Configuration instructions for PxWeb

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# PxWeb Administration tool

Management and configuration of PxWeb is done from the PxWeb Administration tool.

**Notice:** You reach the PxWeb Administration tool by adding /admin to the URL of your PxWeb installation in a Web browser

**Example:** <http://www.yourpxweb.com/admin>

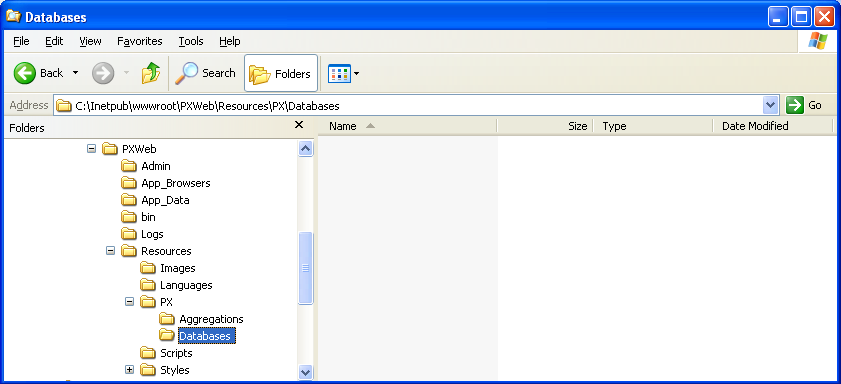
**Notice:** The default username and password for logging into the PxWeb administration tool is admin and pwd

# Add PX-database(s) to PxWeb

**Step 1 – Add existing PX-database(s) to PxWeb**

Using Explorer: Copy your PX-database(s) to the Databases folder of the PxWeb application

~/Resources/PX/Databases/



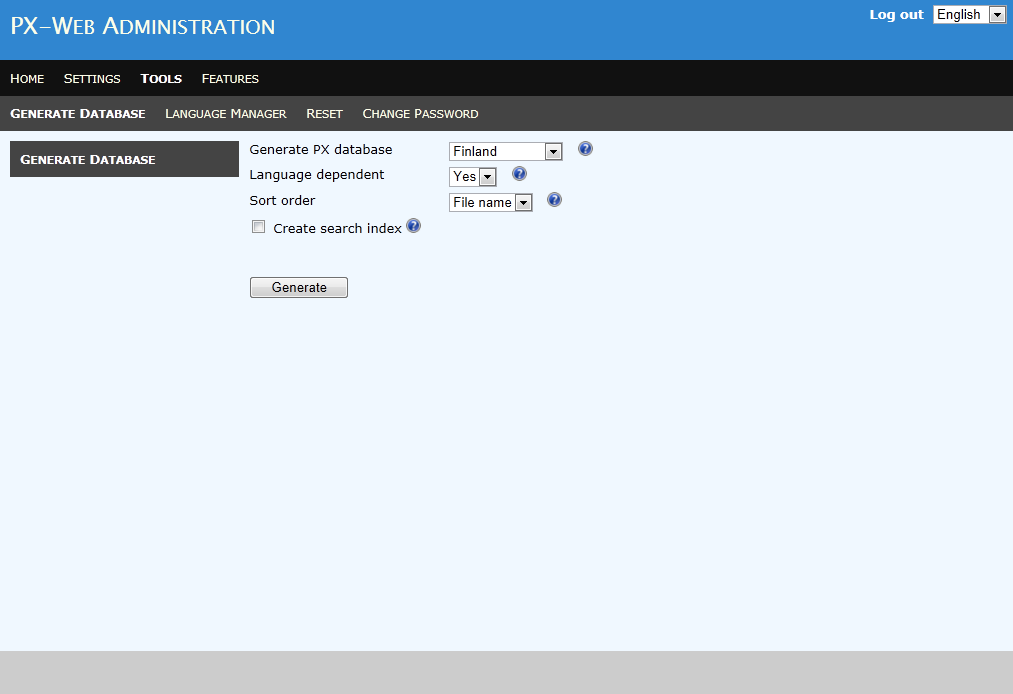
**Notice:** A PX-database is a folder containing PX-files

**Tip:** The location of the Databases folder within the PxWeb application can be configured (see the Paths settings section)

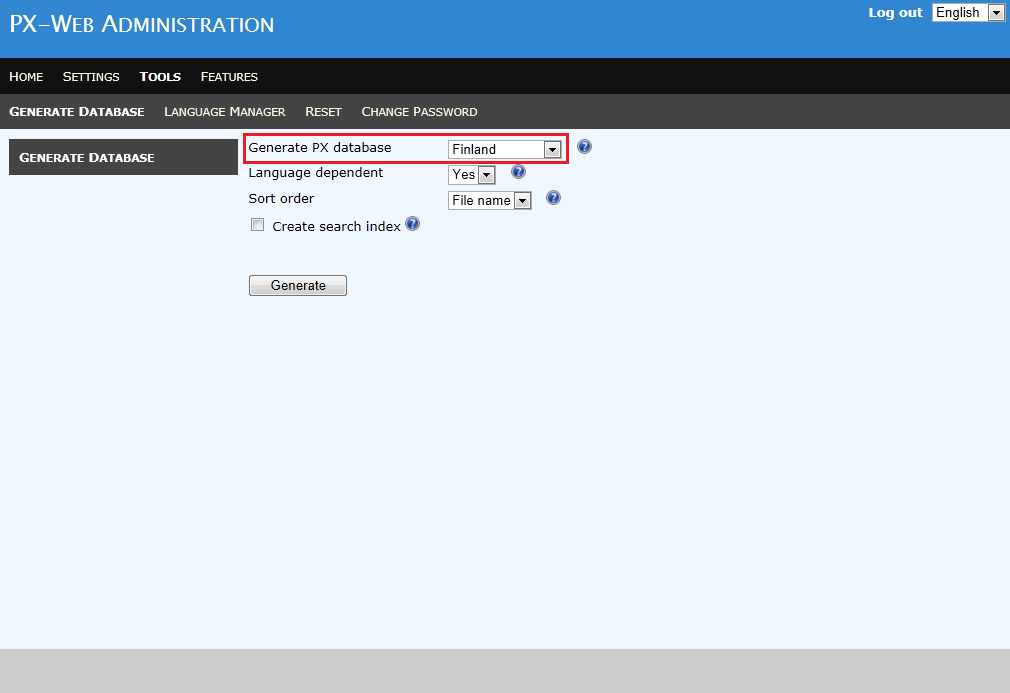
**Step 2 – Generate database**

In the PxWeb Administration tool, open up:

Tools - Generate Database



Select the PX-database you want to generate from the list of available PX-databases



**Language dependent**

If you only want to display PX-files that are in the selected language in PxWeb select Language dependent = Yes. If you want to display all PX-files in the database no matter what language is selected in PxWeb select Language dependent = No

**Sort order**

Defines in which order tables within a folder will be displayed. There are three different options:

File name

Tables are sorted by the PX file names

Matrix

Tables are sorted by the value of the MATRIX keyword within the PX files

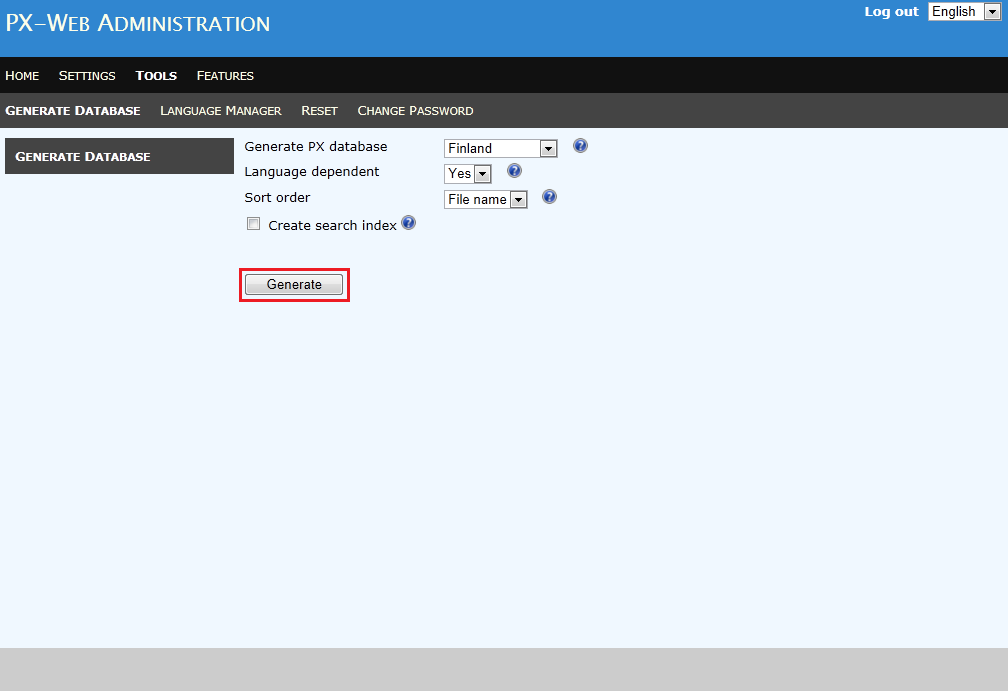
Title

Tables are sorted by the TITLE keyword in the PX files

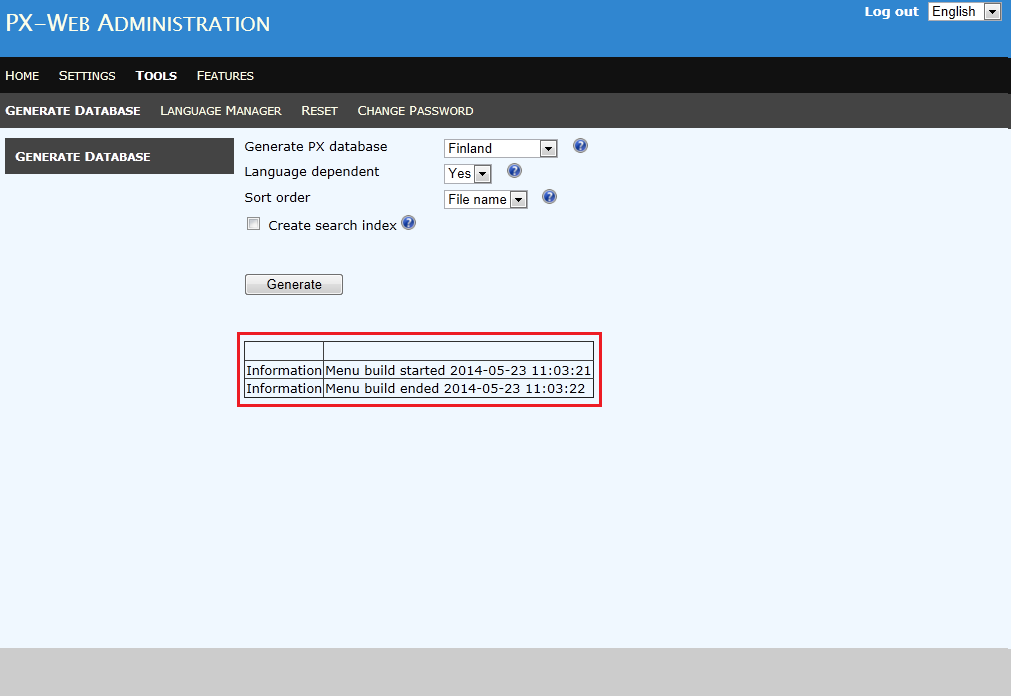
**Create search index**

It is possible to automatically initiate the creation of a database search index when you generate the database. To do this, check the “Create search index” checkbox before generating the database. For more information about database search index, see section Search feature. Even if you want search possibilities for your database it is not necessary to create the database search index when the database is generated, it is possible to do this later on.

Click the Generate button and answer Ok on the question if you want to generate a new database.

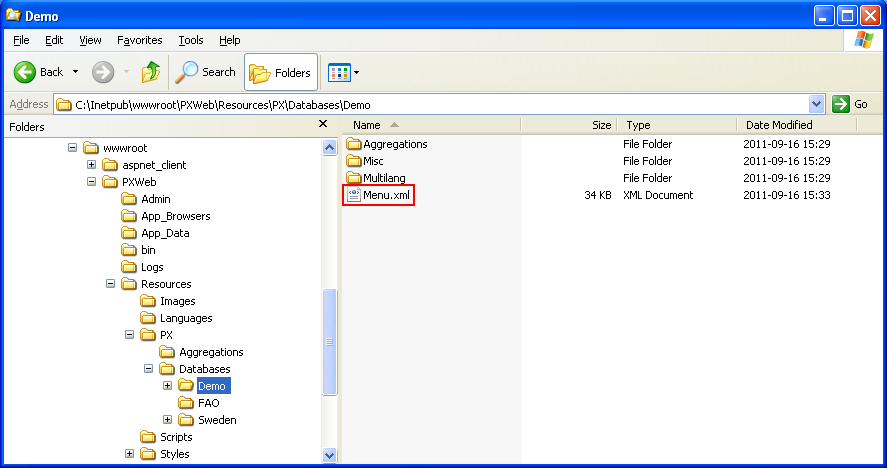


When the generation of the database is finished information about the generation is displayed



**Notice:** If some of the PX-files within the PX-database contained errors, error messages will be displayed for these PX-files in the generation information. Erroneous PX-files will not be included within the generated PX-database. To include these files: Correct the errors within the PX-files and regenerate the PX-database until no error messages are displayed.

**Notice:** When a PX-database is generated a XML file named Menu.xml is created in the folder of the PX-database. This XML-file describes the structure of the PX-database.



**Notice:** If any changes are made to a PX-database, the database should be regenerated so the changes are reflected in the Menu.xml file

**Notice:** Database information is only generated for the languages that are selected under the Language settings section. If you add a new language you should regenerate the database files.

**Notice:** If your database is very large the generation of the Menu.xml file may take so long time that the allowed web page execution time is exceeded and you get a time out error message. To avoid this problem you can configure the maximum allowed execution time for the web page that generates the Menu.xml file. Open up the Web.config file of the PxWeb installation in a text editor and locate the following section:

<location path="Admin/Tools-GenerateDb.aspx">

<system.web>

<httpRuntime executionTimeout="600"/>

</system.web>

</location>

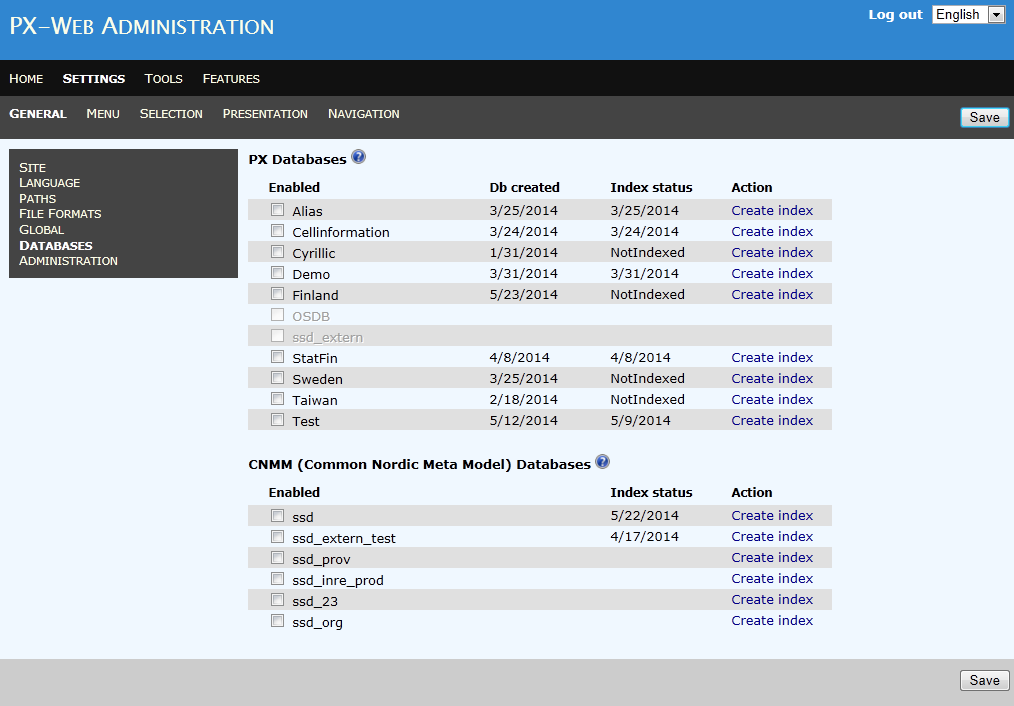
Change the value of the executionTimeout setting to the number of seconds you want to be the maximum allowed execution time for the database generation page.

Save the changes to Web.config.

**Step 3 – Enable PX database for selection in PxWeb**

In the PxWeb Administration tool, open up:

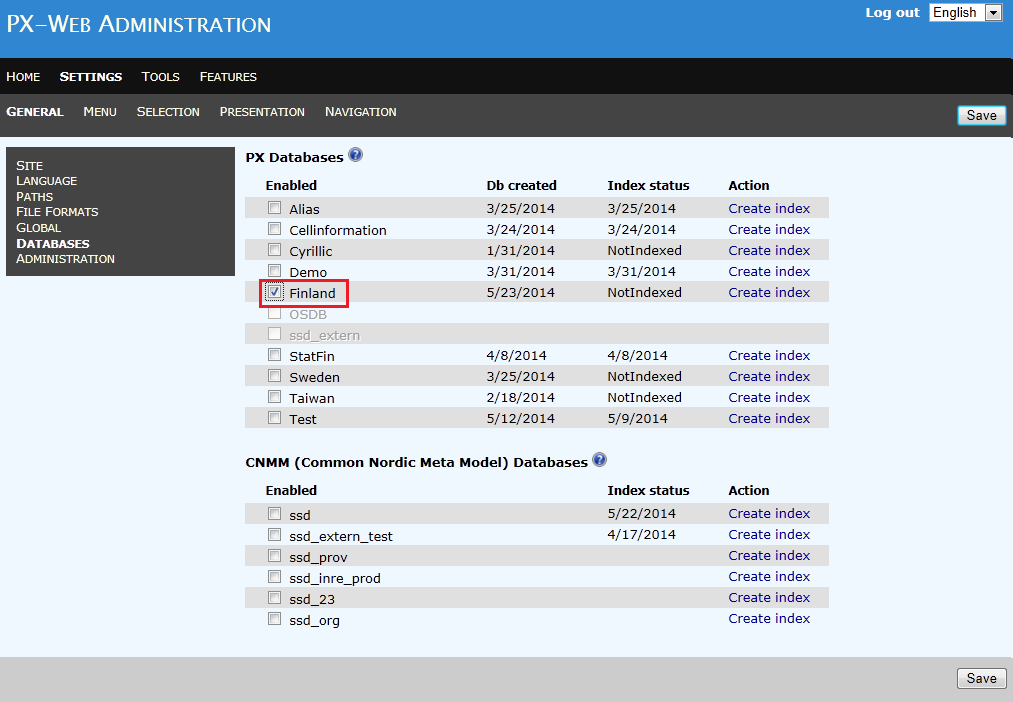
Settings – General - Databases



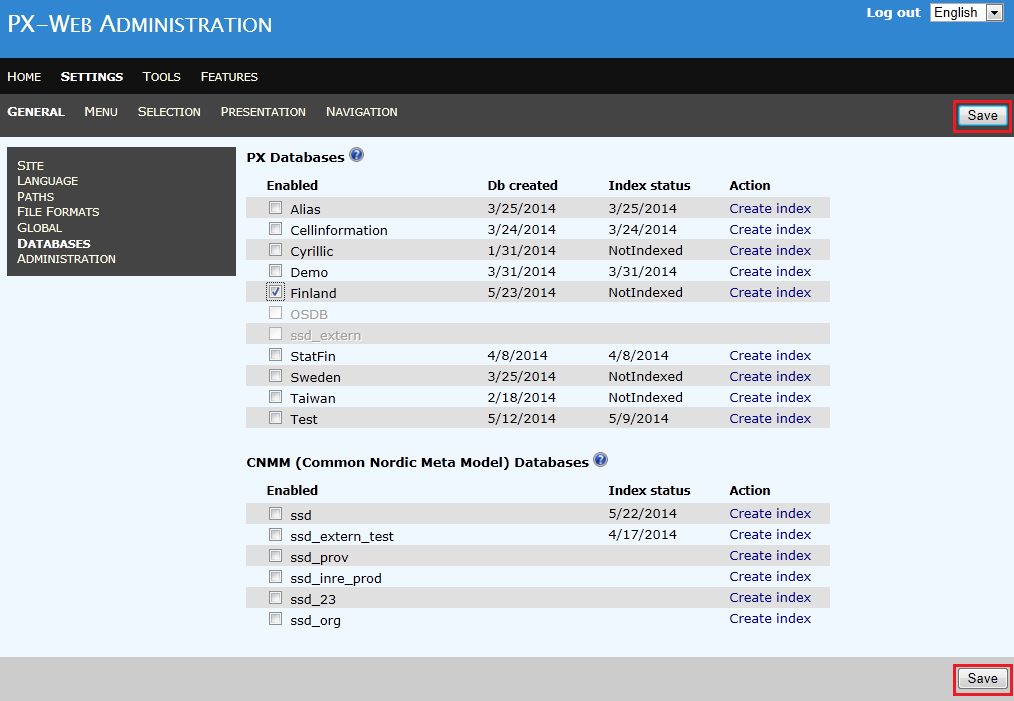
**Notice:** All databases for which a database file (Menu.xml) has been generated are visible in the list of PX databases

**Notice:** The date in the “Db created” column is the date the database file (Menu.xml) was generated

Check the checkbox for the database you want to enable in PxWeb



Click one of the Save-buttons and answer Ok on the question to save the settings.



The PX-database is now enabled for selection in PxWeb

# 

**Customize the PX-database menu**

When you generate the Menu.xml for your PX-database the tree structure of the menu is based on the underlying folder structure on the computer holding your PX-files. The branches in the menu will have the same names and sort order as the folders on the computer.

It is however possible to customize the names and the sort order of the branches in the menu.

Menu branch name customization using Alias.txt

By adding a file called Alias.txt (Alias\_<LANG>.txt) to a folder it is possible to change the name of the menu branch in the user interface. If a folder contains a file called Alias.text when the Menu.xml file is generated, the generator will use the text within the Alias.txt file as the branch name instead of the name of the file system folder.

Example:

The name of a folder in the file system is “Population projections”. However in the user interface we would like to display the text “Projections” when English language is selected and ”Beräkning” when Swedish language is selected. The way to accomplish this is:

* Create two Alias files:
  + Alias.txt containing the text “Projections”
  + Alias\_sv.txt containing the text “Beräkning”
* Place these files in the “Population projections” folder.
* Generate the Menu.xml file using the Generate database tool.

The user interface will now display the text within the Alias file as the branch name in the menu. This text will also be used to determine the sort order between the branches on the same level of the menu. If the folder don´t contain an Alias.txt the name of the file system folder will be used.

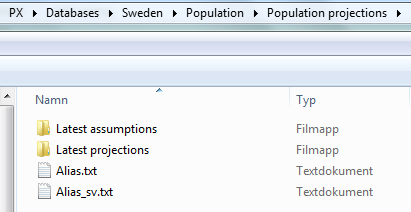
User interface – language English



User interface – language Swedish



Database folder in file explorer:



Custom sort order for PX-file database using Menu.sort

It is possible to make a custom sort order for the folders in a PX-file database by using Menu.sort files. A folder will be sorted according to the text in the Menu.sort file located within the folder. This is the same functionality as the Alias.txt files with the difference that the name of the folder will not be changed in the user interface, only the sort order of the folder is affected.

Add a file called Menu.sort or Menu.<LANG>.sort (for example Menu.sv.sort for swedish) in each folder that you want to change the sort order for. The file must contain a text which is used to determine the sort order between the folders on the same level in the menu. If a file system folder has got no Menu.sort file the name of the folder will be used as the sort string. With the Menu.sort files the folders can be sorted in different order depending on the selected language.

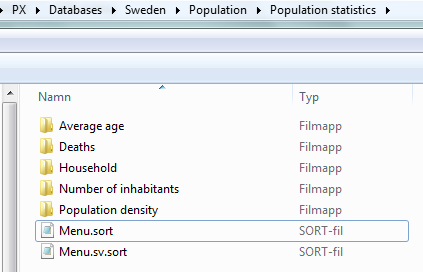
Example:

* The folder “Population statistics” contains a Menu.sort file which contains the text ‘A’.
* The folder “Populations projections” contains a Menu.sort file with the text ‘E’.

After the Menu.xml file has been generated the sort order of the branches in the menu in PxWeb will look like this:



Database folder in file explorer:



**Notice:**

If the content of the Menu.sort file is changed the database has to be generated again. The Menu.xml file has to be recreated.

Combining custom sort order and Alias

It is possible to use Alias.txt together with Menu.sort files. By combining those two files you can change the name of the folder in the user interface and sort the folders as you like with the Menu.sort file.

Example:

The name of the folder “Populations statistics” is changed to “Statistics” in the user interface using Alias.txt and the sort order is determined by the Menu.sort file in the folder. The Menu.sort file of the “Populations statistics” system file folder contains the text “A”.

Menu in PxWeb:



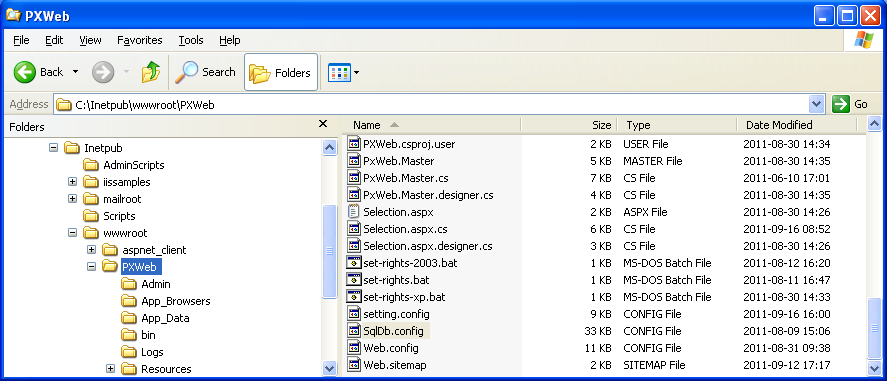
# Add CNMM-database(s) to PxWeb

**Notice:** Currently version 2.0 - 2.3 of the Common Nordic Meta Model is supported by PxWeb.

Adding CNMM databases to PxWeb is not totally supported from within the PxWeb Administration tool, some editing of the Web.config file must be performed manually.

**Step 1 – Edit the database configuration file**

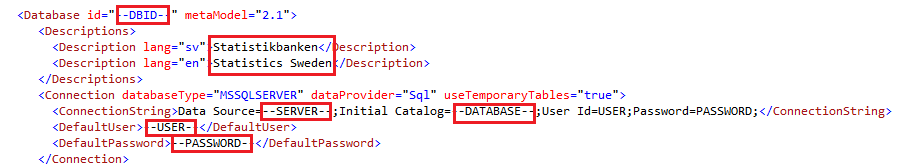
The database configuration file is located in the root directory of the PxWeb installation and is named SqlDb.config.



**Notice:** The database configuration file describes available CNMM databases

**Notice:** Read documentation from Statistics Norway for the format of the database configuration file

Open up the SqlDb.config file in a text editor and enter values for the following settings:



Database id

This will be the id of the database within PxWeb.

Description

This will be displayed as the name of the database in PxWeb. One name per language shall be defined.

Server

The server holding the database.

Database

The database.

User

User name for accessing the database.

Password

Password for accessing the database.

**Notice:** All this settings must be defined for each CNMM database in the system

**Step 2 – Enable CNMM database for selection in PxWeb**

Perform step 3 from section “Add PX-database(s) to PxWeb” above.

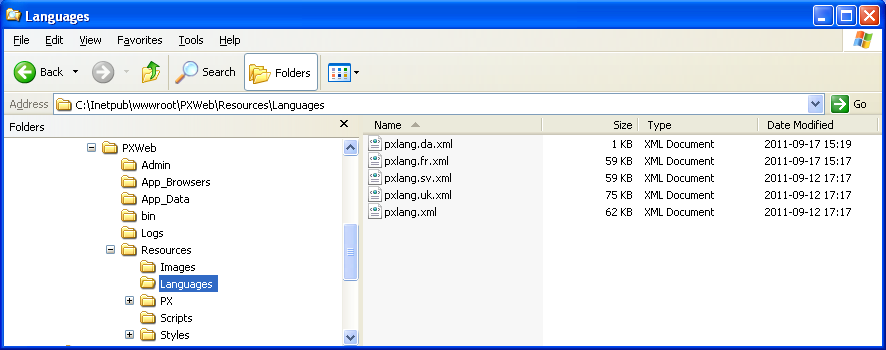
**Notice:** Make sure to select database from the list of CNMM databases

The CNMM-database is now enabled for selection in PxWeb

# Enable languages in PxWeb

The language files are located in the language folder of PxWeb

~/Resources/Languages/



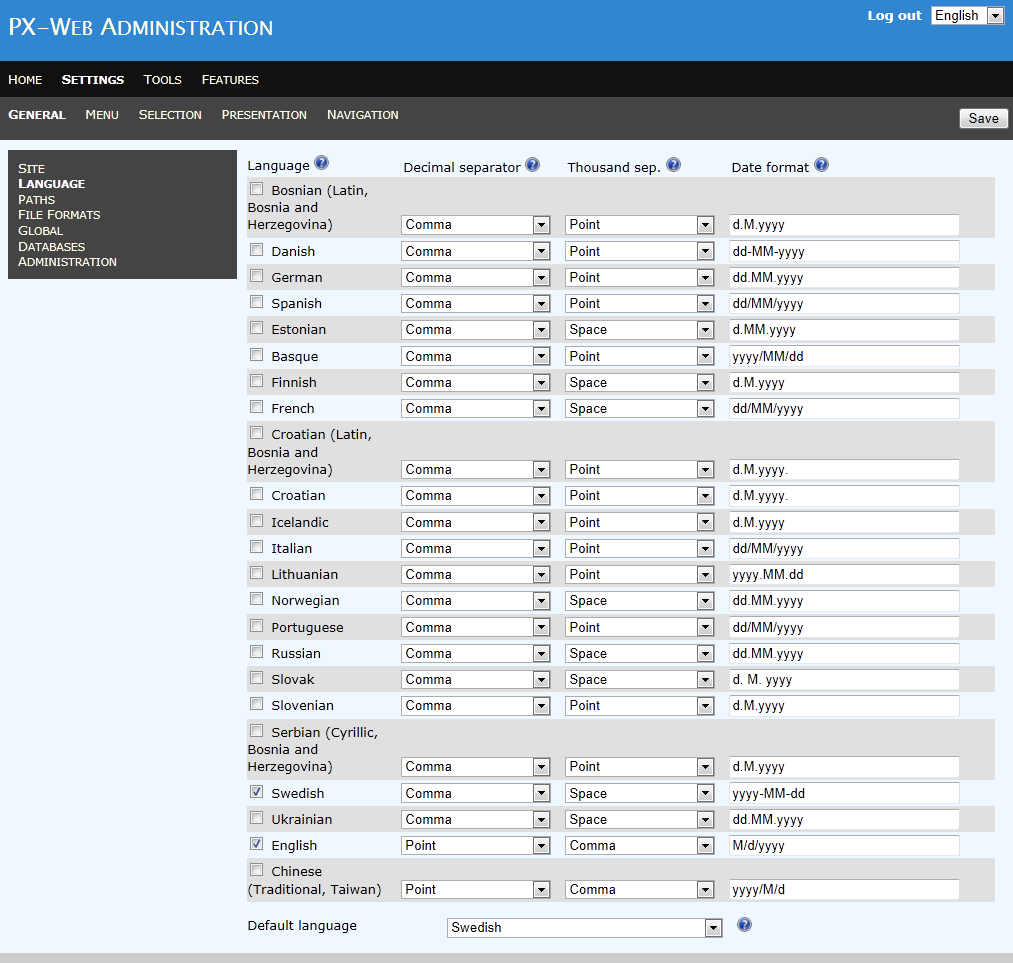
**Notice:** Each language-file represents a specific language that can be enabled in PxWeb

**Tip:** The location of the language folder within the PxWeb application can be configured (see the Paths settings section)

**Step 1 – Enable language**

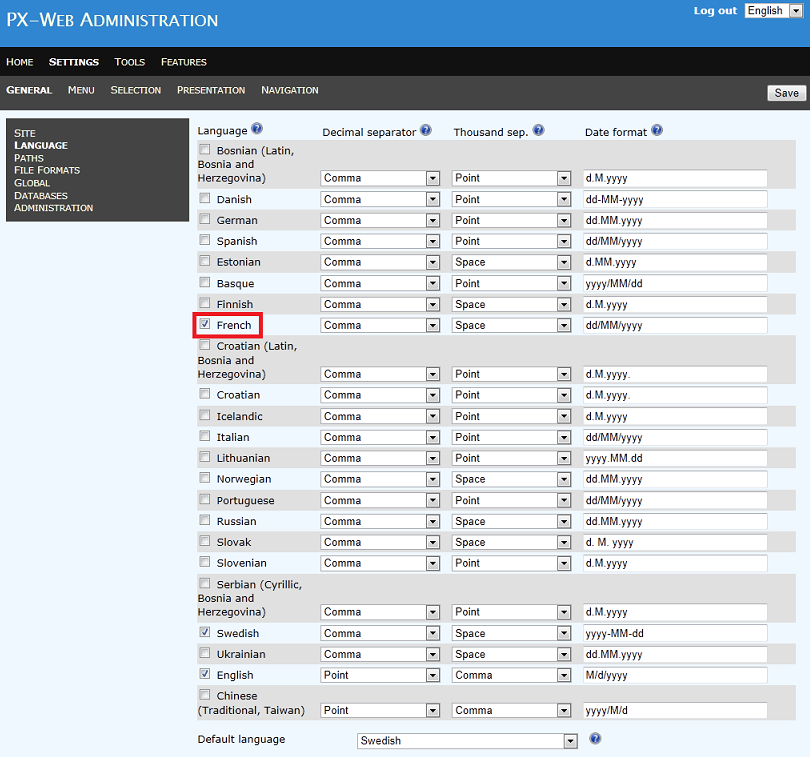
In the PxWeb Administration tool, open up:

Settings – General – Language

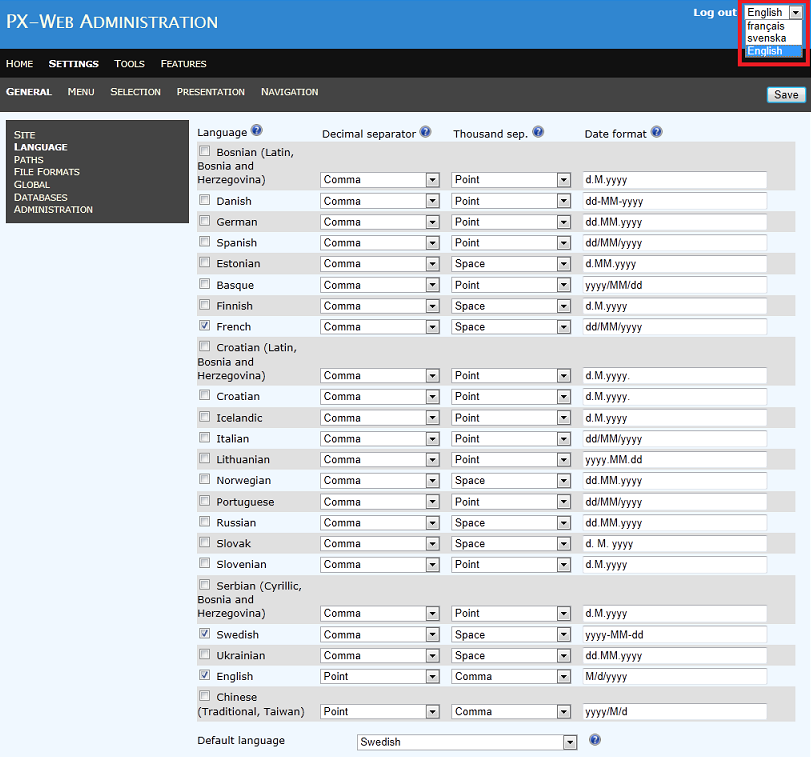


**Notice:** Each language for which a language file exists in the Language folder of the PxWeb installation is selectable for display in the Language administration page

Check the checkboxes for the languages that shall be selectable in PxWeb. Save the settings.



The selected languages are now available for selection in PxWeb and in the PxWeb Administration tool (after web page has been reloaded)



**Tip:** The language that shall be selected by default when a user enters PxWeb is controlled by the Default language setting

**Notice:** For information about language settings see the Language settings section

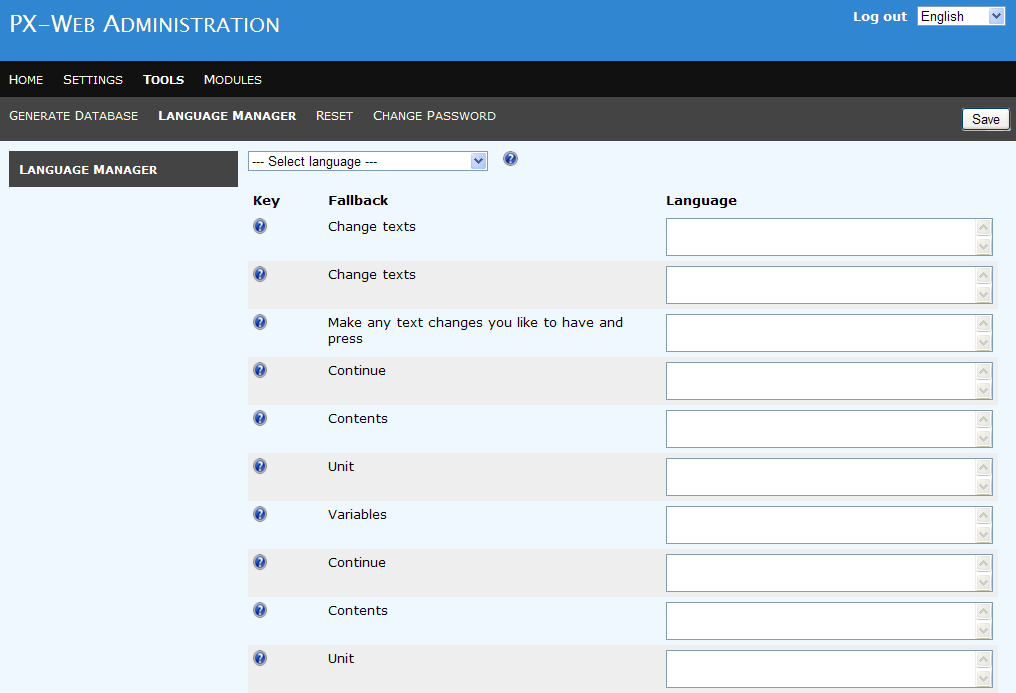
# Edit language file

All text in PxWeb and the PxWeb Administration tool can be edited by the administrator.

**Step – 1 Start the Language Manager tool**

In the PxWeb Administration tool, open up:

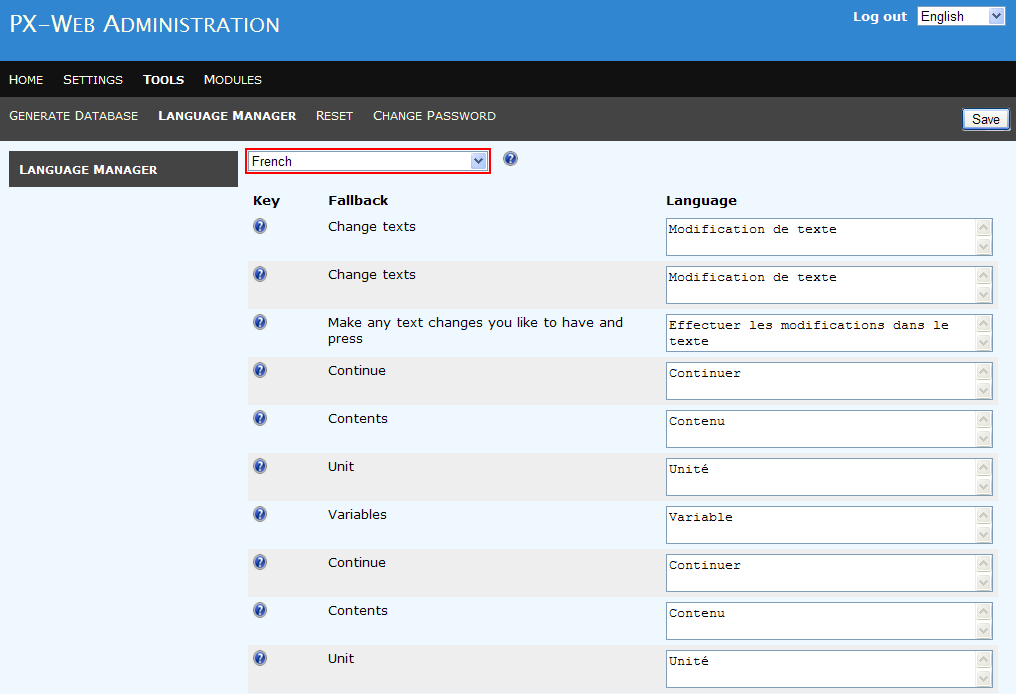
Tools – Language Manager



**Notice:** The Fallback column of the table represents the main language file (pxlang.xml). The value from this file is used if a text is not defined in the currently selected language.

**Step 2 – Select language**

Select the language that shall be edited from the language selection box.



**Notice:** The texts of the selected language are displayed in the Language column

**Step 3 – Edit language**

Edit the texts that shall be changed for the selected language by editing the associated values in the Language column. Save the changes by clicking one of the Save-buttons.

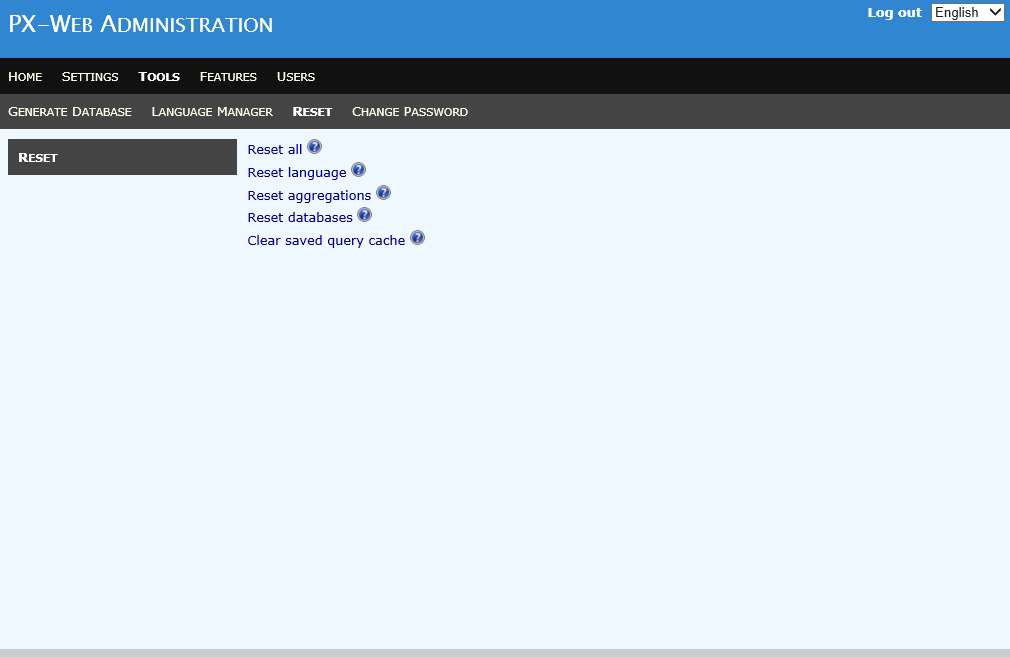
**Notice:** The language file for the selected language is now updated. The changes are however not yet visible in PxWeb

**Step 4 - Make text changes visible in PxWeb**

PxWeb holds the languages in memory so the language files are only read once. When changes have been made to the language files the administrator must inform PxWeb of the changes so the language files can be reloaded by the system.

In the PxWeb Administration tool, open up:

Tools – Reset



Click the Reset language link. The language files are reloaded by PxWeb.

The changes to the edited language are now visible in PxWeb

**Tip:** If you select to edit a language that has no language file, the language file will be created when you save your changes. In this way it is possible to create new language files for PxWeb

Click the Reset aggregation link. The aggregation list that is loaded in the memory is released by PxWeb.

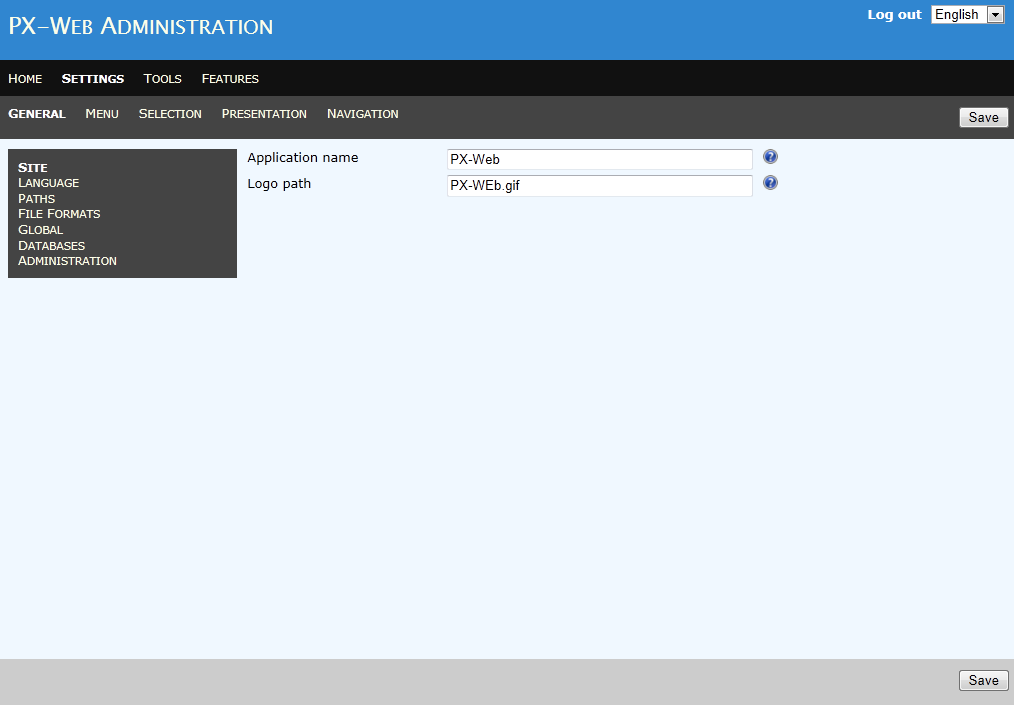
The changes to the aggregation file are is visible in PxWeb

Click the Reset databases link. PxWeb reset the cached PX databases files structure.

Click the Reset Saved query link. PxWeb clears the saved query cache. All the saved queries stored in the cache will be removed.

# Site settings

Settings – General - Site



**Application name**

This is the name of the PxWeb installation. This value will be used for search engine metadata on the selection page of PxWeb. Search engine metadata is used to make it easier for search engines like Google to index and create links to your PxWeb tables.

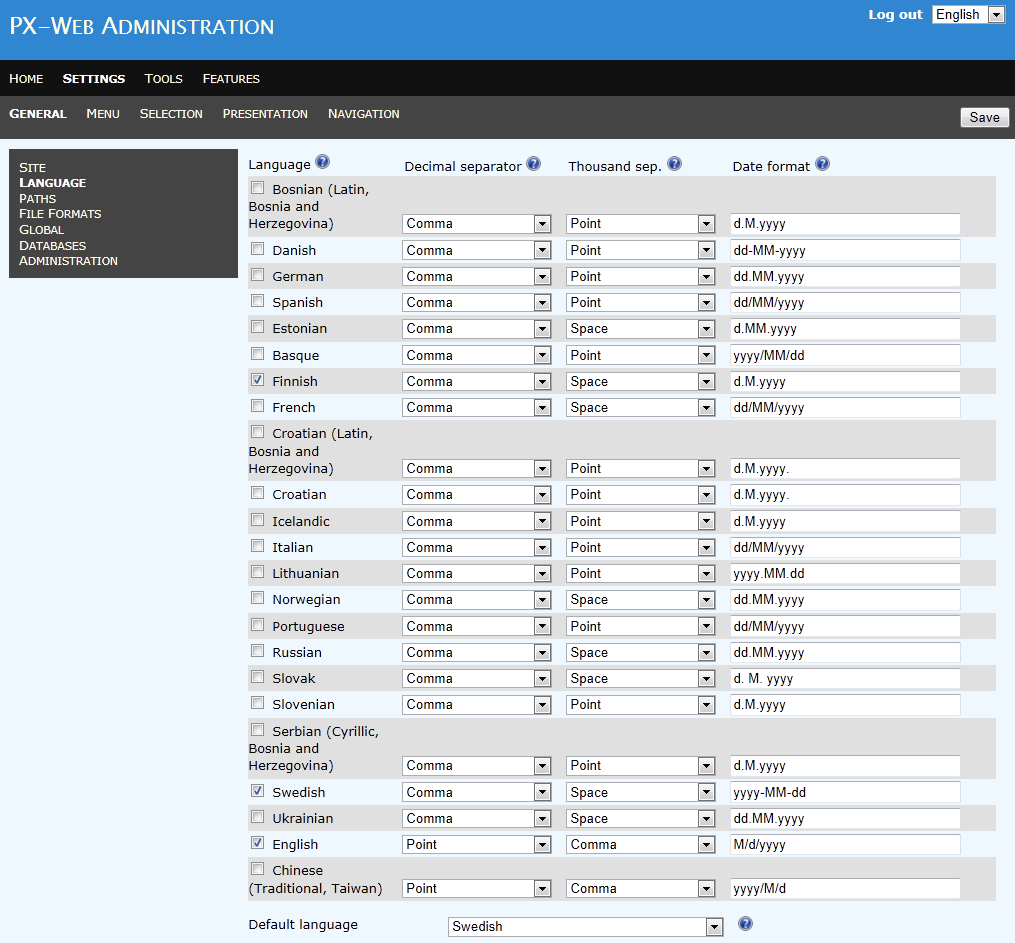
**Notice:** Do not confuse this setting with the name being displayed in top of the PxWeb pages. To be able to display different application title for different languages the application title is loaded from the PxWebApplicationTitle sentence in the language files (see the Edit language file section).

**Logo path**

In PxWeb a logotype is displayed in the header of each page. This setting specifies the logotype image. The image must be placed in the images folder, see the Paths settings section.

# Language settings

Settings – General - Language



**Language**

The languages for which a language file exists in the language folder of the PxWeb application will be displayed as a row in the list. Selected languages, that is, the languages with the checkbox checked, will be displayed as selectable languages in PxWeb and in the Administration tool.

**Decimal separator**

The character that will be used as decimal separator in numeric values in PxWeb for the language. Possible values are:

Comma – Comma is used as separator, e.g. “1,0”

Point – Point is used as separator, e.g. “1.0”

**Thousands separator**

The character that will be used to separate thousands in numeric values in PxWeb for the language. Possible values are:

None – No separator is used, e.g. “1000”

Space – Space is used as separator, e.g. “1 000”

Point – Point is used as separator, e.g. “1.000”

Comma – Comma is used as separator, e.g. “1,000”

**Date format**

Describes how dates will be displayed in PxWeb for the language.

The date format is described by a format string which can contain the following elements:

yyyy – Represents the year

MM – Represents the month

dd – Represents the day

HH – Represents the hour

mm – Represent the minute

ss – Represents the second

The different parts can be separated with various characters.

For the language dependent formatting to take place, dates (in for example a PX-file) must follow the date format specified in the PX file format:

CCYYMMDD hh:mm, e.g. “19960612 14:20”

If a date don´t follow the date format specified in the PX file format it will not be formatted for the selected language, instead it will be displayed exactly as it is stored.

Some examples:

|  |  |  |
| --- | --- | --- |
| Date stored in PX-file | Date format | Will be displayed as |
| 20121016 13:45 | yyyy-MM-dd | 2012-10-16 |
| 20121016 13:45 | dd.MM.yyyy HH:mm:ss | 16.10.2012 13:45:00 |
| 2012-12-04T17:16:22+01:00 | dd.MM.yyyy | 2012-12-04T17:16:22+01:00 |

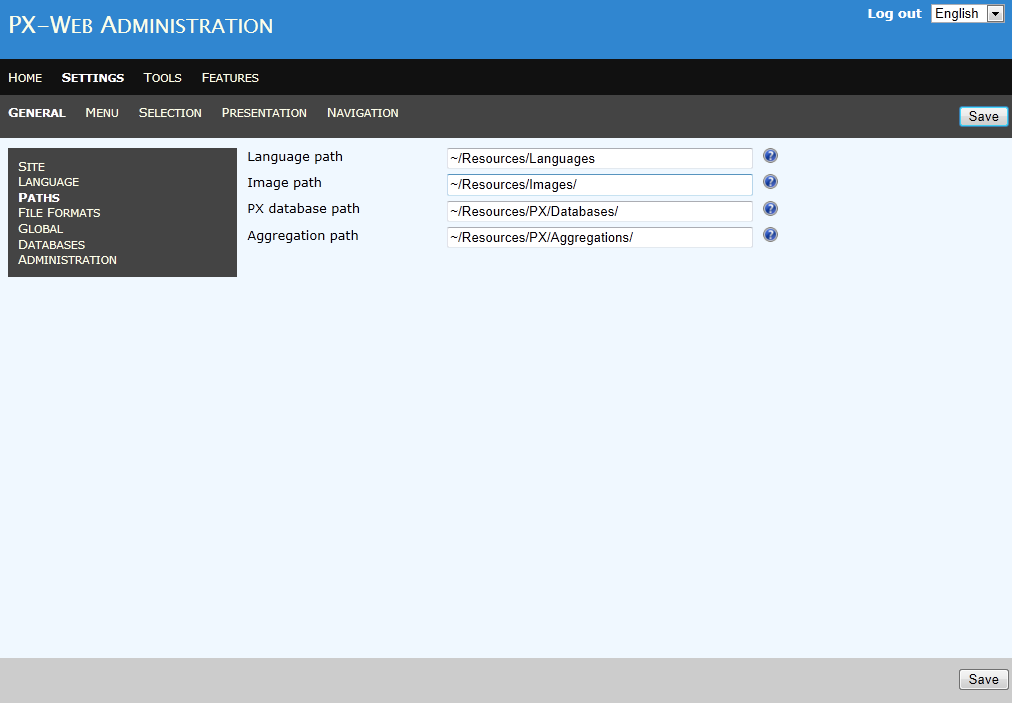
The last example is not formatted since the date don´t follow the date format specified in the PX file format.

**Default language**

This language is selected by default when the user enters PxWeb or the administrator enters the PxWeb Administration tool.

# Paths settings

Settings – General – Paths



**Language path**

Path to the folder where the language files are stored

**Image path**

Path to the folder where the images are stored

**PX database path**

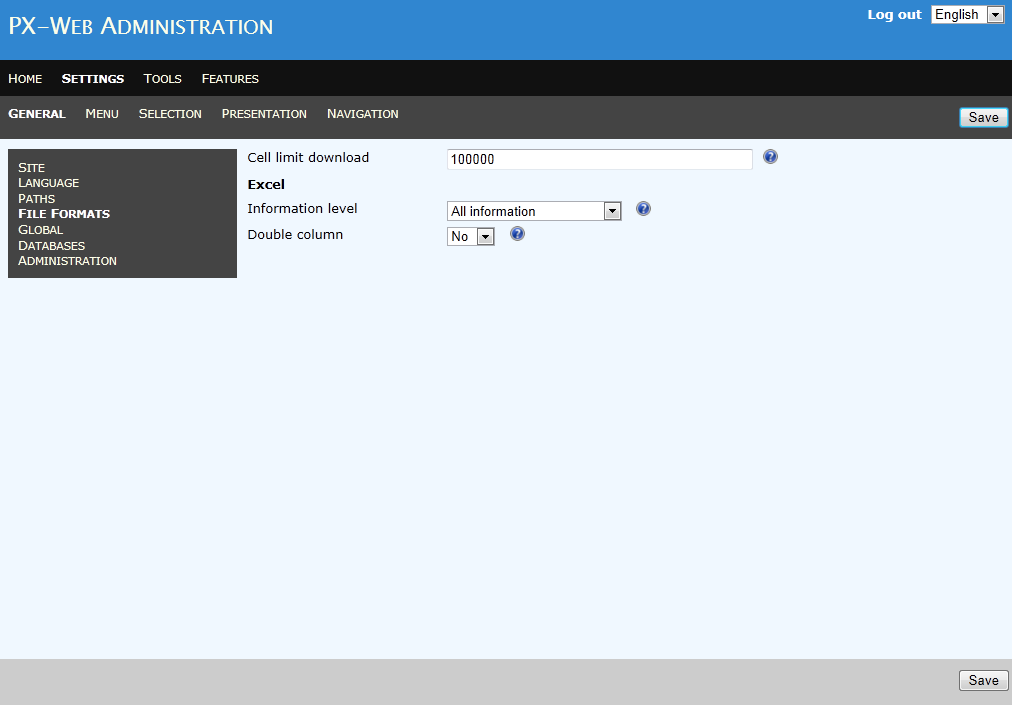
Path to the folder where the PX-databases are stored

**Aggregation**

Path to the folder where the aggregation files (.vs and .agg) are stored

# File formats settings

Settings – General – File formats



**Cell limit download**

Defines the maximum number of cells a file can contain for being downloadable. If the file contains more cells than this value it will not be possible to download the file from PxWeb, the download link will not be displayed for the file.

**Notice:** This setting is also used as the threshold value for the maximum number of cells a user can select when selecting variables and values for the table in PxWeb, see the Selection settings for more information.

**Excel - Information level**

This setting controls the level of information that will be displayed in the Excel files that are downloaded from PxWeb.

There are four different levels of what is included in Excel files:

None – No information except the data is included

Mandatory footnotes – Mandatory footnotes are included

All footnotes – All footnotes are included

All information – All information and all footnotes are included

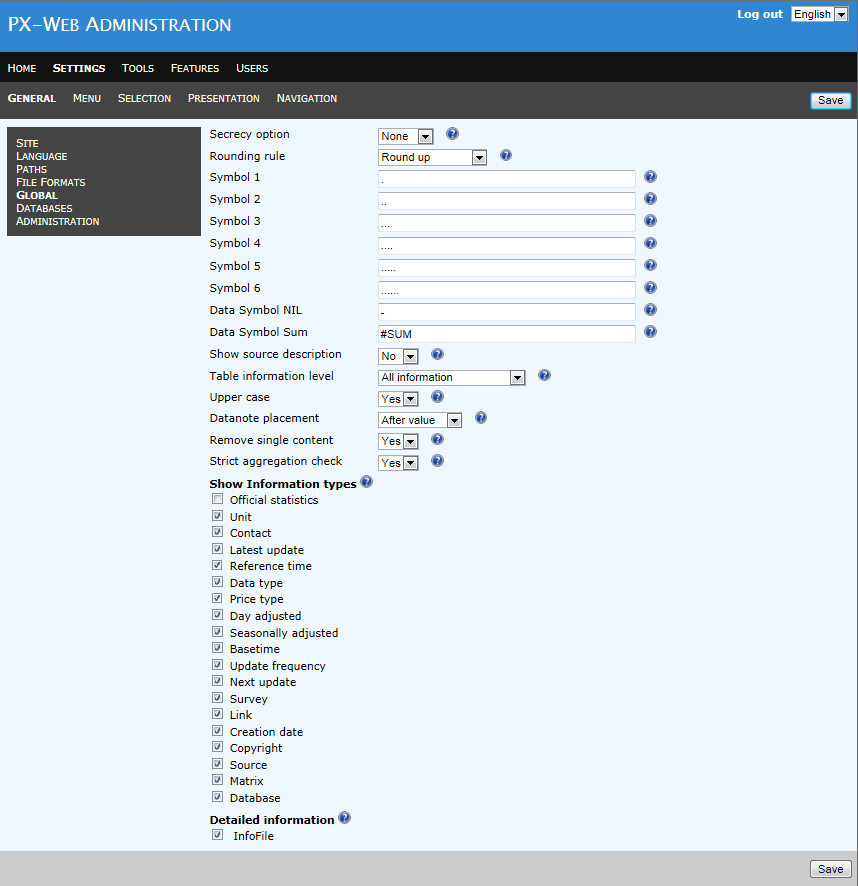
**Excel – Double column**

If set to true: An extra column with the code of the values is added to downloaded Excel files

If set to false: Only the text of the values are added to downloaded Excel files

# Global settings

Settings – General – Global



**Secrecy option**

This setting controls if small integer values in data should be obfuscated when displayed. There are two options available:

None – Values are not obfuscated

Simple – The integer value 1 is displayed as 0 and the integer value 2 is displayed as 3

**Note:** It is strongly recommended that the file download possibility in the Menu settings is turned off when having Secrecy option = Simple. If not the user will be able to download a file showing the original values

**Rounding rule**

Defines which type of rounding rule shall be used when displaying decimal values. There are two options:

Bankers rounding – When a number is halfway between two others, it is rounded toward the nearest even number

Round up - When a number is halfway between two others, it is rounded toward the nearest number that is away from zero

Rounding examples:

|  |  |  |
| --- | --- | --- |
| Original number | Round up | Bankers rounding |
| 3.5 | 4 | 4 |
| 2.8 | 3 | 3 |
| 2.5 | 3 | 2 |
| 2.1 | 2 | 2 |
| -2.1 | -2 | -2 |
| -2.5 | -3 | -2 |
| -2.8 | -3 | -3 |
| -3.5 | -4 | -4 |

**Symbol 1**

Defines how a stored “.” is to be presented in a table

**Symbol 2**

Defines how a stored “..” is to be presented in a table

**Symbol 3**

Defines how a stored “…” is to be presented in a table

**Symbol 4**

Defines how a stored “....” is to be presented in a table

**Symbol 5**

Defines how a stored “…..” is to be presented in a table

**Symbol 6**

Defines how a stored “……” is to be presented in a table

**Data Symbol NIL**

Defines how “-“ is to be presented in a table. The – indicates that the figure is absolutely nil.

**Data Symbol Sum**

Defines how a sum of dots is to be presented in a table

**Show source description**

Defines if table description will be displayed or not

**Table information level**

Defines which information will be displayed together with the data table. There are four options:

None – No information except data will be displayed

Mandatory footnotes only – The mandatory footnotes will be displayed

All footnotes – All footnotes will be displayed

All information – Table information and all footnotes will be displayed (see also the Show information types setting below)

**Upper case**

Defines if the first character in value names shall be uppercase or not

**Datanote placement**

Defines the placement of data notes relative to data values. Data notes can be placed before or after values in the data table.

**Remove single content**

Defines if the content variable shall be removed if it contains only one value

**Strict aggregation check**

According to the documentation of aggregation files (.agg) these files are supposed to contain information about which valueset they belong to.

In detail this means that the [Aggreg] section of the aggregation file shall contain the following line:

*Valueset = The name of the valueset it belongs to.*

When aggregations are loaded in PxWeb this condition is checked. If no valueset is specified in the aggregation file the aggregations within the file are not added to the system.

In older versions of PxWeb this condition was not checked and many users of PxWeb have created aggregation files that do not specify which valueset they belong to. For backward compatibility this setting has been introduced.

If this setting is set to Yes: The valueset check will be performed

If this setting is set to No: The valueset check will not be performed

**Notice:** It is recommended that this setting is set to Yes. This will ensure that aggregations will work as intended. If this setting is set to No illegal valueset-aggregation connections may occur.

**Show information types**

Defines which information will be displayed together with the data table when the setting Table information level is set to All information. The following information can be selected:

Official statistics

Unit

Contact

Latest update

Reference time

Data type

Price type

Day adjusted

Seasonally adjusted

Base time

Update frequency

Next update

Survey

Link

Creation date

Copyright

Source

Matrix

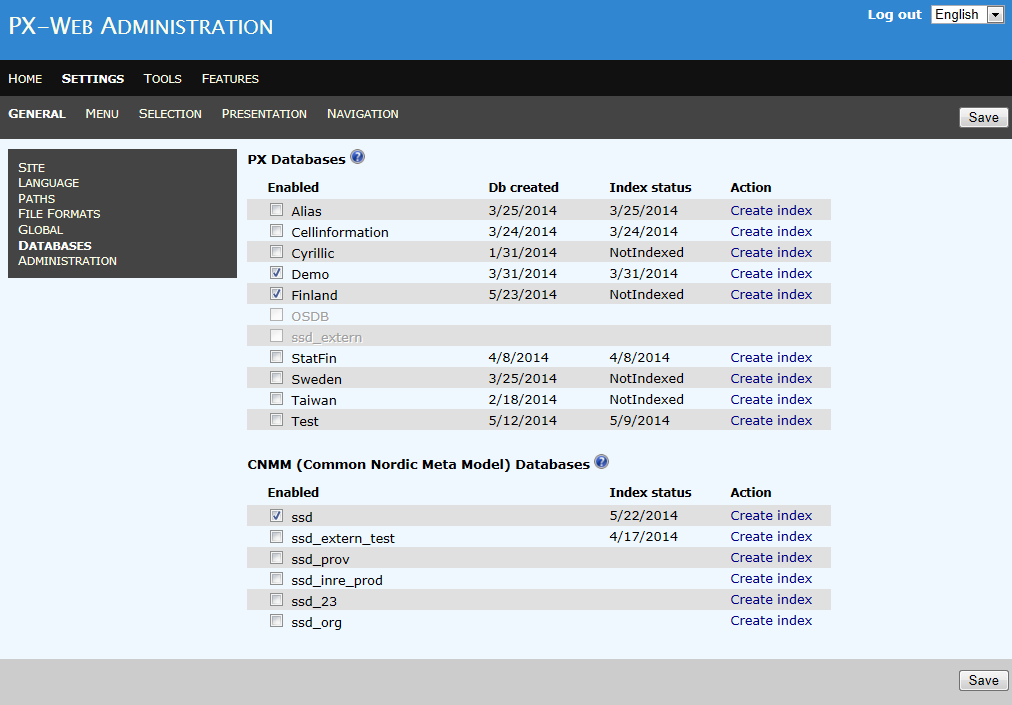
Database

**Detailed** **information**

If InfoLink is set to true and there is a correct value for the keyword INFOFILE then that link will be displayed if the *Meta data as link* is set to true.

# Databases settings

Settings – General – Databases



**PX Databases**

This is a list of available PX databases. The list has the following columns:

Enabled

The name (identity) of the database. If a database file (Menu.xml) has been generated for a PX database, the database is enabled for selection in the list. Selected databases will be visible in PxWeb for the users.

If no database file has been generated for a PX database the database is disabled for selection in the list.

**Notice:** Each folder in the databases folder is considered to be a PX database.

**Notice:** The databases folder is defined in the Paths settings

Db created

The date the database file (Menu.xml) was generated.

Index status

Status of the database search index (see section Search feature). Possible values are:

NotIndexed

No search index has been created for this database.

WaitingCreate

Creation of the search index has been requested but the indexing process has not yet started.

WaitingUpdate

Partial update of the search index has been requested but the indexing process has not yet started.

Indexing

The database search index is being created right now.

3/25/2014 (for example)

Date the search index was created or updated.

Action

Clicking the “Create index” link will initiate the search index creation process. This will also automatically wake up the background worker process if it is sleeping (see section Background worker process below).

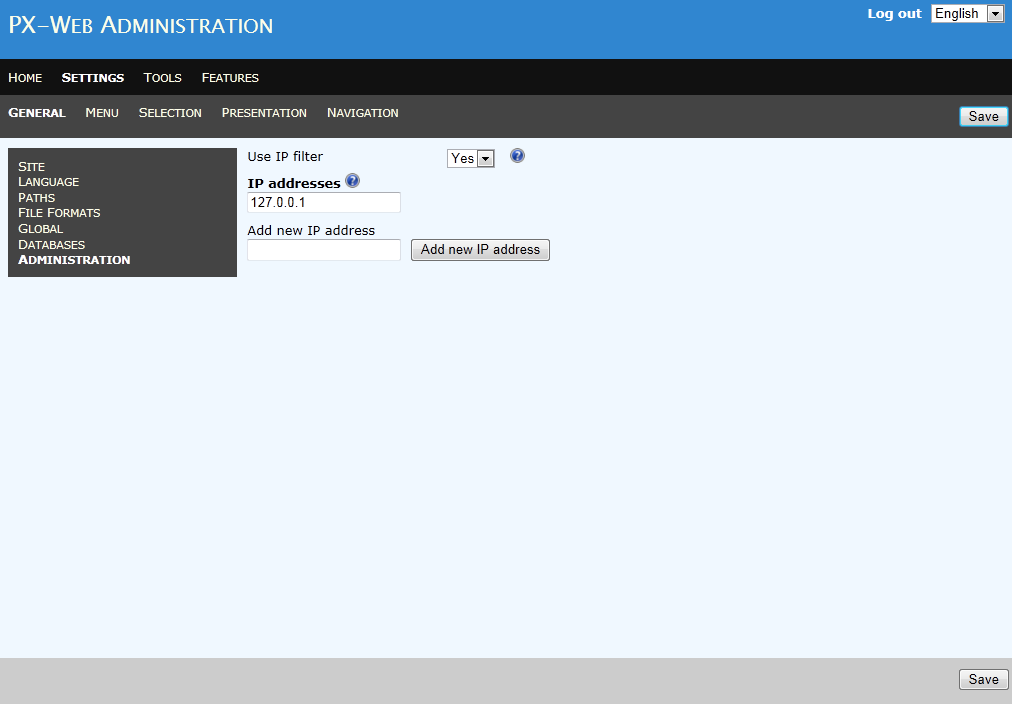
**CNMM (Common Nordic Meta Model) Databases**

This is a list of available CNMM databases. The selected databases within this list will be visible to the users of the PxWeb application. No database file is generated for the CNMM databases so no date will be displayed in the “Db created” column for CNMM databases. All databases in the database configuration file (SqlDb.config) will be listed in the list of available CNMM databases.

**Notice:** The database configuration file describes available CNMM databases

# Administration settings

Settings – General – Administration



**Use IP filter**

Defines if IP filter shall be applied when someone tries to login to the PxWeb Administration tool.

If IP filter is turned on it will only be possible to login to the PxWeb Administration from a computer having an IP address specified in the IP addresses list.

**Notice:** It is strongly recommended that this setting is set to Yes.

**IP addresses**

This is List of IP addresses with permission to login to the PxWeb Administration tool. It is possible to add as many IP addresses to the list as needed.

It is not necessary to specify a complete IP address, it is possible to just specify the start of an IP address.

**Example:** If 192.168 is added to the IP addresses list all IP addresses starting with 192.168 can login to the PxWeb Administration tool

# Menu settings

Settings – Menu

These are the settings for the Menu page of PxWeb where the user selects which table to view.

**Menu mode**

Defines which kind of menu will be displayed on the Menu page of PxWeb. Depending of which menu mode is selected different menu settings are displayed:

Menu mode = List

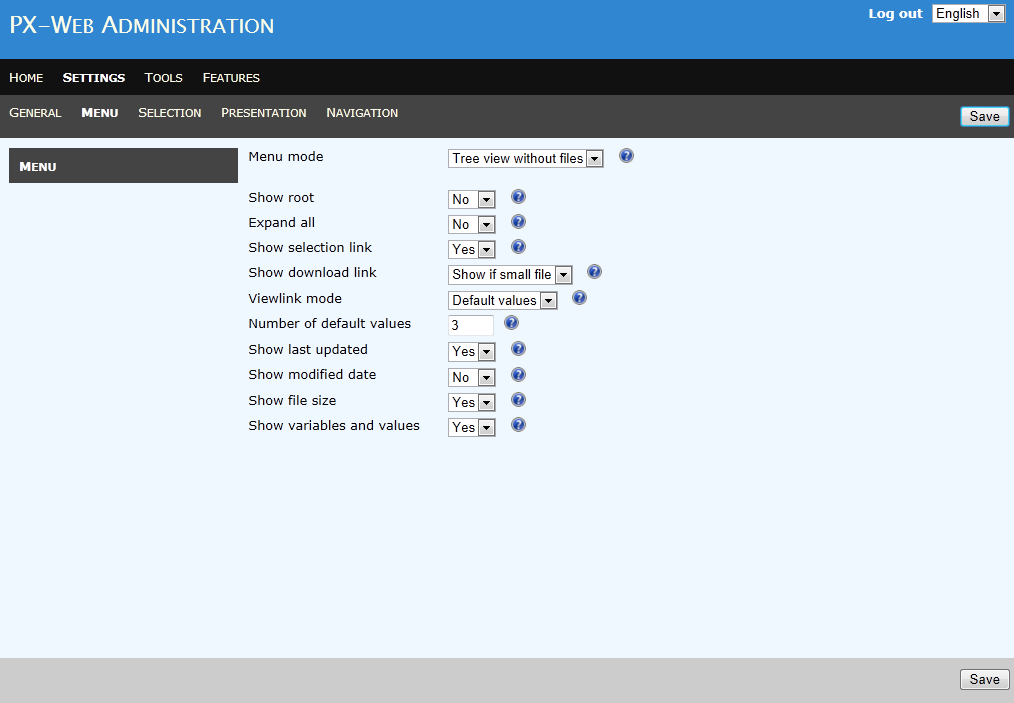
The menu will be displayed as a list on the menu page of PxWeb.

No menu settings are available.

Menu mode = Tree view without files

The menu will be displayed as a tree. No tables will be displayed within the tree.

The following menu settings are available:



**Show root**

Defines if the name of the root node of the tree will be displayed or not

**Expand all**

Defines if the tree will be totally expanded or not when the users enters the Menu page of PxWeb

**Show selection link**

Defines if the link for selecting variables and values of the table will be displayed or not in PxWeb.

**Show download link**

Defines if the link for downloading PX-file will be displayed or not in PxWeb. There are three options:

Always hide

The download link will not be displayed.

Always show

The download link will be displayed.

Show if small file

The download link will be displayed if the PX-file is considered to be a small file, that is having fewer cells than what is specified in the Cell limit download setting, see the File formats settings.

**Notice:** This link can only be displayed when the underlying data source is a PX-file. In the case of a CNMM database this link will never be displayed.

**Notice:** It is strongly recommended that this link is not displayed in PxWeb if Secrecy option is set to Simple, see the Global settings.

**Viewlink mode**

This setting defines what will happen when the “View table” link is clicked for a table on the Menu page of PxWeb. There are three options:

Default values

The table will be displayed with *x* values selected for each variable, where *x* is specified by the Number of default values setting.

All values

The table will be displayed with all values selected for each variable.

Hidden

The “View table” link will not be displayed.

**Number of default values**

This setting specifies how many values will be selected automatically for each variable when the user clicks the “View table” link.

**Notice:** This setting is only available when Viewlink mode is set to Default values, otherwise it will not be visible on the Menu settings page

**Show last updated**

Defines if LAST-UPDATED in the PX-files shall be displayed in PxWeb or not.

**Show modified date**

Defines if information about when the PX-file was last updated in the file system shall be displayed in PxWeb or not.

**Notice:** This information is only valid when the data source is a PX-file, when the data source is a CNMM database this information is never displayed.

**Show file size**

Defines if information about the size of the PX-file in bytes shall be displayed in PxWeb or not.

**Notice:** This information is only valid when the data source is a PX-file, when the data source is a CNMM database this information is never displayed.

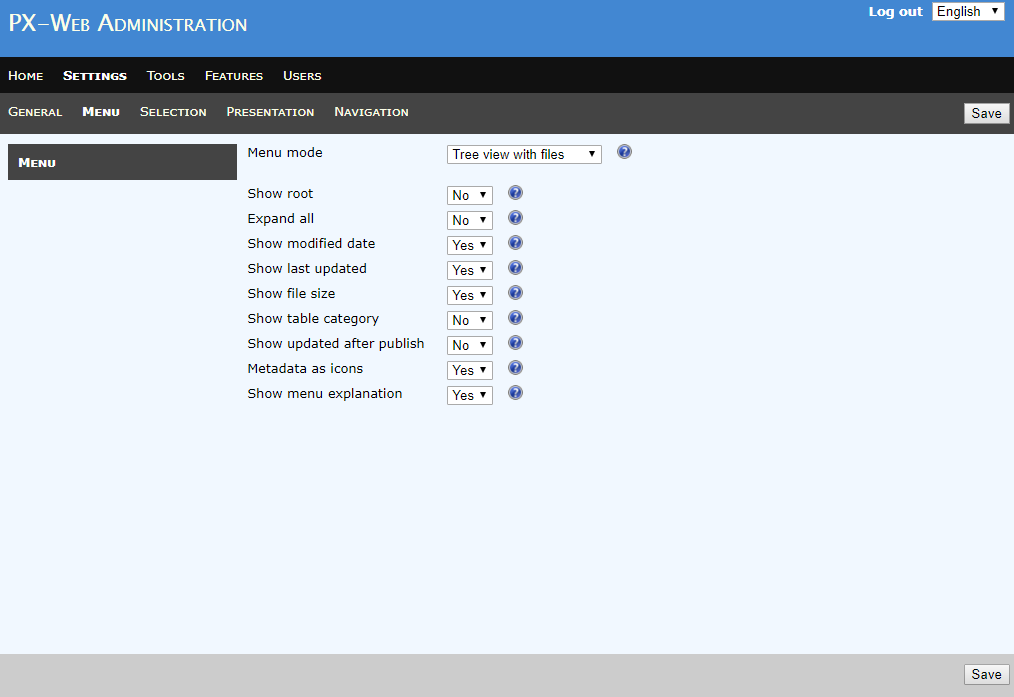
**Show variables and values**

Defines if information about variables and values shall be displayed or not for the table in PxWeb.

Menu mode = Tree view with files

The menu will be displayed as a tree with the tables displayed within the tree.

The following menu settings are available:



**Show root**

See section Menu mode = Tree view without files above.

**Expand all**

See section Menu mode = Tree view without files above.

**Show last updated**

See section Menu mode = Tree view without files above.

**Show modified date**

See section Menu mode = Tree view without files above.

**Show file size**

See section Menu mode = Tree view without files above.

**Show table category**

If table category shall be displayed within parantheses after the table name. Only valid for CNMM databases.

**Show updated after publish**

Display of updated icon if the table has been updated after it was first published. Only valid for CNMM databases.

**Metadata as icons**

Defines if table metadata shall be displayed as icons or in text after the table name.

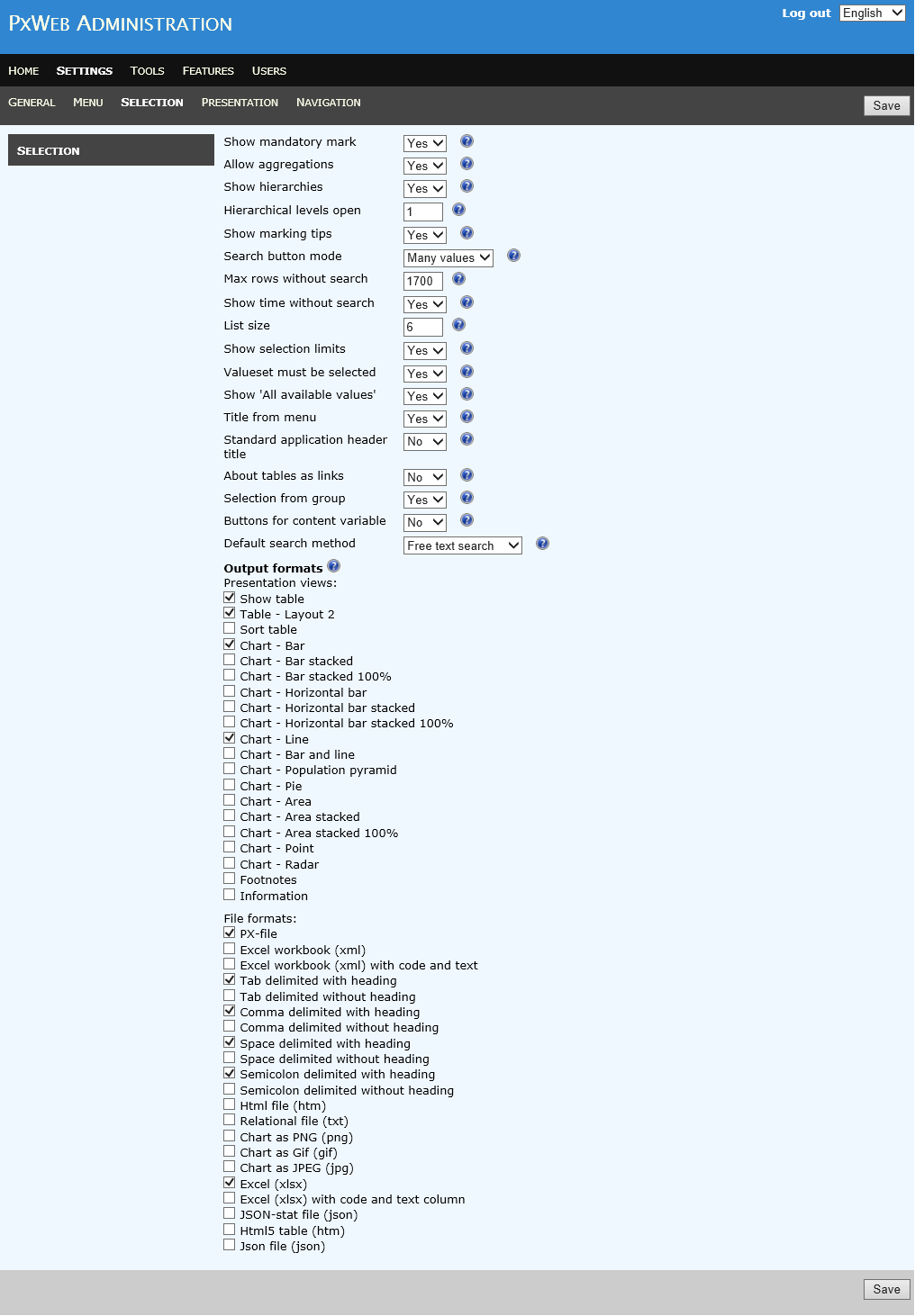
**Show menu explanation**

If set to ‘Yes’, an explanation text for the menu will be shown under the menu. Default is ‘Yes’.

# Selection settings

Settings – Selection

These are the settings for the selection page of PxWeb where the user selects variables and values.



**Show mandatory mark**

Defines if variables where at least one value must be selected shall be marked with special symbol (the \* mark).

**Allow aggregations**

Defines if it shall be possible or not to aggregate variable values.

**Show hierarchies**

Defines if it shall be possible or not to select variable values by use of the hierarchical view.

**Notice:** This only applies to hierarchical variables

**Hierarchical levels open**

This setting defines the number of levels that shall be expanded by default in the hierarchical view.

**Notice:** This setting is only valid if the setting Show hierarchies is set to True, otherwise this setting is not visible in the PxWeb Administration tool

**Show marking tips**

Defines if the link for marking tips shall be displayed on the selection page or not.

**Search button mode**

Defines when the search values button shall be displayed to the user. There are two options:

Many values

The search values button is displayed to the user if the variable contains more values than the value specified by the Max rows without search Selection setting.

Always

The search values button is always displayed to the user no matter the value of the Selection setting Max rows without search.

**Max rows without search**

This setting is only valid if the Search button mode setting is set to ‘Many values’.

The value of this setting defines the maximum number of values that will be displayed within a selection box for a variable. If the number of values for a variable exceeds this number a search button will be displayed. Clicking this button opens up the extended selection dialog where the user can search for values.

**Notice:** The purpose of this setting is to spare the web server and the web browser from rendering huge number of values in the selection boxes. The recommendation is that this value does not exceed 500.

**Notice:** If you enter a really large value to this setting the result may be that page size that will be posted back to the web server when the page is submitted may exceed what is allowed as default in ASP.NET resulting in no page being displayed to the user. What you have to do in this case is to increase the maximum file upload size supported by ASP.NET. You do this by adding the following section to your web.config file:

<system.web>

<httpRuntime maxRequestLength="XXX"/>

</system.web>

XXX is the size in kilobytes. The default value for maxRequestLength is 4096 KB (4 MB).

**Show time without search**

Defines whether all values for the time variable shall be displayed without search, even if number of values exceeds the configured Max rows without search setting.

**List size**

The number of values that will be visible at the same time within a value selection box (the number of rows within the selection box).

**Show selection limits**

Defines if information about limitations for the on screen table shall be displayed or not.

If set to true the maximum number of rows and columns for the on screen table is displayed.

**Notice:** The values for maximum number of rows and columns are taken from the Max columns and Max rows settings, see the Table settings section for more information.

**Valueset must be selected**

If valuesets exists for the variable, the user has to select valueset before selection of values can be done when this setting is set to ‘yes’.

**Show ‘All available values’**

If the button ‘Select all available values’ shall be displayed in the search view. Note: if the variable contains many values (thousands) setting this setting to ‘Yes’ may result in the web page be heavy to load.

**Title from menu**

If set to true, the table title will always be displayed as it was displayed in the menu.

**Standard application header title**

This setting controls how the text in the browser tab is displayed.

When set to ‘Yes’

If this setting is set to ‘Yes’ the standard behavior will be used. That is:

* On the PxWeb page where you select variables and values the tab text will be:  
  “PxWeb – Select variables and values”
* On the table page of PxWeb the tab text will be:  
  “PxWeb - Table”
* On the chart page of PxWeb the tab text will be:  
  “PxWeb - Chart”

And so on…

When set to ‘No’

If instead this setting is set to ‘No’ the selected table title will be displayed in the browser tab.

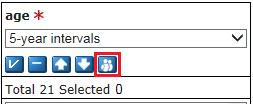
**Example:** “Population by age and sex. Year 1860-2017. PxWeb”

**About tables as links**

Configure if table metadata (footnotes and information) shall be displayed as links or directly within the selection page. Setting this setting to “No” makes it possible to display footnotes and information on a separate tab on selection page instead of on a separate page.

**Selection from group**

If set to true, the button for selecting values from group will be displayed for a variable if the variable has at least one aggregation.



Clicking the button will open up the “Select values from group” dialog.

**Buttons for content variables**

If buttons (Select all, deselect all, sort ascending...) shall be displayed for content variables or not.

**Default search method**

Defines the default search method for the search field in each variable box on the selection page. There are two options:

Beginning of word

If “Beginning of word” is selected each word in a value is matched against the search criteria

Free text search

Will match values whether the applied keyword is in the beginning of the value or inside the value

**Output formats**

Defines which output formats that will be available from the selection page of PxWeb. An output format is either a presentation view or a file format.

The following output formats can be selected:

*Presentation views:*

Table – Layout 1

Table – Layout 2

Table – Sorted

Chart – Bar

Chart – Bar stacked

Chart – Bar stacked 100%

Chart – Horizontal bar

Chart – Horizontal bar stacked

Chart – Horizontal bar stacked 100%

Chart – Line

Chart – Column and line

Chart – Population pyramid

Chart – Pie

Chart – Area

Chart – Area stacked

Chart – Area stacked 100%

Chart – Point

Chart – Radar

Footnotes

Information

*File formats:*

PX file

Excel workbook (xml)

Excel workbook (xml) with code and text

Tab delimited with heading

Tab delimited without heading

Comma delimited with heading

Comma delimited without heading

Space delimited with heading

Space delimited without heading

Semi colon delimited with heading

Semi colon delimited without heading

Html file

Relational file (txt)

Chart as PNG (png)

Chart as Gif (gif)

Chart as JPEG (jpg)

Excel (xlsx)

Excel (xlsx) with code and text column

JSON-stat file (json)

Html5 table (htm)

Json file (json)

**Notice:** The Chart presentation views and Chart file formats will only be available for selection if you have enabled the Charts feature (see the Features - general section)

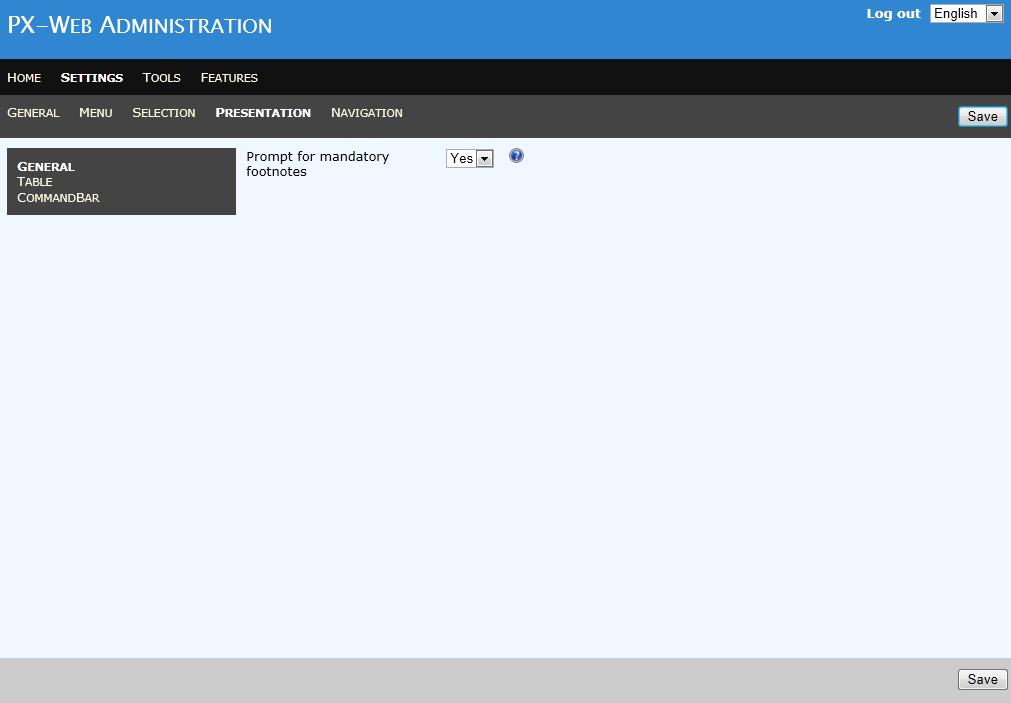
**Selection limitations**

When the user is selecting variables and values in PxWeb it is controlled that the selection made don´t exceed the maximum number of cells allowed. The setting defining this maximum cell number is the Cell limit download setting, see the File format settings section for more information.

# General presentation settings

Settings – Presentation – General

These are general settings for the presentation page of PxWeb.



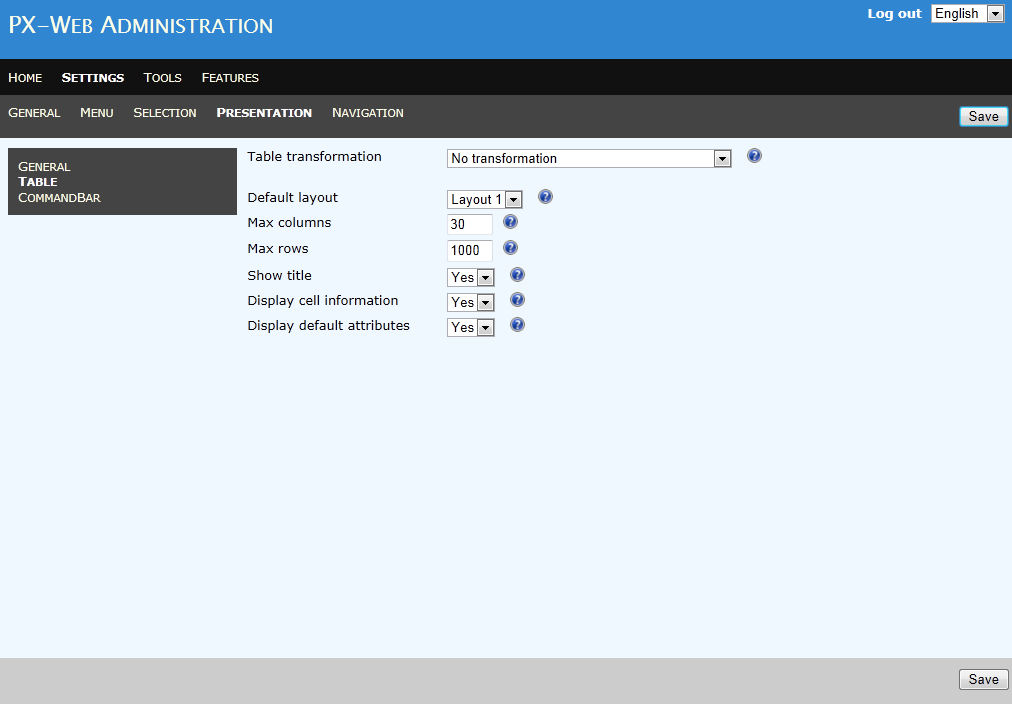
**Prompt for mandatory footnotes**

This setting defines if a dialog showing the mandatory footnotes of the table shall be displayed or not when the user enters the presentation page of PxWeb.

# Table settings

Settings – Presentation – Table

These are settings for the table on the presentation page of PxWeb.



**Table transformation**

This setting defines if transformation shall be performed by default on table data before the table is displayed. There are three options:

No transformation

No transformation will be performed automatically

Single values first

Transform the table so that variables with only one value is put first

Only one multi valued variable in the header

Transform the table so that variables with only one value is put first and also there can be only one variable with multiple values in the header.

**Default layout**

Defines which will be the default layout of the table. There are two options:

Layout 1

The first layout

Layout 2

The second layout

**Max columns**

Defines the maximum number of columns that will be displayed in the table on screen. If the underlying data table contains more columns the table will be cropped.

**Max rows**

Defines the maximum number of rows that will be displayed in the table on screen. If the underlying data table contains more rows the table will be cropped.

**Show title**

Defines if the data table title will be displayed or not

**Display cell information**

If set to “Yes” table cells containing cell notes and/or attributes at cell level are made clickable. When the cell is clicked information about the cell is displayed in a popup dialog.

**Display default attributes**

If set to “Yes” the default attribute values are displayed under the table if the table contains attributes at cell level.

# CommandBar settings

Settings – Presentation – CommandBar

These are settings for the CommandBar on the presentation page of PxWeb. With the CommandBar it is possible to perform operations on data and save the table to different file formats.

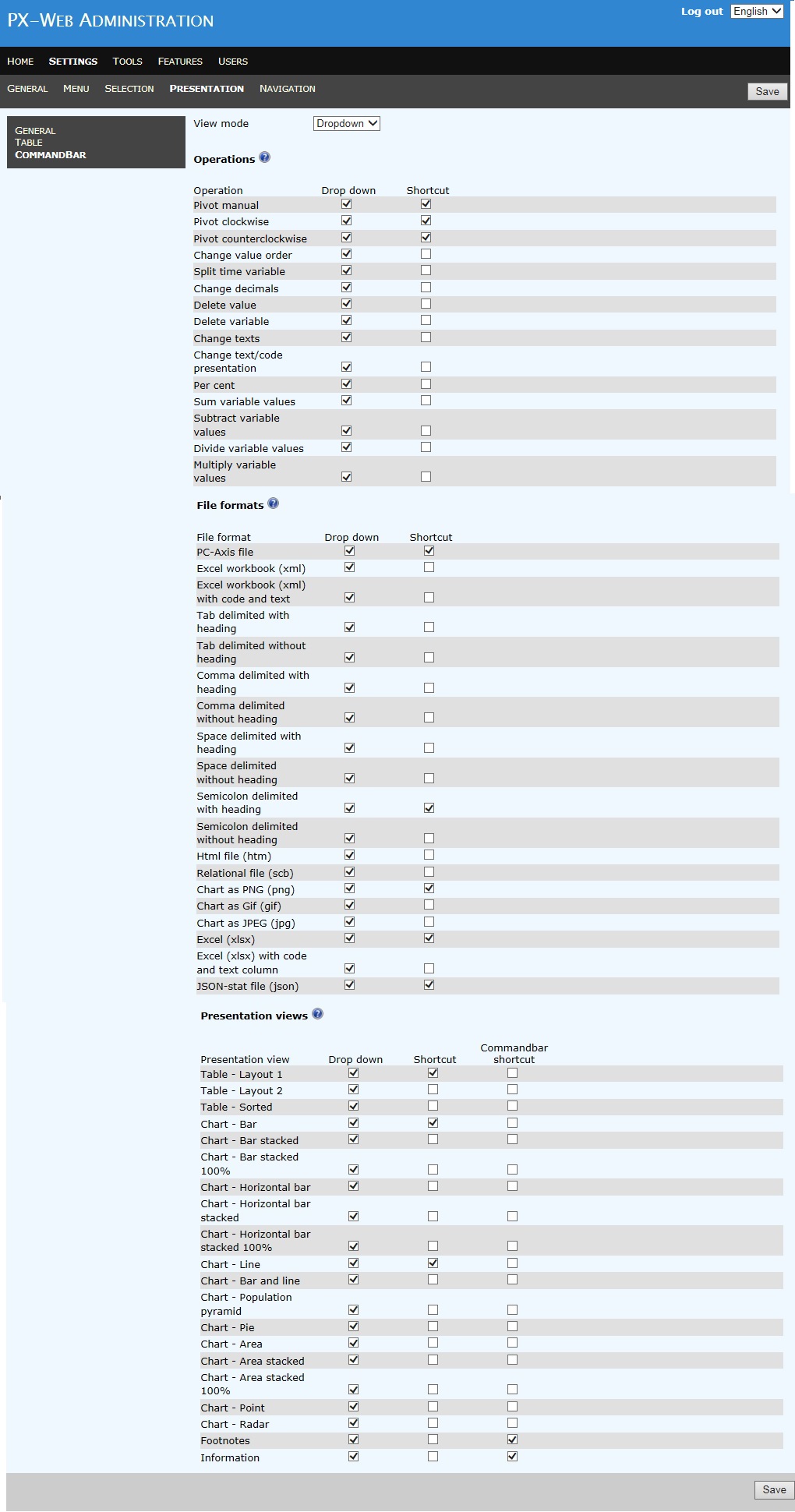
**View mode**

Defines which kind of CommandBar will be displayed on the Presentation page of PxWeb. Depending of which View mode is selected different CommandBar settings are displayed:

View mode = Dropdown

The CommandBar is displayed as dropdown selection boxes together with some shortcut buttons.

The following CommandBar settings are available:



**Operations**

It is possible to control which operations will be visible in the CommandBar and how they will be displayed. For every operation it is possible to display it in two ways:

1. In the operations selection box (check the drop down checkbox)
2. As a shortcut button beneath the operation selection box (check the Shortcut checkbox)

The following operations are available for selection:

Pivot manual

Pivot clockwise

Pivot counterclockwise

Change value order

Split time variable

Change decimals

Delete value

Delete variable

Change texts

Change text/code presentation

Per cent

Show all rows

Sum variable values

Subtract variable values

Divide variable values

Multiply variable values

**Tip:** It is possible to display an operation in more than one way

**File formats**

It is possible to control which file formats will be visible in the CommandBar and how they will be displayed. For every file format it is possible to display it in two ways:

1. In the File formats selection box (check the drop down checkbox)
2. As a shortcut button beneath the File formats selection box (check the Shortcut checkbox)

The following file formats are available for selection:

PX file

Excel workbook (xml)

Excel workbook (xml) with code and text

Tab delimited with heading

Tab delimited without heading

Comma delimited with heading

Comma delimited without heading

Space delimited with heading

Space delimited without heading

Semi colon delimited with heading

Semi colon delimited without heading

Html file

Relational file

Chart as PNG (png)

Chart as Gif (gif)

Chart as JPEG (jpg)

Excel (xlsx)

Excel (xlsx) with code and text column

JSON-stat file (json)

Html5 table (htm)

Json file (json)

**Tip:** It is possible to display a file format in more than one way

**Notice:** The Chart file formats will only be available for selection if you have enabled the Charts feature (see the Features - general section)

**Notice:** The Chart file formats will only be visible to the user on the Chart page of PxWeb

**Presentation views**

It is possible to control which presentation views will be visible in the CommandBar and how they will be displayed. For every presentation view it is possible to display it in three ways:

1. In the presentation views selection box (check the drop down checkbox)
2. As a shortcut button beneath the presentation views selection box (check the Shortcut checkbox)
3. As a shortcut button to the right of the operation, file formats and presentation views selection boxes (check the CommandBar shortcut checkbox)

The following presentation views are available for selection:

Table – Layout 1

Table – Layout 2

Table – Sorted

Chart – Bar

Chart – Bar stacked

Chart – Bar stacked 100%

Chart – Horizontal bar

Chart – Horizontal bar stacked

Chart – Horizontal bar stacked 100%

Chart – Line

Chart – Bar and line

Chart – Population pyramid

Chart – Pie

Chart – Area

Chart – Area stacked

Chart – Area stacked 100%

Chart – Point

Chart – Radar

Footnotes

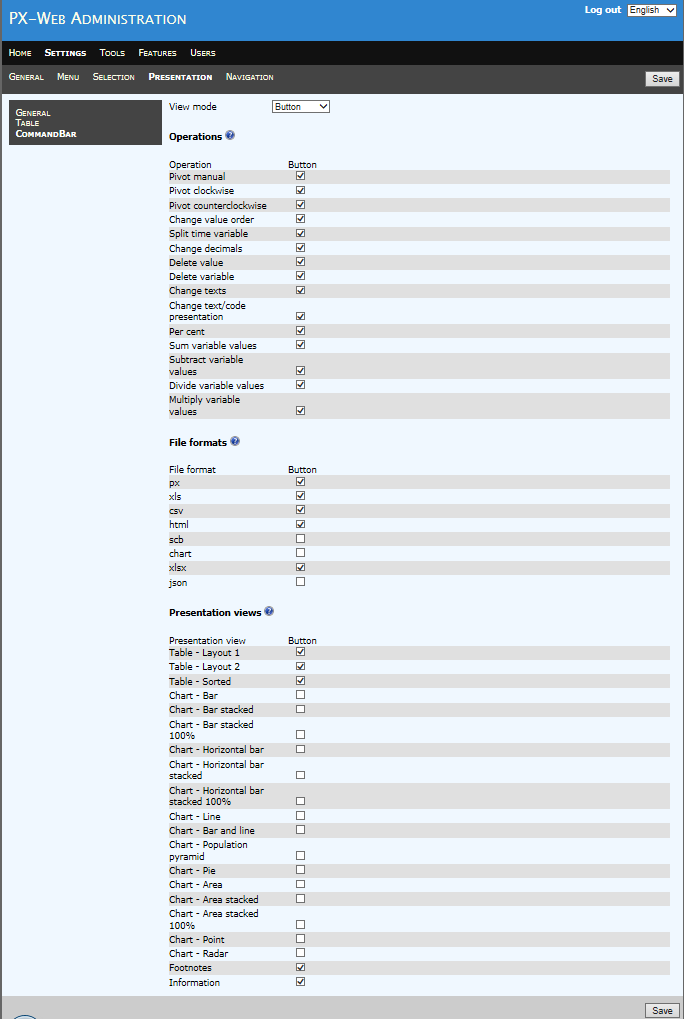
Information

**Tip:** It is possible to display a presentation view in more than one way

**Notice:** The Chart presentation views will only be available for selection if you have enabled the Charts feature (see the Features - general section)

View mode = Button

The CommandBar is displayed as a number of buttons where each button represents an operation, a file format or a presentation view. The following CommandBar settings are available:



**Operations**

It is possible to control which operations will be visible in the CommandBar as a button (check the Button checkbox).

See section Viewmode = Dropdown for the operations that are available for selection.

**File formats**

It is possible to control which file formats will be visible in the CommandBar as a button (check the Button checkbox).

The following file formats are available for selection:

PX file (px)

Excel workbook file (xml)

PRN file (prn)

Html file (html)

Relational file (scb)

Chart

Excel file (xlsx)

JSON-Stat (json)

**Notice:** The Chart file format will only be available for selection if you have enabled the Charts feature (see the Features - general section)

**Presentation views**

It is possible to control which presentation views will be visible in the CommandBar as a button (check the Button checkbox).

See section Viewmode = Dropdown for the presentation views that are available for selection.

View mode = Hidden

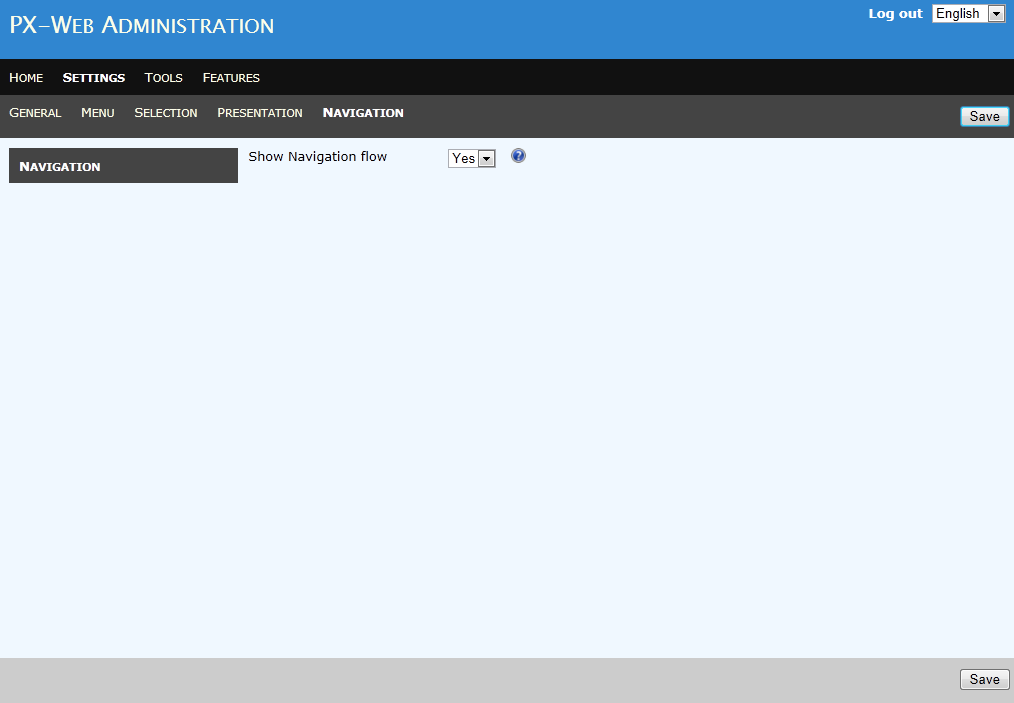
The CommandBar will not be displayed on the presentation page of PxWeb.

No CommandBar settings are available.

# Navigation settings

Settings – Navigation

These are settings for navigation within PxWeb.



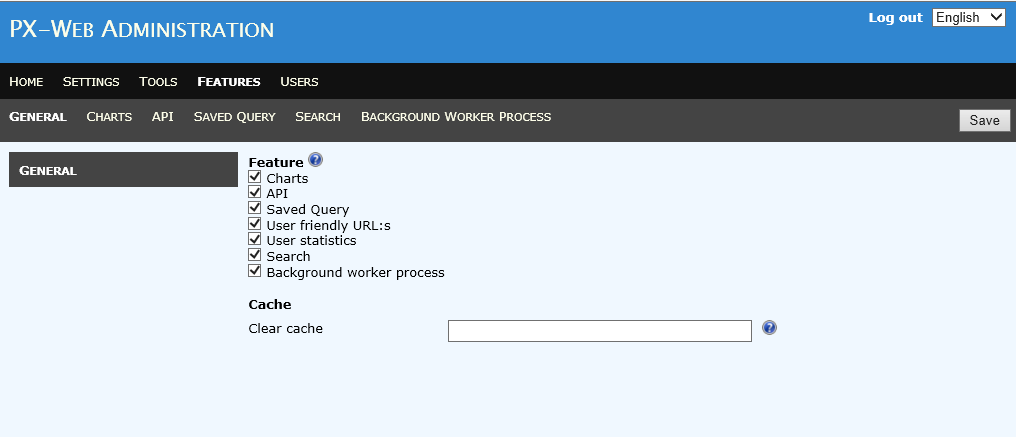
**Show navigation flow**

Configure if the navigation flow control shall be displayed or not. If set to yes the navigation flow control will be displayed as a complement to the breadcrumb.

# Features

Features – General

Features are functionality that can be switch on/off for the PxWeb installation by the administrator. If the feature is switched on it can be administrated from the Administration tool and can be used by a user on the PxWeb site. If the feature is switched off it won´t be visible in the Administration tool or on the PxWeb site.



**Features**

Available features presented in a list. To activate a feature: check the associated checkbox and click the Save button. To inactivate a feature: uncheck the associated checkbox and click the Save button.

Available features:

Charts

Display a PX-table as a chart. When activated a number of presentation views are added to the PxWeb site:

Chart – Bar

Chart – Bar stacked

Chart – Bar stacked 100%

Chart – Horizontal bar

Chart – Horizontal bar stacked

Chart – Horizontal stacked 100%

Chart – Line

Chart – Bar and line

Chart – Population pyramid

Chart – Pie

Chart – Area

Chart – Area stacked

Chart – Area stacked 100%

Chart – Point

Chart – Radar

Together with the presentation views a number of file formats are also added to the PxWeb site when the Charts feature is activated:

Chart as PNG (png)

Chart as Gif (gif)

Chart as JPEG (jpg)

These presentation views and file formats can be reached from the Selection page of PxWeb (see the Selection settings section) or from the CommandBar (see the CommandBar settings section).

When the Charts feature is enabled the Charts feature settings page is visible within the administration tool (See the Charts feature section).

API support

An API has been developed and integrated in PxWeb. This gives developers the possibility to access your data from other systems and mobile applications in an easy way.

In the Administration tool you can configure if you want to use the API functionality and which databases to expose via the API.

Saved Query

Make it possible for users to save retrievals. A user can return to a saved retrieval by the use of a generated URL.

User friendly URL:s

URL:s in PxWeb are structured in a more logical way.

The new structure of the PxWeb URL:s are:

pxweb/language/database/path within database/table/presentation view/layout

It is however possible to use the old kind of URL:s. The use of user friendly URL:s can be switched on/off in the Administration tool under: Features – General – User friendly URL:s.

User statistics

When the User statistics feature is enabled the selections and presentations made by the users of PxWeb is written to a log file.

Search

When search is enabled users can search for tables within your PxWeb databases. A user can enter a search query and get a list of tables matching the query.

Background worker process

The Background worker process runs in the background and performs different administration tasks. This background process is awaken periodically and then checks if there are some tasks to perform. Currently the only task the background worker process performs is handling search indexes. In the future more tasks will be added to the background worker process.

**Cache**

Caching is a way to improve performance in PxWeb. Instead of retrieving data from the database for every request the data can be stored in a cache and be reused in later requests for data. In PxWeb there are two caches; the API cache and the saved query cache.

Clear cache

It is possible to force the PxWeb caches to be cleared at certain times. Times are separated by a comma. If you for example publish your data at a certain time every day it may be a good thing to clear your caches at that time.

**Example:** If Clear cache is set to 09:30,12:00 the PxWeb caches will be cleared at 09:30 and 12:00.

**Notice:** If you change this setting you need to restart your PxWeb web site to make the setting start working

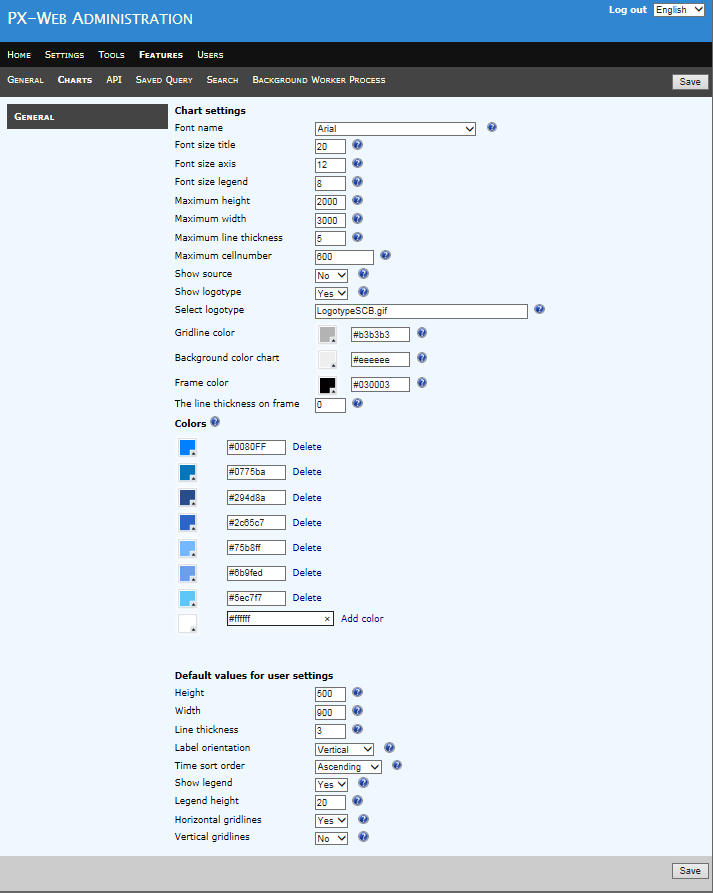
**Notice:** In earlier versions of PxWeb there was a clear cache setting for the API. This setting has been replaced with this one that affects all PxWeb caches.

**Notice:** It is possible to customize how the PxWeb caches are handled. If you need to customize your caches see the Cache customization section of this document

# Charts feature

Features - Charts

This is the administration page for the chart page of PxWeb. The administrator can control how charts will be displayed on screen to the user. It is also possible to set default values for the chart user settings.



**Chart settings**

Settings that control how the chart is displayed on screen to the user. The Chart settings are:

**Font name**

The name of the font used for all the text elements of the chart.

**Font size title**

Font size of the title element of the chart.

**Font size axis**

The font size of the labels on the axis of the chart.

**Font size legend**

The font size of the text in the legend of the chart.

**Maximum height**

Maximum chart height in pixels. If the user enters a height larger than this value an error message will be displayed to the user.

**Maximum width**

Maximum chart width in pixels. If the user enters a width larger than this value an error message will be displayed to the user.

**Maximum line thickness**

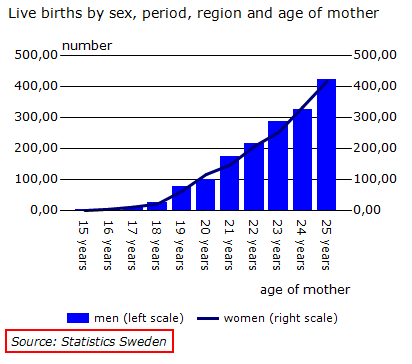
The maximum thickness for lines in the chart. This setting only applies to the chart types that uses lines (line chart and radar chart for example). If the user enters a line thickness larger than this value an error message will be displayed to the user.

**Maximum cellnumber**

The maximum number of cells that are allowed in chart data. If the number of cells in chart data exceeds this value the chart will not be displayed and an error message will be displayed to the user. The number of cells is calculated as the product of all values for the variables. The purpose of this setting is to spare the web server from calculating very large charts.

**Show source**

Defines if the source text shall be displayed in the lower left corner of the generated chart or not.



This source text is not administered from Charts feature administration page. The source text is generated in the following way:

1. If source exists for the table (SOURCE keyword in the PX file) this value is used as the source
2. If no source exists for the table source is taken from the language files. The sentence used is the *PxWebChartsSource* sentence. To change this value use the Language Manager tool (see the Edit language file section)

**Show logotype**

Defines if a logotype image shall be displayed in the lower left corner of the generated chart or not

**Select logotype**

Image file to use as logotype. This file shall be placed in the images folder of PxWeb. This setting is only valid if Show logotype is set to “Yes”.

**Gridline color**

The color of the gridlines in the chart. The color code can be edited directly in the text box in the expected format #AAAAAA or selected with use of the color picker.

**Background color chart**

Defines the background color of the chart.

**Frame color**

Color of the frame of the chart

**The line thickness on frame**

The line thickness of the chart frame defined in pixels.

**Colors**

The colors used in the chart. The color codes can be edited directly in the text box in the expected format #AAAAAA or selected with use of the color picker.

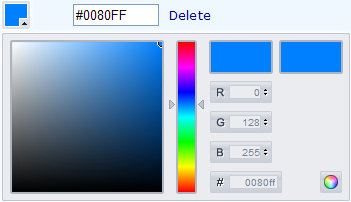
It is possible to add as many colors as wanted. To add a new color select the new color and click the Add color button. It is possible to delete colors by clicking the Delete link to the right of the color.

**Using the color picker**

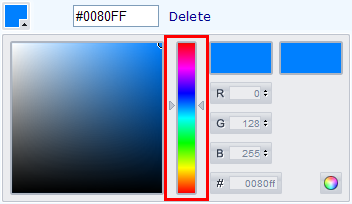
The color picker looks like this:



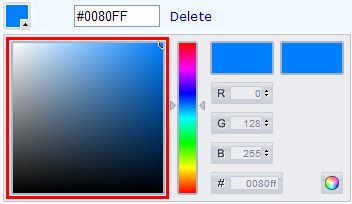
When you click on the color picker it opens up:



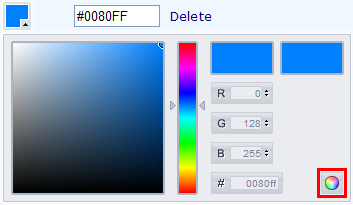
Choose base color by dragging the base color selector with the mouse:



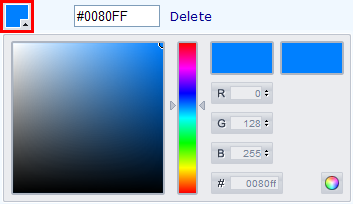
Choose color by clicking in the color selector:



Select color by clicking the Select button:



Close the color picker by clicking the color picker:



**Notice:** You need to open up PxWeb in a new browser window or in a new browser tab to see the new colors after they have been changed.

**Default values for user settings**

The user can control some settings for how the chart is displayed. These settings are the default values for the chart user settings on the chart page of PxWeb. The default values are:

**Height**

Default value for height.

**Width**

Default value for width.

**Line thickness**

Default value for line thickness.

**Label orientation**

Default value for label orientation.

**Time sort order**

Default value for time sort order.

**Show legend**

Default value for if legend shall be displayed or not.

**Legend height**

Default value for legend height (% of total chart height).

**Horizontal guidelines**

Default value for if horizontal guidelines shall be displayed or not.

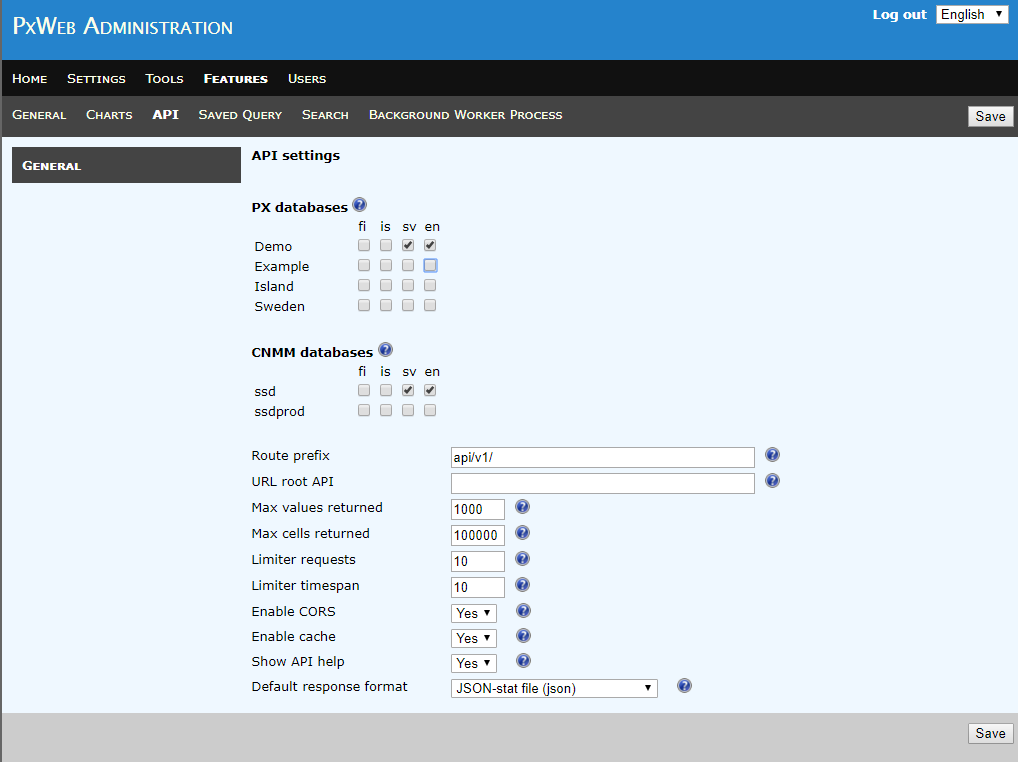
**Vertical guidelines**

Default value for if vertical guidelines shall be displayed or not.

# API feature

Features - API

This is the administration page for the API settings in PxWeb.



**PX databases**

You expose databases for API calls per language. Expose a database for API calls in a language by checking the corresponding checkbox.

**Example:** In the picture above the Demo database is exposed for API calls in Swedish and English.

**CNMM databases**

CNMM databases are exposed for API calls in the same way as PX-databases. See the PX databases setting above.

**Route prefix**

API calls to the PxWeb web site are identified by the route prefix. API calls have the following pattern: <http://www.pxwebsitename/route>prefix/...

**Example:** If Route prefix is set to ‘api/v1/’ the following URL would be handled by the PxWeb API engine:

http://www.pxwebsitename/api/v1/...

**URL root API**

This setting is only useful if you are running the API part of PxWeb on a different server than your PxWeb installation. If this is not the case you should leave this setting empty.

If you for example run the API part of PxWeb on the URL <http://www.mypxapi.com>, you should enter this URL in the **URL root API** setting. This URL will then be displayed in the API-information dialog of how to make API-calls for the selected table.

**Example:** If URL root is set to ‘http://www.mypxapi.com’ this will in combination with route prefix (see over) determine the full URL to the API.

http://www.mypxapi.com/api/v1/...

**Max values returned**

When making an API call asking for the metadata of a table the maximum number of values that can be returned for a variable is defined by this setting.

**Max cells returned**

When making an API call asking for the data of a table the maximum number of cells in the result is defined by this setting.

**Limiter requests**

Defines the number of API calls that can be made from a certain IP-address. This setting works together with the Limiter timespan setting.

It is possible to control how many calls a client can make to the API. The limiting function is based on the IP address of the caller. The Limiter requests together with the Limiter timespan settings define how many calls to the API that can be made for a certain timespan from a certain IP-address.

**Limiter timespan**

This setting defines the timespan of the API limiting function. Works together with the Limiter requests setting. The timespan is defined in seconds and is a sliding timespan.

**Example:** Limiter requests is set to 10 and Limiter timespan is set to 8. This means that 10 calls can be made to the API during the sliding time period of 8 seconds from a certain IP-address.

If the caller makes to many calls to the API then HTTP 429 Too many requests is returned.

**Enable CORS**

If Cross-origin resource sharing is allowed or not.

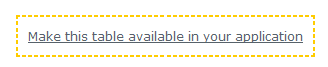
**Notice:** For definition of CORS visit Wikipedia at:   
<http://en.wikipedia.org/wiki/Cross-origin_resource_sharing>.

**Enable cache**

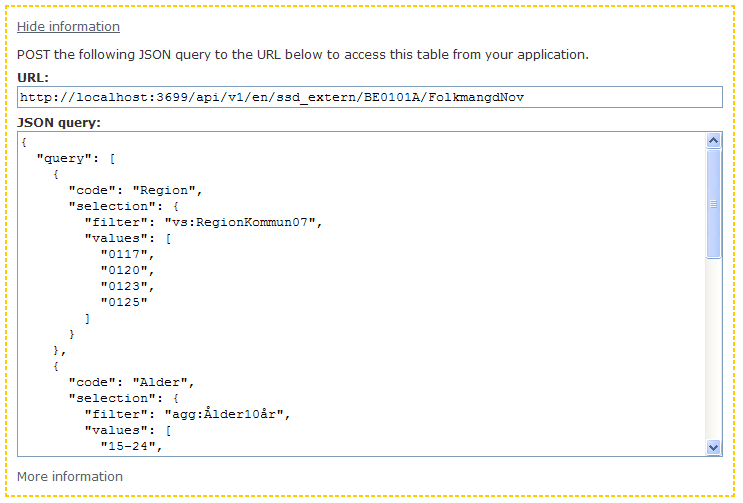
Defines if API calls shall be cached or not. If many identical API calls are made, caching the calls will improve the performance substantial.

**Show API help**

Instructions of how to make calls via the API has been integrated in PxWeb. If Show API help is enabled the following will be displayed under the table for an API exposed database table:



If the link is clicked instructions of how to get the selected table via an API call is displayed:



**Default response format**

Defines the default response format for API calls. If the response part of an API call is omitted the data will be returned to the client in the default response format. The default response format will also be the format displayed in the API-information dialog. See the “Show API help” setting above.

There are seven available options:

PX-file

Comma delimited with heading

Json-file (json)

JSON-stat file (json)

JSON-stat 2 file (json)

Excel (xlsx)

SDMX (sdmx) file

**Logging**

All calls to the API are by default logged to the file api.log that is located in the /Logs/ folder of PxWeb.

It is possible to configure the API logging in the web.config file that is located in the root folder of PxWeb.

**Further information**

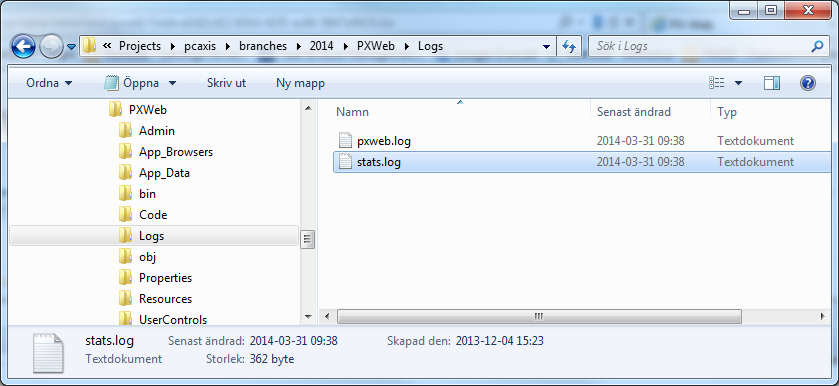
For more information about the API visit <http://www.scb.se/api_en>.

**Notice:** In earlier versions of PxWeb there was a clear cache setting for the API. This setting has been replaced with a new setting that affects all PxWeb caches. The new “Clear cache” setting can be found under the Features – General settings.

# User statistics feature

Features – User statistics

When the User statistics feature is enabled the selections and presentations made by the users of PxWeb is written to a log file. The name of the log file is stats.log and is located in the Logs folder in PxWeb:



The following information is written to the stats.log file:

2014-03-31 09:38:11,514 [28] INFO PCAxis.Web.Controls.PxDefaultLogger - Context=Selection, UserId=userid, Language=sv, Database=Finland, ActionType=Presentation, ActionName=tableViewLayout1, TableId=C:\PXWeb\Resources\PX\Databases\Finland\rak\ras\010\_ras\_tau\_101\_sv.px, NumberOfCells=72, NumberOfContents=1

Date and time

Date and time of the log event

Context

Possible values are Selection and Presentation. Tells you if the event was triggered from the selection- or the presentation page

UserId

User id of the PxWeb user (not implemented yet).

Language

Selected language

Database

Selected database

ActionType

Possible values are Presentation, Operation or SaveAs. Tells if the user selected to view the table in a new presentation view, performed an operation on the table or saved the table to a file format.

ActionName

Id of the presentation view/operation/file format

TableId

The selected table

NumberOfCells

Number of cells in the table

NumberOfContents

Number of contents in the table

**Implement a custom user statistics logger**

It is possible to implement a user statistics logger of your own and use it in PxWeb. What you need to do is create a logger class that implements the PxWeb IActionLogger interface. Next you need to configure PxWeb to use this logger instead of the default logger in PxWeb. You do this by adding a new definition for visitorStatisticsLogger in the appSettings section in the web.config file. This is an example of what might look like:

<add key="visitorStatisticsLogger" value="PXWeb.Ssd.VisitorStatistics.VisitorStatisticsLogger, PXWeb.Ssd, Version=1.0.0.0, Culture=neutral"/>

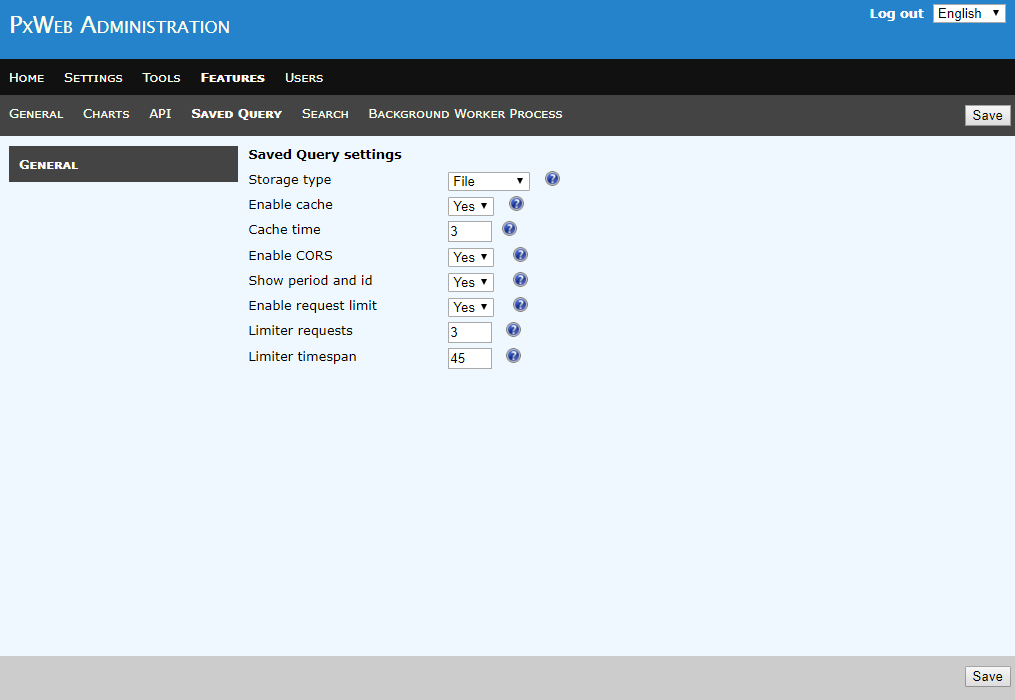
For more information how to extend PxWeb with your own implementations, see the “*Developers instructions for extending PxWeb.docx*” document.

# Saved query feature

Features – Saved query

The saved query feature makes it possible for users to save retrievals. After an retrieval has been saved as a saved query the user can return to the retrieval by the use of a generated URL.

This is the administration page for the saved query feature in PxWeb.



**Storage type**

This setting defines how the queries will be saved in PxWeb. Possible values are File or database.

File

Queries will be saved as files on the web server. The files will be stored in the /App\_Data/Queries/ folder of PxWeb.

Saved query file format

The file name consists of a GUID (Globally Unique Identifier) and is used as the id of the saved query and will be visible in the generated URL identifying the query.

The file is in JSON (JavaScript Object Notation) format and consists of the following parts:

sources – List of tables that participates in the saved query. At the moment this list can only contain one table

workflow – List of operations that has been made on the table(s) in the saved query

output – The output format of the saved query. Can be displayed on screen as a table or chart or as a file format

stats – Usage statistics of the saved query

timedependent – Indicates if operations that affects the possibility to change the update method of the query has been made or not. If the time variable is affected by an operation the query is considered to be time dependent. If a query is time dependent it will not be possible to select an update method for the query.

Saved query file format in detail

sources

This is an example how the sources part of a saved query file might look like:

"sources": [

{

"id": "1",

"default": true,

"type": "CNMM",

"dbid": "ssd",

"sourceType": "path",

"source": "START/MI/MI0803/MI0803A/MarkanvKn",

"lang": "en",

"queries": [

{

"code": "Region",

"selection": {

"filter": "agg:RegionA-region\_3",

"values": [

"A-02",

"A-03"

]

}

},

{

"code": "AreaUsageCode",

"selection": {

"filter": "item",

"values": [

"11",

"14"

]

}

},

{

"code": "Time",

"selection": {

"filter": "all",

"values": [

"\*"

]

}

}

]

}

]

The sources part of the file consists of an array of tables that participates in the saved query. At the moment this array can only contain one table. Each table is described by a number of fields:

Id

Internal id of the table within the saved query. At the moment this value is always set to “*1*”

default

If this is the default table within the saved query. At the moment this value is always set to “*true*”

type

Describes if the table is located in a PX-file database (PX) or in a database using the Common Nordic Meta Model (CNMM)

dbid

Id within PxWeb of the database the table belongs to

sourcetype

Describes how the source is defined. At the moment this value is always set to “*path”*

source

Path within the database to the table

lang

Selected language when the query was saved

queries

An array describing selected variables and values. Also contains information of selected value sets and groupings (aggregations). Each variable is described in the following way:

code

Variable code

selection

Describes made selections for one variable

filter

Describes how selected values are given. Supported filters are:

* item. This filter lists valid values in the values collection.
* agg. This states that the values listed in the values collection are aggregated. The identity of the aggregation is given after the colon, e.g. agg:ageG5.
* agg\_single. This states that an aggregation is applied to the variable but it is the single values in the aggregation that is displayed and not the aggregated values. The identity of the aggregation is given after the colon, e.g. agg\_single:ageG5.
* agg\_all. This states that an aggregation is applied to the variable and both the single values and the aggregated values in the aggregation are displayed. The identity of the aggregation is given after the colon, e.g. agg\_all:ageG5.
* vs. This states that the values listed in the values collection are from a different value set. The identity of the value set is given after the colon, e.g. vs:region.
* all. This filter uses a wildcard selector on the values. \* gives all values available for the variable

The time variable can depending on what selection was made for the update method have additionally two filters:

* top: The number of selected values will be the same as in the original selection but the latest available time periods will be used.
* from: The first time period in the selection will be used and all later periods available will be included in the retrieval.

Values

An array containing selected values for the variable

workflow

This is an example how the workflow part of a saved query file might look like:

"workflow": [

{

"Id": "f6783fb1-4873-48d2-8986-7b9f2d1c72a3",

"Type": "PIVOT",

"Params": {

"\_count": "3",

"0.name": "Region",

"0.placement": "Stub",

"1.name": "Time",

"1.placement": "Heading",

"2.name": "AreaUsageCode",

"2.placement": "Heading"

}

}

],

In the example a pivot operation has been performed on the table.

The workflow part of a saved query file consists of an array of operations that have been performed on the table. Each operations is described by a number of number of fields:

Id

An internal id of the operation within the saved query

Type

The type of the operation, e.g. PIVOT

Params

Parameters to the operation

output

The output part of a saved query file describes how the table result shall be displayed

This is an example of how the output part of a saved query file might look like:

"output": {

"type": "table",

"params": {

"layout": "tableViewLayout1",

"table\_zerooption": "ShowAll"

}

},

In the example the table will be displayed as an on screen table with table layout 1.

The output pert is described by the following fields:

Type

Describes if the table should be displayed on screen (table or chart) or as a file (e.g Excel or PX-file)

Params

Contains additional parameters for specifying the output. If the output is on screen the parameter layout is added to specify which layout to use (e.g. table layout 1 or line chart). Table and chart settings are also added to the parameters.

stats

The stats part of the file contains information about usage statistics of the file.

This is an example of how the stats part of a saved query file might look like:

"stats": {

"removeable": true,

"runs": 13,

"fails": 2,

"lastrunned": "2015-05-15T14:55:17.4331305+02:00"

}

The stats part of the file consists of the following fields:

Removable

The idea for this field is to tell the system if this query can be removed or not. In the future we will add some functionality to PxWeb to remove unused queries (e.g. queries that have not been executed for a long time) automatically. If removable is set to false the query will not be removed by such a function.

Runs

Tells how many times the saved query has been executed

Fails

Tells how many times the saved query has failed to execute

Lastrunned

The time when the saved query was last executed

Timedependent

Indicates if operations that affects the possibility to change the update method of the query has been made or not. If the time variable is affected by an operation the query is considered to be time dependent. If a query is time dependent it will not be possible to select an update method for the query.

If a saved query is time dependent the following line of code is added to the file:

"timeDependent": true

Database

If storage type is set to Database queries will be saved as rows in a database table.

When you want to store saved queries in a database table you need to specify the following lines of code in the appSettings part of the Web.config file which is located in the root folder of PxWeb:

<!-- Saved query settings -->

<add key="SavedQueryDataAccessor" value="PXWeb.SavedQuery.MsSql.DataAccessor, PXWeb.SavedQuery.MsSql" />

<add key="SavedQueryConnectionString" value="Data Source=xxxx;Initial Catalog=xxxx;enlist=false;User Id=xxxx;Password=xxxx;" />

Data Source = Server address

Initial Catalog = Database

User Id = User who has access to the database table

Password = User password

The name of the table which will hold the saved queries is *SavedQueryMeta*.

To create the table you can run the *Create\_SavedQueryMeta.sql* script that is located in the /DbScript/SQL/ folder of PxWeb.

**Notice:** You need to complete the script with information about which database to create the table in

SavedQueryMeta

This is a description of the columns in the *SavedQueryMeta* table.

|  |  |  |
| --- | --- | --- |
| Column name | Data type | Description |
| QueryId | int | Primary key. Automatically created id. |
| DataSourceType | Varchar(10) | Nordic Meta Model and PX file.  Later on other format such as CoSSI.  CNMM = Common Nordic Meta Model database  PX = PX database. |
| DatabaseId | Varchar(500) | In case of SQL this is the identifier for the database defined in the SQLDbConfig file.  In case of PX points to the folder that makes up the PX database.  Enables metadata for the Saved Query to belong to a different database then the metadata database |
| DataSourceId | Varchar(500) | In case of SQL the id for the main table.  In case of PX the relative path to the PX file. |
| Status | Char(1) | Status for the Saved Query.  A = Active, is set by e.g. PxWeb when the query is created.  I = Inactive, cannot be executed. Data source could be corrupt or the query could be corrupt. I set by the user.  S = Suspect, active but the metadata and/or data is changed in the data source. Which could lead to possible problems?  B = Broken, Is not able to run because of the Datasource no longer exists. Is set by the cleaning routine. |
| StatusUse | Char(1) | Determines who could use the Saved Query.  O=Official = Everyone can use it (set by NSI)  P=Private = Only owner (OwnerId) can set it  I=Internal = Can only be used from internal  D=Shared = Everyone can use it . Is set by the owner/OwnerId |
| StatusChange | Char(1) | States who can change the query.  P=Private = only the user (OwnerId) can change it  I=Internal = Can only be changed by the responsible for the maintable. (N/A in case of PX file database) |
| OwnerId | Varchar(80) | ID for the user who have created the Saved Query. Can be a user or a group of users.  At the moment always set to *Anonymous*. |
| MyDescription | Varchar(250) | Title or description of the Saved Query.  Is displayed for the user. Compare with PresText for the maintable or the TITLE in the PX file. |
| Tags | Varchar(250) | Keywords separated with a comma sign. |
| CreatedDate | Smalldatetime | Date for when this row was created |
| ChangedDate | Smalldatetime | Date for when this row last was changed |
| ChangedBy | Varchar(80) | Id of who made the changes. Could be OwerId or an application. |
| UsedDate | Smalldatetime | Date when the query was last executed. |
| DataSourceUpdateDate | Smalldatetime | Date for when the datasource was update. Metadata or data was updated and Status is set to S. |
| SavedQueryFormat | Varchar(10) | At the moment always setPXSXML  PXS |
| SavedQueryStorage | Char(1) | Storage space for the Saved Query.  F = File system  D = Database |
| QueryText | Varchar(MAX) | Path to the Saved Query or The Saved Query itself. |
| Runs | int | Number of times the saved query has been executed |
| Fails | int | Number of times the execution of the saved query has failed |

**Enable cache**

Defines if saved queries shall be cached or not. If many calls are made to the same saved query, caching the calls will improve performance substantial.

**Cache time**

**Cache time specify for how long time, in minutes, the saved query shall be stored in the cache. If the saved query not is requested for in the specified time the saved query is removed from the cache.**

**Example:** If Cache time is set to 5 the Saved queries that have not been asked for in 5 minutes will be removed from the cache.

**Enable CORS**

This setting is used to switch on/off support for CORS (Cross-origin resource sharing) and preflight requests for saved queries. This makes it possible to load and embed the result of a saved query by using for example Ajax technology from your PxWeb site into another web site in another domain.

Description of CORS (from Wikipedia):

*“Cross-origin resource sharing (CORS) is a mechanism that allows restricted resources on a web page to be requested from another domain outside the domain from which the first resource was served. A web page may freely embed cross-origin images, stylesheets, scripts, iframes, and videos. Certain "cross-domain" requests, notably Ajax requests, are forbidden by default by the same-origin security policy.*

*CORS defines a way in which a browser and server can interact to determine whether or not it is safe to allow the cross-origin request. It allows for more freedom and functionality than purely same-origin requests, but is more secure than simply allowing all cross-origin requests”*

Description of Preflight request (from Wikipedia):

*“When performing certain types of cross-domain Ajax requests, modern browsers that support CORS will insert an extra "preflight" request to determine whether they have permission to perform the action.”*

See also:  
<https://en.wikipedia.org/wiki/Cross-origin_resource_sharing>

**Show period and id**

If set to ‘Yes’ information about the saved query is displayed in the UI after it has been loaded.

Information displayed is:

* The Id of the saved query
* The time selection for the saved query

**Enable request limit**

Limit the number of the requests to saved queries that can be made from a specific ip-address. If set to ‘Yes’ this functionality is switched on. If set to ‘No’ any number of requests can be made for saved queries.

**Limiter requests**

This setting is only useful if the setting Enable request limit above is set to ‘Yes’.

Defines the number of requests that can be made from a specific ip-address to saved queries during a timespan in seconds that is defined by the Limiter timespan setting below.

**Limiter timespan**

This setting is only useful if the setting Enable request limit above is set to ‘Yes’.

Defines the number of seconds for the time span that is used in the request limit check.

**Example:** If Enable request limit is set to Yes, Limiter requests is set to 5 and Limiter timespan is set to 20, only 5 requests for saved queries can be made from a specific ip-address during a time span of 20 seconds. If more than 5 requests are made an error message will be returned from the requests and the user must wait until the time window will allow more calls.

**Change output format for saved query in URL**

When you save a query you select the desired output format for that query. If you want a saved query for the exact same table but in another output format you earlier had to create a new saved query.

You can change the output format of an existing saved query by adding a dot (.) followed by the desired output format in the end of the URL.

The following output formats are supported by this functionality:

.px - Get result as PX-file

.xlsx - Get result as Excel-file

.xlsx\_doublecolumn - Get result as Excel-file with double column

.csv - Get result as default csv-file

.csv\_tab - Get result as tabseparated csv-file without heading

.csv\_tabhead - Get result as tabseparated csv-file with heading

.csv\_comma - Get result as commaseparated csv-file without heading

.csv\_commahead - Get result as commaseparated csv-file with heading

.csv\_space - Get result as spaceseparated csv-file without heading

.csv\_spacehead - Get result as spaceseparated csv-file with heading

.csv\_semicolon - Get result as semicolonseparated csv-file without heading

.csv\_semicolonhead - Get result as semicolonseparated csv-file with heading

.json\_stat - Get result as json-stat-file

.html5\_table – Get result as HTML5 table

.relational\_table – Get result as relational table (txt)

**Example:**   
URL to the saved query 2555:

<http://www.mypxweb.com/sq/2555>

URL to the same saved query but with output format Excel:

<http://www.mypxweb.com/sq/2555.xlsx>

**Redirect saved query to the selection page of PxWeb**

The purpose of saved queries has been to get data for a table in a specific output format, on screen or as a file.

If you instead would like to know which variables and values that are selected for a saved query you can add “?select” at the end of the saved query URL. Doing so will instead of displaying the data, redirect you to the selection page of PxWeb with all variables, values, value sets and groupings in the saved query selected in the UI.

**Example:**

URL for the saved query 2555 that will get you the data in the selected output format:

<http://www.mypxweb.com/sq/2555>

URL for the saved query 2555 that will get you to the selection page in PxWeb:

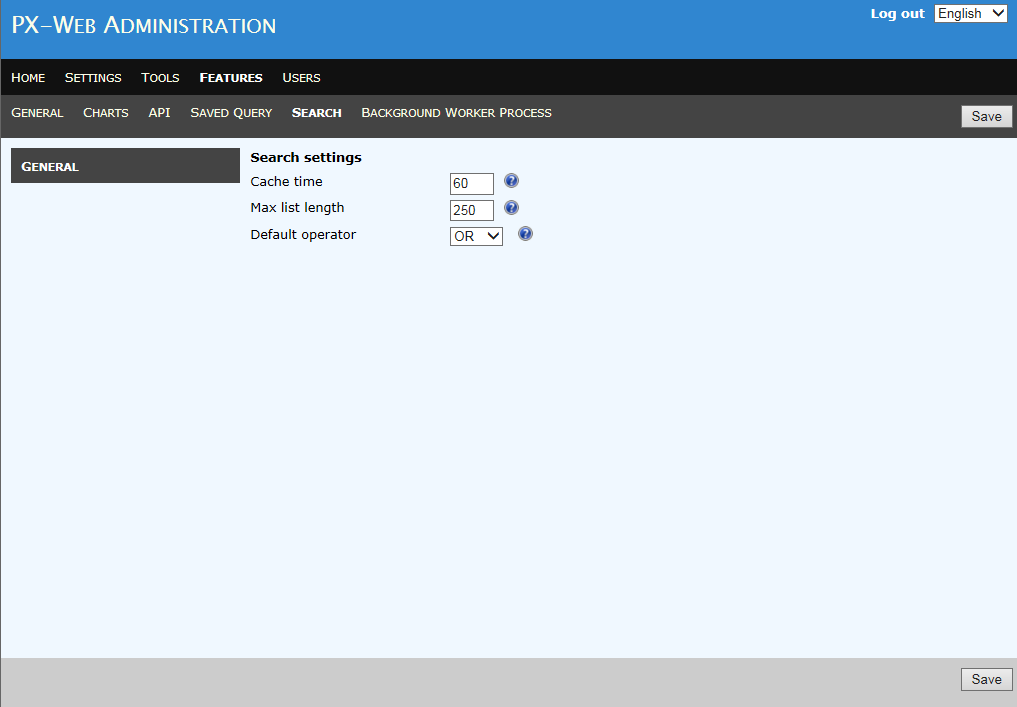
<http://www.mypxweb.com/sq/2555?select>

# Search feature

Features - Search

A search feature has been implemented in PxWeb where the user can enter a search query and get a list of tables matching the query.

This is the administration page for the Search feature in PxWeb.



**Cache time**

Time in minutes that the search index will be cached.

**Max list length**

Maximum number of tables that will be displayed in the search result list.

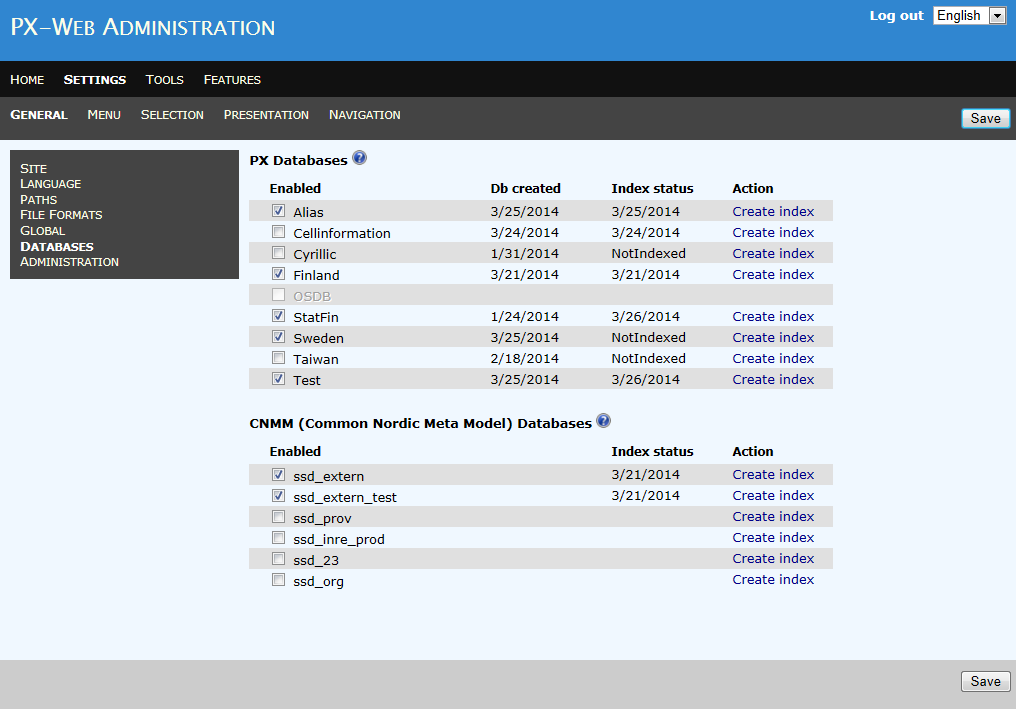
**Default operator**

The operator (AND/OR) that will be used by default when more than one word is included in a search query.

# ****Create search index****

Before any user can search for tables in PxWeb a search index for the database must be created.

The search index is created in the Administration tool on the database settings page Settings – General –Databases:



There are two columns in the table that has to do with the database search index:

Index status

Status of the search index for the database. Possible values are:

NotIndexed

No search index has been created for this database.

WaitingCreate

Creation of search index has been requested but the indexing process has not yet started.

WaitingUpdate

Partial update of search index has been requested but the indexing process has not yet started.

Indexing

The search index is being created right now.

3/25/2014 (for example)

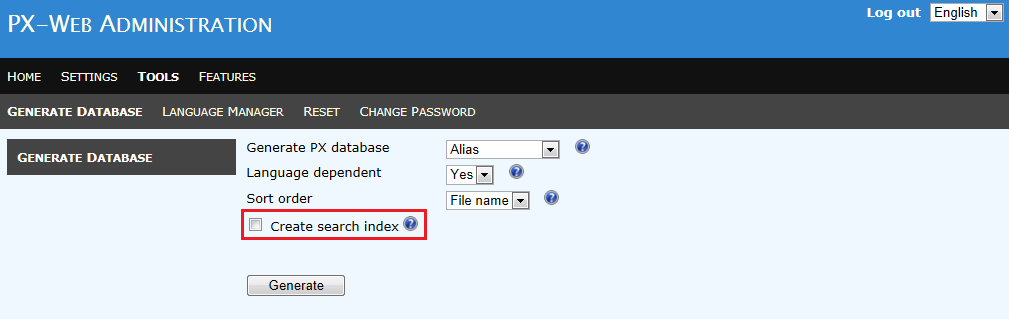
Date the search index was created or updated.

Action

Clicking the “Create index” link will initiate the search index creation process. This will also automatically wake up the background worker process if it is sleeping (see section Background worker process below).

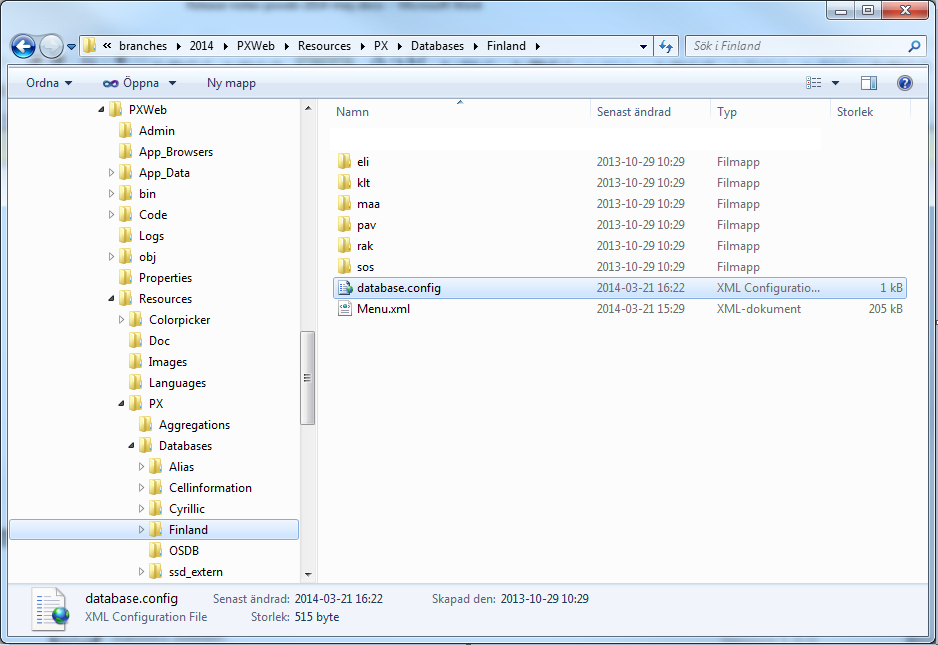
**Create search index when generating database**

It is possible to automatically initiate the creation of the search index when you generate the database file. To do this, check the “Create search index” checkbox before generating the database.

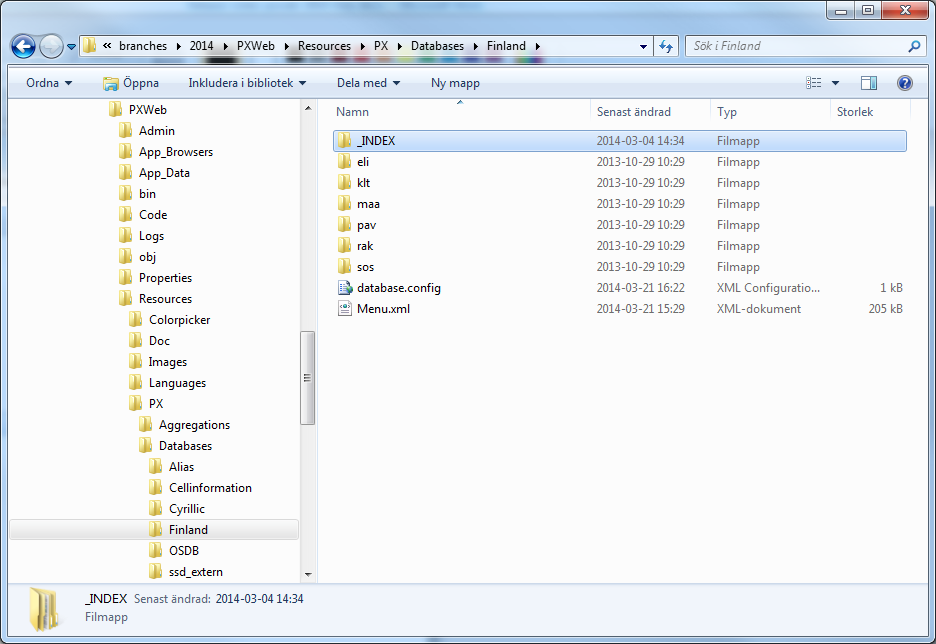


**The “Create search index” process**

When you click the “Create index” link for a database in the database table the following will happen:

1. The database.config file will be updated. In the folder of the database the file database.config contains database specific settings and information for the database.   
     
     
   A new section searchIndex has been added to the database.config file containing search index information (see section Database.config below).

Clicking the “Create index” link will set the status element in the searchIndex section of database.config to WaitingCreate.

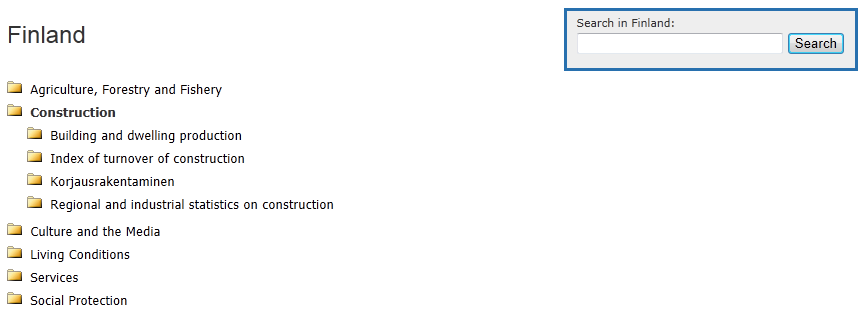
1. The Background worker process (see section Background worker process below) runs in the background and performs different administration tasks (at the moment handling database indexing). This background process is awaken periodically and then checks if there are some tasks to perform. The background worker process checks the database.config file for every database. If some database has searchIndex-status set to WaitingCreate the background worker process will start the indexing of the database. While the indexing is executed status will be set to Indexing. When the index is created status will be set to Indexed and indexUpdated to the date and time the index was created.
2. When the indexing process has ended a new folder called \_INDEX has been created in the folder of the database:  
     
     
     
   The \_INDEX folder will contain a subfolder for each of the selected languages in PxWeb. Each of these folders contains the search index for the database in that language.

**Notice:** One search index per database and selected language in PxWeb is created

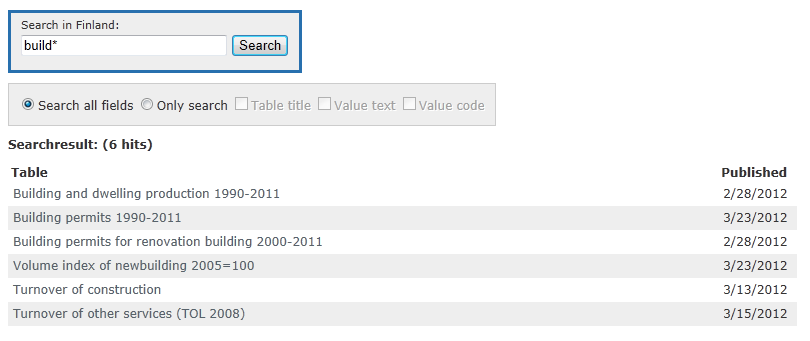
**Notice:** The initiation of the creation or recreation of a search index is loosely coupled to PxWeb. It is the status value in the database.config file that tells the background worker process to start indexing that database. This means that it is possible to automate the recreation of the search indexes in PxWeb. If you create a scheduled task that sets status = WaitingCreate once every night, the background worker process will update your search indexes accordingly.

**Search for tables in PxWeb**

Once the search index has been created for a database the users of PxWeb can search for tables in that database. On the menu page a search dialog is displayed:



Entering a search query and clicking “Search” takes you to the search result page displaying all the tables that matched your search:



Clicking one of the tables in the search result list takes you to the selection page where you select variables and values.

When a search is performed the search query is matched against the following:

* Table id
* Table title
* Value text
* Value code
* Matrix
* Variable name
* Period
* Grouping name
* Grouping codes
* Valueset name
* Valueset codes

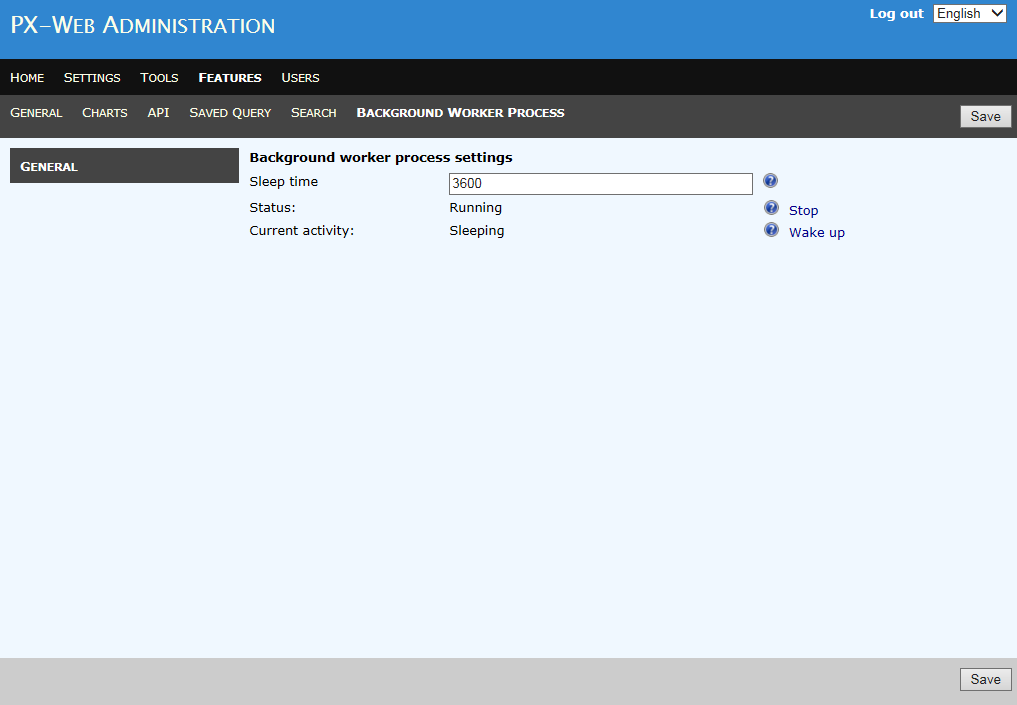
**Notice:** The search functionality in PxWeb is based on Lucene.Net, for more information about the Lucene query syntax please visit: <http://lucene.apache.org/core/2_9_4/queryparsersyntax.html>

# Background worker process feature

Features – Background worker process

The Background worker process runs in the background and performs different administration tasks (at the moment handling database indexing). This background process is awaken periodically and then checks if there are some tasks to perform.

This is the administration page for the background worker process in PxWeb.



**Sleep time**

The time in seconds the background worker process will sleep between iterations.

**Status**

Displays the status of the background worker process. Possible values are:

Running

The process is alive. It can either be asleep or working with something.

Stopped

The process is not alive. It cannot be awakened.

**Stop/Restart link**

If the background worker process is running you can manually stop it by clicking the “Stop” link.

It is also possible to restart the process if it is stopped by clicking the “Restart” link.

**Current activity**

Describes in detail what the background worker is doing right now.

**Wake up link**

If the background worker process is sleeping you can manually make it come alive by clicking the “Wake up” link.

**Log**

All activities performed by the background worker process are written to the PxWeb log.

**Notice:** If you unselect the background worker process you will not be able to create search indexes and make use of the search functionality in PxWeb.

# Users

The Users administration page is use for handling user authentication in PxWeb. You can configure your PxWeb installation to use one of the following settings regarding user authentication:

* User authentication only for the administration tool (this is the default configuration)
* User authentication for all web pages in PxWeb
* Implement your own way of authenticating users

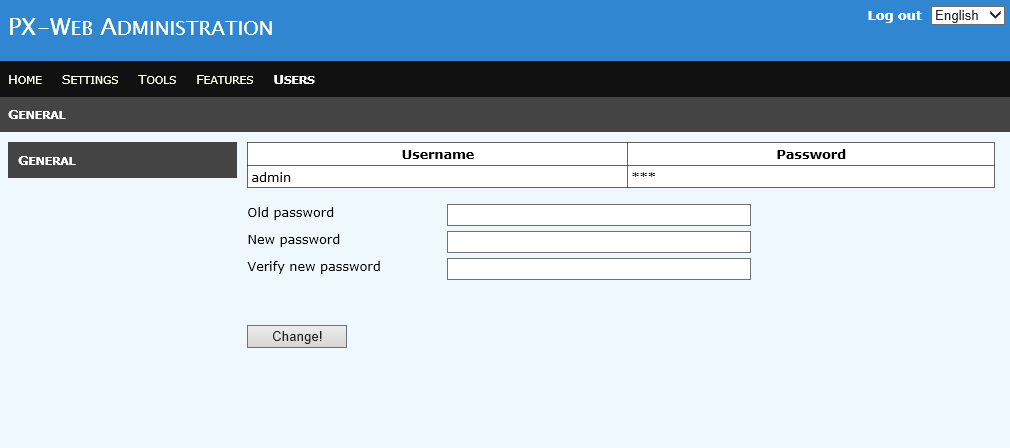
You configure which user authentication method you want to use in the web.config file in the root folder of PxWeb.

**User authentication only for the administration tool**

This is how PxWeb is configured by default when you install PxWeb.

Using this configuration anyone can access your databases and tables and display data as tables or charts.

The administration tool however is protected by user authentication. PxWeb only has one user called admin that have access to the administration tool. You can change the password for the admin user on the Users page in the administration tool:



**Notice:** In earlier versions of PxWeb you changed the administration password on another page, but since the 2017 v1 version you do this on the Users page of the Administration tool.

To use this method of handling user authentication you shall have the following settings in the web.config file:

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<!-- \* \* -->

<!-- \* Use this authentication configuration when you only want to authenticate users that access the administration pages and \* -->

<!-- \* the rest of PxWeb is open for everyone \* -->

<!-- \* \* -->

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<membership defaultProvider="PXWebDefaultMembershipProvider" userIsOnlineTimeWindow="15">

<providers>

<clear />

<add

name="PXWebDefaultMembershipProvider"

type="PXWeb.Security.PXWebDefaultMembershipProvider, PXWeb"

connectionStringName=""

applicationName="PXWEB"

/>

</providers>

</membership>

<authentication mode="Forms">

<forms name=".PXLogin" loginUrl="./Login.aspx">

<credentials passwordFormat="SHA1">

<user name="admin" password="37fa265330ad83eaa879efb1e2db6380896cf639" />

</credentials>

</forms>

</authentication>

</system.web>

<location path="Admin">

<system.web>

<authorization>

<deny users="?"/>

</authorization>

</system.web>

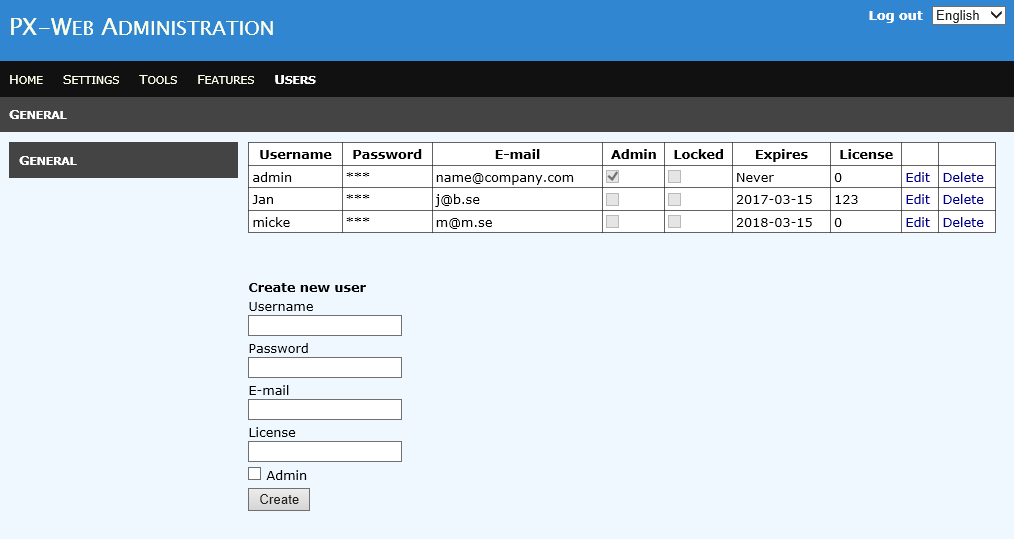
</location>

**User authentication for all web pages in PxWeb**

Use this configuration if all users must be authenticated before they can get access to your PxWeb web site. If implemented, visitors will be redirected to a login page in order to access the site.

Using this configuration you can add any number of users to get access to your web site. You can also give users admin rights so they can access the PxWeb administration tool.

On the Users page in the PxWeb administration tool you can create new users, edit or delete users etc.



When you add a user they get license to access your web site for one year. When the license has expired they will no longer be able to log on to the web site. An administrator can renew the license for an expired user and they will get access for one more year. Users that are configured as administrators will have unlimited access to the web site and the administration tool.

To implement this method of user authentication you need to perform the following steps:

First off – you will need a SQL Server and a database where you have dbo access. Execute the script Regsql\_mrp.sql which is located in the /DbScript/SQL/ folder of PXWeb. The script generates:

* All the necessary database tables
* A *Role* called “admin” (access to admin pages)
* A default user with the role admin: Username=“admin”, Password=”Password!”

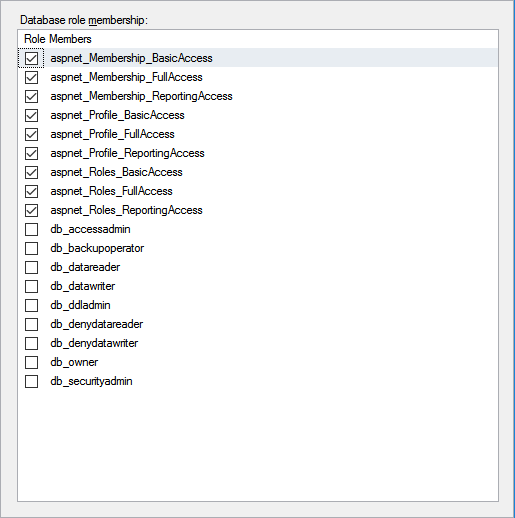
Next thing you need to do is to add a connection string in the web.config file (located in the root folder of PxWeb) that will be used to access the database above. It may look something like this:

<connectionStrings>

<add name="px\_aspnetdb" connectionString="Data Source=TQ06\A;Initial Catalog=px\_aspnetdb;User id=xxx;Password=yyy/>

</connectionStrings>

The user account you used in the connection string need to have the following role membership in the database:



Next you have to register the membership provider, rolemanager and some additional configuration to get it to work as intended in the web.config file of PxWeb:

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<!-- \* \* -->

<!-- \* Use this authentication configuration when all users must be authenticated (administration pages AND the rest of PxWeb) \* -->

<!-- \* \* -->

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<authorization>

<deny users="?" />

</authorization>

<membership defaultProvider="PXWebLicenseMembershipProvider" userIsOnlineTimeWindow="15">

<providers>

<clear />

<add

name="PXWebLicenseMembershipProvider"

type="PXWeb.Security.PXWebLicenseMembershipProvider, PXWeb"

connectionStringName="px\_aspnetdb"

applicationName="PX"

enablePasswordRetrieval="false"

enablePasswordReset="true"

minRequiredNonalphanumericCharacters="0"

minRequiredPasswordLength="3"

requiresQuestionAndAnswer="false"

requiresUniqueEmail="true"

passwordFormat="Hashed" />

</providers>

</membership>

<profile defaultProvider="AspNetSqlProfileProvider" enabled="true" automaticSaveEnabled="true" >

<providers>

<clear />

<add

name="AspNetSqlProfileProvider"

connectionStringName="px\_aspnetdb"

applicationName="PX"

type="System.Web.Profile.SqlProfileProvider"/>

</providers>

<properties>

<add name="License" allowAnonymous="false" type="System.DateTime" />

<add name="LicenseNumber" allowAnonymous="false" type="System.Int32" defaultValue="" />

</properties>

</profile>

<authentication mode="Forms">

<forms name=".RapsLogin" loginUrl="~/Login.aspx">

</forms>

</authentication>

<roleManager enabled="true" defaultProvider="SqlRoleManager">

<providers>

<add name="SqlRoleManager"

type="System.Web.Security.SqlRoleProvider"

connectionStringName="px\_aspnetdb"

applicationName="PX" />

</providers>

</roleManager>

</system.web>

<location path="Resources">

<system.web>

<authorization>

<allow users="\*"/>

</authorization>

</system.web>

</location>

<location path="Admin">

<system.web>

<authorization>

<allow roles="admin"/>

<deny users="\*" />

</authorization>

</system.web>

</location>

In addition you should remove or comment the settings in web.config that was used for the default user authentication method (see section User authentication only for the administration tool above).

**Implement your own way of authenticating users**

You also have the possibility to implement your own way of authenticating users in PxWeb. To do this you need to do the following:

* Implement a asp.net membership provider
* Configure PxWeb to use your membership provider in the web.config file of PxWeb

# Links to metadata systems

A metadata system is a system holding the definitions of tables, variables and values.

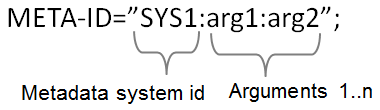
**Enable/disable metadata links**

PxWeb can display links to external metadata systems. The use of links to metadata systems are configured per database, see section Settings per database in Database.config for information about how to switch this functionality on/off.

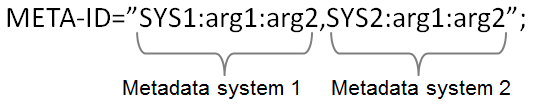
**META-ID**

In PxWeb you can add a META-ID on a table, variable or value. The purpose of the META-ID is to identify a definition in an external metadata system. For more information about the META-ID keyword, see the PX-file format documentation)

The META-ID identifies which metadata system the definition resides in and also holds the arguments to navigate to the specific definition within that metadata system:



The META-ID can also hold information about more than one metadata system if definitions exist in multiple metadata system:



**Metadata.config**

If links to metdata systems shall be enabled for a database the file metadata.config is assumed to exist in the root directory of that database. In metadata.config you define the URL signatures to your metadata system(s).

The URL signatures are divided into three sections in the metadata.config file for tables, variables and values. The sections shall be named:

* onTable
* onVariable
* onValue

The URL signatures shall be per:

* Metadata system

Each URL signature shall contain information about:

* Language
* Label (text) format
* URL format
* Link target (for example \_blank) not mandatory

The label- and the URL format shall contain placeholders {0} where the arguments in the META-ID will be inserted.

If more than one argument must be handled the placeholders are named {0}, {1} … {n}.

**Example**:

In the following example we have extracted only the variable part of the metdata.config file. In the example we have only one metadata system with the id “META1” and we have created URL signatures for both Swedish and English links:  
…

<onVariable>

<metaSystem id="META1">

<link px-lang="sv" labelStringFormat="om {0}" urlStringFormat="http://www.scb.se/variable/{0}" target="\_self"/>

<link px-lang="en" labelStringFormat="About {0}" urlStringFormat="http://www.scb.se/en/variable/{0} /"/>

</metaSystem>

</onVariable>

…

If we assume that we have the variable “my\_variable” with the following META-ID in the PX-file:  
  
META-ID(“my\_variable”)=”META1:region”;

This will in English produce a link in PxWeb to an external metadata system with:

Text = About region

URL = http://www.scb.se/en/variable/region

Below is a complete example of how the metadata.config file may look like for a database. In the example we have URL signatures on table-, variable and value level for multiple metadata systems in both Swedish and Norwegian language. On some of the URL signatures the link target attribute have been defined:

**Example of complete metadata.config file:**

<?xml version="1.0"?>

<metaId>

<onTable>

<metaSystem id="META1">

<link px-lang="sv" labelStringFormat="Dokumentation av statistiken" urlStringFormat="http://www.scb.se/table/{0}" target="\_self"/>

<link px-lang="en" labelStringFormat="Documentation of the statistics" urlStringFormat="http://www.scb.se/table/en/{0}"/>

</metaSystem>

<metaSystem id="META2">

<link px-lang="sv" labelStringFormat="Dokumentation av statistiken 2" urlStringFormat="http://www.scb.se/table2/{0}"/>

<link px-lang="en" labelStringFormat="Documentation of the statistics 2" urlStringFormat="http://www.scb.se/table2/en/{0}"/>

</metaSystem>

</onTable>

<onVariable>

<metaSystem id="META1">

<link px-lang="sv" labelStringFormat="Dokumentation av {0} i Meta1" urlStringFormat="http://www.scb.se/stabas/{0}"/>

<link px-lang="en" labelStringFormat="Documentation of {0} in Meta1" urlStringFormat="http://www.scb.se/stabas/en/{0}" target="\_self"/>

</metaSystem>

<metaSystem id="META2">

<link px-lang="sv" labelStringFormat="Dokumentation av {0} i Meta2" urlStringFormat="http://www.scb.se/vardok/variable/{0}"/>

<link px-lang="en" labelStringFormat="Documentation of {0} in Meta2" urlStringFormat="http://www.scb.se/vardok/{0}/en/variable/"/>

</metaSystem>

</onVariable>

<onValue>

<metaSystem id="META1">

<link px-lang="sv" labelStringFormat="Dokumentation av {0} i Meta1" urlStringFormat="http://www.scb.se/vardok/value/{0}"/>

<link px-lang="en" labelStringFormat="Documentation of {0} in Meta1" urlStringFormat="http://www.scb.se/vardok/en/value/{0}"/>

</metaSystem>

<metaSystem id="META2">

<link px-lang="sv" labelStringFormat="Dokumentation av {0} i Meta2" urlStringFormat="http://www.scb.se/metaklode/{0}"/>

<link px-lang="en" labelStringFormat="Documentation of {0} in Meta2" urlStringFormat="http://www.scb.se/en/metaklode/{0}"/>

</metaSystem>

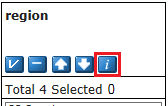
</onValue>

</metaId>

**Display of links to metadata systems in PxWeb**

PxWeb can display links to external metadata systems for tables, variables and values if they have a META-ID and also metadata connections have been configured for a database.

The links will be displayed on the selection page of PxWeb under the “About table” tab. Also a button will be displayed for all variables that have META-ID information (on variable or value level):



Clicking this button will display the metadata links on the “About table” tab.

# Settings per database in Database.config

Database.config is a configuration file that is located within the root folder of a database. This file contains database specific settings for the database. Today there is no support for setting these database specific settings from within the Administration tool, you have to edit this file manually. In the future however support for setting these settings will be added to the Administration tool.

**Notice:** The file must start with <?xml version="1.0" encoding="utf-8"?>. Make sure you have no whitespaces before this line of text.

At the moment the database.config file contains information about the following:

* Homepage per database and language
* Search index
* User authentication
* Connections to metadata systems

Home page per database and language

Clicking “Home” in the breadcrumb brings you back to the databases page in PxWeb by default. When integrating PxWeb with your own systems you may however want the user to be redirected to a page outside PxWeb when clicking “Home”.

This is possible to configure in PxWeb.

The “Home” link in the breadcrumb is changed in the following way:

1. Add a new text file called database.config to the folder of your database (the same folder where the Menu.xml file of the database is located)
2. Edit the database.config file to look something like this:  
     
   <?xml version="1.0" encoding="utf-8"?>

<settings>

<homePages>

<homePage>

<language>en</language>

<url>http://www.scb.se/default\_\_\_\_2154.aspx</url>

<isExternal>True</isExternal>

</homePage>

<homePage>

<language>sv</language>

<url>http://www.scb.se</url>

<isExternal>True</isExternal>

</homePage>

</homePages>

</settings>

The homePages tag contains the home pages (one for each language if wanted).

For each language you create a homePage tag. The homePage tag shall contain the following elements:

1. language  
   Defines which language the homepage is associated with
2. url  
   The homepage URL
3. isExternal  
   Shall be set to “True” if the page is located outside PxWeb, else “False”.

Search index

The searchIndex section contains information about the database search index:

<searchIndex>  
 <status>WaitingCreate</status>  
 <indexUpdated></indexUpdated>  
 <updateMethod></updateMethod>  
</searchIndex>  
  
status  
Status of the database search index  
  
Status can have the following values:  
  
NotIndexed  
Search index creation has NOT been requested for the database  
  
WaitingCreate  
Search index creation has been requested for the database but the indexing has not yet been started by the background worker

WaitingUpdate  
Search index partial update has been requested for the database but the indexing has not yet been started by the background worker (see updateMethod below)  
  
Indexing  
The search index is being created right now  
  
Indexed  
The search index has been created

indexUpdated  
Date when the search index was created or last updated.

updateMethod  
It is possible to make partial updates of the search index. This is however not implemented as a general function in PxWeb. To use this functionality you need to make your own implementation of this and implement the PCAxis.Search.ISearchIndex interface.

For more information how to extend PxWeb with your own implementations, see the “*Developers instructions for extending PxWeb.docx*” document.

User authentication on table level

PxWeb has support for user authentication on table level, meaning that only authorized users may look at protected tables. It is possible to configure table protection per database in the protection section of the database.config file:

<protection>

<isProtected>True</isProtected>

<authorizationMethod>PXWeb.Ssd.Security.SsdProductionAutorization, PXWeb.Ssd</authorizationMethod>

</protection>

isProtected

Defines if the database is protected or public.

Possible values:

True

The database is protected and user authentication will be performed for each requested table

False

All tables in the database are public. No user authentication will be performed.

authorizationMethod

In this version of PxWeb no general function for user authentication is implemented. To make use of this functionality you need to make your own implementation. What you need to do is create a class that implements the PXWeb.Security.IAuthorization interface. The name of this class and its DLL shall be defined in the authorizationMethod element of the protection section.

**Notice:** Protecting a database in this way will deny access to a restricted table if the user tries to access the table from the PX-Web user interface or through a saved query. The PxWebApi however does not make use of this setting. So if you want to use user authentication on table level you should switch of the API functionality for that database.

For more information how to extend PxWeb with your own implementations, see the “*Developers instructions for extending PxWeb.docx*” document.

Metadata systems

A metadata system is a system where you keep the definitions of your tables, variables and values. PxWeb can display links to external metadata systems if desired. The use of links to metadata systems is configured in the metadata section of the database.config file:

<metadata>

<useMetadata>True</useMetadata>

<metaSystemConfigFile></metaSystemConfigFile>

<metaLinkMethod></metaLinkMethod>

</metadata>

useMetadata

If links to metadata systems shall be displayed for the database or not.

Possible values:

True

Links to metadata systems will be displayed in PxWeb.

False

Links to metadata systems will not be displayed in PxWeb

metaSystemConfigFile

If useMetadata is set to True the connections to the external metadata systems must be configured. If no value is entered in metaSystemConfigFile PxWeb will assume that there is a file called metadata.config in the root folder of the database holding this configuration. If however the configuration file is located in some other folder or has another name the path to that configuration file should be entered as the value of metaSystemConfigFile. See section Links to metadata systems for more information of how to configure connections to metadata systems.

metaLinkMethod

The way PxWeb generates links to external metadata systems is by combining the META-ID of a table, variable or value with the information in the metadata.config file. If this way of doing it works fine in your system you need not enter any value for the metaLinkMethod element.

If however this is not enough for your system you may write your own code of how to generate metadata links. What you need to do is create a class that implements the PCAxis.Metadata.IMetaIdProvider interface. The name of this class and its DLL shall then be defined in the metaLinkMethod element of the metadata section.

For more information how to extend PxWeb with your own implementations, see the “*Developers instructions for extending PxWeb.docx*” document.

# Cache customization

In PxWeb there are two data caches, the API cache and the saved query cache. The purpose of these caches is to improve performance. When a user request data the data is retrieved from the database and then returned to the user. The returned data is also stored in the PxWeb cache. When another user requests the same piece of data it is taken from the cache instead of read from the database. This is a much faster way of getting the data.

**Notice:** This section is only relevant if you have special needs for how cached data shall be handled in PxWeb. If you don´t have such needs you can skip this section.

**Example:** If you publish data to your PxWeb site at a certain time every day you may want to customize how the data cache is cleared and enabled again in conjunction with the publish of data.

If you want to customize how the caches in PxWeb are handled you cannot configure this in the administration interface but you need to make some coding of your own. You need to create a cache controller that implements the PX.Web.Interfaces.Cache.IPxCacheController interface. This interface has only one method called Initialize which takes a list of IPxCache objects. The interfaces looks like this:

namespace PX.Web.Interfaces.Cache

{

public interface IPxCacheController

{

void Initialize(List<IPxCache> lstCache);

}

}

namespace PX.Web.Interfaces.Cache

{

public interface IPxCache

{

bool IsEnabled();

void Clear();

void Disable();

void Enable();

bool DefaultEnabled { get; }

}

}

Once you have implemented your cache controller you need to configure PxWeb to use it. You do this by adding the pxCacheController appSetting to the web.config file.

**Example:** It may look like this in web.config:

<add key="pxCacheController" value="MyAssembly.Code.MyController, MyAssembly"/>

where…

*MyAssembly* is the name of your assembly (dll)

*MyAssembly.Code.MyController* is the class implementing the IPxCacheController interface

For the example above the C# code could look like this:

namespace MyAssembly.Code

{

public class MyController

{

public void Initialize(List<IPxCache> lstCache)

{

//Do your stuff…

}

}

}

The name of the dll holding this code would in the example be MyAssembly.dll

When the Initialize method is called the PxWeb API-cache and the saved query cache will be passed as IPxCache objects in the parameter list.

# Input and parameter validation

All input and parameter values are validated against a character blacklist in PxWeb:

**Character blacklist**

Input parameters to PxWeb are verified so they do not contain hazardous code. All input parameters are verified against a character blacklist. This blacklist contains characters and sentences that will not be allowed in:

* Parameters in the URL
* Input fields

The blacklist resides in the web.config file in the root directory of PxWeb:

<add key="characterBlackList" value="--|;|/\*|@|char |alter |begin |cast |create |cursor |declare |delete |drop |end |exec |fetch |insert |kill |open |select |sys |table |update"/>

It is possible to add and remove values from this list. The values are separated by the pipe character |.

# Ping functionality

A ping page has been added to PxWeb that can be used for monitoring purposes. The page can be called to verify that the web site is responding. You reach the ping page by adding /ping in the URL of your PxWeb site:

<http://www.yourpxweb.com/ping>

The ping page displays the current version of PxWeb in XML-format:

