

Hydra

Installation Manual

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1. Introduction

Hydra is a system for wordnet development, validation and exploration. The programme is written in Python. The user interface uses the portable GUI library Tcl/Tk for Python also known as Tkinter and the Tix extension. The WordNet data are managed by a MySQL server.

2. Download

Hydra is available at <http://dcl.bas.bg/Tools/Hydra/hydra.zip>

3. Configuration

To work with Hydra, the configuration file settings.py should be present. A sample configuration is provided with the Hydra distribution in the file named

settings.py.example.

You should copy it and make the appropriate changes. The configuration contains two groups of values, one for database connection and one for the wordnet import languages and files.

4. Creating the Database

You must create the MySQL database and grant privileges to the username you will use. Their values should match those provided in the configuration.

Using the MySQL console (as administrator)

1. create the database:

```
create database wn character set 'utf8';
```

2. grant privileges:

```
grant all on 'wn.*' to 'user' identified by 'password';
```

Once you have given the desired privileges for your user, you may need to run this command within the MySQL command prompt:

```
flush privileges;
```

5. Importing WordNets

Hydra supports the VisDic format for WN storage, which is a fake xml, and the same but correct xml format. To import such files you need to add the languages and their file paths in the configuration file settings.py. Here is an example, where the paths are relative:

```
wordnets = [
```

```
# ('language', 'filename'),  
('bg', 'wnbg30.xml'),  
('en', 'wneng30.xml'),  
]
```

Two example files in the fake xml format are distributed with hydra – **wnbg30.xml** and **wneng30.xml** – the bulgarian synsets with bcs=1 and their english equivalents.

After supplying **example.py**, you must start the script **dbfeeder.py**. It has one optional argument for the input file format. The value ‘dom’ will cause the strict xml loader to be used. Starting the script with any other value or starting the script without argument will cause the VisDic format to be used.

```
$ python dbfeeder.py
```

or

```
$ python dbfeeder.py dom
```

This will create the needed tables and fill them with the data from the files. Once the database is successfully built, you can start hydra by:

```
$ python hydra.py
```

6. Known Issues

Hydra was developed and mostly used under Linux (Debian). Some distros are causing it to crash due to some low level library problems. The Ubuntu distros after 10.04 and before 12.04 are among those. Hydra works with Ubuntu 12.04.

Hydra is used under Windows, ActiveState Python, but with older versions.

7. Detailed installation instructions for Debian based Linux distribution

7.1. Download Hydra from the following address:

<http://dcl.bas.bg/Tools/Hydra/hydra.zip>

7.2. Install MySQL at the server machine, you can use the command in a terminal:

```
sudo apt-get install mysql-client mysql-server
```

During the installation process set a password for the user 'root'.

7.3. Edit the configuration file settings.py

A sample configuration is provided with the Hydra distribution in the file named settings.py.example. You need to rename it into settings.py and set appropriate database name, username and password.

7.4. Create the Database

7.4.1 Start the mysql client on command line:

```
mysql -u root -p
```

Enter password when prompted.

7.4.2. Create the MySQL database in UTF-8 encoding using the command:

```
mysql> create database wn character set 'utf8';
```

(Please, use ; at the end of all mysql commands)

The database name set here as wn should be the same one as set in settings.py. If you use a different database name, please adjust it accordingly in all steps of the installation.

7.4.3. Grant privileges to your user:

```
mysql> grant all on wn.* to 'user'@'localhost' identified by 'password';
```

```
mysql> flush privileges;
```

The values for 'user' and 'password' should match those provided in the configuration file **settings.py**.

7.4.4. Exit mysql with the command:

```
mysql> quit
```

```
Bye ;)
```

7.5. Install additional dependencies at the client machine, if required

```
sudo apt-get install tix python-mysqldb
```

7.6. Import WordNets

Add the languages and their file paths in the configuration file **settings.py**. Here is an example, where the paths are relative:

```
wordnets = [  
# ('language', 'filename'),  
( 'bg', 'wnbg30.xml'),  
( 'en', 'wneng30.xml'),  
]
```

Go to the local folder where Hydra is placed. Create the necessary tables and fill them with the data from the files by means of the following command:

```
python dbfeeder.py
```

or

python dbfeeder.py dom

The command has one optional argument for the input file format. The value of ‘dom’ will cause the strict xml loader to be used.

7.7. Once the database is successfully built, you can start Hydra

From the local folder of Hydra, use the command:

python hydra.py

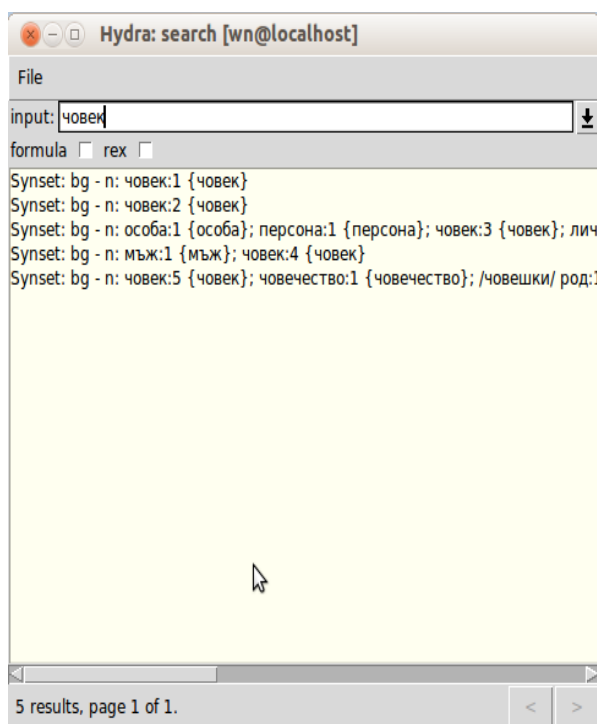


Fig. 1. Hydra's search window

To explore Hydra further, confer to the Hydra User Manual:

<http://dcl.bas.bg/Tools/Hydra/Hydra-UserManual.pdf>