Readitopics Installation Guide

Dependencies

In order to use Readitopics, you will need two dependencies :

- Java 8 : https://www.java.com/en/download/
- Perl 5 : https://www.perl.org/get.html

Verify you have Java and Perl installed by doing :

```
java -version
perl -v
```

Workspace description

This documentation file must be located with other files and folders :

- Biotex/
- config/
- data/
- resultats/
- WebServer/
- TreeTagger/
- en-sent.bin
- readitopics.jar

You must keep these files within in the same folder (but you can move the folder).

Biotex

blablabla

config

Contain the configuration files

data

Contain the datasets used by the algorithm

resultats

Contain some intermediary results. You may need to clean it, because some analysis wont run if a result have already been computed

WebServer

Contain some data used by the WebServer

TreeTagger

blablabla

en-sent.bin

blablablabla

readitopics.jar

The program to use.

Usage

Readitopics is composed by many sub-programs, allowing the user, for exemple, to :

- load a dataset
- manage configurations

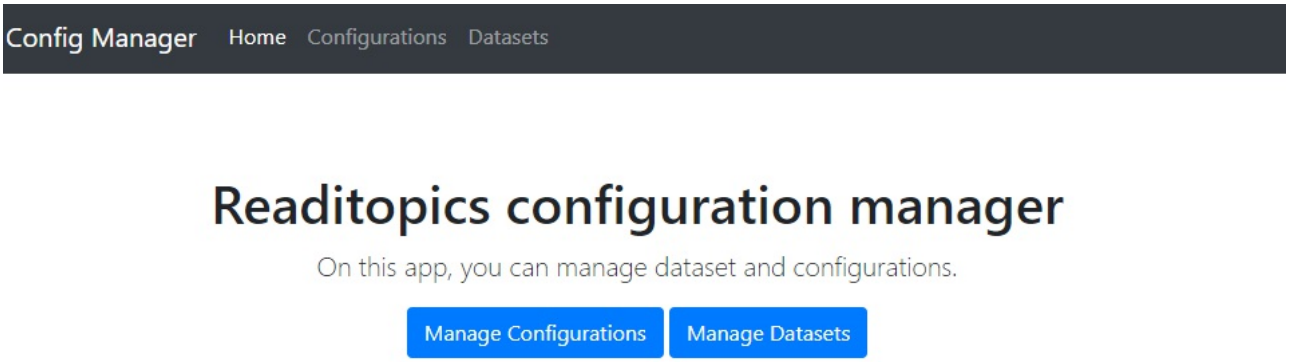
- run latent dirichlet allocation on the dataset
- run some topic labeling algorithms
- visualize the result via a web interface

Step 1 : Config / Dataset management

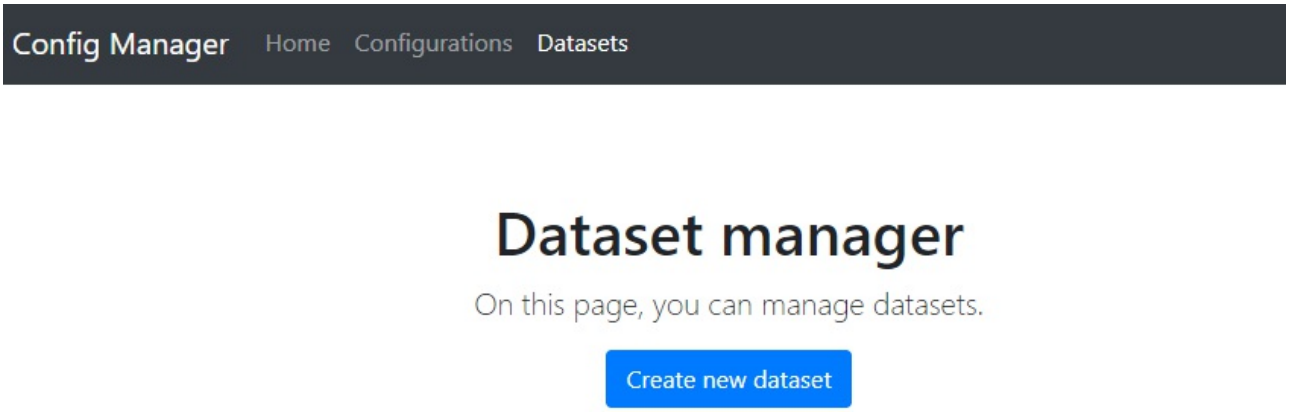
First you need to start the ConfigServer tool, by running the following command :

```
java -cp readitopics.jar exe.ConfigServer
```

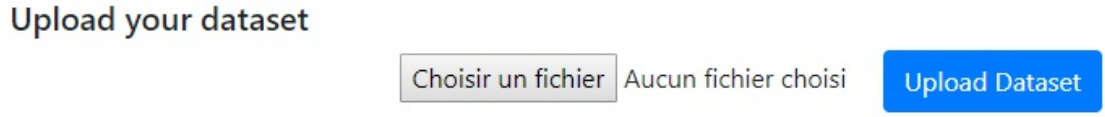
Then, go to <localhost:8000> :



Go to the Datasets page (localhost:8000/datasetList.html).

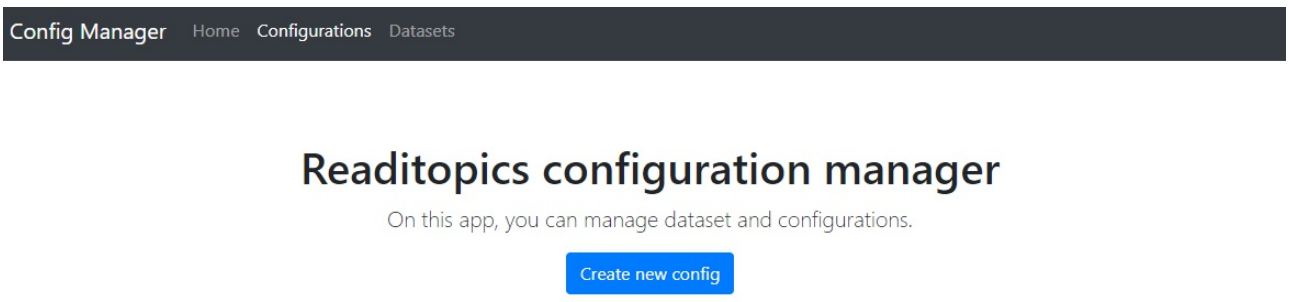


Click on Create new Dataset, then select a zip file, containing your dataset, and upload the dataset.

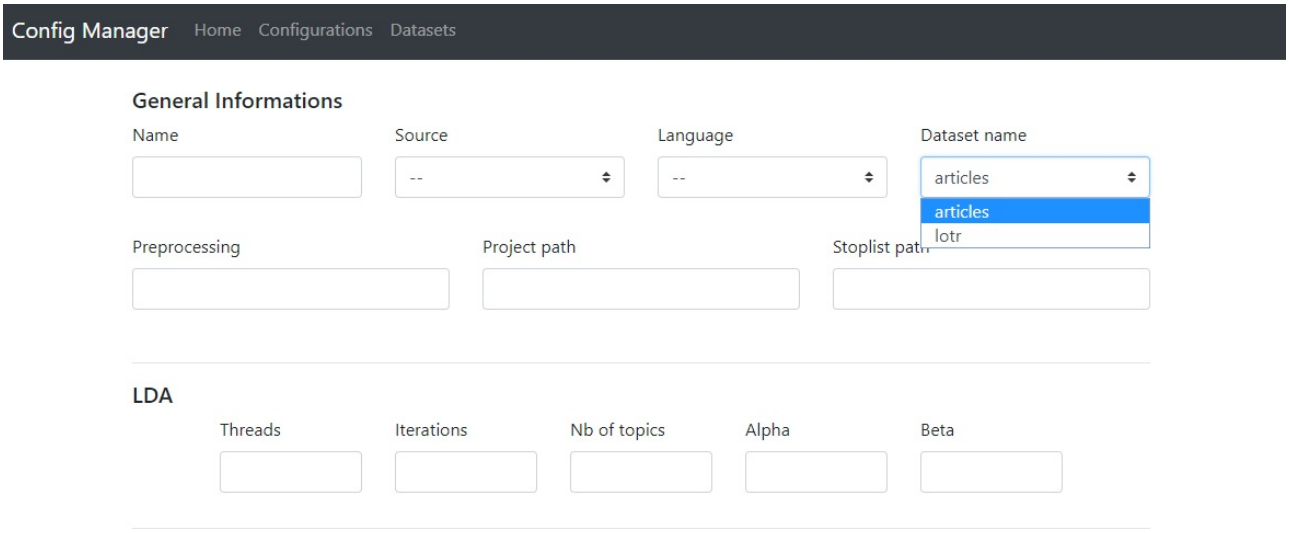


We use the zip format in the upload, in order to handle multiple-file datasets.

Now go on the Configurations Page (localhost:8000/configList.html) :



Create a new Config :



Select the dataset you uploaded (ex : my_dataset), and set :

- the name of the configuration (ex : my_name)
- the source (folder.books if your dataset is just text files in a folder, csv if it's a csv file)
- the language of the dataset (english / french / spanish)
- the preprocessing operations
- the project path (by default ".", don't modify it if you follow this tutorial)
- the stoplist path : a path (relative) to a list of stop words

You also have to set some LDA parameters :

- the number of threads (ex : 8 for a 4-cores processor, like an Intel Core i5 , more if you have)
- the number of iterations (default : 200)
- the number of topics (default : 20)
- alpha & beta : LDA priors

Then press "Create Config Button".

You have created a configuration file named *config.my_name*, accessible at *config/config.my_name*.

Now, shut down the ConfigServer in the command line (cmd-C on Mac, Ctrl-C on windows).

Step 2 : Build the vocabulary

Run the following command :

```
java -cp readitopics.jar exe.BuildVocab config/config.my_name
```

Step 3 : Run LDA

Run the following command :

```
java -cp readitopics.jar exe.RunLDA config/config.my_name
```

This command will create a model in *resultats/my_dataset/models*, with the current date as name. (ex : 2018_04_09)
Remember this date : it is the name of the model (many models can be trained and stored in *resultats/my_dataset/*).

Step 4 : Export for visualization

Run the following command :

```
java -cp readitopics.jar exe.Export4Viz config.my_name
```

Step 5 : Data visualization

Run the following command :

```
java -cp readitopics.jar exe.WebServerMain WebServer/datasets
```

Then go to this url : <localhost:1234>

You can now use the web topic browser :

ReadiTopics

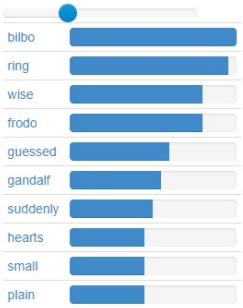
Pick a dataset:

lotr

Pick a topic:

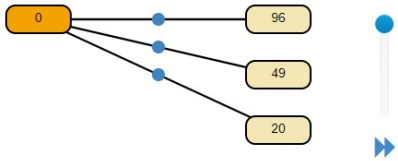
Topic 0

Select a label for the topic



Coherence measures

Current topic 0 : bilbo, ring, wise, frodo, guessed... (#docs: 216.2) hide topic



Hidden topics (click for release a topic):

Top-10 documents for topic 0 (click on it)

What could topic 0 mean ?

Labeler	
0-order labels	bilbo, ring, frodo
c-order labels	guessed, wise, hearts
1-order labels	
sentence labels	How do the Wise know that this ring is his?
	home, or he'd be so terrified he'd just fling the Ring in the River and
	the Ring we may seek to destroy it.

2017 - Université de Lyon - **Readitopics** is a visualization application developed at the University of Lyon (ERIC, LHC) with a close collaboration with Montpellier (LIRMM, TETIS).
It allows a user to browse the results of a topic model and find the best possible label to get an understanding of the topics' content.