

Workflow: From ELAN to P2FA
Sociolinguistics Laboratory Guide

Abbadon login: Lab User
Password: sociolab

Before you begin:

This guide assumes that you have the following:

1. An audiofile in .wav format, containing speech for which you wish to generate a phone-level alignment.
2. An .eaf file containing an exact orthographic transcription of the audio, produced in ELAN.
3. A working installation of p2fa running in one of the Linux Virtual Machine environments (VMs) in the Sociolinguistics laboratory.

Step I – ELAN:

Process your .eaf annotation file for Export to p2fa.

The first step is to transform your .eaf file so that your orthographic transcription will be available to p2fa.

1. With the .eaf file open, select **File > Export As**

- you may select either one of the export options that produces a .txt file (e.g. tab-delimited, or traditional .txt file both work).

2. A new dialogue box opens, asking you which tiers you wish to export. Ideally, you want to save just one tier (and, by implication, your ideal audio file will just contain audio with the voice of one speaker with no overtalking). But, often, this is not possible in sociolinguistic work. If you have overtalking in your audio, do your best to interleave the words so they are sequenced as they appear in the audio, as if they appeared in a single linear stream—this is how p2fa will work on the file.

Deselect all of the options that append additional material to the .txt output. Deselect checkboxes that would instruct ELAN to append tier names, timestamp information, etc. to the file. **Your output should contain only what is spoken in the recording. P2fa will try to isolate a phone for every word in your transcript.**

Note: If you have a great deal of overtalking, p2fa will unlikely be able to produce a reasonable alignment, and you will spend an inordinate amount of time hand-correcting. In such cases, it's best to attenuate the relevant audio selection to 0 (clean up the audio in Praat), and remove associated transcribed material from the .eaf file.

3. Click OK. A new dialogue box opens prompting you to select the file encoding. Leave it at UTF-8, and click OK.

4. **Open a Text editor.** Remove any extraneous material that you do not want to force-align. Remove periods, commas, semicolons, colons, and other punctuation or transcription conventions (e.g., <> [] // @ XXXX).

5. Save your files to a folder on one of the laboratory computers that has been configured to run a virtual machine with a p2fa installation. The two computers with this configuration are **Abbadon** and **Astrid**.

The default folder to use is on the computer desktop: **p2fa-PNWE**. You will execute secure file transfer from this folder to the VM.

Step II – Access the Linux VM

Copy files required for p2fa.

Your working folder in the Linux environment will be home/p2fa/PNWE.

Your login name is: p2fa

1. To launch the Linux VM, click on the **VirtualBox** icon in the dock.

Select the volume “Centos.”

Press the green start arrow in the menu at the top of the dialogue box.

Wait about 2-3 minutes for the VM to mount.

2. A login window will appear.

Username: **p2fa**

There is no password. Just hit ‘enter’ after typing in the username.

3. The blue desktop screen now appears.

4. You will now copy your .wav and .txt files to the home/p2fa/PNWE folder using a Terminal window to interface between the desktop machine’s local drive and virtual machine.

To launch terminal, **right click** (COMMAND+click) anywhere on the Linux desktop.

A menu appears under your cursor. Select **Open Terminal**.

Check the pathname of your working directory (using command pwd):

```
[p2fa@localhost ~]$ pwd
/home/p2fa/p2fa
```

Navigate to the working directory if you’re not sitting there already (using command cd):

```
[p2fa@localhost ~]$ cd /home/p2fa/p2fa
```

Confirm that the python executable, align.py, is in the folder where it should be (using command ls):

```
[p2fa@localhost ~]$ ls
align.py  examples  model  readme.txt  tmp
changes.txt  init.py  PNWE  test
```

6. At the prompt, log in to the desktop machine as labuser (connect to Abbadon or Astrid) (using the command sftp):

```
[p2fa@localhost ~]$ sftp labuser@10.0.2.2  
> password: sociolab
```

7. Navigate in the terminal shell to the desktop folder where your files are stored. Make note of this pathname, as you will also need it to return the p2fa output here when you're done with step III.

```
sftp> cd Desktop/p2fa-PNWE  
sftp> ls
```

Your file should appear in the file listing invoked by **ls**. Confirm that your file is there. If not, use **cd** to navigate to the correct folder.

8. Copy your .txt and .wav files to the VM working folder (using command get):

```
sftp > get filename.wav  
sftp> get filename.txt
```

9. End the Abbadon connection (when you do so, you should be returned to p2fa)

```
sftp > bye  
[p2fa@localhost ~]$ pwd  
/home/p2fa/p2fa
```

10. You're now ready to run p2fa!

Step III -- P2FA

Execute forced alignment.

Run align.py on your audiofile and transcript.

1. Making sure that you are in the folder containing both your .wav file, its matching .txt file, and align.py, invoke p2fa using the following syntax:

```
[p2fa@localhost ~]$ python align.py <test.wav> <test.txt> <test.TextGrid>  
where
```

- test.wav = your audiofile
- test.txt = your transcription
- test.TextGrid= the name of the Praat Text grid you want p2fa to create
- Do not include <> around your filenames.

Note: You may not wish to align text to an entire soundfile. If you wish, use **-s** to specify a start time (in seconds) and **-e** to specify an end time. For example,

```
[p2fa@localhost ~]$ python align.py -s 1.0 -e 2.0 py <test.wav> <test.txt> <test.TextGrid>  
• This will create an alignment over sound between 1.0s and 2.0s
```

2. Here's an example, demonstrating that you can use fractions of a second:

```
[p2fa@localhost~]$ align.py -s 1386.32065 -e 1473.384 SN8CF1D-RP.wav SN8CF1D-  
RP.txt SN8CF1D-RP.TextGrid
```

Note: If p2fa throws an error, it may be that you need to use the full pathname of your files. Check their locations and try again.

3. Your TextGrid is done!

Copy output of forced alignment back to the desktop machine's local disk.

1. Return to Abbadon or Astrid.

```
[p2fa@localhost ~]$ sftp labuser@10.0.2.2  
Password > sociolab  
cd Desktop/p2fa-PNWE
```

2. Again using secure file transfer, copy your new TextGrid file to your working directory on Abbadon (with command put):

```
sftp > put <test.TextGrid>
```

3. Your files should now appear in the MacOSX Finder when you open your working directory.

4. Log out of Terminal

```
> bye
```

5. Shut down the VM.

At the top of the screen, under the VirtualBoxVM menu, select **Quit**.

Step IV – Praat

You're ready for vowel measurement in Praat.

You can now access the word- and phone-level Praat Text Grid created by p2fa, and complete your analysis work in Praat.

1. Launch Praat.

2. Open your original audiofile as either a regular soundfile (CMD+O) or a long soundfile (CMD+L).

3. Open the <test.TextGrid> file.

4. Open 2, 3 together in the Praat Editor. To do this, SHIFT+select both files in the Praat Objects window. Select View. A Praat Editor window should open with your Praat text grid aligned properly to your audio.

Note: It is important to check where p2fa has placed onset and offset markers, and make any necessary corrections to the boundary markers. Drag to reposition. Save your text grid from the Praat editor window by selecting **File > save as binary .txt file**.