How to use LexMapr

For people who have
little to no experience with command line

and

For macOS and Linux users only

and

For IFSAC users only

Outline

Open up your terminal

macOs:

cmd + *space* to open spotlight search

type terminal

hit *return*

Linux:

ctrl + *alt* + *t*

Terminal tutorial

The terminal opens in your Home (also known as ~) directory

Type the following command into your terminal:

```
ls
```

This will print out all the sub-directories and files in your home directory

Terminal tutorial

You can change terminal directories with the `cd` command:

`cd Desktop`	Navigate to your Desktop subdirectory
`ls`	View the contents of your Desktop
`cd ..`	Navigate to the parent directory
`ls`	View the contents of your Home again

If you ever get lost, you can return Home with `cd ~`

Do you have Conda?

In your terminal, type:

```
conda -V
```

If you have Conda, the terminal will tell you your Conda version number

If you do not have Conda, the terminal will tell you the `conda` command was not found

Install Conda

Go to https://docs.conda.io/en/latest/miniconda.html

Install the appropriate **64-bit bash installer** for **Python 3.7**

In your terminal, navigate to the folder containing the installer

Assuming this was the Downloads folder:

```
cd ~

cd Downloads
```

Install Conda

In this folder, we run the installer through a terminal command

macOS:

```
bash Miniconda3-latest-MacOSX-x86_64.sh
```

Linux:

```
bash Miniconda3-latest-Linux-x86_64.sh
```

Follow the prompts to completion

Bioconda

Bioconda is a channel that allows users to easily install various bioinformatic packages, including LexMapr

Run the following terminal commands to set up Bioconda:

```
conda config --add channels default
conda config --add channels bioconda
conda config --add channels conda-forge
```

RUN THESE COMMANDS IN ORDER

Install LexMapr into a Conda environment

Enter the following commands from any directory:

```
conda create -n LexMapr lexmapr

conda activate LexMapr

python -m nltk.downloader all
```

Follow the prompts to completion

This creates a Conda environment called “LexMapr”, that contains a Bioconda installation of LexMapr

Running LexMapr

Whenever you want to run LexMapr, all you have to do is:

Start the terminal

Activate your LexMapr Conda environment:

```
conda activate LexMapr
```

Run LexMapr commands

```
lexmapr {path_to_output_file} -p ifsac
```

LexMapr input files

LexMapr takes input csv files with the following format:

SampleId,Sample

1,Chicken Breast

2,Baked Potato

3,Canned Corn

4,Frozen Yogurt

5,Apple Pie

LexMapr input files

Open up Microsoft Excel, Apple Numbers or LibreOffice Calc

Create a spreadsheet like so:

	A	B
1	SampleId	Sample
2	1	Chicken Breast
3	2	Baked Potato
4	3	Canned Corn
5	4	Frozen Yogurt
6	5	Apple Pie

Save as “`small_simple.csv`”

Running LexMapr

In the terminal, `cd` to the folder containing `small_simple.csv`

With the LexMapr Conda environment activated, try:

```
lexmapr small_simple.csv -p ifsac
```

Running LexMapr

A new file called `ifsac_output.tsv` was just created in the same directory as `small_simple.csv`

Open it up in Microsoft Excel, Apple Numbers or LibreOffice Calc:

	A	B	C	D	E
1	Sample_Id	Sample_Desc	Cleaned_Sample	Matched_Components	Third Party Classification
2	small_simple1	Chicken Breast	chicken breast	['chicken breast:foodon_00002703']	['chicken']
3	small_simple2	Baked Potato	baked potato	['potato (whole, baked):foodon_03302196'	['root/underground (tubers)']
4	small_simple3	Canned Corn	canned corn	['corn (canned):foodon_03302665']	['seeded vegetables (other)']
5	small_simple4	Frozen Yogurt	frozen yogurt	['frozen yogurt:foodon_03307445']	['dairy']
6	small_simple5	Apple Pie	apple pie	['apple pie:foodon_00002475']	['pome fruit']

Running LexMapr

You can specify your own output file name by running:

```
lexmapr {path_to_output_file} -p ifsac -o {path_to_output_file}
```

e.g.

```
lexmapr small_simple.csv -p ifsac -o small_simple_output.tsv
```

Now you results will be in `small_simple_output.tsv`, not `ifsac_output.tsv`

Keep LexMapr up-to-date

Keep LexMapr up-to-date by running the following command from any directory:

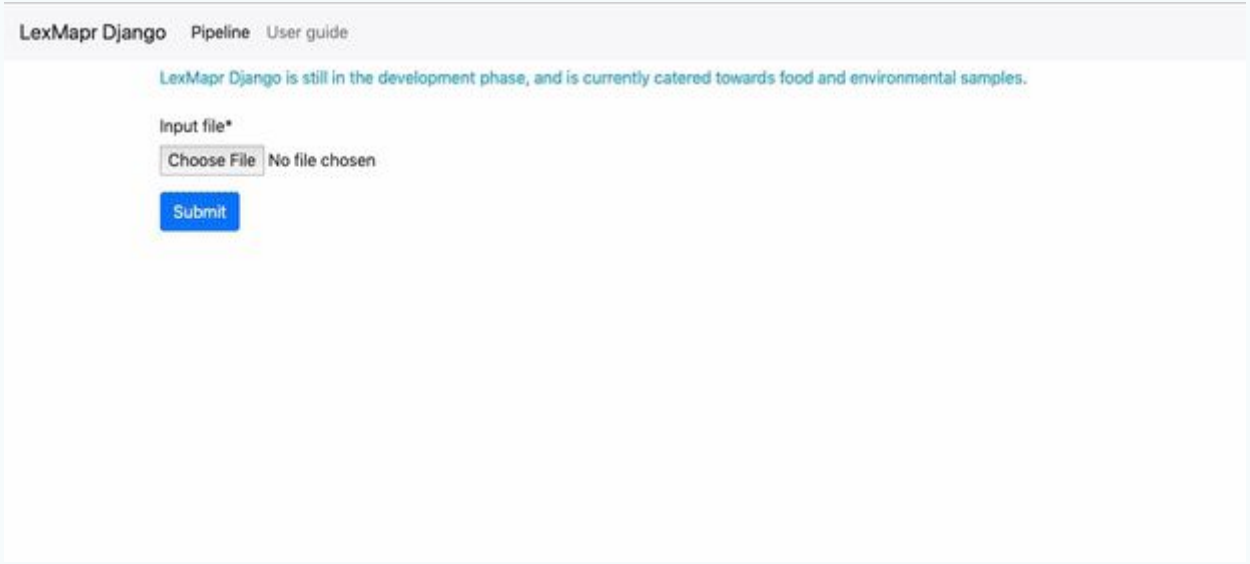
```
conda update lexmapr -n LexMapr
```

Follow the prompts to completion

This updates the lexmapr package installed inside your LexMapr conda environment

LexMapr Django

https://watson.bccdc.med.ubc.ca/lexmapr/



Django-powered web interface, that allows you to run LexMapr from your browser