Processing Environment Setup (Clean & Editable)

Pre-requisites

- OS: Ubuntu (or Unix-like)
 - Python version: **3.7** (use Conda for this)
 - Tools: git, pip, conda, and mercurial
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Step-by-step Installation

1. Install Miniconda (skip if already installed)

```
wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
bash Miniconda3-latest-Linux-x86_64.sh
source ~/.bashrc
```

2. Create a working directory and Python 3.7 environment

```
mkdir ~/adcp
cd ~/adcp

conda create -n adcp37 python=3.7
conda activate adcp37
```

3. Configure Conda and install base dependencies

```
conda config --add channels conda-forge
conda config --set channel_priority strict

conda install numpy scipy pip pandas netCDF4 xarray gsw
matplotlib=3.5 shapely cython
pip install ruamel.yaml
```

4. Clone and install ttide_py in editable mode

```
git clone https://github.com/moflaher/ttide_py.git
cd ttide_py
```

```
pip install -e .  
cd ..
```

5. Clone and install pycurrents in editable mode

```
sudo apt install mercurial # needed for `hg clone`  
  
hg clone http://currents.soest.hawaii.edu/hg/pycurrents  
cd pycurrents  
pip install -e .  
cd ..
```

6. Clone and install pycurrents_ADCP_processing in editable mode

```
git clone https://github.com/IOS-OSD-  
DPG/pycurrents_ADCP_processing.git  
cd pycurrents_ADCP_processing  
pip install -e .  
cd ..
```

7. Test the environment

Launch Python and verify paths:

```
python  
import pycurrents  
print(pycurrents.__file__)  
  
import pycurrents_ADCP_processing  
print(pycurrents_ADCP_processing.__file__)  
  
import ttide  
print(ttide.__file__)
```

You should see paths like:

```
/home/ethan/adcp/pycurrents/pycurrents/__init__.py
```

```
/home/ethan/adcp/pycurrents_ADCP_processing/pycurrents_ADCP_processing/__init__.py  
/home/ethan/adcp/ttide_py/ttide/__init__.py
```

If you see paths like this:

```
/home/ethan/miniconda3/envs/adcp37/lib/python3.7/site-packages/pycurrents_ADCP_processing
```

Something has gone wrong.

Optional: Cleanup from Old Installations

If you're reinstalling or correcting a broken setup, you can clean old installs:

```
pip uninstall pycurrents pycurrents_ADCP_processing ttide  
rm -rf pycurrents/*.egg-info pycurrents_ADCP_processing/*.egg-info  
rm -rf ttide_py/*.egg-info
```

Also inspect and clean:

```
rm -rf ~/miniconda3/envs/adcp37/lib/python3.7/site-packages/*pycurrents*  
rm -rf ~/miniconda3/envs/adcp37/lib/python3.7/site-packages/*ttide*
```