Specific contract n°07.0201/2014/SFRA/698614/ENV.C.2 implementing Framework Service Contract ENV.D.2/FRA/2012/0013: “Expanding the Urban Wastewater Structured Information and Implementation Framework (SIIF) via: Improvement of the SIIF IT toolbox and Extension of the Urban Waste Water Directive (UWWTD) SIIF approach to four new Member States.”

UWWTD SIIF national toolbox

Installation and configuration on a Windows server

Version 2.0

February 2016

Date: 2 February 2016

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1 Introduction

This document is presenting how to install the UWWTD SIIF Toolbox, version released in February 2016 on a national server working with Windows server.

2 General installation:

In order to install the UWWTD SIIF website in your own Windows environment, you need six main modules:

- the database : Postgres 9.4 – 9.5 with Postgis extension (version > 2.1) ,
- the web server : Apache 2.4 and PHP 5.5
- the website : Drupal 7,
- the map server : Geoserver,
- the metadata-catalogue: Geonetwork.
- Pdf generator : wkhtmltopdf

The machine which will be used to host the web portal, the database as well as the webservice features. Minimum requirements for the Windows server should be at least: - disk : 30 Gbytes- RAM : 3Gbytes- CPU : 2 minimum- partition. It is recommended to have a 64 bits system. The server also needs an access to Internet (for loading external resources)

In Windows context, using other version of Apache/PHP (eg: wamp,easy php…) or install on other webserver (like IIS) is really discouraged because some dll are not available, and correct functioning is not guaranteed. In all case, for “production” website we recommend an installation under UNIX server like Centos/Red Hat.

At first step, you have to unzip the “uwwtd_siif_install_win.zip” file in the root of the server. Like “C:”. If you don’t use “C:” disk or if you use another path you will have to change some path in apache and php settings files (you should never use a path with any space character like “my path”). The ZIP archive contains followings files and directories:

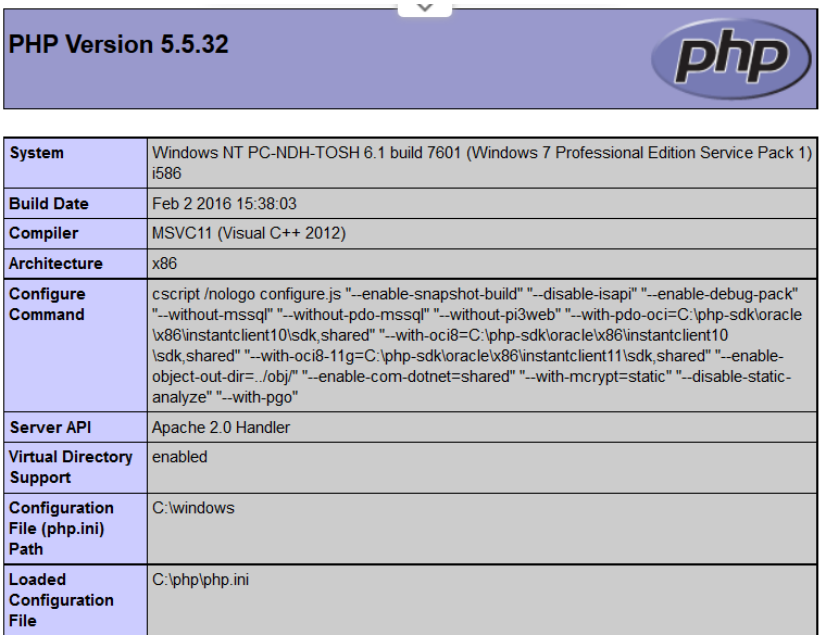
- Apache24 : this directory contains executable and settings for Apache, and a web manager for postgres dataset : phpPgAdmin
- php : this directory contains all dll and settings for php
- postgresql-9.5.0-1-windows-x64.exe : installer for the database
- wkhtmltox-0.12.3.1_msvc2013-win64.exe : installer for pdf generator

Then you have to set the Apache server like a service and start it. To make it, you can use the following command line (in DOS console):

```
C:\Apache24\bin>httpd.exe -k install
```

Nota: in order to access to the DOS console, you can click on “start” menu and search “cmd”

If everything went well, you can access to the following page with your web browser (Google Chrome, Firefox, Internet Explorer) at this URL: **http://localhost/**



PHP Version 5.5.32

System	Windows NT PC-NDH-TOSH 6.1 build 7601 (Windows 7 Professional Edition Service Pack 1) i586
Build Date	Feb 2 2016 15:38:03
Compiler	MSVC11 (Visual C++ 2012)
Architecture	x86
Configure Command	cscript /nologo configure.js "--enable-snapshot-build" "--disable-isapi" "--enable-debug-pack" "--without-mssql" "--without-pdo-mssql" "--without-pi3web" "--with-pdo-oci=C:\php-sdk\oracle\x86\instantclient10\sdk,shared" "--with-oci8=C:\php-sdk\oracle\x86\instantclient10\sdk,shared" "--with-oci8-11g=C:\php-sdk\oracle\x86\instantclient11\sdk,shared" "--enable-object-out-dir=../obj/" "--enable-com-dotnet=shared" "--with-mcrypt=static" "--disable-static-analyze" "--with-pgo"
Server API	Apache 2.0 Handler
Virtual Directory Support	enabled
Configuration File (php.ini) Path	C:\windows
Loaded Configuration File	C:\php\php.ini

Figure 1 : Test page of the apache server

Nota: If *http://localhost* doesn’t work, you can try to replace “localhost” by “127.0.0.1” or “192.168.1.1”. If it doesn’t have effect, check if the 80 port is open on your server and if the service “Apache” is running.

Then you have to install WKHTMLTOPDF tool. WKHTMLTOPDF is open source (LGPLv3) command line tools to render HTML into PDF and various image formats using the Qt WebKit rendering engine. These run entirely "headless" and do not require a display or display service. To start the installation, click on “wkhtmltox-0.12.3.1_msvc2013-win64.exe” and follow the process. We recommend to install WKHTMLTOPDF in “c:\wkhtmltopdf” folder as below and click on install “button”.

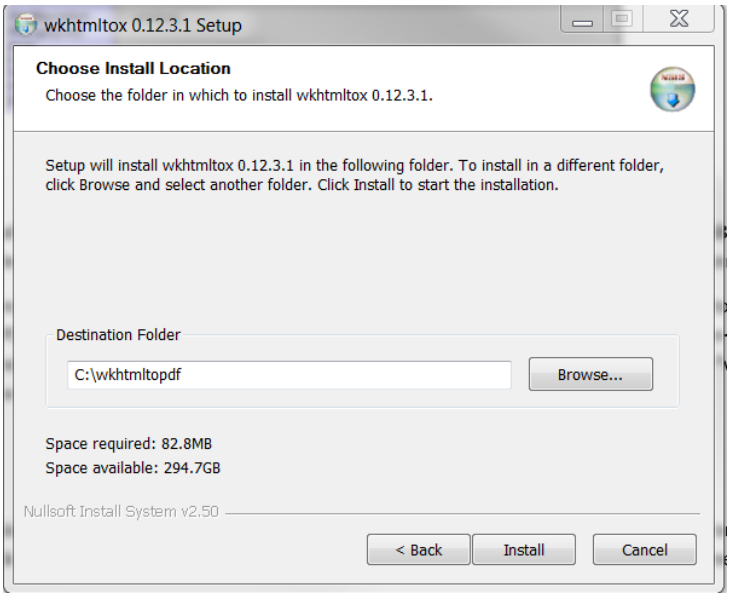


Figure 2 : WKHTMLTOPDF install: set the destination folder

The next step consists in the installation of the postgres database and of the sub-module postgis. To start the installation click on “postgresql-9.5.0-1-windows-x64.exe” and follow the process. We recommend to not change the default setting for installation directory, port… For the “super-user” account, we suggest following parameters: **login: postgres, password: postgres**.

Then in order to install postgis extension, go in the “start” menu of your Windows server and click on “Application stack builder” in “Program>PostgreSQL 9.5”. In the start popup, select the local postgres server “PostgreSQL 9.5 (x64) on port 5432 (The label can change depending on the default language and other settings of the Windows server). Click on “next” button and in the “Spatial Extensions” sub-section, select “Postgis 2.2 Bundle for PostgreSQL 9.5 (64 Bit)” and click on “next” button.

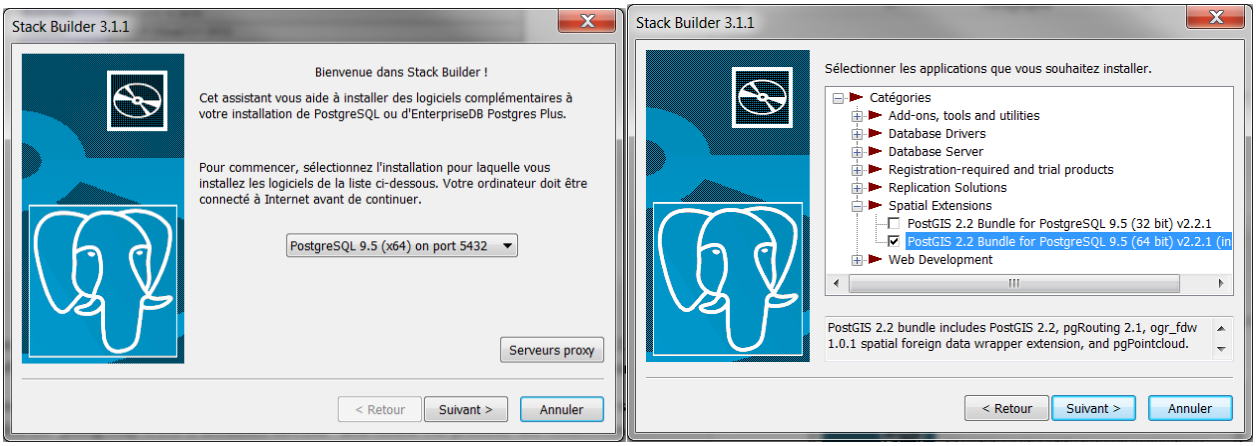


Figure 3 : Postgres stack builder step 1 & 2

Now, your server is ready for the website installation. With your web browser, you can also visit the web administration tool of your database at the URL: *http://localhost/phppgadmin/*

Figure 4 : phpPgAdmin, the web administration tool of the postgres database

The login interface is available on click on "PostgreSQL" link bellow the "Servers" item on the left of screen and enter your "super user" account (**login : postgres, password : postgres if you have use the recommended parameters**).

Figure 5 : login interface on phpPgAdmin

2.1 Create a new PostgreSQL database:

To correctly install the SIIF platform a PostgreSQL database must be created and used. Any database name can be used but we suggest using the following name "uwwtd_siif".

In order to create your new database, go in "phpPgAdmin" interface, after log on it, click on the "create database link". And enter your parameter in the following form:

Name : "uwwtd_siif"

Template "template1"

Encoding : “UTF8”

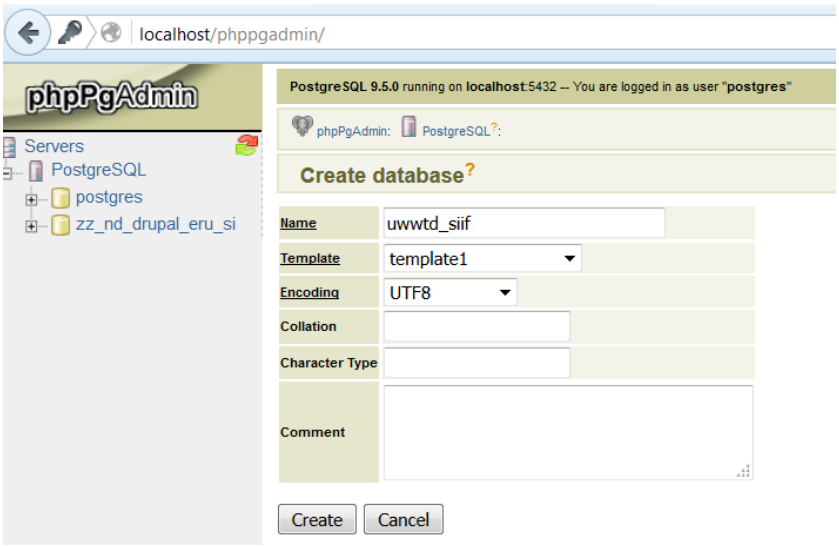


Figure 6 : Create database form with phpPgAdmin

and click on “create”

2.2 Import the SQL structure to your database (only for prefill-installation)

If you want to install a new uwwtd siif plaform from scratch you can skip this step. However, if you want to install a prefilled dataset for Cyprus, Slovenia, Romania, Poland, Croatia, Lithuania or Ireland you can download a SQL dump on the git space : https://github.com/OIEau/uwwtd/.

The next step involves inserting the premade SQL structure to your platform.

You need to start PostGresql console by going to Start->programs->postgresql->SQL Shell and connect to your new database (eg : “uwwtd_siif”)

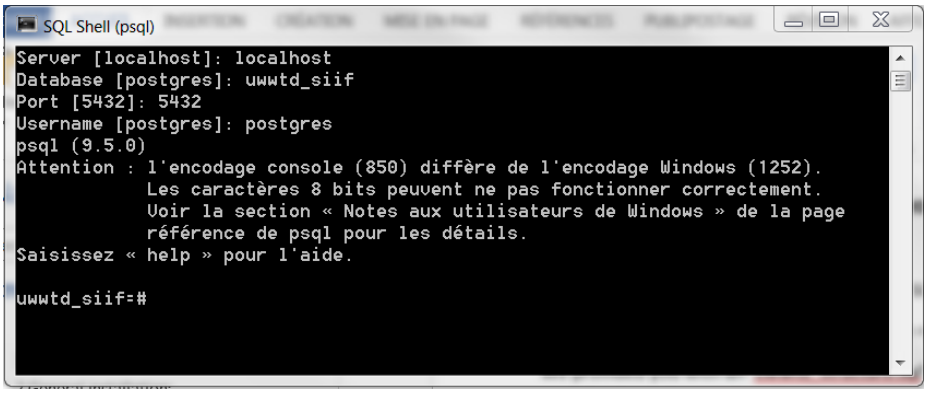


Figure 7 : Postgres SQL Console

We provided you with an *'uwwtd_structure.sql'* file. It's this file that needs to be added to your newly created database. You can install this in whatever manner you prefer but please check if the file was imported correctly as it is vital to the overall installation of the platform. The following command can be used:

```
\i C:/[address of the sql dump base].backup
```

When the import has been completed, you have to run the following sql query (with phpPgAdmin or with the postgres console):

```
ALTER DATABASE uwwtd_siif SET bytea_output='escape';
```

2.3 Import RBD and NUTS layers in database (only for from scratch installation)

These two geographical layers are available on github at this URL : *https://github.com/OIEau/uwwtd/releases/download/V1.1/region_nuts_and_river_basin.zip* . You have to download the zip file and unzip it on the root of the server.

You need to start PostGresql console by going to Start->programs->postgresql->SQL Shell and connect to your new database (look at 2.2) and run the two following commands

```
create extension IF NOT EXISTS postgis

\i C:/ region_nuts_and_river_basin.sql
```

2.4 Website installation

2.4.1 Copy files to server directory

Now you have the database correctly setup, we need to add all the source files to your server directory. To do this simply unzip the '*uwwtd_files.zip'* file into your web directory:

C:\Apache24\htdocs\uwwtd_siif

At the end, you will have this kind of tree:

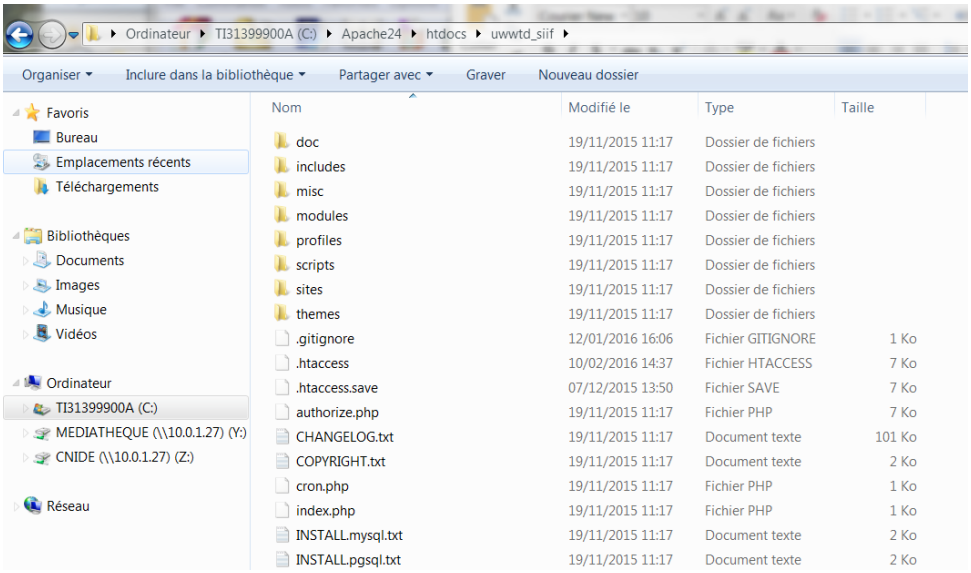


Figure 8 : Tree of root folder of website

2.4.2 Allow access to your public directory

Drupal, the CMS used by the UWWTD SIIF platform, needs to access certain directories of your server to work correctly.

You need to change write access to full access (read, write, execute) for 'apache' to the directory *'*C:\Apache24\htdocs\uwwtd_siif*sites**default**files'* and all of its children directories. Drupal also needs the write access to "C:\Apache24\tmp"

2.4.3 Start the Drupal Install (only for installation from scratch)

If you have already imported a dump in point 2.2., you can skip this point. If you install the UWWTD SIIF platform from scratch, this point is mandatory.

In order to install Drupal and after you have realized 2.5.1 & 2.5.2 operations you can start the installation process. With your web-browser go to this URL : *http://localhost/uwwtd_siif/install.php*, and the following screen will appear:

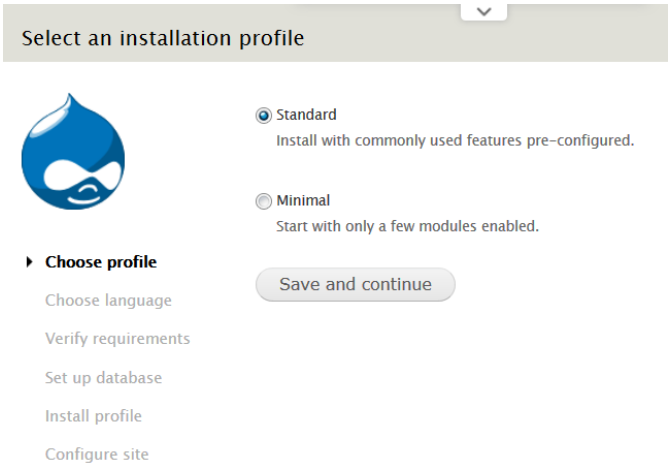


Figure 9 : Install screen of Drupal

Select “standard” installation profile and click on “Save and continue”.

On the next screen, select the default language (always English as this is the language of the file reported, you will be able to change the language settings in a next step) and click on “Save and continue”.

Fill information for the database settings like the following screen and click on “Save and continue”.

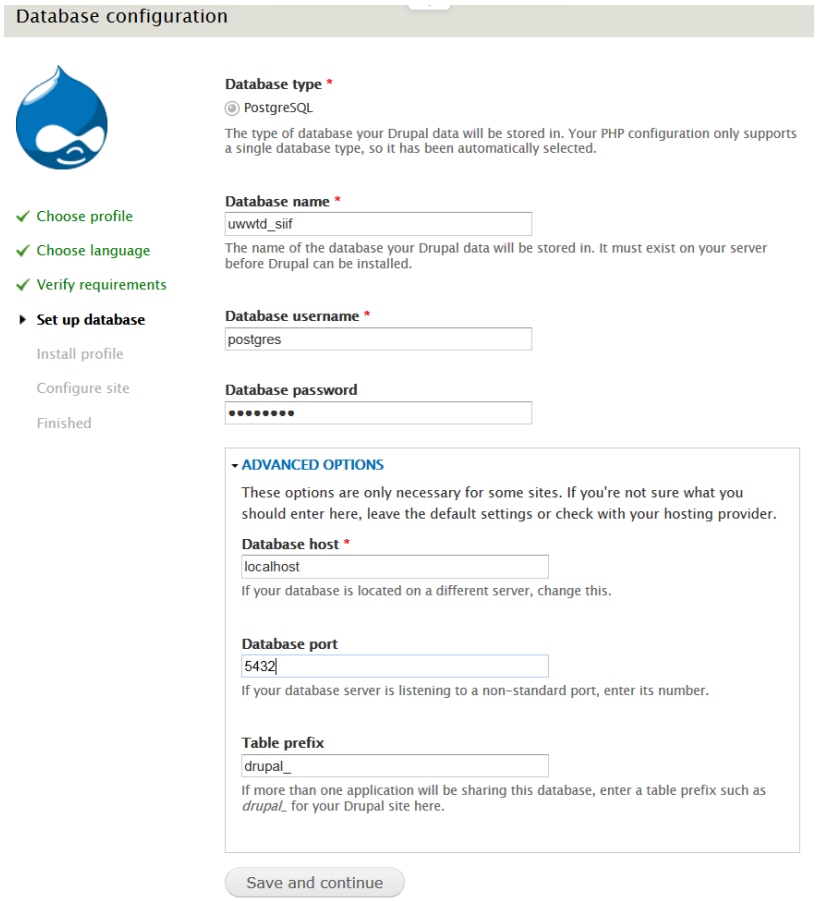


Figure 10 : Drupal database configuration form

In the last screen, you have to enter your settings for the admin account and the site name. Fill all mandatory fields and click on “save”. In theory, you’ll be redirected to a default front page like the following:

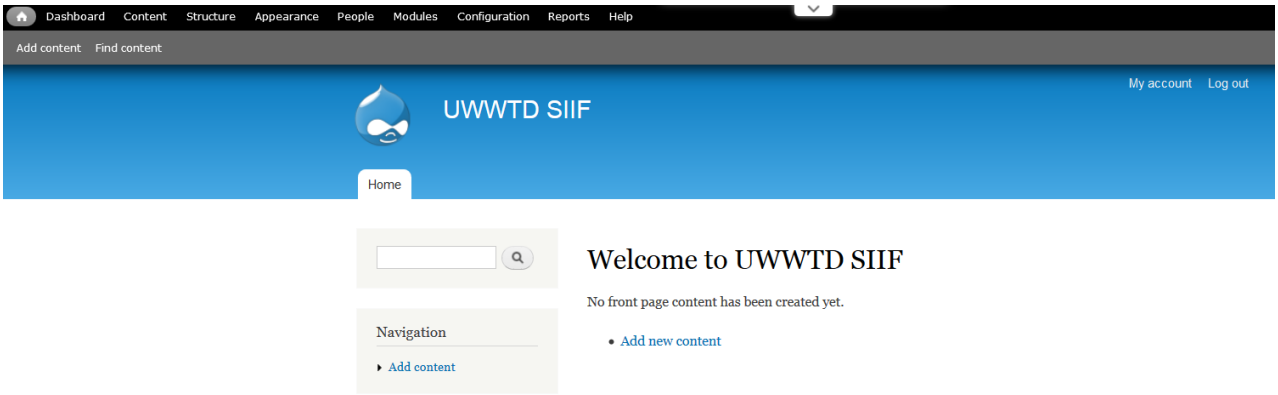


Figure 11 : Default Front page of Drupal

2.4.4 Modify the settings.php file (for all install)

The settings.php file is used by Drupal for declare all required settings like database connection or alter some php settings. This file is located in this path “C:\Apache24\htdocs\uwwtd_siif\sites\default\settings.php” and you can edit it with notepad++ editor.

Important: you have to pay attention to keep/use UTF8 encoding for the file

First, you need to check the database connection. If you installed your Postgres database on the same server as your website, your connection settings could be:

```
$databases = array (
  'default' =>
  array (
    'default' =>
    array (
      'database' => 'uwwtd_siif',
      'username' => 'postgres',
      'password' => 'postgres',
      'host' => 'localhost',
      'port' => '5432',
      'driver' => 'pgsql',
      'prefix' => 'drupal_',
    ),
  ),
);
```

PS: the use of “postgres” user for a production website is not recommended.

In the settings file, you also have to set the country code (please use ISO 3136 codes in two positions) (eg : si,cy,pl,ro,fr,ie,lt,hr…). You can add this information to the end of the file with the following line

```
$conf['siif_eru_country_code'] = 'si';  //for slovenia
```

2.4.5 Activate the uwwtd module (only for from scratch installation)

The uwwtd contain all specific component for the UWWTD SIIF platform. You have to activate this module in the Drupal administration interface. You can find this setting option in admin/modules path.

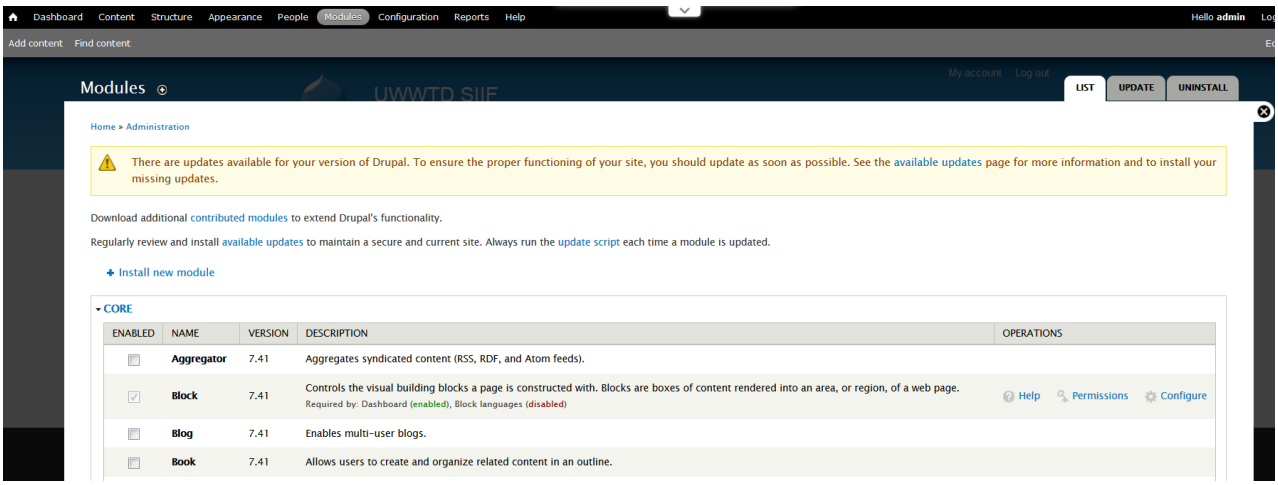


Figure 12 : Drupal module list

And check the UWWTD line and then click on “save configuration” on the bottom of the screen.

2.4.6 Customize the domain name of your website

Now, in theory you can access to your website, with a web browser with this URL:

http://[ip.of.the.server]/uwwtd_siif/

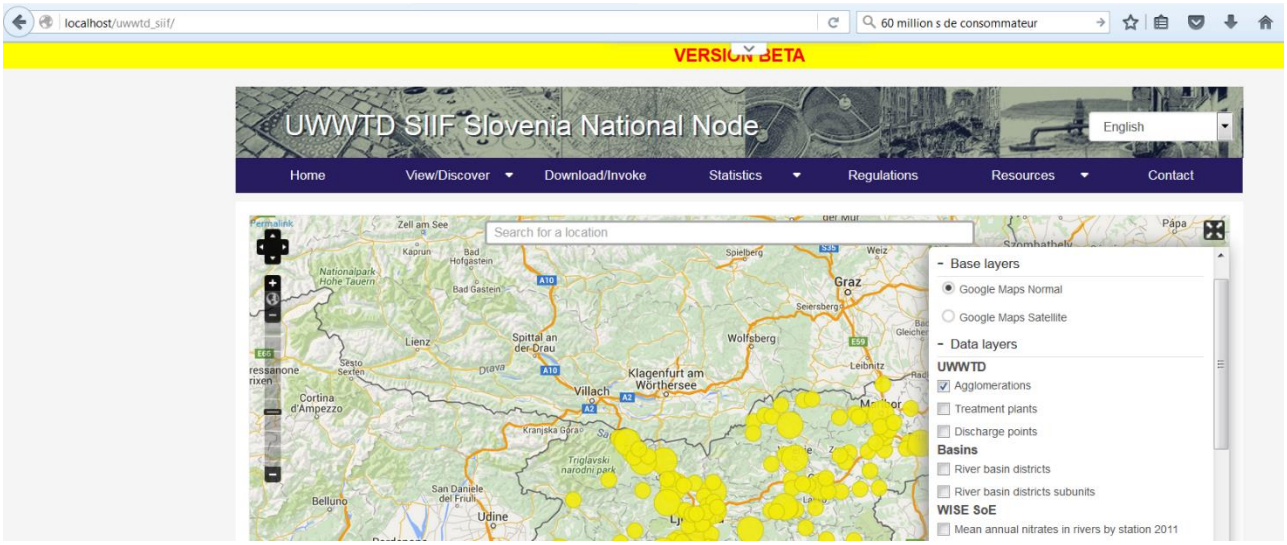


Figure 13: Front page

You can optionally customise the Apache configuration of your website to allow for URL rewriting and setup your domain name. If not, you have to change the .htaccess file (see at the end of this part).

If you choose to set the domain name, we recommend you to create a file, eg "uwwtd_siif.conf" in the C:\Apache24\conf\extra directory and add the following content (you have to change the ip and the domain name):

```
<VirtualHost 192.168.1.40:80>
 ServerName uwwtd.domain.eu
    ServerAdmin contact@domain.eu
    DocumentRoot C:\Apache24\htdocs\uwwtd_siif

    <Directory " C:\Apache24\htdocs\uwwtd_siif\">
        AllowOverride All
        Options indexes
        IndexOptions FancyIndexing IconsAreLinks FoldersFirst HTMLT-
able
    </Directory>

</VirtualHost>
```

Save your uwwtd_siif.conf file and then restart the Apache server with the ApacheMonitor service located in the task bar.

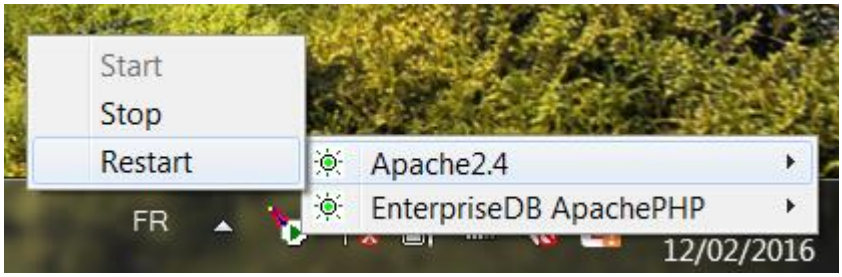


Figure 14 : ApacheMonitor service in the windows task bar

Your website is ready and can be reached with your own domain name, such as: http://uwwtd.domain.eu

If you don't set the domain name, you have to set a rewrite rule in the .htaccess file. You can find this file at this path: C:\Apache24\htdocs\uwwtd_siif\.htaccess

In around of line 120. Change the setting "RewriteBase /" to:

```
RewriteBase /uwwtd_siif
```

2.4.7 Log in to your site and empty any cache (for prefilled installation)

The next step is to log into your SIIF platform by entering the URL to your website followed by the path /user (ex: www.YOURWESITE.com/user) into your browser. Once on the page please enter your login and password, as this is your first time on the platform your login is 'admin' and your password is 'password'.

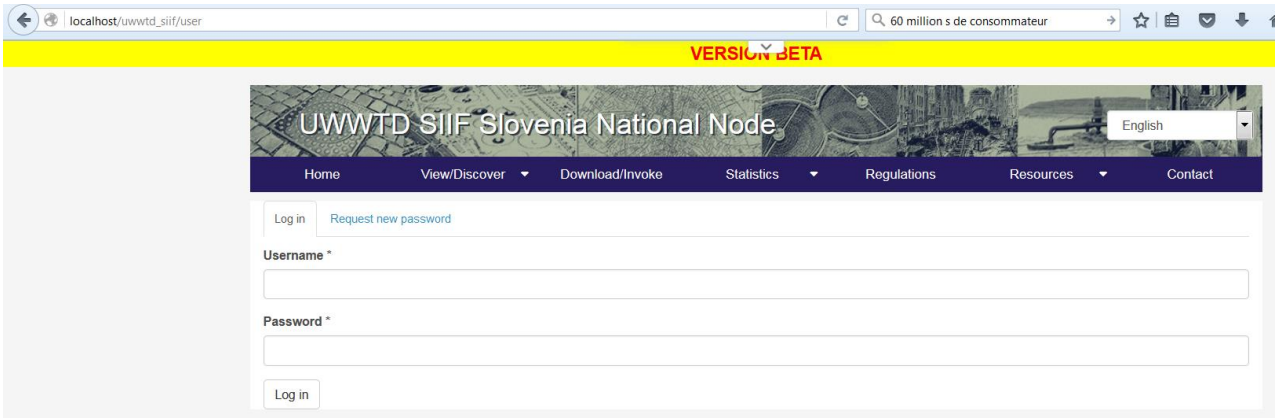


Figure 15 : login page

PLEASE CHANGE THESE AS SOON AS POSSIBLE.

You will now be presented with a menu at the top of the screen. This menu is the admin menu and will allow you to alter your entire platform to your wishes.

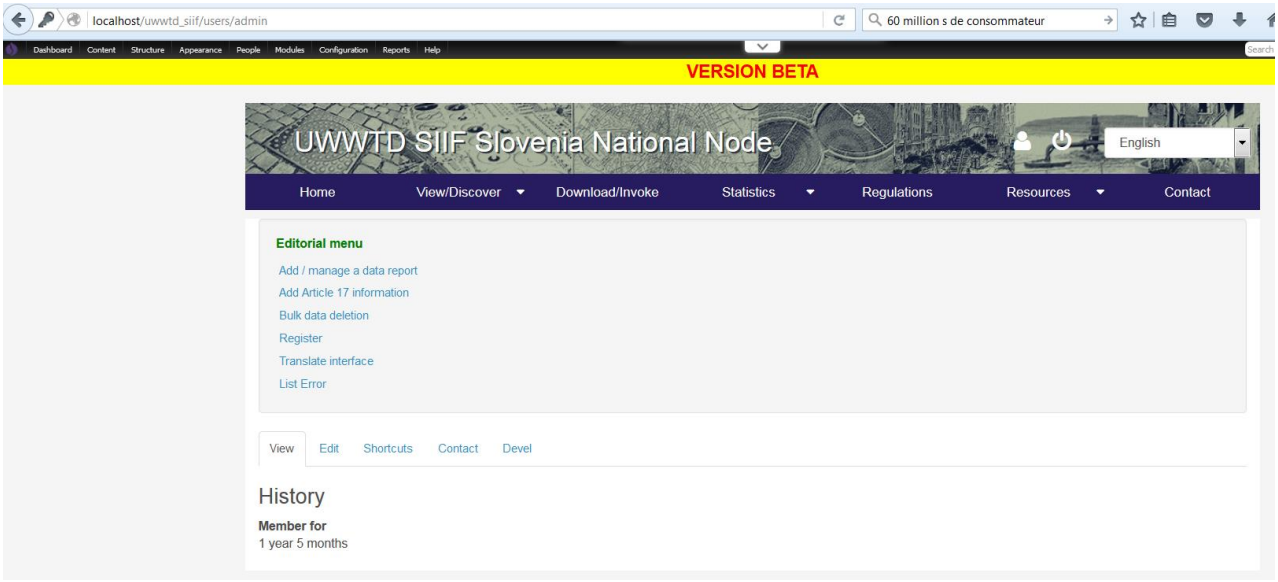


Figure 16 : Log on page

To clear all the cached data on your platform please hover your mouse over the Drupal logo situated to the far left of the admin menu and click on ‘flush all caches’.

NOTE: If you encounter a white screen after connecting to your website for the first time, please go to www.YOURWESITE.com/data, click the update page then perform the updates. Your platform should function correctly afterwards.

2.4.8 Custom settings

Under Windows, UWWTD SIIF platform needs two specifics settings in order to define path for “temporary directory” and for “wkhtmltopdf” library. These can be made with the admin interface of the website.

For setting the “temporary directory” go to *http://localhost/uwwtd_siif/admin/config/media/file-system* and in “temporary directory” field fill it with “c:\Apache24\tmp”

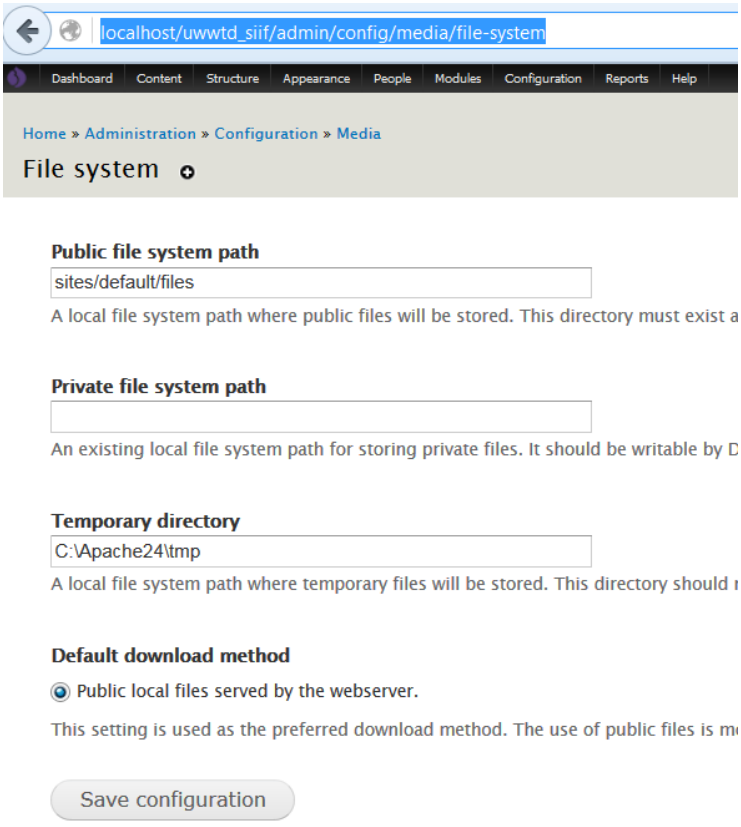


Figure 17 : Custom settings

For setting the path of wkhtmltopdf library go to *http://localhost/uwwtd_siif/admin/config/wkhtmltopdf* and in “wkhtmltopdf bin path” field fill it with “c:\ wkhtmltopdf \bin\ wkhtmltopdf.exe”

Figure 18 : allow wkhtmltopdf

2.4.9 Change the name of your SIIF platform

To change the name of your SIIF platform go to the following page: www.YOURWEBSITE.com/ /admin/config/system/site-information. Once on the page to change the name of your platform edit the field named *'Site name'* and click *'save configuration'*.

2.4.10 Change the logo of your SIIF platform

To change the logo of your SIIF platform go to the following page: www.YOURWEBSITE.com/ /admin/appearance/settings/uwwtd. Once on the page you will notice a few tabs on the left side of the page. Choose *'logo image settings'* uncheck the checkbox *'Use the default logo'* and enter the path to your file or choose to upload it directly.

To remove the logo completely return to the page: www.YOURWEBSITE.com/ /admin/appearance/settings/uwwtd, choose the tab *'toggle display'* and uncheck the checkbox *'logo'.*

When you have finished your modifications please click the button *'Save configuration'.*

2.4.11 Add a national language

To add a new language to your website go to the following page: www.YOURWEBSITE.com/ admin/config/regional/language. This page displays all the active languages for your platform which you can choose to remove or set as the default language. To add a new language click the link *'Add language'* choose from the dropdown menu '*Language name'* then click the button *'Add language'.*

2.5 Install GeoServer

You must first install Java JRE 7.

Then the software is available on Geoserver website and you have to get the latest version of Geoserver in WAR format *http://geoserver.org/release/stable/* (v2.6.2). You have to use the setting up procedure detailed here *http://docs.geoserver.org/stable/en/user/installation/index.html* .

You have to select user: admin and password: geoserver and change the port so as it does not coincide with the one used by Apache (8080 when installed with PostGre), for instance use 8081, and install as a service.

Depending on the server configuration used to host the software, some adjustments may be required

Geoserver may run with Apache-Tomcat (*http://tomcat.apache.org/*),

If Tomcat is used, the archive containing the WAR installing files, has to be stored in the directory: Tomcat /WebApps.

In order to extract the files and install, open a navigator and type in

*http://**[ServerAddress]**:**[port]**/geoserver/* .

(e.g. : *http://localhost:8082/geoserver/*).

Some useful links

- The user manual on geoserver website

  http://docs.geoserver.org/stable/en/user/

- Overall introduction of the interface

  http://docs.geoserver.org/stable/en/user/gettingstarted/web-admin-quickstart/index.html

- Main functionalities

  http://docs.geoserver.org/stable/en/user/gettingstarted/index.html

- To secure the software

  http://docs.geoserver.org/stable/en/user/webadmin/security/index.html

The default access information for the software is:

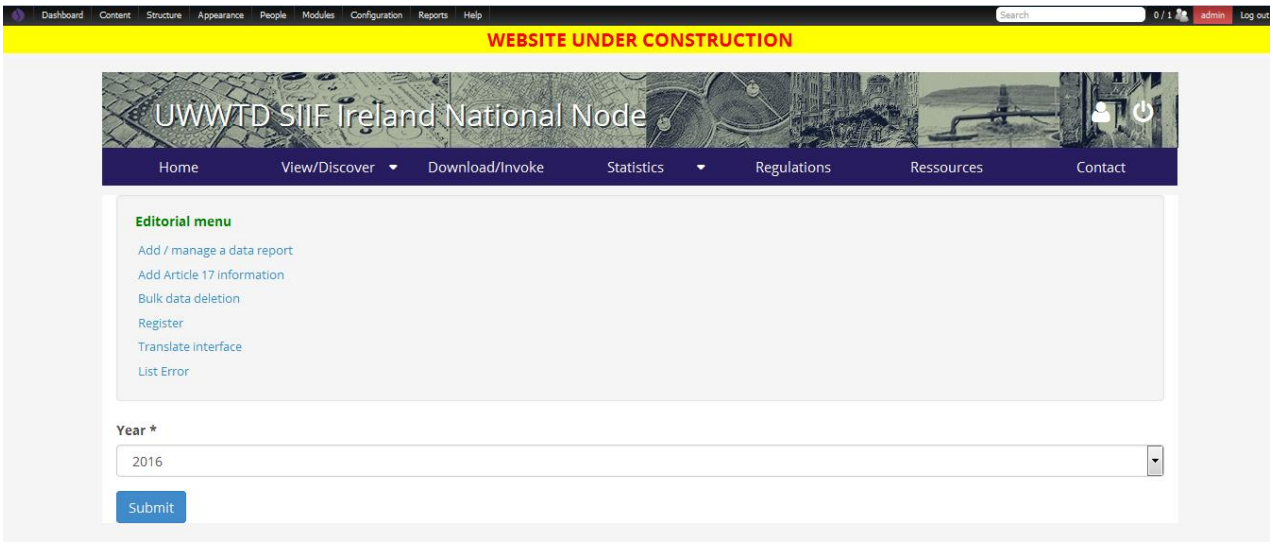
- login : admin
- password : geoserver

2.6 Install GeoNetwork

The software is available on GeoNetwork website (http://geonetwork-opensource.org/). The setting up procedure is detailed in the documentation (*http://geonetwork-opensource.org/manuals/2.10.4/eng/users/quickstartguide/installing/index.html*).

3 Data submission and calculations

Once the platform installed, you can start importing datasets. You need first to be logged in as administrator with all the necessary rights. You arrive then to an Editorial menu where you can manage datasets and launch specific calculations.



For a detailed description of this, please refer to the administration guide also available on the GitHub platform.