

Step-by-step instructions on installing and using SemFacet system

This document contains detailed instructions on how to start, configure and use SemFacet system.

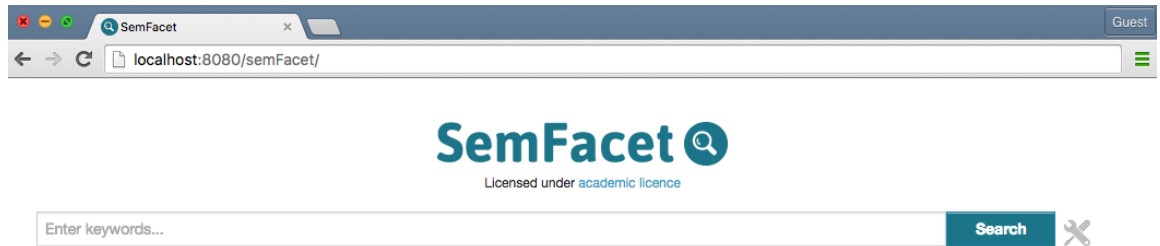
Requirements:

- Apache Tomcat server. How to install Apache Tomcat: <https://tomcat.apache.org/tomcat-7.0-doc/appdev/installation.html>.

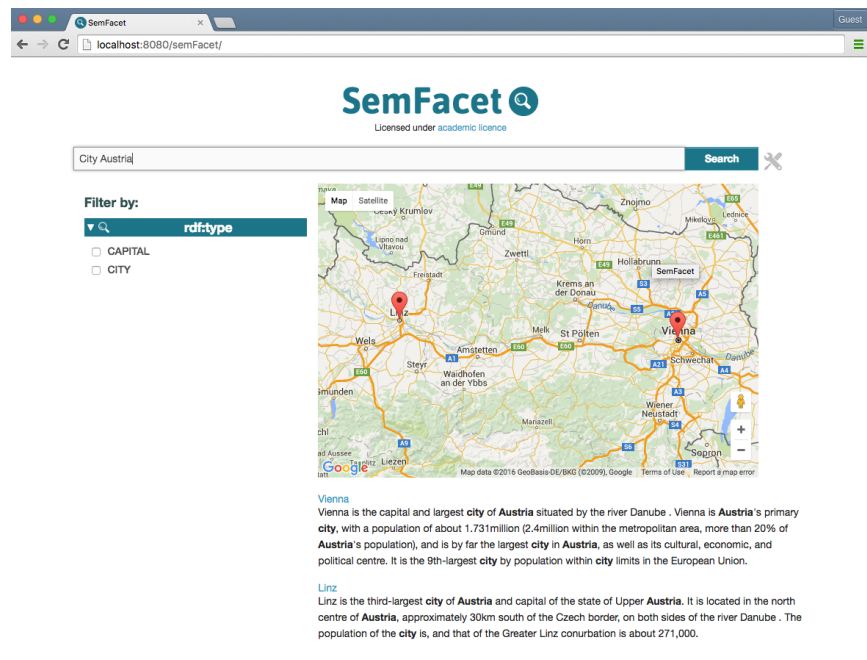
Installing SemFacet

1. Download semFacet.war from the project webpage (<http://www.cs.ox.ac.uk/isg/tools/SemFacet/>)
2. Move semFacet.war to Tomcat/webapps directory. Tomcat will create SemFacet directory and all files will be loaded there.
3. Start the Tomcat server by executing `startup.sh` in the Tomcat directory.
4. SemFacet can be accessed in your browser at

`http://localhost:8080/semFacet/`



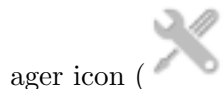
- Then you can query over predefined data and adjust your search using facets.



Configuring SemFacet

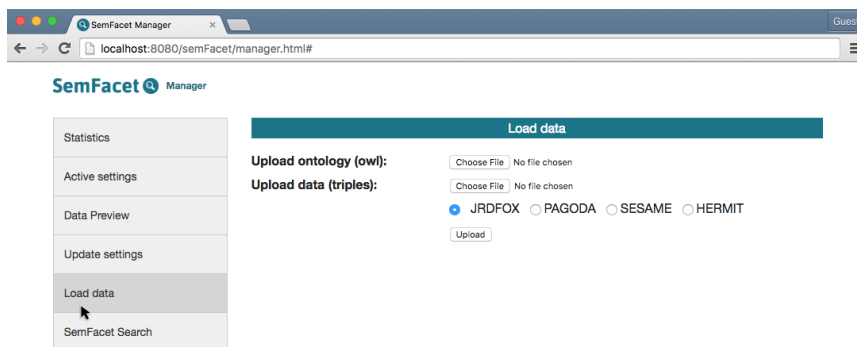
The following instructions show how to configure SemFacet system.

1. For any configuration, including loading your own data, click the man-



ager icon () next to the search bar.

2. To use your own data click “Load data”. You can upload your own owl ontology (.owl) and/or a file with triples (.nt). You can choose which reasoner to use.



3. If you intend to load more than 50 MB of data you have to extend the memory allocated by Tomcat server. To do that you should find `catalina.sh` file in `bin` directory and add the following line:

```
JAVA_OPTS=" -Xmx3072M -XX:MaxPermSize=1024M"
```

Search for "JAVA_OPTS" in `catalina.sh` file in order to find the appropriate place, which will be specified in comments.

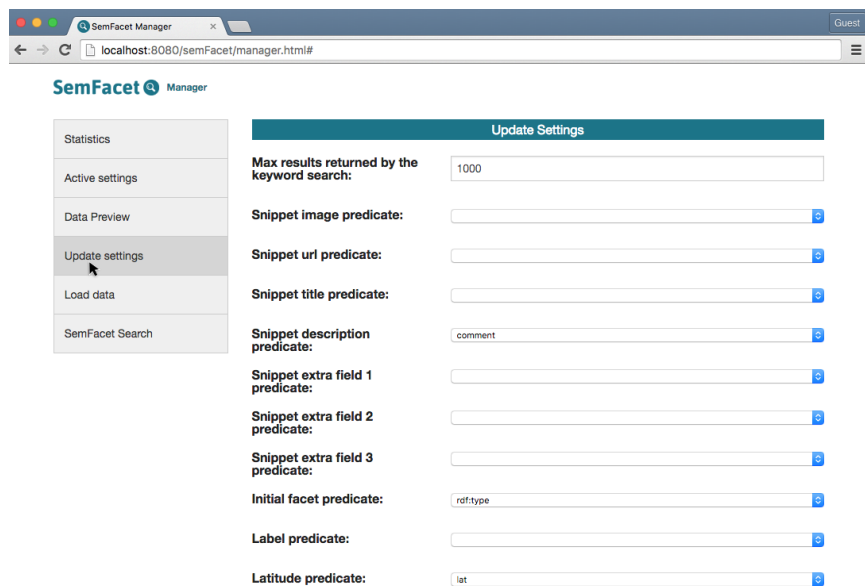
4. Your data is ready to be queried! To see a sample of the data, click “Data preview”.

Subject	Predicate	Object
Dušan_lević	playsFor	MSV_Duisburg
Leo_Rey	hasMusicalRole	wordnet_guitar_103467517
New_Zealand	exports	wordnet_fish_102512053
Jörg_Haider	isLeaderOf	Freedom_Party_in_Carinthia
Frank_Sinatra	actedIn	From_Here_to_Eternity
Kevin_Cook	hasGender	male
Linz	long	14.285555555555555
Ronald_W_Yeung	graduatedFrom	University_of_California_Berkeley
wordnet_thimerosal_104424003	rdfs:subClassOf	wordnet_antiseptic_102724207
Hory_(Karlovy_Vary_District)	isLocatedIn	Czech_Republic
Leo_Tolstoy	influences	Edna_O'Brien
http://dbpedia.org/ontology/militaryUnitSize	http://www.w3.org/2000/01/rdf-schema#comment	the size of the military unit
India	owns	Nazare_Dam
Sustain_our_Africa	isPrimaryTopicOf	http://en.wikipedia.org/wiki/Sustain_our_Africa
First_Battle_of_Swat	happenedIn	Swat_Pakistan
Linz	lat	48.300555555555555

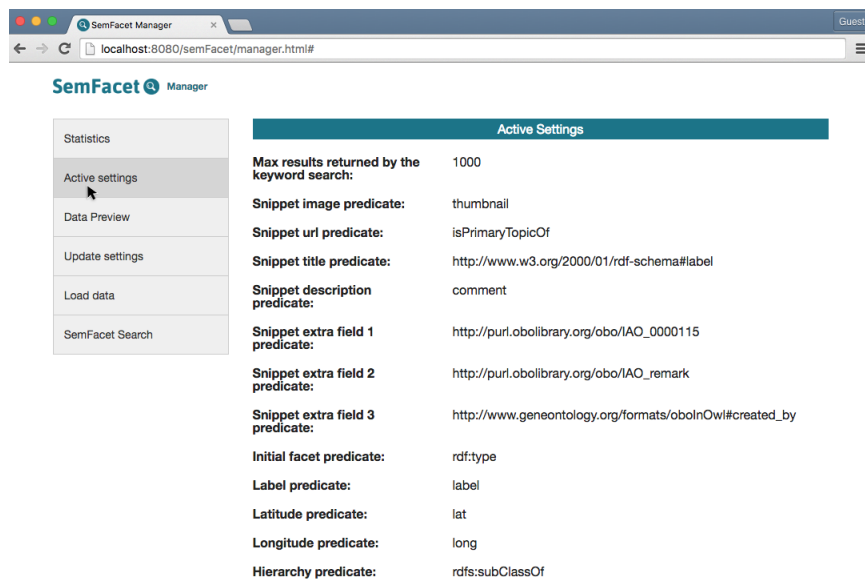
- To see basic statistics about your uploaded data, click “Statistics”.

Statistics	
Number of triples in the triple store:	1533111
Number of distinct facets in the triple store:	48
Memory consumption:	1,051,700Kb out of 1,763,328Kb

- To update settings of how the search results are displayed, click “Update settings”. There you can choose e.g., a cap on the number of returned results, how the title of a result is displayed and other options.



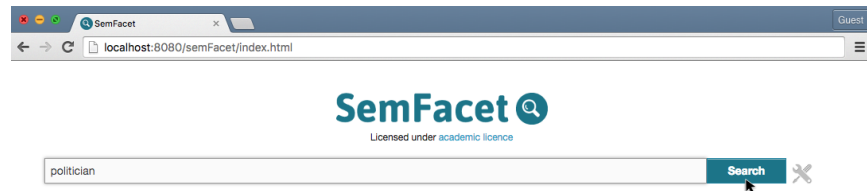
7. The list of current active settings can be seen by clicking “Active settings”.



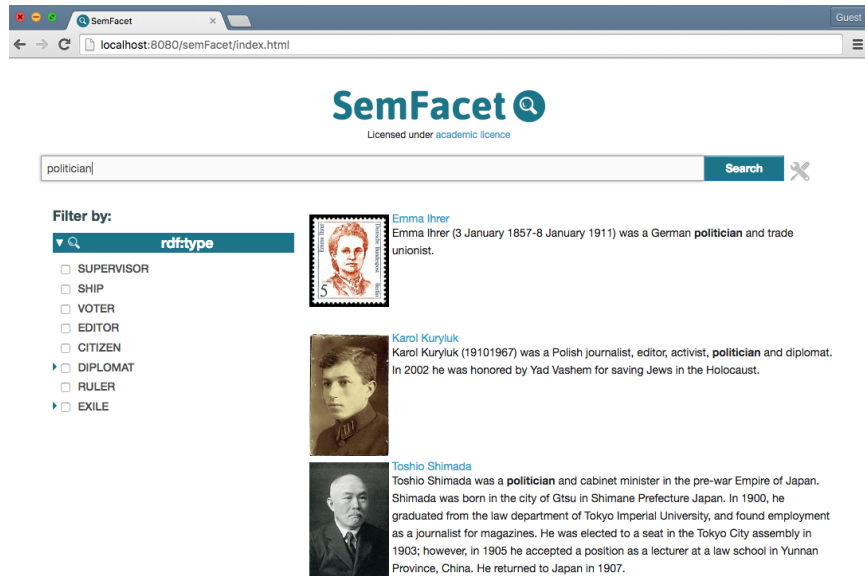
Using SemFacet

The following instructions describe how to use SemFacet system.

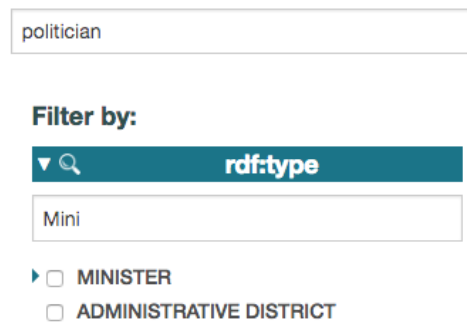
1. Your search starts with the search bar where you can type a keyword query.



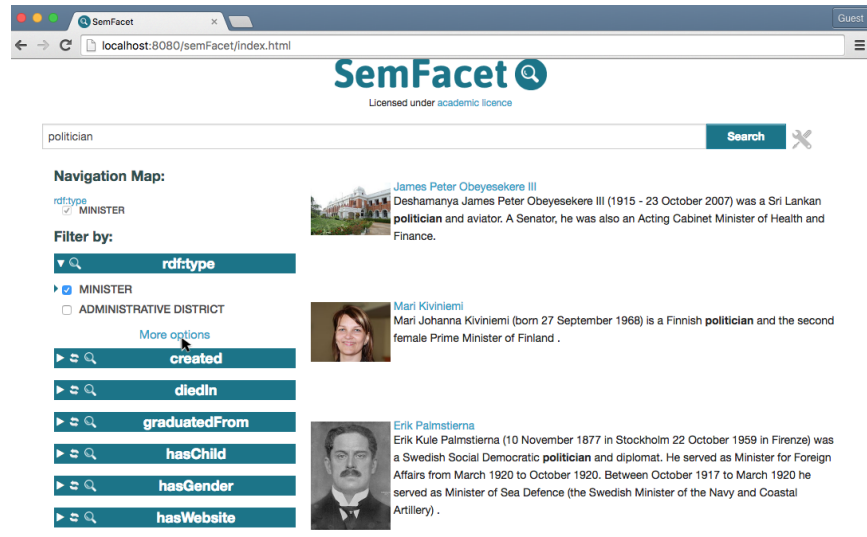
2. An initial ranked set of documents appears as the result of the search.
Note that the initial facet predicate is generated on the left-hand side.




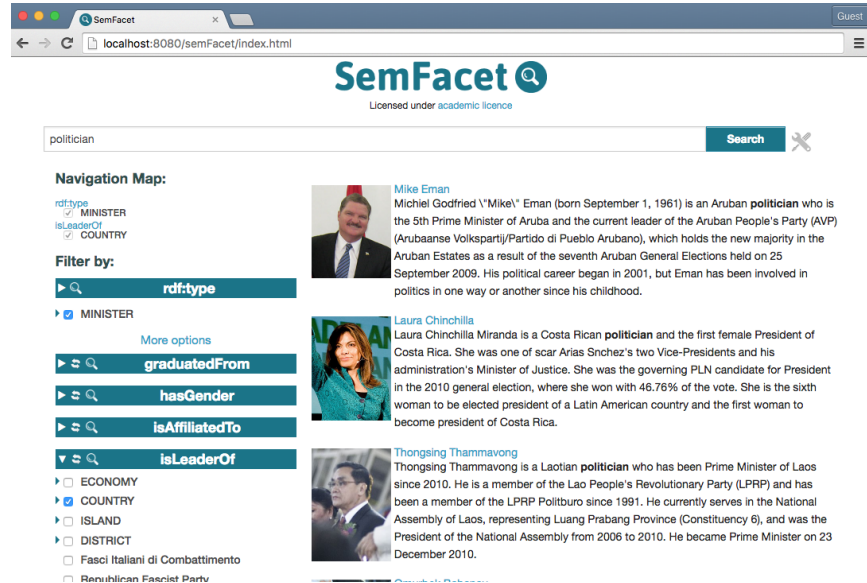
3. You can then narrow down the search result using facets. By clicking the magnifying glass icon you can search for a specific facet value.



4. Click “More options” to see other available facets.



5. You can further adjust the search result by selecting one or more values of a facet. To drop all previously selected values of the facet, click .



6. Navigation map is a concise summary of the selected facet values. In this example, we look for politicians who have been both a minister and the leader of a country.

politician

Navigation Map:

rdf:type
☒ MINISTER
isLeaderOf
☒ COUNTRY

7. By clicking on a particular facet in Navigation map, you can refocus our search.

The screenshot shows the SemFacet web application interface. At the top, there is a search bar with the text "politician" and a "Search" button. Below the search bar, the "Navigation Map" is displayed, showing the following facets:

- rdf:type**
 - ☒ MINISTER
 - ☒ COUNTRY
- Filter by:**
 - ☒ **rdf:type**
 - ☒ MINISTER
 - ☐ **graduatedFrom**
 - ☐ **hasGender**
 - ☐ **isAffiliatedTo**
 - ☒ **isLeaderOf**
 - ☐ ECONOMY
 - ☒ COUNTRY
 - ☐ ISLAND
 - ☐ DISTRICT
 - ☐ Fasci Italiani di Combattimento
 - ☐ Republican Fascist Party

Below the facets, the search results are displayed as a list of countries with their flags and descriptions:

- Costa Rica**
Costa Rica, officially the Republic of Costa Rica, is a country in Central America, bordered by Nicaragua to the north, Panama to the southeast, the Pacific Ocean to the west, and the Caribbean Sea to the east. Costa Rica constitutionally abolished its army permanently in 1949. It is the only Latin American country in the list of the world's 22 older democracies.
- Aruba**
Aruba is a 33-kilometer-long (20mi) island of the Lesser Antilles in the southern Caribbean Sea, located 27km north of the coast of Venezuela. Together with Bonaire and Curaao, it forms a group referred to as the ABC islands of the Leeward Antilles, the southern island chain of the Lesser Antilles. Collectively, Aruba and the other Dutch islands in the Antilles are commonly referred to as the Netherlands Antilles or the Dutch Antilles.
- Laos**
Laos (Sathalanalat Paxathipatali Paxaxon Lao), officially the Lao People's Democratic Republic, is a landlocked country in Southeast Asia, bordered by Burma and China to the northwest, Vietnam to the east, Cambodia to the south, and Thailand to the west. Its population was estimated to be around 6.5million in 2012. Laos traces its history to the kingdom of Lan Xang, which existed from the 14th to the 18th century when it split into three separate kingdoms.
- Kyrgyzstan**

Here the result is changed to the list of countries whose leader has also been a minister.