Installation guidelines Xdas and Xpick

Xdas is a public python-based package for DAS data processing. Xpick is an app within Xdas that allows manual picking and labeling of phases on DAS data. You can find useful information and documentation here:

Xdas: https://xdas.readthedocs.io/en/latest/

Xpick: https://github.com/xdas-dev/xpick

To run locally Xdas and Xpick on you PC, you can follow this short guide.

We will start by creating a new environment within conda / Miniconda to manages all the Python packages for DAS data processing.

1. Start by creating a new environment (python>=3.10, suggested 3.12)
   ‘’’
   conda create -n “myenv” python==3.12
   ‘’’
2. Activate the new environment
   ‘’’
   conda activate “myenv”
   ‘’’
3. Install Xdas latest version and updated branches
   ‘’’
   pip install git+https://github.com/xdas-dev/xdas.git@dev
   pip install git+https://github.com/xdas-dev/xdas.git@fix/faster-interpcoord-append
   ‘’’
4. To install the Xpick app, first install nodejs
   ‘’’
   conda install "nodejs>=18"
   ‘’’
5. Then install the Xpick tool
   ‘’’
   pip install "git+https://github.com/xdas-dev/xpick.git"
   ‘’’

How to run Xpick

To use the Xpick picker tool from the terminal, you first must activate the environment where you installed the app, and then run the command:

‘’’

xpick data_collection_path.nc --phases=P,S --width=1200 --height=800

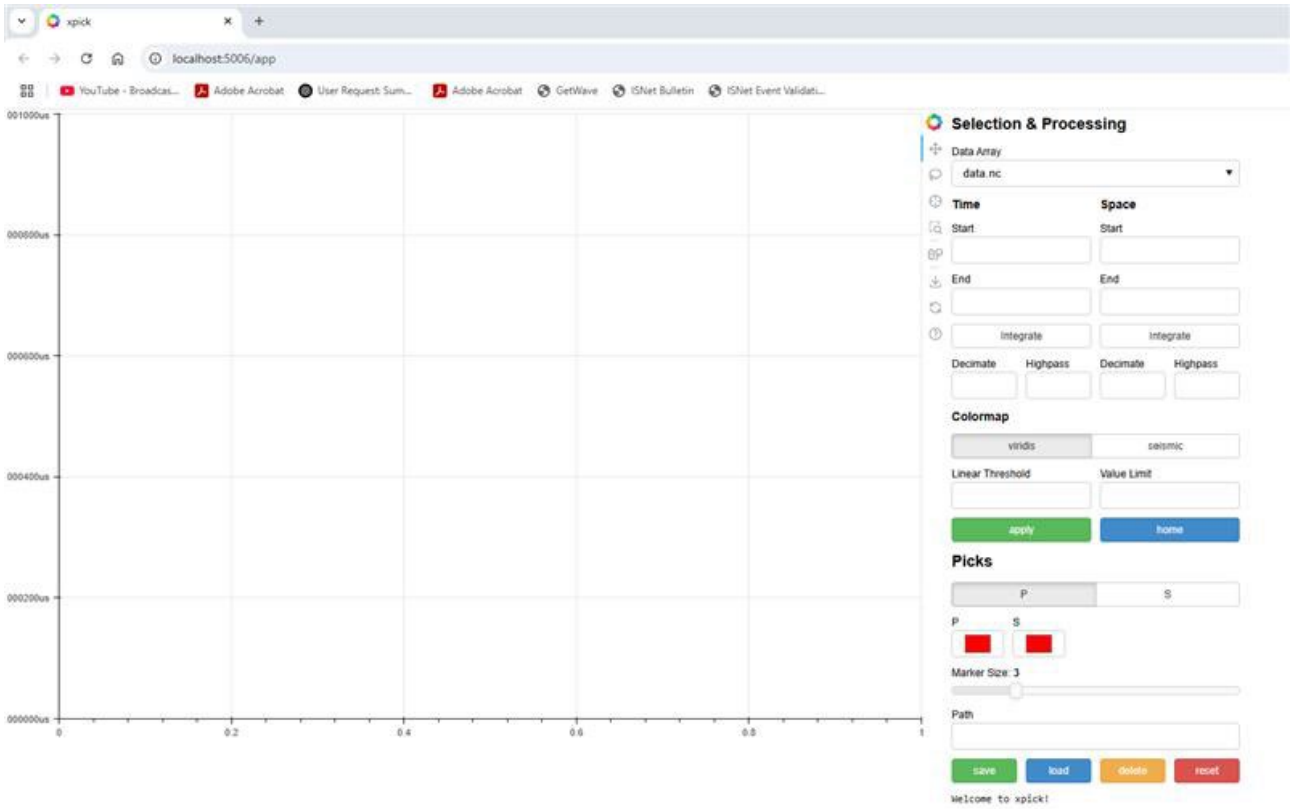
‘’’

Remember to put the correct path to your dataarray/datacollection, stored in netcdf format (.nc). The other parameters can be used to select the phase labels, or the dimension of the screen for visualization. You can find further details on the reference github page. (https://github.com/xdas-dev/xpick)

Once your xpick command will be launched you will visualize the following output

```
2025-06-19 15:34:11,125 Starting Bokeh server version 3.4.2 (running on Tornado 6.5.1)
2025-06-19 15:34:11,126 User authentication hooks NOT provided (default user enabled)
2025-06-19 15:34:11,126 Bokeh app running at: http://localhost:5006/app
2025-06-19 15:34:11,126 Starting Bokeh server with process id: 2148
```

By doing ctrl + click on the link, an xpick web page will open



From here, using the **Time** and **Space** selection, you can select portion of your data through **start** and **end** values. Time and space values are format are referred to the coordinates of you dataarray.nc. If you are using Xdas, time format is YYYY-MM-DDThh:mm:ss while space is in meters from the interrogator.

All the other indications for usage of Xpick can be found at the reference documentation page. . (https://github.com/xdas-dev/xpick)