Contents

1 Introduction

The SFPExperimenter provides a web-user-interface to work with Guinan and an easy way to generate, inspect, and compare semantic fingerprints. It uses a BaseX database for storing fingerprints and parameter-presets as XML-data.

2 Setup

2.1 The Database

2.1.1 Creating a Database

After installing BaseX, you can start up the BaseX GUI *BaseX.jar* and create a new database by using the command line on top. Executing the `create db` command followed by a database-name will create a new database.

After creation, make sure to edit the config.json file located in the SFPExperimenter directory and set the *dbName* value to match the name of your database.

2.1.2 Starting the Database Server

BaseX also includes its own Database Server, which needs to be running whenever the SFPExperimenter interface is used, otherwise fingerprints and presets cannot be retrieved or stored.

First you need to configure the .basex file to set host and port for your environment, and user and password to the same values used in the SFPExperimenter config.
The easiest way to start the BaseX server is to move into your BaseX directory and execute the `basexserver` or `basexserver.bat` scripts located in the /BaseX/bin/ folder.

2.1.3 Stopping the Database Server

You can stop the server by using the `basexserverstop` or `basexserverstop.bat` scripts. If you want to restart the database server, you need to restart the Node.js server as well.

2.2 Node.js

2.2.1 Installing Node.js

After downloading and installing Node.js the required packages need to be installed. Make sure to install npm alongside node. Then you can execute `npm install` in the SFPExperimenter directory.

2.2.2 Configuration

You can configure the SFPExperimenter by editing the config.json file located in the main directory. There you will have to set your connection parameters, if you want to run it remotely. Additionally you can activate the debug-mode, in order to show more detailed console output.

2.2.3 Starting the server

The Server can then be started by `node server.js` and accessed under host and port set in the config.json file.

2.3 Guinan

The Guinan server has to be running and accessible under *guinanHost* and *guinanPort* for the SFPExperimenter to generate SFPs. The setup of Guinan will not be featured in this documentation.

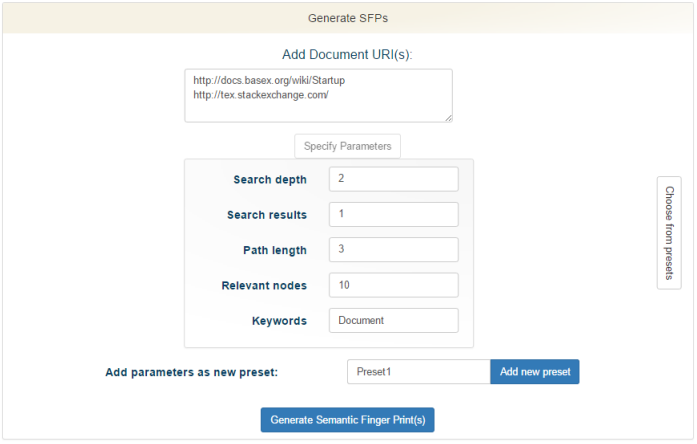
3 Usage

The interface of the SFPExperimenter is really simple. In the top right corner you can see how many fingerprints are currently being processed by the generator. Other than that, the UI is split into three main parts:

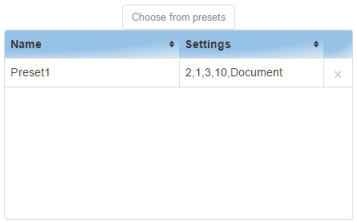
- **Generate SFPs** to initialize the generation of semantic fingerprints and manage parameter-presets.
- **Comparison with different parameter sets** to show and compare fingerprints of a document that were created with different parameters.
- **Comparison of different documents** to show and compare fingerprints of different documents that were created using the same parameters.

3.1 Generate SFPs

In this section you can start the generation of an SFP by providing the Document URIs and giving values for the parameters.

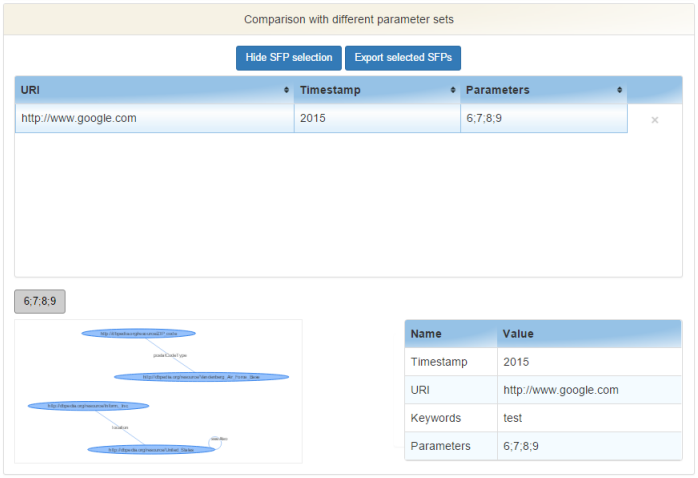


If you want to use a set of parameters more frequently, it is also possible to save them as a preset with a given name. You can then also start SFP generation by opening the "Choose from presets" menu to the right and selecting a parameter-preset.

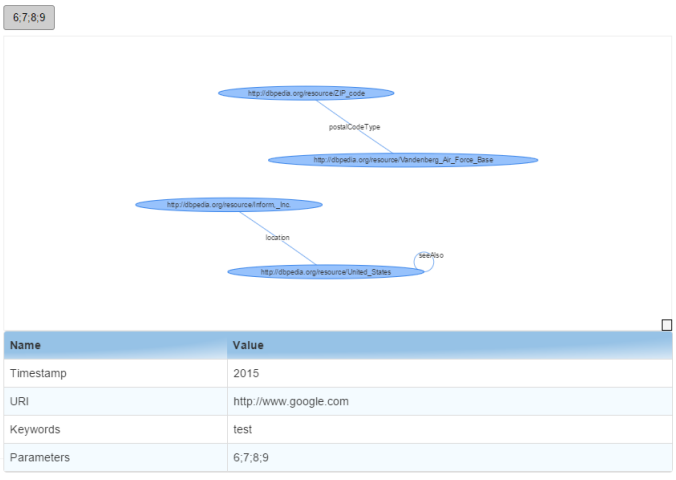


3.2 Comparison with different parameter sets

In this section you get a list of all SFP data that is currently stored in the database. The documents are presented by their URI, timestamp and parameters. Selecting one or multiple documents will give you the option to export your selection as a CSV-file. When having a document selected, the list will show you only documents with the same URI to further choose from, so you can compare the same document with different parameter sets. Below you will be shown the graphical representation of the fingerprints that were generated using the given parameters.



While the mouse-cursor is hovered over the graphical representation you can click and drag to adjust the view. It is also possible to click on single nodes and adjust their placement. The mouse-wheel can be used to zoom in and out. In the bottom right corner you will see a small rectangle, which allows you to enhance the size of the window.



3.3 Comparison of different documents

This section provides you with the same functionality as the "Comparison with different parameter sets". The difference is that when you select a document, the list will shrink to show you only documents that were created with the same set of parameters, to make a comparison between them possible.