SUPPORT ON THE IMPLEMENTATION OF THE URBAN WASTE WATER TREATMENT DIRECTIVE (91/271/EEC)

HOW TO MANAGE THE EU SIIF NODE TOOLBOX

RAMBØLL

International
Office
for Water

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CONTENTS

1. INTRODUCTION

This document is intended to help the administrators of the web portal perform the primary tasks needed for a well-functioning website:

- Install main pages of the public website,
- Define user login,
- Harvest a dataset,
- Import harvested dataset on the website,
- Generate EU synthesis maps
- Translate the website
- Create and set up webservices
- Create and publish layers
- Access developers' instruction for setting a new SIIF MS harvest point.

This document presumes you have already installed your server and all the necessary requirements detailed in the document 'UWWTD- SIIF-installation-centOS.docx' or 'UWWTD- SIIF-installation-Windows.docx'.

Sources are available on the following Github repository: https://github.com/OIEau/uwwtd-eu-node

To summarise the requirements:

- a Centos/Red Hat server with at least 2 Gbytes of RAM,
- some development tools,
- an Apache 2 webserver with PHP 7.x,
- the Gdal-Ogr toolkit,
- WKHTMLTOX,
- the GeoPHP libraries,
- uploadprogress and dbase pecl modules,
- the database: Postgres 9.x with Postgis extension (version > 1.5) ,
- the website CMS: Drupal 7,
- the map server: MapServer (The MS SIIF node use Geoserver).

On the website, configuration and administration guides are available at the address: www.[your *site url]/admin/help*
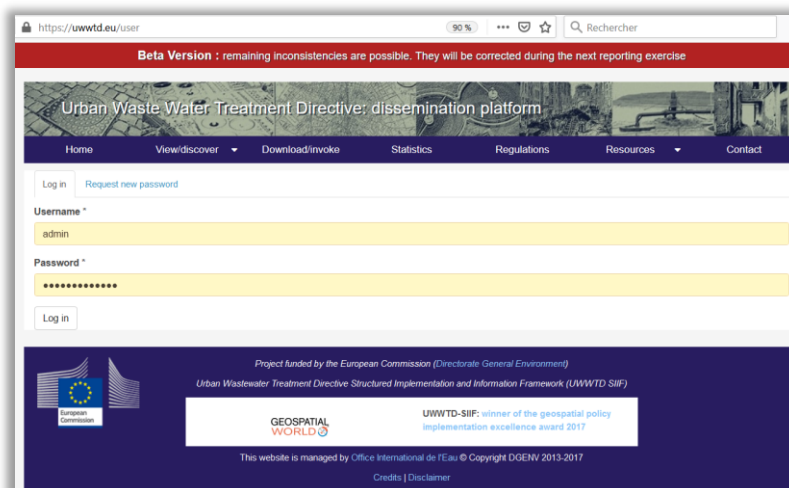
2. ADMINISTRATION PAGES

Administration pages are only available for connected users with the "Administrator" profile.

2.1 User connection

Prior to any administration task on the web portal, user registration has to be operated.

Go to the address *www.[your site url]/user* and type your ID and password.

After the login, the user is redirected to the home page. According to his/her profile (for instance administrator), this page (as all public pages) is enriched with 4 menus:
- The administration menu (in orange) for the website management and settings (for a full description read the Drupal official documentation https://www.drupal.org/docs/7/administering-drupal-7-site),
- The editorial menu (in green) for main administration functionalities of EU SIIF Toolbox,
- The contextual menu (in blue) for content management of the current page,
- The user menu: for user account management and logout.
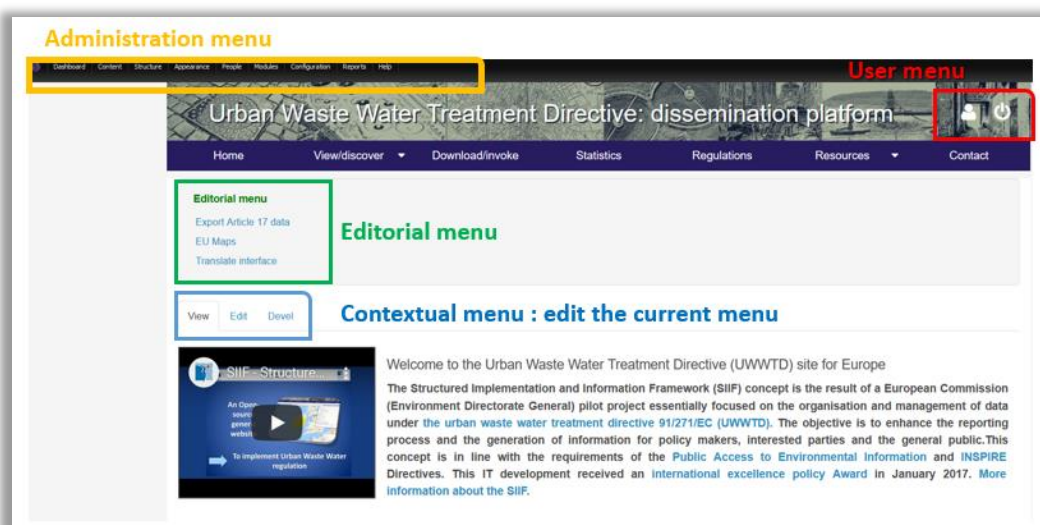
2.2 The editorial menu
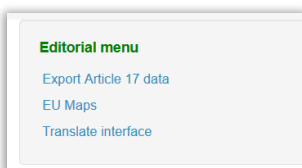
The editorial menu provides to the user some shortcuts to essential functionalities of the EU SIIF website. These functionalities can be also found in the administration menu (see section 3.5).

Currently there are 3 items:

➢ **Export Article 17 data**

Menu: -

Path: /stats/art17

Status: access only for administrator

Description:

This webform page allows the administrator to export data on article 17 report for all EU Member States by reporting year in an Excel File.

➢ **EU Maps**

Menu: -

Path: /map/europe-list

Status: Public, with additional functionalities for administrator

Description:

The public page is described in section 2.3.4. However, administrator have access to two additional functionalities (in red below):

- "png": for (re-)generating the static map. This action is required after a data harvesting operation,
- "debug": gives an access to the interactive map and calling all WMS layers used for the map rendering. This function is more relevant for issue solving purposes.
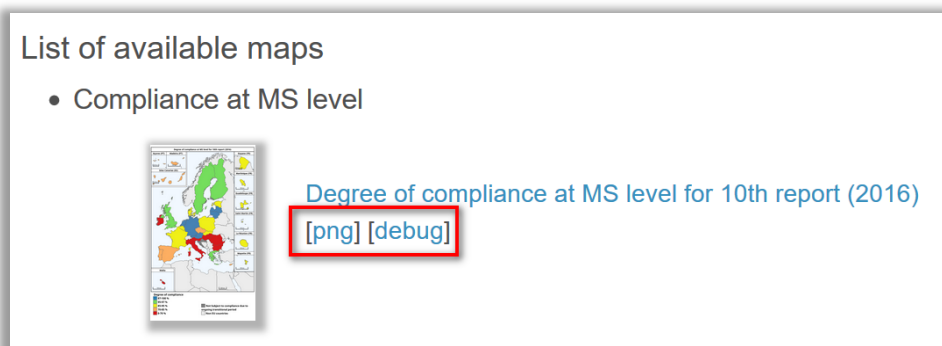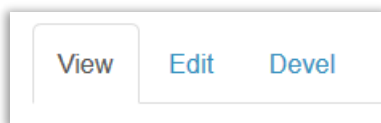
➢ **Translate interface**

See sections 3.5.5 & 3.5.6

2.3 The contextual menu

The contextual menu is provided to administrator on each editable page. Generally, there are 3 links:
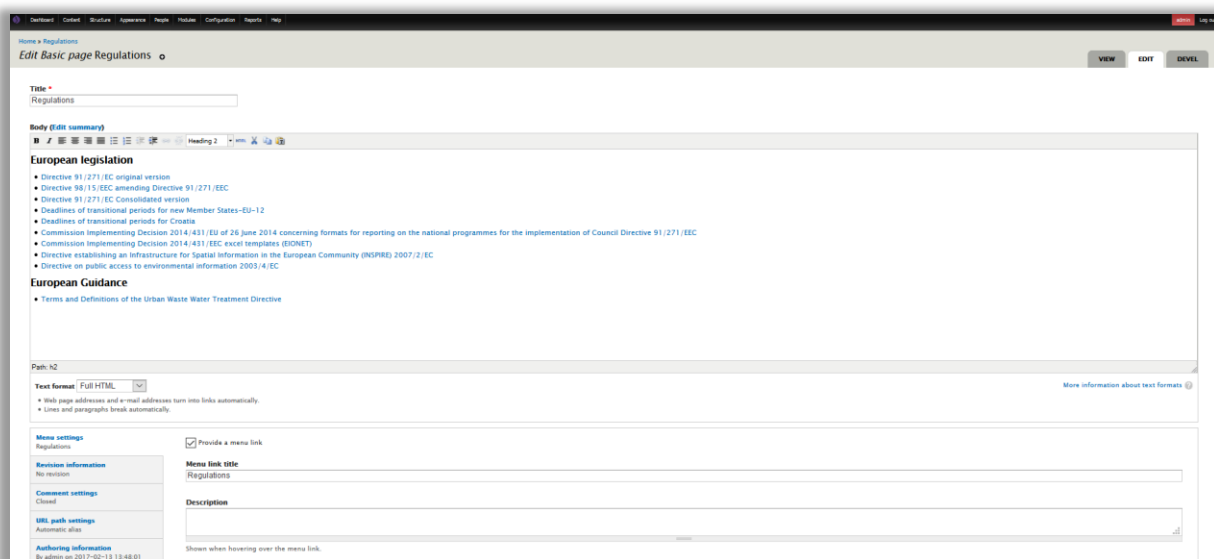

> **View**

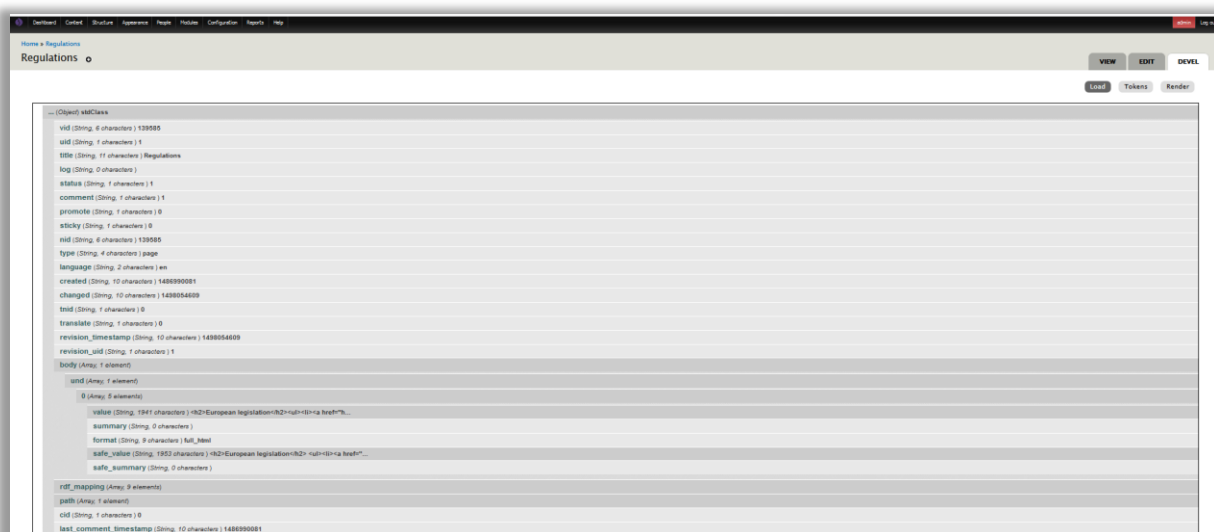This is for displaying the current content as on the public page

> **Edit**

This is for creating, changing or deleting the content of the current page with the standard form provided by Drupal

> **Devel**

This is for development purpose and to have an access to structure of the current object.
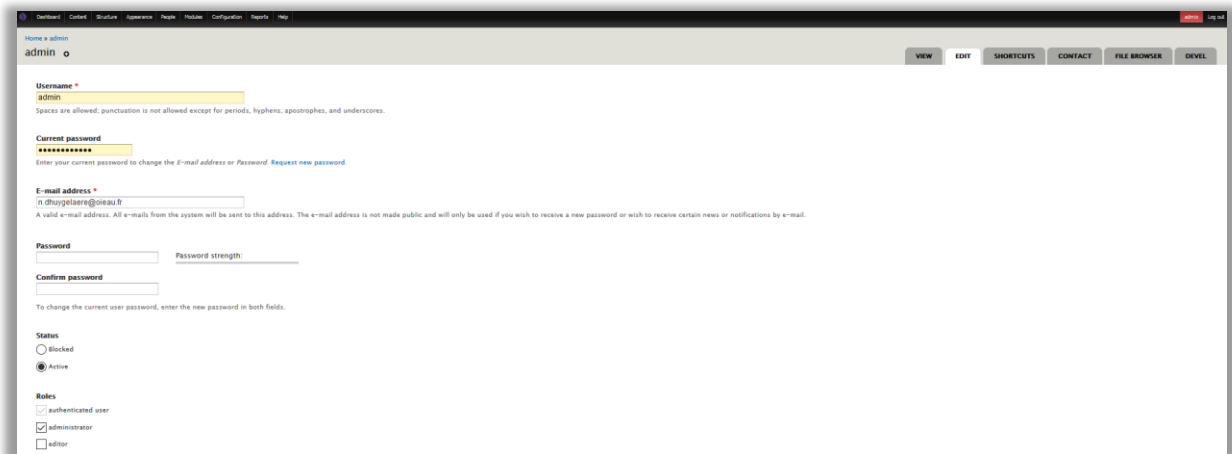
2.4 The user menu

The user menu is available in the banner of the website for logged users. This menu provides 2 links:


The first item gives an access to the user account and gives the possibility to change information on the user own account.

The second item, is the link to the "logout" function

2.5 The administration menu

The administration menu is only available for administrator. When the administrator is logged in, this menu is always available on the top of the page in the "black line".
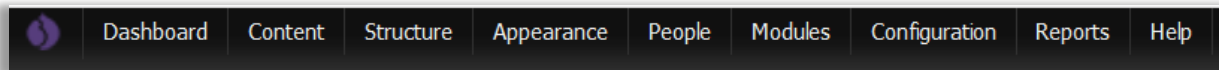
This menu is the Drupal standard admin menu. You can find all the relevant information on the official documentation available here: https://www.drupal.org/docs/7/administering-drupal-7-site/getting-started-with-drupal-7-administration

2.5.1 Manage content type and structure

Menu: Admin > Structure > Content type

Path: /admin/structure/types
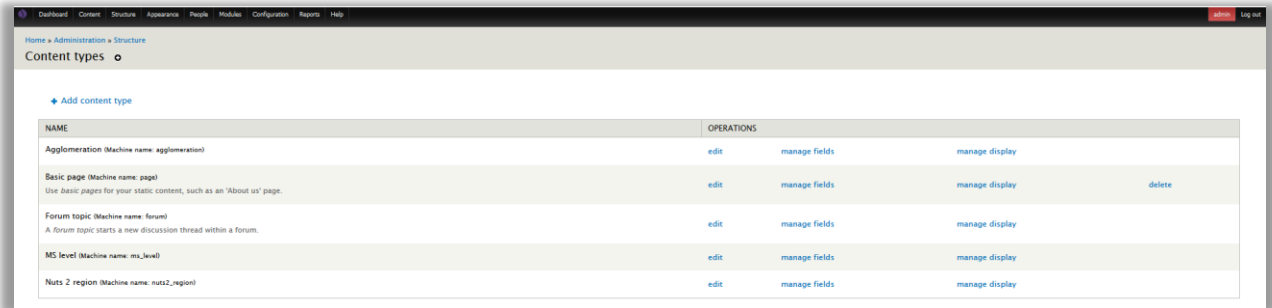
Status: Administrator only

Description:

A content type defines the way in which content is collected and displayed. Content types are a container for all content with the same characteristics (for example "Agglomeration" contains all agglomerations with a set of fields). Some fields are part of all content types like basic data such as a title, date, and author. Some modules create their own content types and some don't. Those that do, can have unique fields defined in their content type (for example the Location module adds fields

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such as city, country, longitude and latitude). Additional custom fields of many kinds can be added by following the Structure>>Content Types menu, which is part of Drupal 7 Core.

More information can be found here: https://www.drupal.org/node/120635
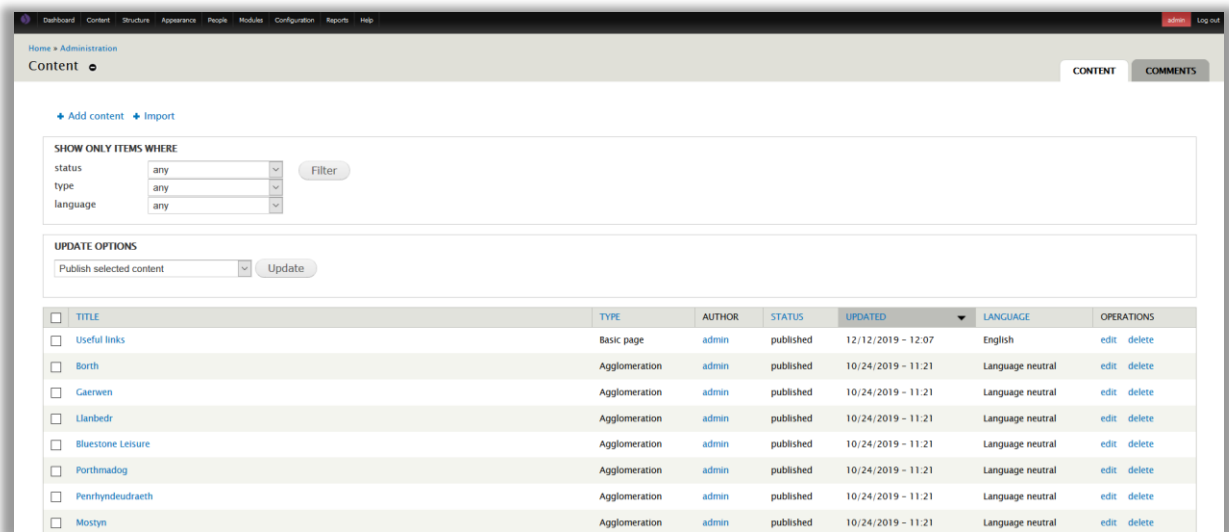

2.5.2 Manage content

Menu: Admin > Content

Path: /admin/content

Status: Administrator only

Description:

The administrator can consult, browse and manage all content stored in the website on the "Content" page.

To create content go to Admin > Content > Add content

Select the content type you want to create. There are usually one or more fields within each content type. The example below refers to a Basic page.

- Title: short description of the content of the page.
- Body: where you put the text for the page. The "Input format" controls what code can go in the Body field. There are three default options: filtered HTML, PHP code, and full HTML.

- Menu settings: used to make the content an item in one of your menus. It's an efficient way to create menus. Learn working with the Menu.
- Revision information: log message to provide information that might be useful to other authors who may edit your document later, or provide your rationale for making edits to your own or other people's content. The log message is not visible to users without the appropriate content editing rights.
- Comment settings: settings that can be specified for an individual piece of content.
- If you enabled the Path core module or added PathAuto, you'll have URL path settings next. You can enter a "normal" name here rather than being required to use "node/2" when you refer to it later on. PathAuto will automatically create a URL based on your page title.
- Authoring information: the post date and the name of the author. This can be used to control the order in which content appears in a list that is sorted chronologically.
- Publishing options: settings to define the visibility of the content. Only published content shows up on the website. You can also promote content to the front page and make the content item sticky to the top of lists.

2.5.3   Manage menu

Menu: Admin > Structure > Menu

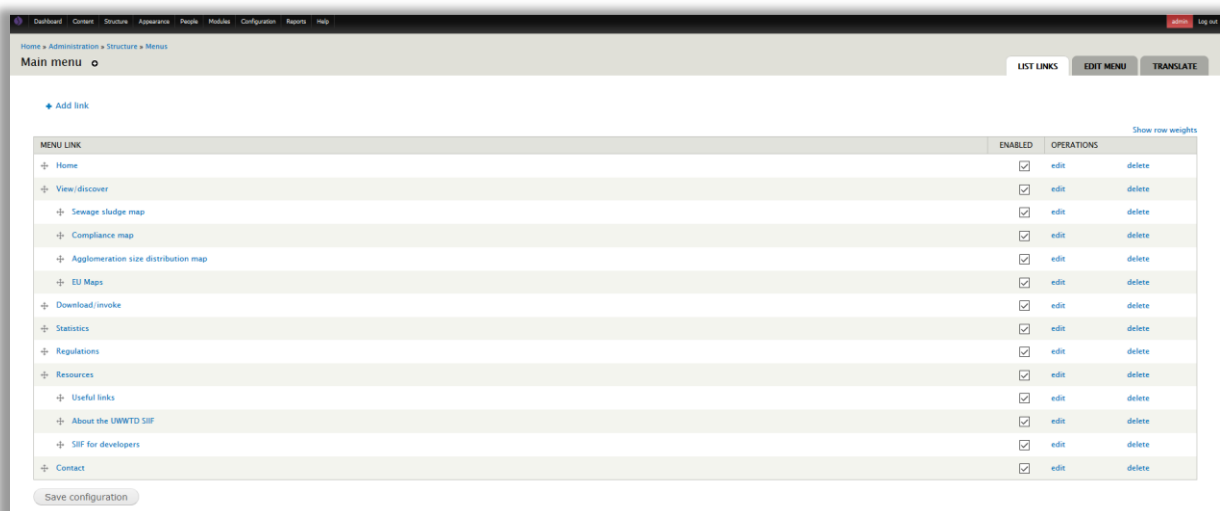Path: admin/structure/menu/manage/main-menu

Status: Administrator only

Description:

Menus are a collection of links (menu items) used to navigate a website. The Menu module provides an interface to control and customize the powerful menu system that comes with Drupal. Menus are primarily displayed as a hierarchical list of links using Drupal's highly flexible blocks feature. Each menu automatically creates a block of the same name. More information are available on the official documentation of Drupal at: https://www.drupal.org/docs/7/working-with-menus

The UWWTD EU SIIF node uses the standard Drupal "Main menu". This menu can be managed directly from the website backoffice.
The main menu of the UWWTD EU SIIF node has the following structure. The administrator can edit, delete or change the order of links in the menu.

2.5.4 Harvest data from MS SIIF nodes and import datasets in the website
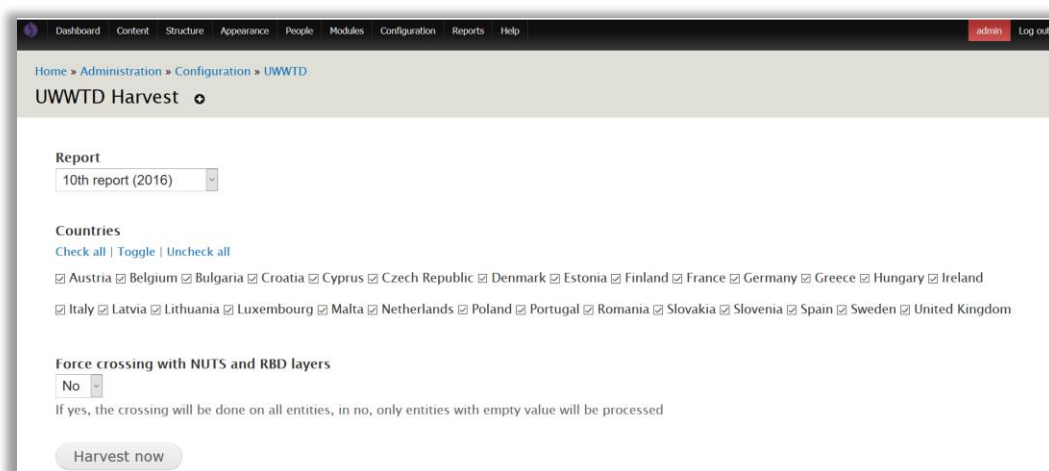
2.5.4.1 Harvesting

Path: /admin/config/uwwtd/harvest

Menu: Admin > Configuration > UWWTD > UWWTD Harvest

Status: access only for admin

Description:

This function is the most important of the EU SIIF node, it's the unique way to import data in the website and to generate tables, charts and graphs.


The harvesting system mobilizes the EU SIIF node and the 28 EU SIIF nodes. When the administrator of the EU SIIF node starts the harvest at least for one Member State, an automatic procedure is started.

1) For each selected Member State, the EU SIIF node will collect all datasets displayed by the WFS of the country (Agglomeration, UWWTD, association between Agglomeration & UWWTP, DCP, MS Level data, Sensitive Area and article 17 data)
2) Then, if the administrator selects the option "Force crossing with NUTS and RBD layer", the system try to complete relation relations between agglomeration and NUTS and RBD layers if these information were not reported by the country. The relation is made by a geographical intersection (postgis ST_Intersects) with the relevant version of the reference layer.
3) Then, the collected data are aggregated in a EU table, These EU tables are used for feeding the EEA water base on UWWTD topics. They are also used for data import described in next point 3.5.4.2.
4) Finally, various indicators and statistics are calculated in order to prepare charts and maps.

The main logic is described in the following scheme:
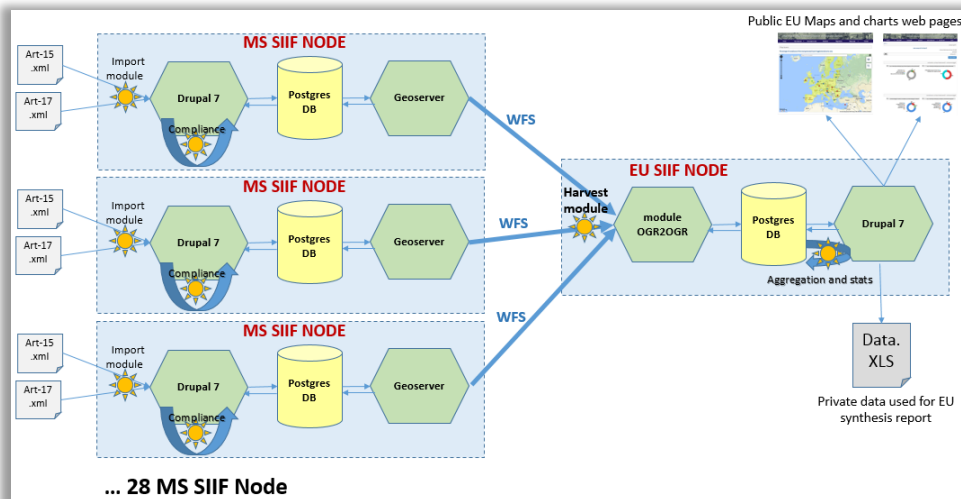
2.5.4.2   Import data

➢ **Agglomerations**

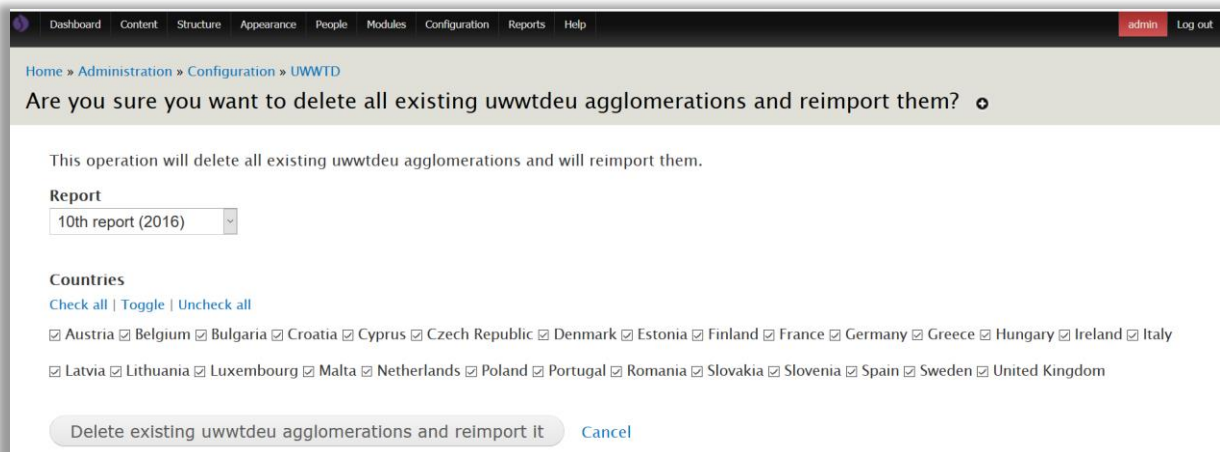<u>Menu</u>: Admin > Configuration > UWWTD > Import UWWTD EU agglomeration

<u>Path</u>:/admin/config/uwwtd/import/agglomerations

<u>Status</u>: access only for admin

<u>Description</u>:

This function is used to import summary information on Agglomeration in EU SIIF data model and produce some charts and maps. This function was developed for the first version of the uwwtd siif node but, it's deprecated now.
Warning: at each running of the function, previous imported data are deleted and new ones are imported.

➢ **MS Level**

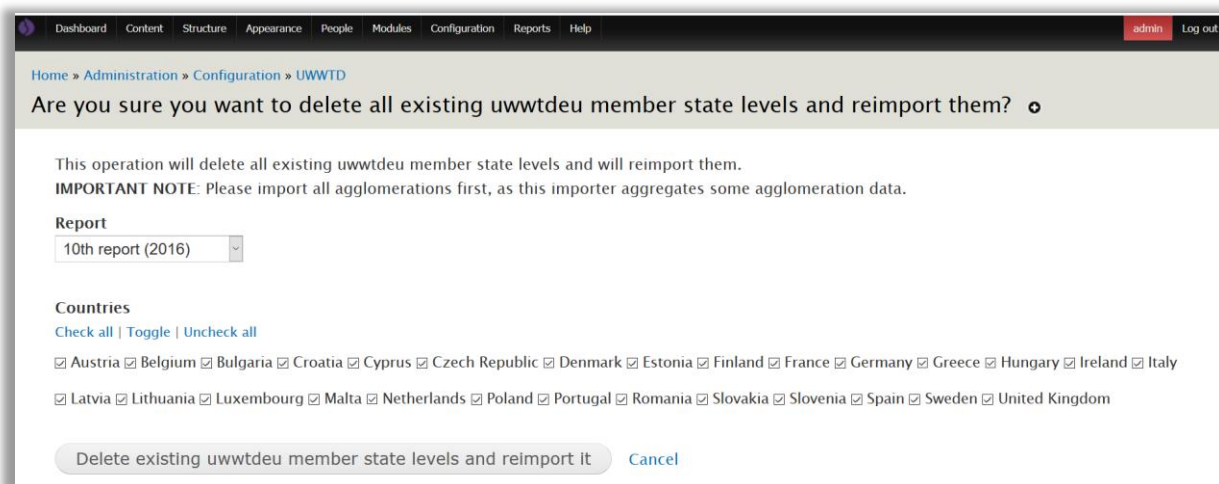<u>Menu</u>: Admin > Configuration > UWWTD > Import UWWTD EU Member State levels

<u>Path</u>: /admin/config/uwwtd/import/ms-levels

<u>Status</u>: access only for admin

Description:

This function is used to import summary information at MS Level in EU SIIF data model and produce some charts and maps for one reported year. This function was developed for the first version of the uwwtd siif node but is deprecated now.
Warning: at each running of the function, previous imported data are deleted and new ones are imported.

> ➢ **NUTS 2 regions**

Menu: Admin > Configuration > UWWTD > Import UWWTD EU NUTS 2 regions
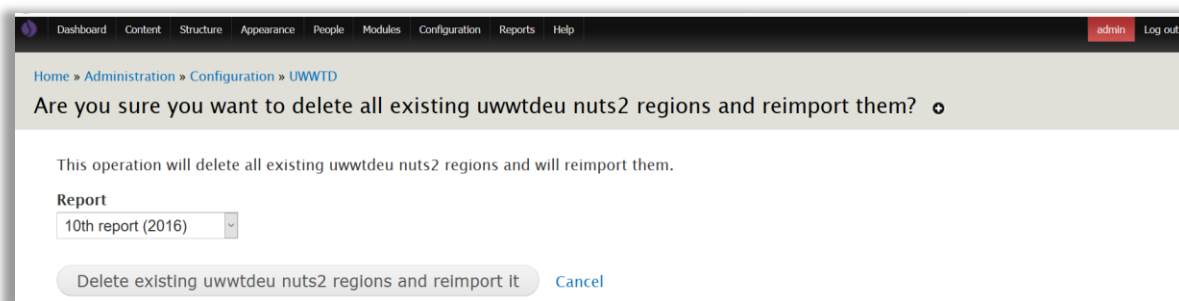
Path: /admin/config/uwwtd/import/nuts2-regions

Status: access only for admin

Description:

This function is used to import summary information at Nuts 2 Level in EU SIIF data model and produce some charts and maps for one reported year. This function was developed for the first version of the uwwtd siif node but is deprecated now.
Warning: at each running of the function, previous imported data are deleted and new ones are imported.

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2.5.5 Add a new language

To be able to translate the text users will see when connecting to the web portal, you must first install a new language in Drupal.

1/ Navigate to [yourwebsite]/admin/config/regional/language

2/ Click on the link 'Add language'
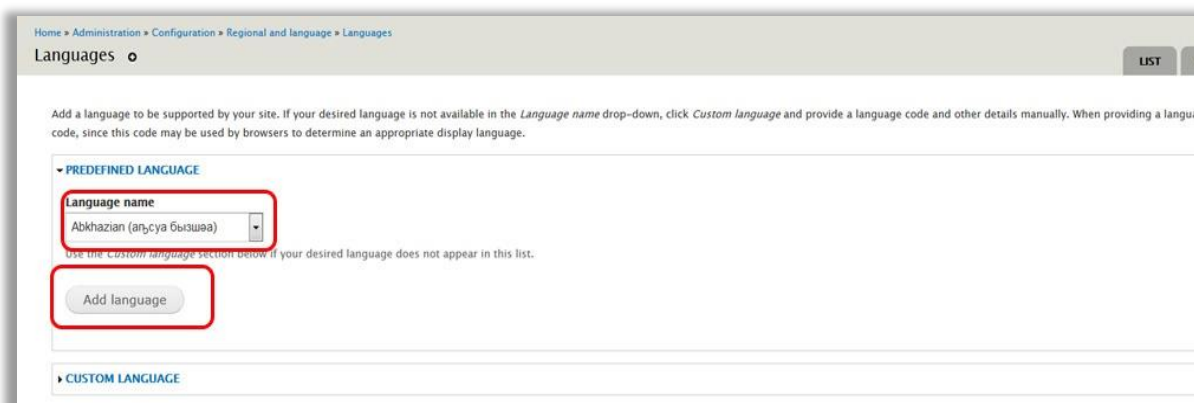
3/ Choose your language and click 'Add language' (this may take a few minutes)

4/ You can now configure which language to be used by default. You can also disable one or more installed language.

2.5.6 Translate a word or phrase

To start translating your interface, please first see the section **2.5.5 Add a new language** to your Drupal installation.

You can either translate the entire text or you may wish to translate a certain expression that you found on the portal. In such case, you can use the "search" function of the translation interface to find back an expression. In both cases, you can translate as described in the following.

1/ After the last step, to translate the interface you must head to the page found at [your site base url]/admin/config/regional/translate/translate.
You will land on a page that lists all the strings already translated.

Warning: If you have just connected to the web portal, be sure to remove '/user' from the URL before.
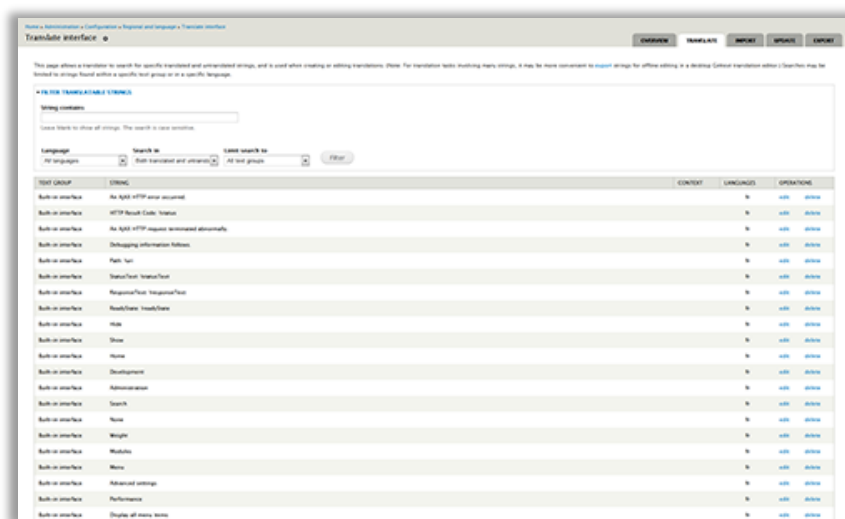
2/ From here, select the string you wish to translate and click "edit", enter the text and click on "submit." You will land on a page that lists all the strings already translated including your last string.

3/ If you wish to update the translated content, you can find your string in the list generated and click "edit" on any of them.

4/ You will be presented with a list of all your added languages and their translations if entered. You can now edit the text for your language and click "save translation" to save them.

2.5.7 Manage maps on the UWWTD SIIF platform

2.5.7.1 Manage map settings

Each map on UWWTD SIIF platform can be edited with the administration interface of Drupal. In order to access to the "edit map" functionality, you must be connected with the administrator account and then go on a page which containing a map. On the top right corner of each map, on the "hover" map event a small grey gear appear. On click, a tooltip appear and you can click on "Edit" (see the red box on the screen below).
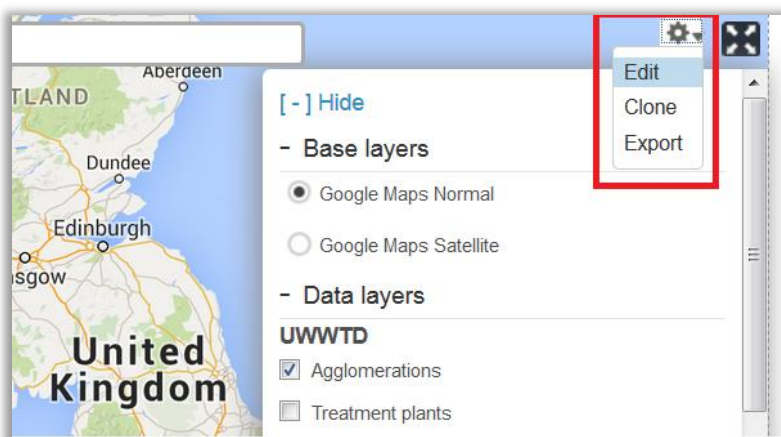
The "edit" link open a form page with all settings of the current map. Fields are sorted in sub-sections: Infos, Center & Bounds, Layers and Styles, Behaviors and Display.
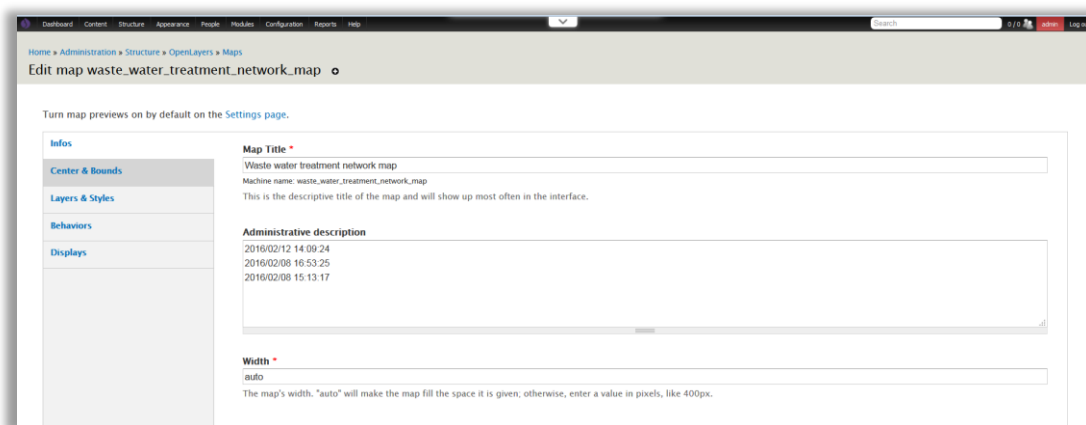
You can also access to all maps settings on this URL: http://[my web site address]/admin/structure/openlayers/maps available in "Administration > Structure> Openlayers > Maps" menu

For more information on map with Drupal, you can visit the official documentation of "Openlayers" module for Drupal available here: https://www.drupal.org/node/1636666

2.5.7.2 Add new layers
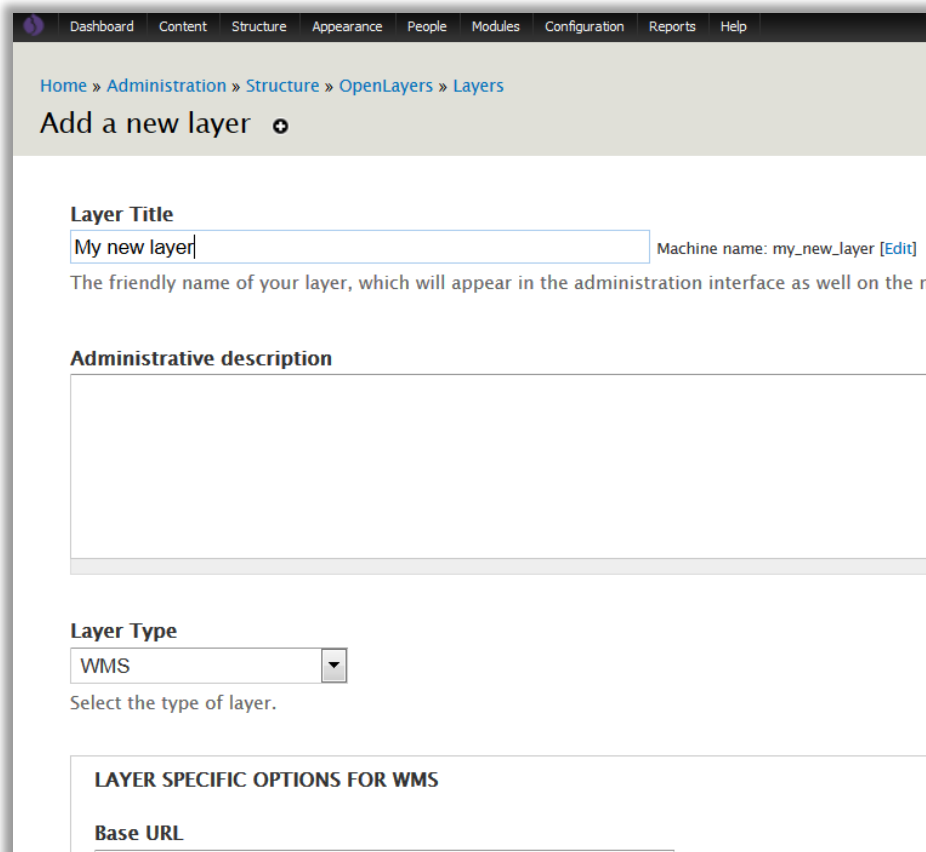
At first, you must be connected with the "admin" account and you need to have strong knowledge in webmapping technology. If not, we recommend to post a new ticket on the Github space available here: https://github.com/OIEau/uwwtd/issues

With the Drupal Administration interface, you can add new geographical layers based on internal/external data. For internal data (for Drupal one), the best way is to use the "Views" module: all documentation can be consulted on this URL: https://www.drupal.org/node/1481374 . For external data, you can use following formats/standards: Bing, CloudMade, GeoJSON, Google, GPX, Image, KML, MapTiler, OSM, PointGrid Layer, TMS, WMS, WMTS, XYZ.

If you want to set a query able layer, you only can use the WMS standard in overlay mode with the "getfeatureinfo" capacity in the GeoJSON format (available for e.g. with Map server 7, GeoServer 2.8 and ArcGIS online)

The layer management interface of Drupal is located in "Administration > Structure> Openlayers > Layers" on this URL: http://[my web site address]/admin/structure/openlayers/layers. For declaring a new layer, click on "Add layer" link and then fill layer description fields on the proposed form. For external data, the main format is the "WMS" (in layer type format field).

In this form you have to pay attention to the "base layer" field. If you check this field, your layer will be a base layer like the google map or open street map layer. You can only use base layer as background layer.
If you want to stack layer with other layers and use it like an "overlay" layer, uncheck this field. (You can take example on the "Bathing water" layer)

After you have set your parameters, click on "save" button. Now your layer can be used in Drupal maps. So if you want to display your layer on a map, you have to edit the map settings (see 2.9.1), and in "Layers and styles" section, check your layer and save the current map.

If you want to display your layer in the layers switcher behaviour, you have to reopen the edit map form, and go to behaviour section. In this section go to "OL+: Blockswitcher plus" area, check your layer, give the "group name" and save the map.

Your layer can be queryable if you use a WMS layer or an Openlayers Views layer (see the screen below).
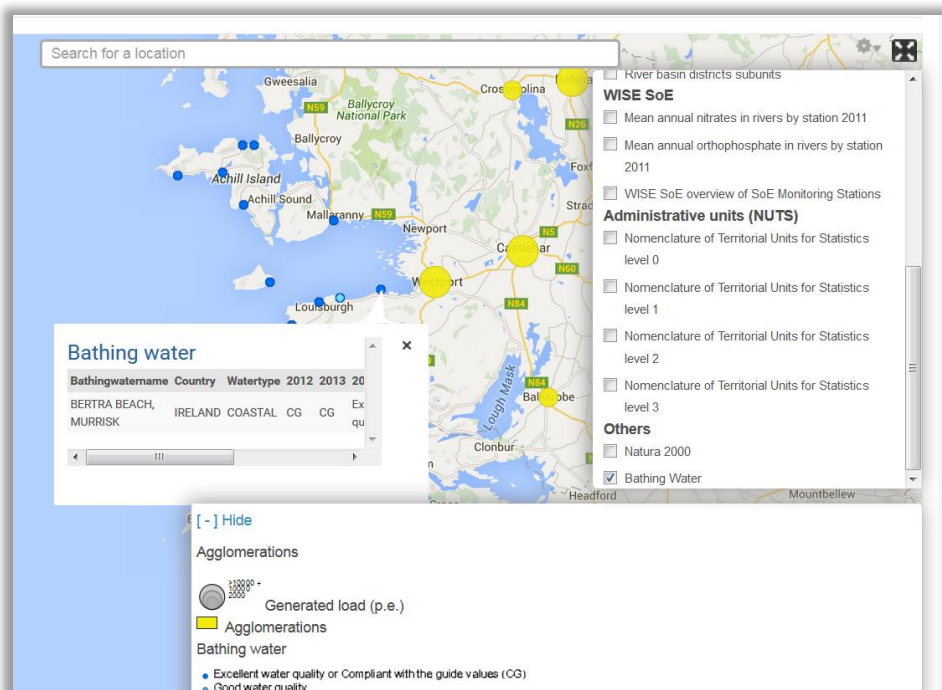
For Openlayers Views layers you have to read the official documentation of Openlayers Views module. For WMS layers, you need to use a map server with the "getfeatureinfo" capacity in the GeoJSON format (available for e.g. with MapServer 7, GeoServer 2.8 and ArcGIS online). You also need to declare the domain of your map server in the proxy "white list" settings in the following menu "Administration » Configuration » System » Proxy"
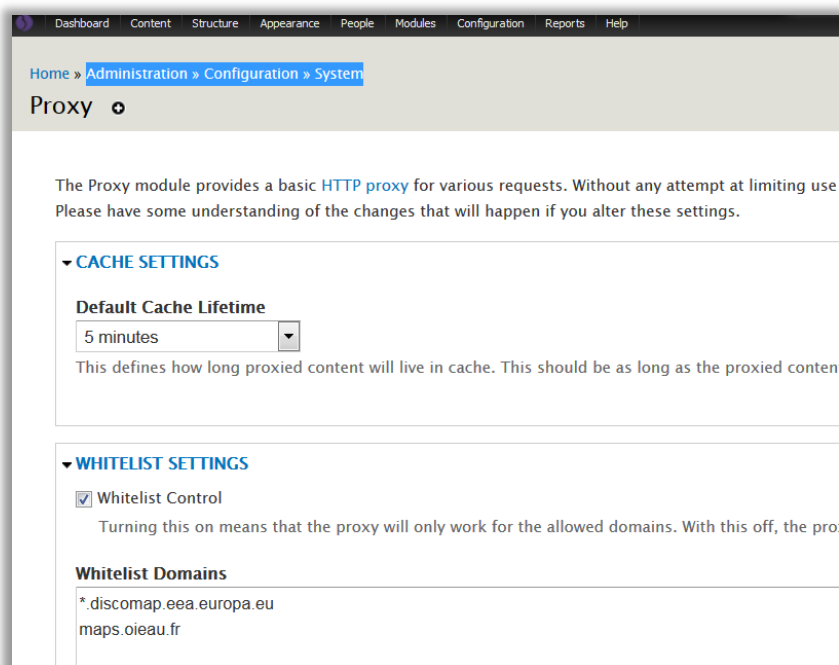
For developers only, you can change the content rendering of the result popup on the layer with a specific Drupal hook: hook_wms_getfeatureinfo_alter(&$result, &$url). We recommend to create your own Drupal module in order to do it. You can find examples at the end of the uwwtd.module file (search function uwwtd_wms_getfeatureinfo_alter(&$result, &$url))

3. MAIN SETTINGS (FOR DEVELOPERS ONLY)

Before any change in the source, be sure to really understand what you will do, and check you have a recent backup. Described settings in this sections can only be changed in the PHP source code.

3.1 Set the harvest system

The data harvest system is defined in the module "UWWTD SYNC" in the /sites/all/modules/uwwtd_sync from the website root.

Settings are defined in the file "/sites/all/modules/uwwtd_sync/inc/uwwtd_sync.config.inc". The harvest system is defined by country (with ISO code) and by reporting year (currently for the 9th and 10th report). Settings have to be made for the following type: 'Agglomeration', 'UWWTD_FeedAggloLevel', 'MSLEVEL', 'art17_mslevel'=, 'art17_agglomeration', 'art17_uwwtp', 'uwwtp', 'dcp', and 'agg_uwwtp'. For each, the URL corresponds to the address of the layer in the WFS of MS SIIF Node

```
$GLOBALS['uwwtd_sync_conf'] = array(
    'store_schema' => 'harvest',
    //'ogr2ogr' => '/usr/local/bin/ogr2ogr'
    'ogr2ogr' => '/usr/bin/ogr2ogr',
    'country' => array(
        'at'=>array(
            'CountryName'=>'Austria',
            'wfs'=>array(
                '9th'=>array(
                    'mask'=>array(
                        '#rp'=>'2014',
                        '#cc'=>'at',
                        '#cn'=>'Austria',
                    ),

'Agglomeration'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeatur
e&typeName=UWWTD:UWWTD_recette_#cn_Agglomeration&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',

'UWWTD_FeedAggloLevel'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=Ge
tFeature&typeName=UWWTD:UWWTD_FeedAggloLevel_#cc&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',

'MSLEVEL'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeature&type
Name=UWWTD:UWWTD_FeedMSLevel_#cc&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',

'art17_mslevel'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeatur
e&typeName=UWWTD:recette_#cn_art17_mslevel&CQL_FILTER=UWWTD:year_of_datas=#rp',

'art17_agglomeration'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=Get
Feature&typeName=UWWTD:recette_#cn_art17_agglomeration&CQL_FILTER=UWWTD:year_of_data=#rp',

'art17_uwwtp'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeature&
typeName=UWWTD:recette_#cn_art17_uwwtp&CQL_FILTER=UWWTD:year_of_data=#rp',

'uwwtp'=>'https://www.uwwtd.oieau.fr/services/ows/?service=WFS&version=1.1.0&request=GetFeat
```

```
ure&typeName=UWWTD:UWWTD_recette_#cn_UrbanWasteWaterTreatmentPlant&CQL_FILTER=UWWTD:repRepor
tedPerdiod=#rp',
                    'dcp'=>
'https://www.uwwtd.oieau.fr/services/ows/?service=WFS&version=1.1.0&request=GetFeature&typeN
ame=UWWTD:UWWTD_recette_#cn_DischargePoint&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',
                    'agg_uwwtp'=>
'https://www.uwwtd.oieau.fr/services/ows/?service=WFS&version=1.1.0&request=GetFeature&typeN
ame=UWWTD:UWWTD_recette_#cn_UWWTPs_Agglo&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',
                ),
                '10th'=>array(
                    'mask'=>array(
                        '#rp'=>'2016',
                        '#cc'=>'at',
                        '#cn'=>'Austria',
                    ),

'Agglomeration'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeatur
e&typeName=UWWTD:UWWTD_recette_#cn_Agglomeration&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',

'UWWTD_FeedAggloLevel'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=Ge
tFeature&typeName=UWWTD:UWWTD_FeedAggloLevel_#cc&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',

'MSLEVEL'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeature&type
Name=UWWTD:UWWTD_FeedMSLevel_#cc&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',

'art17_mslevel'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeatur
e&typeName=UWWTD:recette_#cn_art17_mslevel&CQL_FILTER=UWWTD:year_of_datas=#rp',

'art17_agglomeration'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=Get
Feature&typeName=UWWTD:recette_#cn_art17_agglomeration&CQL_FILTER=UWWTD:year_of_data=#rp',

'art17_uwwtp'=>'https://uwwtd.eu/services/ows/?service=WFS&version=1.1.0&request=GetFeature&
typeName=UWWTD:recette_#cn_art17_uwwtp&CQL_FILTER=UWWTD:year_of_data=#rp',

'uwwtp'=>'https://www.uwwtd.oieau.fr/services/ows/?service=WFS&version=1.1.0&request=GetFeat
ure&typeName=UWWTD:UWWTD_recette_#cn_UrbanWasteWaterTreatmentPlant&CQL_FILTER=UWWTD:repRepor
tedPerdiod=#rp',
                    'dcp'=>
'https://www.uwwtd.oieau.fr/services/ows/?service=WFS&version=1.1.0&request=GetFeature&typeN
ame=UWWTD:UWWTD_recette_#cn_DischargePoint&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',
                    'agg_uwwtp'=>
'https://www.uwwtd.oieau.fr/services/ows/?service=WFS&version=1.1.0&request=GetFeature&typeN
ame=UWWTD:UWWTD_recette_#cn_UWWTPs_Agglo&CQL_FILTER=UWWTD:repReportedPerdiod=#rp',
                ),

            ),
        ),
```

3.2 Set an EU map

EU maps available via the main menu of the EU SIIF website are defined in the file "/sites/all/modules/uwwtdeu/includes/uwwtd_map.inc".
This contains three main sections:

➢ **Settings of maps in var "$GLOBALS['uwwtd_map']['maps']"**

"maps" setting is a list a map settings. For each map, you can define:
- title: the main title of the map,
- map_scale: define the category of the map in the public list,
- map_type: define the type of legend to display under the map (see the next point),
- access: is a Boolean value. True: the map is public; False: Only administrator can access to the map

```
$GLOBALS['uwwtd_map']['maps']=[
  //===Compliance
  //==MS Level
  'mslevel_global_comp_10th'=>[
    'title'=>"Degree of compliance at MS level for 10th report (2016)",
    'map_scale'=>'MS Level',
    'map_type'=>'Compliance at MS level',
    'access'=>true
  ],
```

➢ **Settings of legend in var $GLOBALS['uwwtd_map']['legend']**

"legend" settings is a list of legend. Key of each legend type can be used in the "map_type" key of a map. Legend can contain one or two sub list(s) (each list will be a column in the rendered legend). In the sub-list, each item defines a "label" and a "colour" (in hexacode) for each item in the legend.

```
$GLOBALS['uwwtd_map']['legend']=[
  'Sensitive Area'=>[
    [
      'title'=>'',
      'items'=>[
        ['label'=>'Sensitive areas (MS applies Art 5(2-3))', 'color'=>'#4b8400'],
        ['label'=>'Catchment of sensitive areas (MS applies Art 5(2-3))', 'color'=>'#a4d596'],
        ['label'=>'Sensitive area (MS applies Art 5(2-3) and Art 5(8))', 'color'=>' #969664'],
      ]
    ],
    [
      'title'=>'',
      'items'=>[
        ['label'=>'Sensitive area (MS applies Art 5(4) and Art 5(8))', 'color'=>'#3f348e'],
        ['label'=>'Sensitive area (MS applies Art 5(4))', 'color'=>'#654aa9'],
```

➢ **Setting of area in the final picture in var $GLOBALS['uwwtd_map']['europe']**

This var defines properties of an "EU map":
- wkhtmlpath_command: shell command for map generation,
- url_source: root url of each map in the picture,
- main_map: Openlayers map id of the map in the main area,
- list_minimap: array of aside areas in the main map like topleft|topright|bottomleft with following properties

- o title: title of the map
- o map_name: Openlayers map id of the map in the related area
- o class: css class name

```
$GLOBALS['uwwtd_map']['europe'] = array(
 'wkhtmlpath_command' => "/opt/wkhtmltox.0.12.4/bin/wkhtmltoimage --crop-y 10 --crop-w 700 --crop-h 1170 --javascript-delay 14000 '[#SOURCE#]' [#TARGET#]",
 'url_source' => url('map/europe'),
 'main_map' => 'uwwtd_map_europe',
 'list_minimap' =>  array(

  'topleft' => array(
   //Açores  PT
   'Açores (PT)' => array(
    'title' => 'Açores (PT)',
    'map_name' => 'acore',
    'class'   => 'acore',
   ),
   //MAdeira  PT
   'Madeira (PT)' => array(
    'title' => 'Madeira (PT)',
    'map_name' => 'madeira',
    'class'   => 'madeira',
   ),
   //Islas Canriass  ES
   'Islas Canarias (ES)' => array(
    'title' => 'Islas Canarias (ES)',
    'map_name' => 'canariass',
    'class'   => 'canariass',
   ),
  ),
```

The final render of each map follows the template below.

– Ramboll & Office International de l'Eau –
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