

Practical Prerequisites (LIFT Database File to Check)

In case it isn't obvious, in order to use this program to actually do anything, one needs a LIFT database to check. Fortunately these are not hard to generate; LIFT is an open XML specification for storing lexical data. You can create a LIFT database by a number of routes:

- Collect words in WeSay (Download [here](#)).
 - WeSay uses LIFT natively, so the same repository can be used for WeSay and $A \rightarrow Z + T$ (though I wouldn't recommend you have them both open at the same time).
 - WeSay is Chorus enabled, which allows easy tracking of changes and off-site archiving, including the changes to your database made by $A \rightarrow Z + T$.
 - While you're installing things, I highly recommend the excellent library of images that works with WeSay, the Art of Reading
- Build a dictionary in FLEx, and exporting to LIFT/WeSay.
 - assuming you want to get the checked database *back* into FLEx, you want to use send/receive for WeSay. Import/Export (a different process) can work, but there is no protection against overwriting your data, without doing back-ups yourself.
 - there is an active list of users to help with problems doing this.
- Store your data in some other form (text, spreadsheet, database) and convert it to LIFT (*PLEASE* don't do this unless you *really* know what you're doing, and have a *good* reason to; the other options above are much easier, and much less likely to result in data corruption)

Collaboration and Archival

I **strongly** recommend using a version controlled repository (e.g., mercurial, git), as is normally done in WeSay and in recommended FLEx collaboration schemes. Even if you are the only one to ever see this data (why would that be?), the advantages in history and preservation of your data are already there. But if you will be sharing changes with others, you really **must** have an easy way to do this, or you will get bogged down in the logistics of sharing data changes. I recommend using Language Depot, though there are certainly solutions for this need on other servers. In any case, setting this up early is always easier than trying to merge divergent data later.

LIFT Database Requirements

LIFT databases can be minimal or very complex. For the purposes of running $A \rightarrow Z + T$, you just need the following:

- citation or lexeme forms (tagged with your language code, of course)
 - forms with spaces or other non-wordforming characters are ignored.

- glosses or definitions in at least one language (again coded for gloss language)
- Grammatical Category/Part of Speech (ps) indication:
 - stored in `sense/grammatical-info@[value]`
 - whatever ps names (e.g., 'Noun', 'Nom', 'Njina', 'noun', 'n', etc) are in your database is what you will select from to study, so name them appropriately for your work
 - entries with no ps value will be left out of the $A \rightarrow Z + T$ analysis

Changes to Expect in Your LIFT Database

$A \rightarrow Z + T$ will place links to citation/lexeme, plural, and imperative recordings in the appropriate fields, coded as a voice writing system (e.g., xyz-Zxxx-x-audio).

$A \rightarrow Z + T$ will place sorting information in the entry/sense node, under an example node for each context/frame:

- form
- sound file name
- translation
- frame name
- subgrouping name

Results of the analysis of multiple frame groupings (e.g., from the Tone Report) is placed in a separate entry/sense/field[@type='tone'], as this is a summary/analysis of the values contained in the example nodes.

Changes to Expect near Your LIFT Database

$A \rightarrow Z + T$ assumes your lift file is in a directory set apart for its analysis. As a result, expect to find generated in that directory:

- A syllable profile analysis file (on first run, and if CV analysis parameters change). This can take a while to run, so we store and load it, rather than running it on each startup.
- A preferences file (any time a check is run, to preserve preferences, including ps/profile status). This allows you to start where you left off.
- Report files, whenever reports are run by the user
- A tone frame definitions file, once at least one has been defined. I strongly recommend not modifying this file.
- an audio folder, where sound files are saved, once at least one has been recorded.

Tell A→Z + T Where to Find Your Database

The first time you run A→Z + T, you will need to select your LIFT database. A→Z + T stores this location in `lift_url.py`, so you only have to do this once. But if you need to check a different database, delete `lift_url.py`, and A→Z + T will ask again where your database is.

First Run: Be Patient and Orient Yourself

Syllable Profile Analysis

If you open A→Z + T without a saved syllable profile analysis file, it will first open your database (once it knows where it is) and go through the entries there, and sort them by syllable profile and part of speech (CVC v CVCV for each of Nouns and Verbs, for example). This can take a couple minutes. If you have a terminal open, you should see its progress.

Configuration File

If you open A→Z + T without a saved configuration file, the program makes assumptions for you (based on your LIFT file), so you can get started right away, if you want to, e.g.:

- the largest syllable profile group, and its ps
- vowels first, before doing consonants or tone
- the segment with the largest representation in the database is chosen first.

If you don't like those assumptions, you can change any of these settings in the menus. Those settings are saved to a configuration file each time you run a check, so your preferences will be there for your next run. If you change a setting that leaves another setting invalid (e.g., V1=g, or C1=C2 for VCV nouns), the invalid setting is removed and replaced with an assumption as above, until you change it.

The Main Window

On the upper left of the main window, each of these settings are indicated:

- interface language
- analysis language
- gloss language(s)
- part of speech
- syllable profile
- type of check (i.e., C, V, or T) and current stage

The main window menu allows each of these to be changed as needed.

Tone Frames

Assuming you don't have any tone frames set up yet, you will be asked to do so when you try to sort on tone. You can also do that in the Advanced menu, for as many frames as you want to define. Note the *name* is important, as this is how you will refer to this frame, and how it will be identified in your database in the future (until/unless you change that). So if you're testing the plural form, something like "Pl" or "Plural", or "Pluriel" might be appropriate –but this is just a name, so make it distinct but useful to your workflow.

I hope the Add Tone Frame window is otherwise clear. The frame calculator is not particularly smart; **it just puts content before and after the form and one or two glosses** for each word, so you need to give it that information. If that information (in the form or gloss) alternates in agreement or harmony with the lexicon word forms, you should think through how you want to resolve potential clashes, e.g., by

- including all options in the frame:
 - pl form: '___s/z/ɪz' (with all forms given for each word in that frame)
- or allowing for ungrammaticality:
 - pl form: '___s' (knowing that dʒədʒ+pl will come out 'dʒədʒs', not 'dʒədʒɪz')

The user will have the option to skip a word that doesn't work in a frame. This was put there for syntactic or semantic clashes, but could be used to exclude phonologically weird frame combinations, too.

Once you have the form and gloss content in the appropriate boxes, click on 'see it on a word from the dictionary', and you will get the frame as you have defined it applied to some word (in the filter you have currently set). You can try this on a number of words; **continue to click that button**, to see how it will look on different entries. There is no easy way to change this frame after you define it (other than deleting them all and starting from scratch), so I encourage you to take your time before moving on. When you are happy with the frame, click on "use this tone frame".

If you absolutely regret a tone frame you have set up, all your frames are stored in <lift filename>_ToneFrames.py next to your lift file. Careful editing this, though; you may need to redefine all your frames if you corrupt this file (This would be a great time to ask for help if you don't absolutely certainly know what you're doing).

Subsequent Runs: Sort, and Follow Directions

Once you have done any sorting, to the right on the main window you will see a status pane, with groupings by syllable profile and check stage (for one part of speech and check type at a time). To see progress for another check type or part of speech, switch to that check type or part of speech.

The program is designed to step through the process relatively automatically; once things are set up, you should be able to just open the program, and click Sort. If you need a break, click quit on whatever window you're in, and your progress should be there when you return.

You will, of course from time to time want to move to another part of speech or syllable profile, or check type. That can again be done on the main window menus, and the next time you click Sort, the appropriate checks will be launched, and those changes saved to the preferences file.

If any of the directions are unclear or inappropriate in any way, please let me know so I can fix them.

The UI is currently in French and English; if you want to translate it into another language, please let's talk!

Advanced Usage: Reports and Recordings

Once you have done some sortings, it makes sense to run a report. The tone report will show your groupings in just one frame, if that's all you have done, but its real value lies in comparing values across multiple frames, so you'll want to check a couple tone frames before doing much with the tone report.

Recording can be done at any point where at least one frame has been at least partially sorted, but when a word is presented for recording, each example (sorting context) is presented for recording. So if you sort one field, then record, then sort the next, you will see your earlier recordings again. Recordings seem to move rather quickly, so I recommend putting them last in your workflow, and do them all at once—at least once you've tested that they're working correctly with your sound card, etc.

Sound card settings can be adjusted and tested in the advanced menu—be sure to record and play at the settings you want, to make sure your sound card can handle them.