USER MANUAL



Version 1.7.1



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This document makes use of the user manuals of the following software products:

- Deployment framework (Wiki Administration Tool)
- Enhanced retrieval extension
- DataWiki bundle
- DataWiki sandbox
- SMWHalo
- WYSIWYG extension

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1 Getting started with DataWiki

1.1 Introduction to DataWiki 1.7.1

DataWiki is a Semantic Enterprise wiki with a wide range of functions. If you (or your administrator) have just installed the new DataWiki 1.7.1 version, we recommend that you read this article for an overview of DataWiki.

DataWiki is a Semantic Wiki

To start with, DataWiki is a wiki - it combines a wiki's social authoring approach with proven semantic technology.

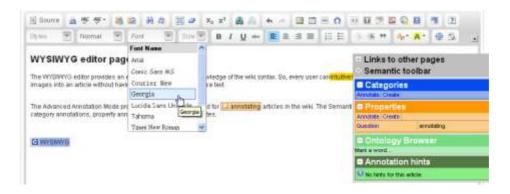
DataWiki semantic capabilities allow you to tag data as properties, process data and query this data in the wiki. Data is not lost content; it can be enriched with meaning. This enables you to make precise queries about the information you need and also lets you generate some content in the wiki automatically. For example, you no longer need to create lists manually -- DataWiki has the ability to compile these dynamically.

DataWiki also provides intuitive ways to aggregate information in suitable views and output formats. Users can, for example, compile their own task lists dynamically or present events automatically in the form of an up-to-date time-line.

In general, the semantic features enable better organization, better browsing and better retrieval of wiki content, compared to traditional, non-semantic wikis.

Editing Articles

The WYSIWYG editor is a tool which lets you easily edit articles resulting to professional-looking, eye-catching articles even if you don't know wiki markup syntax. Any user can format text, create tables or embed images into an article without having master the wiki source text - which helps people in your organization get started quickly and save time over the long run.



Querying

The Query interface provides a graphical user interface which supports you in building queries against the semantic data in an intuitive manner. DataWiki



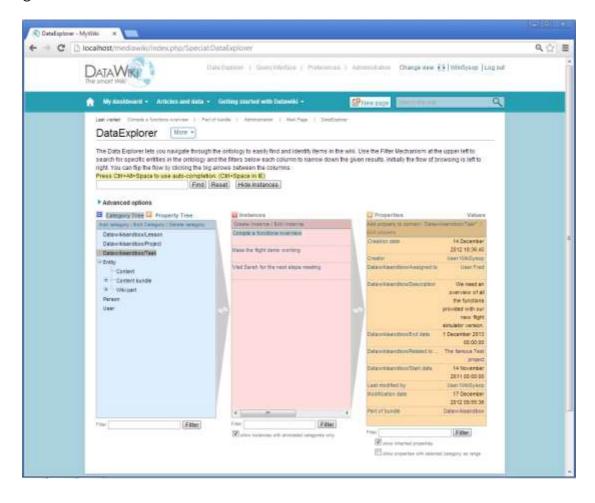
also supports Faceted Browsing, which helps users to browse systematically through the wiki's semantic data.



Curating (Organizing, managing) Data

The DataExplorer provides a fast and precise overview of the wiki's ontology, which consists of articles (instances), categories and properties and describes the semantic knowledge model. The DataExplorer lets users navigate through the category and property hierarchy, to inspect instances and their characteristics and to directly edit the semantic knowledge model.

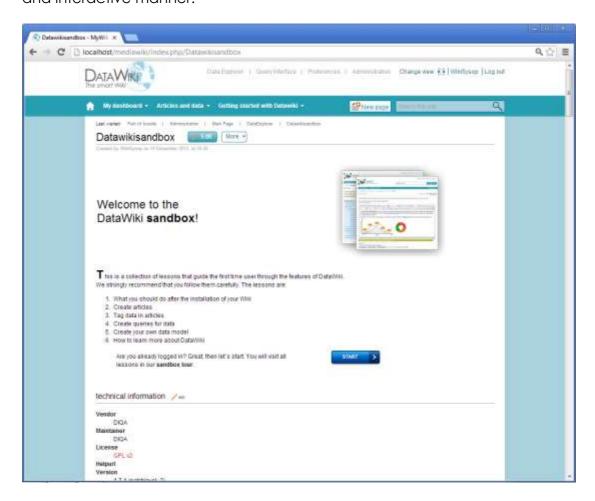
With the DataExplorer, you can get an overview of all the wiki's data at a glance.





Easy start with the "DataWiki sandbox"

We have included the "DataWiki sandbox", which guides users in an interactive "playground" through the features of DataWiki. In the sandbox you can try out whatever you want and you need not to worry about any undesirable effects or mistakes. You will learn how to create and edit articles with the WYSIWYG editor, how to annotate your data, and how to query for it. Use the sandbox as a testing field to explore DataWiki in a very motivating and interactive manner.

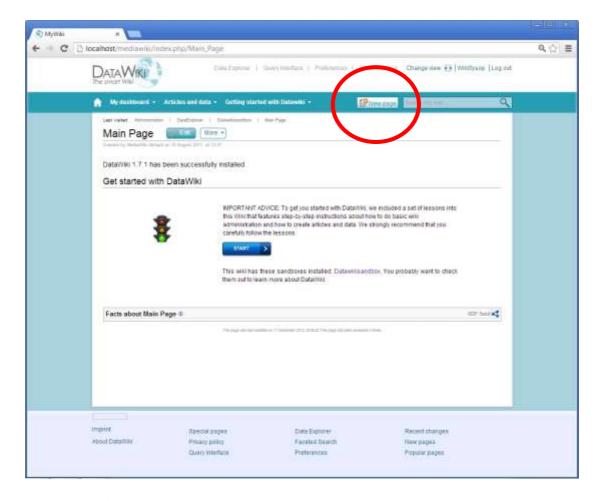


1.2 Overview of the User Interface

If you are new to DataWiki, we recommend that you read this section so as to get to know all the user interface elements.

New Page

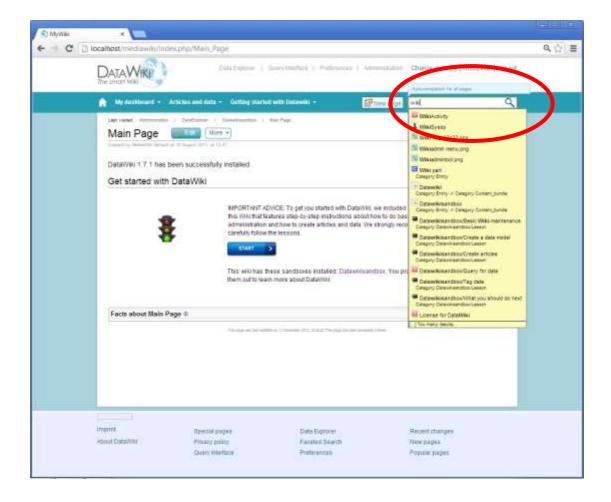




Hitting this link lets you create a new article instantly - you just need to enter the name of the article you want to create and proceed to choose the edit mode which can be:

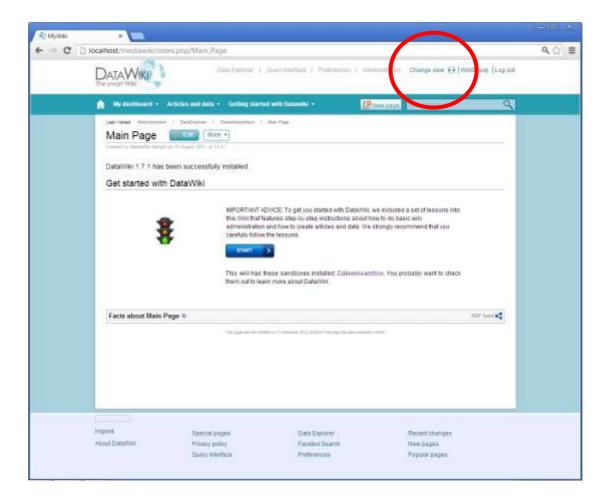
- Empty Article in WYSIWYG editor create an empty article in WYSIWYG editor or
- Empty Article in WikiText editor create an empty article in WikiText editor

Search



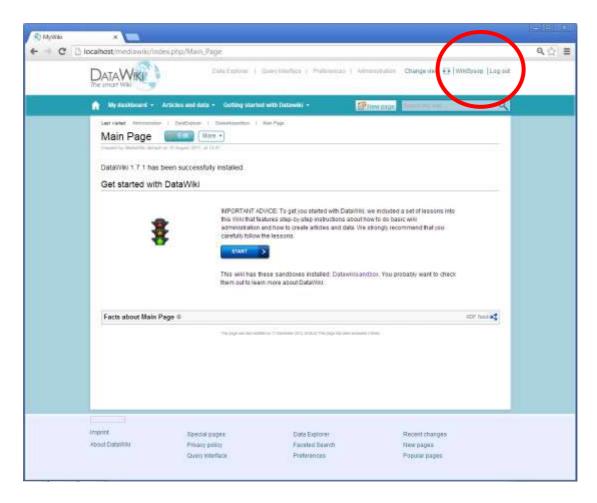
Use this pane to search content in the wiki or jump directly to a page - enter a search term directly in the search box on the top of the page. To make finding suitable terms easier, autocompletion is supported - when you enter the first few letters of the page you're looking and hit CTRL+ ALT+ SPACE, pages will be suggested to you, i.e. matching titles of existing pages in the wiki, which you can select using the up/down-keys and enter or by clicking on them.

Change view



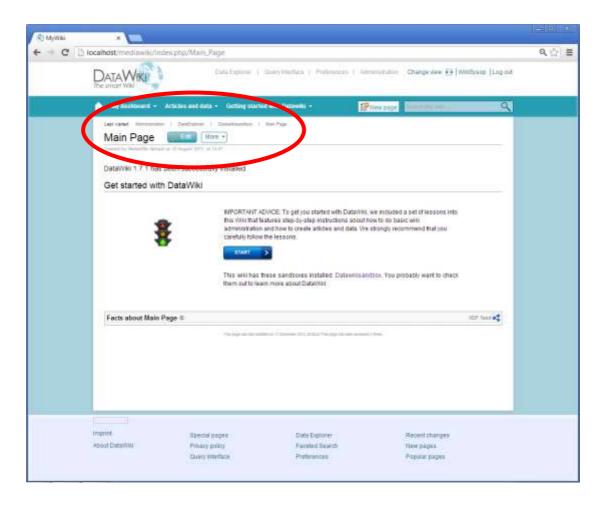
The UI is set to a fixed width by default. Use this change view button to switch to and from the fixed width to whole page width - this lets you read articles without getting strained by long lines. Your choice is stored in a cookie, so you only have to set it once, if you prefer an expanded view.

Login / User page



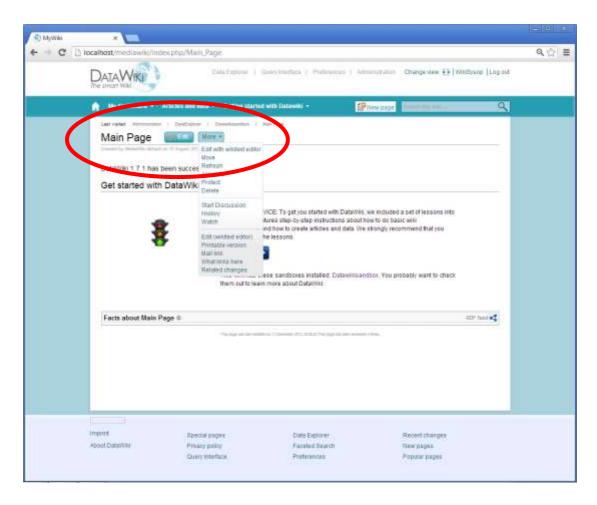
Hit this link to either login, logout or register an account. When not logged-on, you will be redirected to the Special:UserLogin. When logged-on, you will get a link to your personal user page.

Breadcrumbs / Page title



The breadcrumbs line provides a history of the wiki pages last visited by you. It displays a total of five recent pages with the page to the left as the oldest and the on the right as the most recent by default - this lets you work with pages easily. The current page cannot be clicked and has a different color. It also replaces the normal top headline, which usually is equal to the page title.

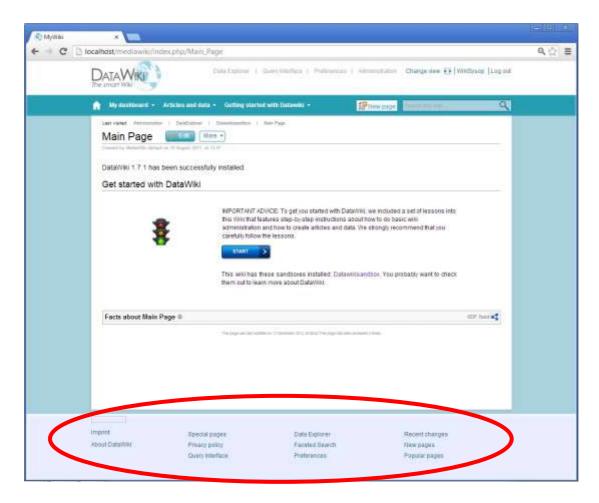
Buttons for page options



The left section has tabs which let you access the page and discussion page. The right section has tabs which let you access the refresh, history and edit features.

• The "More" tab contains and shows all other MediaWiki tabs such as "Annotate", "Delete", "Move", "Protect" and "Watch" - note that these options are available in line with your user rights. The wikisysop may define the lower part of this tab to provide direct links e.g. to the upload page.

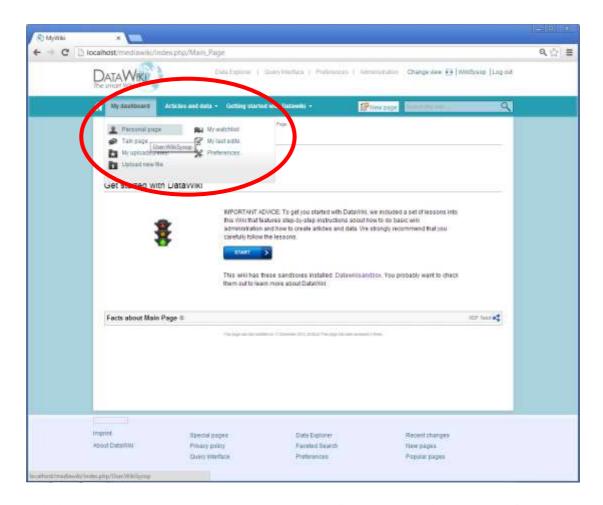
Footer



The footer on the bottom section of a page may be customized by the wikisysop to show links to pages such as imprint, contact and privacy policies amongst others.

The "My dashboard" menu

DataWiki comes with a predefined menu. This menu suits the ontology shipped with DataWiki and gives access to the most important functions to e.g. easily view project information or add new data. The sections below will give you an overview on the structure and how you can use it to manage your own projects.



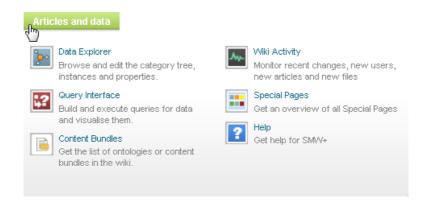
This is your dashboard where you can find and edit your preferences, contributions and watchlists. This table explains the menu items of the My Dashboard menu:

My articles and files	
Personal page	Access your personal userpage, where you can
	view and edit data about you
Talk page	Access your talk page, where you can view and
	answer discussions concerning you
Preferences	Access and change the preferences of your
	MediaWiki user
My uploaded files	This page lists all files uploaded by you
Upload new file	Use this link to upload a new file
My last edits	Shows a list of all your last edits
Things I'm watching	
My watchlist	See relevant changes, view and edit watchlist on
	this page

Articles and data

The articles and data stored in the wiki can be accessed and managed here. You can browse and retrieve the information of the wiki. Also you find links to create new forms and templates or upload files. Statistics and recent changes give an impression of what is going on in the wiki.



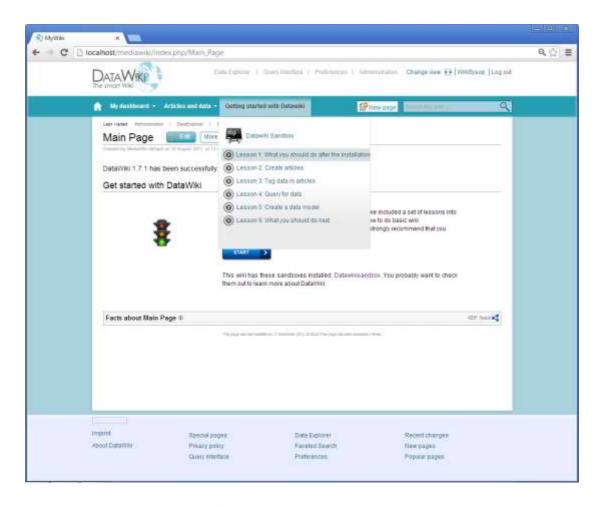


This table gives details about the functions of the Articles and data menu items:

DataExplorer	Lets you navigate through the ontology to easily find and identify items in the wiki. Use the Filter Mechanism to search for specific entities in the ontology and filter each column to narrow down the given results	
Query interface	This page provides a graphical user interface that supports you in building semantic queries in an intuitive manner	
Content Bundles	Lists all installed content bundles and Wiki Apps	
Wiki Activity	View information on recent changes, new users, new articles and new files	
Special Pages	Takes you to the special pages list where you can perform several administrative tasks	
Help	Gives you information on where to find documentation	

[&]quot;Get started with DataWiki"-menu





This menu is a collection of lessons that guide the first time user through the features of DataWiki. We strongly recommend that you follow them carefully. The lessons are:

DataWiki Sandbox	A collection of lessons that guide the first time user through the features of DataWiki
Lesson 1: What you should do after the installation of your Wiki	Introduction to the Basic Wiki- maintenance tasks
Lesson 2: Create articles	A guide on how to create and format articles
Lesson 3: Tag data in articles	A guide on how to use Data toolbar to work with the Wiki
Lesson 4:Create queries for data	Details on how to use the Query Interface
Lesson 5: Create your own data model	Details on how to organize data with the DataExplorer
Lesson 6: How to learn more about DataWiki	Further instructions on how to extend DataWiki and to get out the most of it

1.3 Logging in

1.3.1 Advantages of a User Account

Logging in is neither a prerequisite for viewing pages nor for editing.

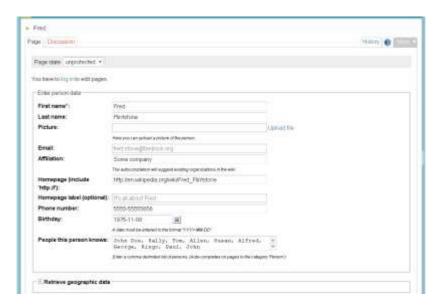




This is dependent of the wiki's configuration. If you have any doubts, please contact your wiki' administrator and seek clarification. It does however provide additional features some of which we mention below.

Advantages of a User Account:

- Other users can identify you by your user name as you make changes to pages.
- You will have your own userpage where you can write a bit about yourself. This page is easy to create since there is a preconfigured user form which lets you create and edit this page with ease:



The picture below displays an example user page:



- You will also have your user talkpage which you may use to communicate with other users.
- You may mark an edit as minor thereby not inconveniencing other users
- You will be able to keep track of changes made to modules you are interested in using a watchlist.



- If you choose to give an email address, other users may **contact** you by email-This feature is anonymous in that your email address is not shared with other users.
- You may rename pages.
- You may set your own preferences.

Note:

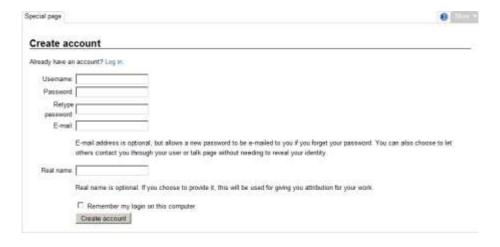
If you are not logged in, the edits you make are recorded under your IP address, which might change depending on your location. This means you can't keep and maintain your identity.

1.3.2 How to Create an Account in DataWiki

Important Note:

In order to use your account functionality, your browser needs to accept cookies.

- 1. Click **Log in / create account** at the page's top right pane. This will direct you to the specialpage Special:UserLogin.
- 2. Click Create an account.
- 3. Enter your username and password. Your real name and your email address are optional.
- 4. Click Create account to create your account.



Note:

The system will reject a username that is already in use. A user account name is unique and it can only be created once.

1.3.3 How to Log In

You can log in once you have created your account.

- 1. Click **Log in / create account** at the page's top right pane.
- 2. Enter your username and your password.



3. Click Log in.

Below the log in form, there is a **Remember me** box. This is how it works:

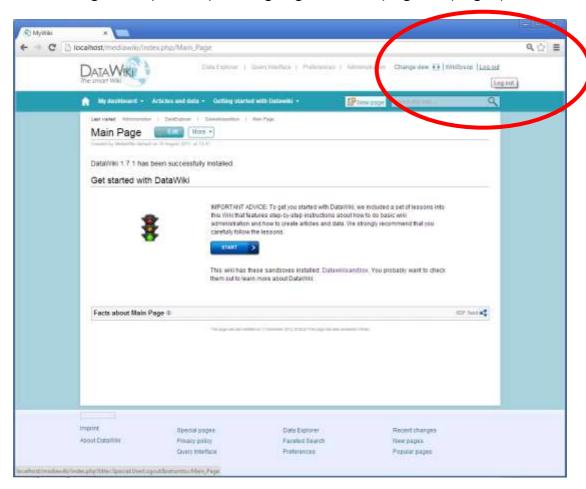
If you check it, your log in credentials will be stored such that you will not have to give these details when you access MediaWiki wiki from the same computer again. This feature will only work if your password was not generated by the Mediawiki software.

Important Note:

Please remember to find and delete your user ID cookies after your editing session if you were not using a personal computer. i.e. library, work or school computers.

1.3.4 How to Log Out

You can log out any time by clicking Log out at the page's top right pane.



1.3.5 User Pages

A user page is a web-based display of information relating to a certain wiki user. This is someone who is registered on the wiki and is in most cases also a contributor and the author of this page. Once registered, one may create his own user page which is linked on the page's top right pane. This page allows you to put information about yourself e.g your location, your qualifications,



main area of interest together with a description of some of the topics you have contributed in, and your current work area. The user page may also be used as a scratchpad. This is an area where you may freely develop ideas without cluttering the main namespace. If subpages are enabled, you may find them useful for creating sub pages under you user page. More information on subpages can be found in the official MediaWiki guide: http://www.mediawiki.org/wiki/Help;Subpages

1.3.6 Solving Lost Password Issues

If you enter a wrong password in the log in page, you will be directed to the log in error page. There are two ways to recover your lost username or password:

Scenario 1: an email address is allocated to your username

If you entered an email address when signing up for the account, or in your preferences page, you can make a request for a temporary password on the login screen by clicking on E-mail new password button. A new password will be sent your specified address. You can use it retrieve your account.



Scenario 2: an email address IS NOT allocated to your username

If you did not enter an email address, or if the address is out of date, you will unfortunately have to create a new account.

1.3.7 Known Login Issues and Troubleshooting

Sometimes logging in might appear successful yet in no time, you appear as logged off. This is most likely a cookie issue. If you are sure that you have enabled cookies in your browser, you should go on to check whether http://YourWiki.url is unknowingly added to the list of sites whose cookies are not accepted. You should also ensure that your computer's date and time is set correctly since this might make cookies expire prematurely.





Note:

Some firewall and ad-blocking software may interfere with the cookie that DataWiki uses to keep a person logged in.

2 Creating and editing pages

In this section you will find information on how to create and edit pages, adding templates and queries with DataWiki

2.1 Creating a new page

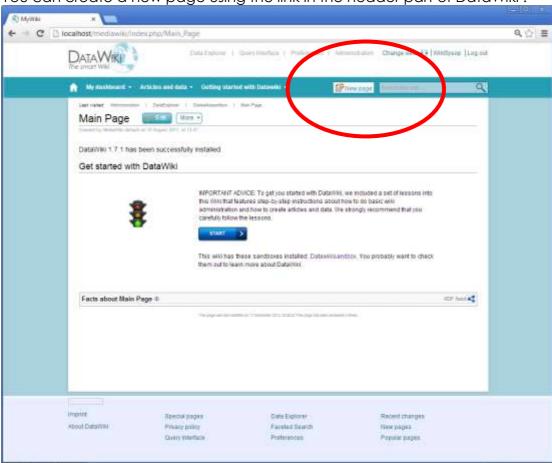
Creating a new page may be done in several ways. The method that is chosen depends on the action that the user takes. If a user for example searches for nonexistent content, the wiki asks the user whether he wishes to create a page and if it finds similar content it asks the user whether the presented result is relevant. In other situations, a user may wish to create an article voluntarily.

2.1.1 Prerequisites

 You need to be logged in with the corresponding access and edit rights. Please contact your administrator if you notice that these rights have not been granted to you.

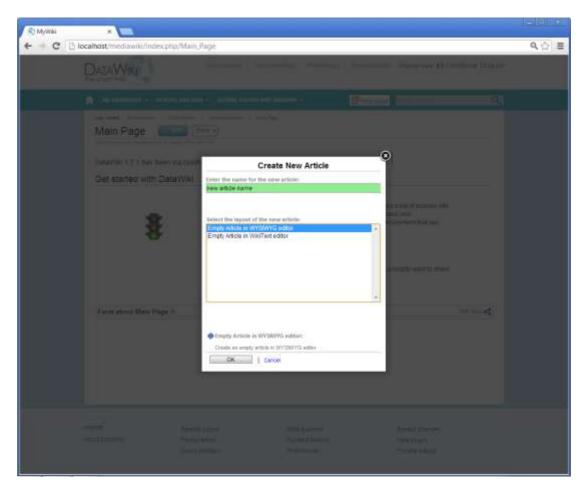
2.1.2 New Page using the Create New Page Button

You can create a new page using the link in the header part of DataWiki:



The dialogbox presents you with the various options for creating a page. It is pre-configured to assists you create a page depending on his proficiency levels. It is intuitive and easy to you use.

- Using the WYSIWYG Editor mode this lets you edit the page using the WYSIWYG editor.
- Using the Wiki Text Editor mode edit and save the page with the wiki text editor. This mode is reserved for proficient users who are conversant with Wiki text syntax.
- Using one of the previously **predefined forms or categories** this lets you select a form or category and create a page using it.



 You also need to enter a name for the new article you would like to create.



• If an entered name gets a red background The page name already exists. Enter a different article name.



• If the dialogue does not present you with any forms, it means that no forms have been predefined. The creation of Semantic Forms requires advanced knowledge and is reserved for the advanced users.

2.1.3 New Page using Redlinks

You can add a link which points to a page that you intend to create later. This type of link is called a red link and it looks like this:



To create a page with a red link:

- Click this red link which in-turn opens the so called Create New Page dialog.
- Follow the details mentioned in Create New Page dialogue above for further steps towards the creation of a new page.
- Once the page is been created, the link will change from a red to a blue link (or purple for pages you've visited) indicating that the article now exists.

2.1.4 New Page using URL

You may create a page by entering it as a URL in your browsers address bar. To do this:

- 1. Enter the URL as: http://MyWiki.com/index.php/ARTICLE
- 2. Replace "ARTICLE" with the name of the page you wish to create, e.g.: http://MyWiki.com/index.php/Annual General Meeting 2015
- 3. Go to this address you will be redirected to a blank page which indicates that no article with that name exists yet if this is the case.
- 4. Click **on edit this page** you will be redirected to the page's edit page where you can edit the page.
- 5. Add your content in the editor and press "Show Preview" button to see a preview of your newly created page
- 6. Hit the **Save Page** button if you are content with the preview to save the page- this saves the page and redirects you to a full view of the page.

2.1.5 New Page using Search Bar

The Wiki offers you the possibility of creating a page after you search the Wiki for it. This is recommended if you are not sure whether there is such an article in the wiki. Using the search feature lets you know if there are other similar articles, such that you are left with the option of deciding whether to add



content to the similar articles or create a new article. This prevents creation of duplicate articles - this is not desired. Follow these steps to create a new page using the search feature:



- 1. Enter the desired page name on the "Search" text field, and click on Search. If your wiki does not have an article under the entered name, the page will return results similar to the ones below. You will otherwise be presented with a list of similar pages.
- 2. Click the red link to create the page this directs you to the so called Create New Page dialogue.



3. Follow the instructions given in Create New Page button section above for further steps towards the successful creation of a new page.

2.2 Editing pages in the WYSIWYG editor

2.2.1 Overview of the user interface

The WYSIWYG editor user interface is similar to word processing editors such as Microsoft Word or Open Office, and contains the following elements:

- The toolbar
- The editing area
- The context menu and
- The elements path

2.2.1.1 The Toolbar

Each icon of the toolbar lets you access a different function. If you hover your mouse over a icon, it is highlighted and some information about the function of the highlighted icon is displayed.

If you click the left mouse button inside the editing area, the toolbar will highlight the icons that the selected object has assumed. For example, if you do this on a word or section that is in bold and underlined, the respective bold and underline icons will be highlighted.

Notice that the "text alignment block" icon has been highlighted in the toolbar screenshot below.



Button	Description
□ ••□	Save and continue editing / Save and exit
Normal	Assign a pre-defined format, e.g. heading, to selected paragraph
Font	Change the font of selection
Size 🔻	Change the font size of selection
ВІЦ	Format text as bold , italic or <u>underlined</u>
	Justify selected text left, center, right or block
1 = = =	Format selected content as a numbered or bulleted list
A A	Add or edit/remove a hyperlink
A: A	Change text color, change background color
	Switch to full screen mode - this enlarges the WYSIWYG editor to fit to your web browsers viewable area. Click the same button to return to normal view.



WikiText	Switch to Wikitext mode
	Paste plain text / paste text from MS Word (with basic formatting)
## da	Search content / replace content
abe X ₂ X ²	Format text as strikethrough / subscript / superscript
99	Format text as block quote
	Remove all formatting
6 A	Undo / redo last action
	Insert image
	Upload new image. You need to install the Rich Media Extension to enable this feature.
Ξ Ω	Insert table / horizontal line / special character
	Insert special tag or magic word / Insert template / Insert signature (User name + edit date)
§ ?	Insert a query using the Query Interface
	Insert a Web Service call. You need to install the Data Import Extension to enable this feature.
	Open / close Data Toolbar
	Add a property / category annotation
?	About CKEditor

You can hide the toolbar by clicking on the collapse toolbar icon or by using the shortcut Alt+ - key combination. To get the full view on the toolbar back, press the same button or use the same shortcut.

2.2.1.2 The Editing Area

The editing area is the space where you can freely type in your text and format your document as you wish. The editing area automatically grows with the amount of text that is contained in your article. However, the toolbar is designed such that it will always float at the top of your screen, so you can always access it without additional scrolling.

2.2.1.3 The Context Menu

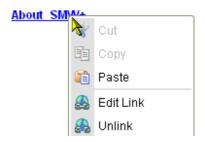
The context menu appears whenever you click the right mouse button inside the editing area.

The context menu will always offer the cut, copy and paste options. In addition to this, it will offer you other options in line with the chosen object or section. For example if you choose a section that is in a table, the context menu will give you the options that are related to formatting a table such as cell, row and column options. The same way, if you for example click on a



link, you will get the edit link and unlink options as seen in this screen-shot where a link has been selected.

Some of the functions may be disabled. For example, the cut and copy options will be disabled if there is no text highlighted.



2.2.1.4 The Elements Path

The elements path section is located at the lower left corner of the editor as seen on the screenshot. The elements path always shows the hierarchy of HTML elements for the element that is currently selected in the document. You have the option of selecting the entire content of each HTML element by clicking the element in the elements path.

Unordered list: first entry
 Unordered list: second entry
 Unordered list: third entry

body ul li strong

Example: A click on "li" would select the whole content of the actual list entry: "Unordered list: second entry"

2.2.2 Formatting text

Text formatting determines how your text is presented to the reader. There are some sections that you would wish to highlight to the users to give specific attention. Formatting an article makes the reader get the information you wish to give easily using optical means such as putting keywords in bold others in italics, some underlined or even highlighted in the desired color.

The WYSIWYG editor has a wide range of formatting options which we mention and describe in this section.

2.2.2.1 Formatting the Font Type, Font Size, Alignment, Indent and Color

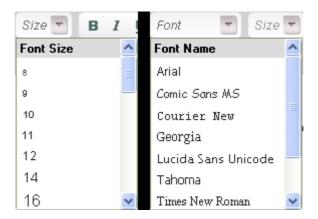
Text formatting determines how your text is presented to the reader and how your text will display in your document. The WYSIWYG editor lets you make your text look better, much more presentable and catchy to the eye easily and fast.

It has a wide range of valuable formatting functions such that you can select your desired font from a wide range of choices, choose the font size, highlight keywords or paragraphs or even activate sub- or superscript, just to name but a few.

2.2.2.1.1 Changing font and font size

You can change the font and the font size for every single character or word of an already written paragraph or you can change the font before you start typing your text.

- To change the font or the font size of an already existing text, select the word(s) or paragraph(s) you want to change and choose your desired font or font size from the respective drop-down list.
- To select the font or the font size before writing, place the cursor to the
 position you want to write and choose the font or the font size like
 explained above. The text that you type will have the desired
 formatting.



You can see a preview of the possible fonts or sizes in the two drop-down lists before selecting them so that you exactly see how they would look like in the article.

The WYSIWYG editor has the following fonts: Arial, Comic Sans MS, Courier New, Georgia, Lucida Sans Unicode, Tahoma, Times New Roman, Trebuchet MS and Verdana. The font size range is from 8 to 72. The default font is Arial.

2.2.2.1.2 Formatting Text Weight and Decoration

You may highlight some words or paragraphs of your text by using the bold, italic and underlined or strike through options. To do this, select the word(s) or paragraph(s) you want to highlight and:

- Click the bold button B to have your selection in **bold**,
- Click the italic button
 Ito have your selection in italic,
- Click the strike through button to strike a line through the selected text

2.2.2.1.3 Text Alignment

You can align each paragraph of your text in various ways. This is also known as justifying and the editor has the following justify options:

Click left justify button
 to align your text to the left



- Click center justify button = to align your text such that it occupies the central display area
- Click block justify button = to align and adjust your text length such that all the lines have the same length and consequently start and finish at the same level in the display area.

2.2.2.1.4 Using colors

Colors are generally desired, recognized and interpreted by the human eye differently. Green for example is interpreted as something that may be done, while red is often associated with danger. You can use these aspects to portray your ideas using color accordingly.

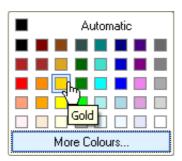
Adding color to your article not only highlights your ideas, but also makes your article more appealing to the reader. The editor lets you use colors either by changing the text color or by changing the background color.

- 1. Edit your article in the WYSIWYG Edit mode.
 - a. To modify the text color , click the text color button 41
 - b. To modify the click on the background color button A

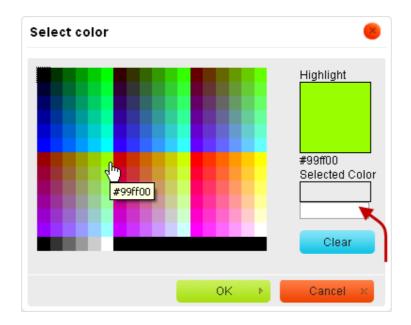


In both cases a color selection menu will open-up

2. Choose your desired color from the color selection menu which has 40 different colors. If you move over a color with the mouse, its name will be displayed.



3. If you do not find your desired color amongst the 40 colors above, click on the "More Colors..." pane which in-turn opens a dialog box similar to the one below with more diverse colors.



- 4. Choose your desired color from over 200 different color tones and even compare a color with the last selected color from the "highlight box". Every color has its RGB color code. If you know the color code of the color you wish to apply, enter it in the designated "Selected color" box for example as #99ff00 or rgb(255,153,0).
- 5. Select the desired color,
- 6. Press "OK" this will close the dialog box and apply your choice.
- 7. To exit the select color dialog box without making any choice, press the "Cancel" button or the "X" button This again closes the dialog box, this time without making any change.
- 8. To clear a chosen color, press the "Clear" button the highlight box and the selected color box will now not have any color.

2.2.2.1.5 Using Subscript and superscript

Subscript and superscript are usually used for formulating mathematical or even chemical formula and equations.

 Subscript puts an index below a letter or a number. The subscript has a smaller font than the normal text and it is aligned slightly below the previous character. To use subscript, click the subscript button ^{x2}.

Example

 $S = A_1 + A_2 + A_3$

• The superscript puts an index above a letter or a number. The superscript has a smaller font than the normal text and it is aligned slightly above the previous character. It is usually used in mathematical equations to write the "to the power of" function or even in chemical equations to add the oxidation number or charge. To use superscript, click the superscript button **2*.

Example

 $S = X^2 + Y^3 + C^4$

• To combine Subscript and superscript use the respective buttons accordingly as described above.

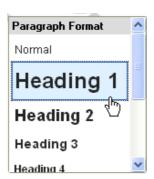
Example

$$2 \text{ Fe}^{2+} + \text{H}_2\text{O}_2 + 2 \text{ H}^+ \rightarrow 2 \text{ Fe}^{3+} + 2 \text{ H}_2\text{O}$$

2.2.2.2 Using Predefined Formats

This formatting menu lets you structure your articles by letting you format sections and subsections of your article in line to the context of the various sections. A typical application of this feature is this article. Notice that there are sections and subsections which have been formatted uniformly.

Formatting with the heading levels creates a table of contents which you might display if you so wish. To format the headings click on the Paragraph Format menu and select the desired heading level or format from the Paragraph Format dropdown menu similar to the one below:



In addition to the "Normal" format which is applied to the unformatted text, there are six headline formats "Heading 1" to "Heading 6" and two special formats: "Formatted" and "Normal (DIV)".

• Using the "Formatted" function results in text which is separated from the rest and it looks like a software code. This function is actually mostly used to quote parts of software code and similar text.

Example:

Some text in Formatted format - this is usually used for documenting software code and such.

 The "Normal (DIV)" function results in some text that also has a smaller space between lines. This may for example be of use if you want to format an address. Address: Name of Company, Charter House Building, Street number 55, Postal code 111111, State, Country.

Normal (DIV): sample text sample text sample text sample text

The different formatting names are displayed in a format that they represent, giving you a preview of what the text will look like. This helps you make your choice easily. In some cases you might not wish to use the style that is in a certain heading level - maybe you found it to be too big or too small. You may go around this in two ways:

- You may leave out some headings in hierarchy if you for example only wish to use "Heading 2", "Heading 4" and "Heading 5"," Heading 2" will automatically getsthe first position in the hierarchy. The undesired "Heading 1" one will be omitted.
- You may also commit the headings to paragraphs and then format them manually using different font size and format as described in the formatting the text font subsection. Be careful to keep your headings uniform.

2.2.2.3 Working with Links

2.2.2.3.1 Adding Internal Links

An internal link allows you to link to another section on the same web page or article. If you wish to add an external link - a link to another website -, go to the next section.

You can add internal links with the article name as the link name or with some alternative text as the link name. Let's say you want to link to an article that has the name "Berlin".

- You are adding a link with the articles name as the link name if you for example want the link to appear in the text as: Maria is going to <u>Berlin</u>
- You are adding a link with alternative text as the link name if you for example want the link to appear in the text as: Maria is going to the <u>capital city of Germany</u>.

To add an internal link to with the articles name as the link name

- 1. Place the mouse on the position where you want to add the link
- 2. Click on the link button this opens the link dialogue box.





- 3. Type in the name of the article you want to link as it is stored in the wiki in the "Define the wikipage for the link target:" entry box as you do this the content of the "Choose an existing wikipage for the link target" box will change and you should see the name of your desired article.
- 4. Select the page and click "OK" the chosen page will be linked and its name will be used as the link.

To add an internal link to with alternative text as the link name

- 1. Select the word(s) that will be the alternative text of your link.
- 2. Click on the link button a this opens the link dialogue box.
- 3. Type in the name of the article you want to link as it is stored in the wiki in the "Define the wikipage for the link target:" entry box as you do this the content of the "Choose an existing wikipage for the link target" box will change and you should see the name of your desired article.
- 4. Select the page and click "OK" the chosen page will be linked with the alternative text chosen in step 1.



You can still create a (red) link to a page that is nonexistent. To do this follow steps 1-3 and press "OK" after you enter the nonexistent article name

2.2.2.3.2 Adding External Links

An external link allows you to link to web pages that are outside your wiki. To create an external link:

- Select some word(s) if you want to have an alternative link text or place the cursor to the position where you want the external link to appear.
- 2. Click on the link button 🕮 this opens the Mediawiki dialogue box.
- 3. Type in the web address of the page you want to link starting with "http://" in the "Define the wikipage for the link target:" entry box this time no pages will be searched.



4. Click "OK" - page will be linked with the alternative text or with its web address depending on the choice made in step 1.

2.2.2.3.3 Editing and Deleting Links

To edit a or delete a link from your text:

- 1. Position the cursor inside an existing link
- 2. Click on the "Link" button the Mediawiki dialogue box appears again and you modify your link make your changes.
- 3. Press "OK" save your changes.

To delete a link:

- 1. Place the mouse cursor inside the link
- 2. Click on the "Unlink" button 📤 the link is removed.



You can also edit or delete a link using the context menu.

2.2.2.4 Working with lists

2.2.2.4.1 Creating numbered lists

Numbered lists come in handy if you let's say want to group items which need to appear in a particular consecutive order, for example when you are writing step-by-step instructions. To create a numbered list:

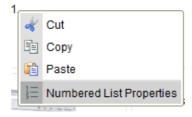
- 1. Position the mouse to the place where you want to add the numbered list or select consecutive lines that you want to form a list.
- 2. Click the "Insert/Remove Numbered List" button ¹ on the toolbar. The numbered list marker will appear at the beginning of the line and the text will be indented.
- 3. If you want to add further list items, press Enter on your keyboard. The cursor will move to the next line with a list marker placed at its beginning.
- 4. To end the numbered list press the now activated "Insert/Remove Numbered List" button ^{1/2} again and go back to normal text (notice that this time it was marked as active prior to this step).

Modifying the Numbered List Properties

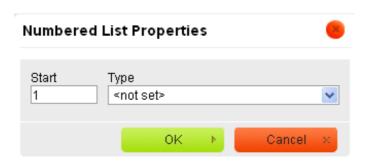
You can alter the properties of a numbered list with the context menu to fit to your needs. To do this:

- 1. Place the mouse inside a numbered list (the numbered list should now be activated)
- 2. Click the right mouse button this should open a context menu with "Numbered List Properties" as one of the options.





3. Click on "Numbered List Properties" this opens up the following dialog box



- 4. Define the value of the starting number (sometimes you may wish to start at other levels other than 1)
- 5. Select the "Type" this determines whether your list is displayed in Lower Roman, Upper Roman, Lower Alpha, Upper Alpha or Decimal types as seen below (notice that the Upper Roman list starts at level 4).

Decimal	Lower Roman	Upper Roman	Lower Alpha	Upper Alpha
1. List 2. List 3. List 4. List 5. List	i. List ii. List iii. List iv. List v. List	IV. List V. List VI. List VII. List VIII. List	a. List b. List c. List d. List e. List	A. List B. List C. List D. List E. List

6. Click "OK" to exit "Numbered List Properties" - your list will now be formatted as desired

2.2.2.4.2 Creating bulleted lists

Bulleted lists are useful when you want to group items which do not need to appear in a particular order, for example equal participants of a meeting. To create a bulleted list:

- 1. Position the mouse to the place where you want to add the bulleted list or select consecutive lines that you want to form a list.
- 2. Click the "Insert/Remove Bulleted List" button on the toolbar. The bullet list marker will appear at the beginning of the line and the text will be indented.
- 3. If you want to add further list items, press Enter on your keyboard. The cursor will move to the next line with a list marker placed at its beginning.

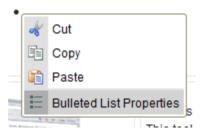


4. To end the bulleted list press the now activated "Insert/Remove Bulleted List" button again and go back to normal text (notice that this time it was marked as active prior to this step).

Modifying the Bulleted List Properties

You can alter the properties of a bulleted list with the context menu to fit to your needs. To do this:

- 1. Place the mouse inside a bulleted list (the bulleted list should button should now be activated)
- 2. Click the right mouse button this should open a context menu with "Bulleted List Properties" as one of the options.



3. Click on "Bulleted List Properties" this opens up the following dialog box



- 4. Select the "Type" this determines whether your list is displayed with Circle, Disk or Square bullet types
 - square list
 - square list
 - disc list
 - disc list
 - o circle list
 - circle list
- 5. Click "OK" to exit "Bulleted List Properties" your list will now be formatted as desired

2.2.2.5 Pasting formatted text

One may sometimes find it convenient to copy some pre-formatted text from a website or a document.



The WYSIWYG editor offers you the options of copying and pasting text while preserving the basic formatting or pasting the text without preserving its format.

2.2.2.5.1 Copying and Pasting from MS Word

To paste a text fragment with formatting:

- 1. Copy and paste the text into a Word document.
- 2. Copy section you wish to paste to your clipboard
- 3. Go back to the WYSIWYG editor
- 4. Place the cursor on the position where you want to paste the formatted text
- 5. Now click on the "Paste from Word" button in on the toolbar. At this level, two scenarios might occur:
 - a. **Scenario 1** Based on your browsers security settings, you may be allowed to access your clipboard and paste directly using the Ctrl + V key combination. In this case Paste the text.
 - b. **Scenario 2** Based on your browsers security settings, you may NOT be given access your clipboard. In this case a "Paste" dialog box will open up informing you about this.
- 6. Paste your text to the entry field using the Ctrl + V or Cmd + V key combination as prescribed.
- 7. Press "OK".

This function preserves formatting in the form of bold text, text on italics, indentation, paragraph alignment, lists or heading levels. You can also adopt formatted tables or a text with images. The WYSIWYG editor will insert placeholders for every image preserving their position and their captions in this case. If you want to insert the images, you first have to upload them.

2.2.2.5.2 Pasting a Table from MS Excel

You can also use the "Paste from Word" button 🕮 on the toolbar to paste a table from MS Excel. Therefore, just copy the cells you want to paste within your Excel file. Then repeat the steps from the previous section.

You may not adopt the formattings from your Excel file, but the WYSIWYG editor automatically creates a new table and every cell you have copied (also the blank ones) will be inserted on the right position. Afterwards you can edit the style of the table with the WYSIWYG editor.



Note:

You may keep the format (apart from colors) of the table, when you first copy the table to MS Word and afterwards copy the table again from MS Word to the WYSIWYG editor.

2.2.2.5.3 Pasting as Plain Text

If you wish to paste some pre-formatted text without preserving the formatting you can paste it as plain text. To achieve this:



- 1. Copy the formatted text to the clipboard
- 2. Click on the "Paste as plain text button". The text will be inserted to your article losing all its previous formatting.



Again, if direct access to clipboard is blocked, you will be asked to paste the text into the Paste dialog window using the CTRL+ V keyboard shortcut as mentioned above.

2.2.2.5.4 Pasting WikiText or HTML

To paste some HTML or wiki code:

- 1. Click on the "WikiText" button this switches the to the wiki code view mode.
- 2. Paste the code using the context menu "paste" option or the CTRL+ V key combination.
- 3. Click "Source" button again to get back to the WYSIWYG view

2.2.3 Adding tables

This article gives information on how to create and edit tables with the WYSIWYG editor. The various operations and functions related to the table, such as the addition of content and the editing of tables by modifying the table properties, rows, columns and cells are mentioned.

2.2.3.1 Creating a Table

A table is a perfect format to show some types of data, such as statistical information or any other fitting text in a clearly outlined and presentable manner. The WYSIWYG editor comes in handy in the creation of tables as it creates tables for you such that you do not need to learn the syntax involved.

An example of the MediaWiki table syntax which is undoubtedly somewhat complex, is shown below

Note:

You can spare yourself a lot of time since you don't need to type in this syntax manually - all what you need to do is use your mouse to click some interactive buttons. This is as easy and as convenient as it gets.

To create a table with the WYSIWYG editor:

- 1. Place the cursor on the position where you wish to insert the table.
- 2. Hit the table button on the toolbar. The Table Properties dialog appears.
- 3. Define the table properties as described in the table below.
- 4. Click on the OK button to create the table.

This closes the dialog box and appends the table to your edit area.

Table Properties

- **Rows**: Enter the number of rows obligatory value.
- **Columns**: Enter the number of columns obligatory value.
- Width: Enter the width of your table in pixels or percent (in proportion to the editing area of your article)
- Height: Enter the height of your table in pixels (optional). The "normal" height will be used instead.
- Headers: This drop-down list lets you define if and where headers should be shown:
 - o None,
 - First Row
 - o First Column or
 - o Both
- Border size: Enter the thickness of the table border in pixels. Default: 1px
- Alignment: Select how the content of the table will be aligned. Default <not set> will also align your table to the left.
- Cell spacing: Enter the space between individual cells as well as cells and table borders. Default: 1px
- Cell padding: Enter the space between the cell border and its content. Default: 1px
- Caption: Enter a title of the table that will be displayed on top of it (optional setting).

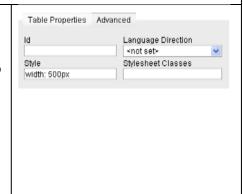




• **Summary**: Enter a summary of the table. The summary won't be displayed. It will only give meta information (optional setting).

Advanced Table Properties

- **Id**: Enter a unique ID for the table element
- Language Direction: Choose the direction of the text in the table: left to right (LTR) or right to left (RTL)
- Style: Enter one or more CSS style definitions. Each value must end with a semicolon
- Stylesheet Classes: Enter one or more classes, the table element should be assigned to. Separate class names with spaces



2.2.3.2 Filling a Table with Content

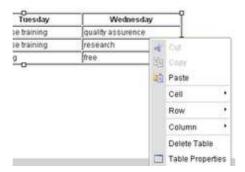
Once you create a table, proceed to fill the cells with content. To do this, position the cursor into the corresponding cell and start typing your text. Your text can be formatted with the toolbar as described above. Images may also be inserted to the cells as described above.

2.2.3.3 Editing Tables

The table can be freely edited or modified. You can edit the whole table, insert or delete rows or columns or edit every single cell. You can also mark multiple rows, columns or cells and edit them together at once.

2.2.3.3.1 Modifying the Table Properties

You can change a table's properties by clicking the right mouse button with the cursor located inside a table's edit area. Doing this opens the table's "Context menu"



- Select Delete Table to delete the whole table together with its content
- Select "Table Properties" to opens up the same dialogue box that was used to create the table.

Modify your existing table as described in section above.

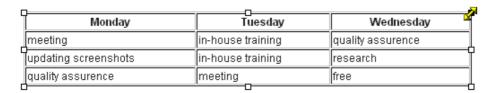




You can only change the table properties using the context menu. If you place your cursor into the table and hit the table button on the toolbar, a new table will be created inside the existing table

Changing the table size with the mouse: You can alternatively change the width and height of your table easily inside the editing area:

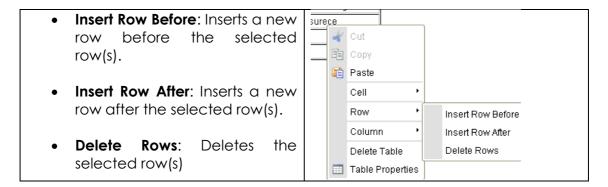
- 1. Click with the left mouse button inside the table. The square symbols appear to mark the borders of the table.
- 2. Click on a square symbol and hold the left mouse button and drag the cursor to change the size to the desired size. The info box shows you the new width and height values (in pixels) and their differences to the old values.
- 3. Once you attain the desired size, release the left mouse to apply your changes



2.2.3.3.2 Working with Rows

The table context menu offers lets you edit table rows. To modify/edit rows:

- 1. Place the cursor inside the table or select multiple rows and click the right mouse button to open the context menu.
- 2. Hover the cursor over the Row menu item to display the row options
- 3. Work with the row options as described below:

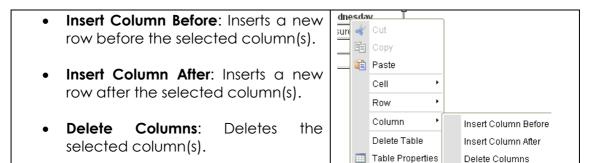


2.2.3.3.3 Working with Columns

The table context menu lets you edit the table columns. To modify/edit columns:



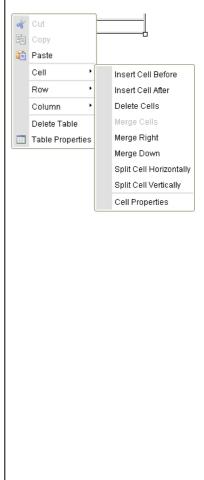
- 1. Place the cursor inside the table or select multiple columns and click the right mouse button to open the context menu.
- 2. Hover the cursor over the Column menu item, to display the column options
- 3. Work with the column options as described below



2.2.3.3.4 Working with Cells

The table context menu lets you edit single cells. To edit/modify cells:

- 1. Place the cursor inside the cell you want to edit or select multiple cells and click the right mouse button to open the context menu.
- 2. Hover the cursor over the Cell menu item, to open the cell options
- 3. Work with the cell options as described below
- **Insert Cell Before**: Inserts a new cell before and in the same row as the selected one.
- **Insert Cell After**: Inserts a new cell after and in the same row as the selected one.
- Delete Cells: Deletes selected cell(s). The adjacent cell(s) - in direction of the rowwill assume their position.
- Merge Cells: Merges multiple cells in one only if two or more cells are selected.
- Merge Right: Merges the cell where the cursor is placed with the cell that is adjacent to the right - only available when the cursor is placed on a cell that has an adjacent cell to the right.
- Merge Down: Merges the cell where the cursor is placed with the cell that is below it - only available when the cursor is placed on a cell that has an adjacent cell below it.
- Split Cell Horizontally: Splits the selected cell in two, creating a new cell to the right.
 The content stays in the original cell - only available when the cursor is placed on one cell
- Split Cell Vertically: Splits the selected cell in two, creating a new cell on its bottom.
 The content stays in the original cell





• **Cell Properties**: Opens the Cell Properties dialog.

2.2.3.4 Overview of table styles

The following section demonstrates the new table styles that are part of the OntoSkin3.

2.2.3.4.1 Browser Compatibility

The table styles are tested with Firefox 5.0, Firefox 3.0.19, IE 9.0.1, Opera 11.5, Chrome 12.0.742.122, Safari 5.0.5 (Mac), Safari 5.1 (Mac), Safari 5.1 (Win)

- Zebra look is not working in Firefox 3.0.19 and IE
- Gradients are not working in Firefox 3.0.19 and Safari 5.0.5 (Mac)
- Shadows are not working in Firefox 3.0.19 and IE
- Rounded corners are not working in IE

2.2.3.4.2 Prerequisites

- You are using 'OntoSkin3' as your default wiki skin
- Otherwise Copy the css definition to the MediaWiki:Common.css page.

2.2.3.4.3 Applying Another Table Style

There are 2 possibilities to apply one of the following fancy table styles:

Using WYSIWYG editor

- 1. Right-click on the table
- 2. Select Table Properties
- 3. Go to Advanced
- 4. Enter the class of your desired table into the field **Stylesheet Classes**, for example: table_zebra

Using wikitext editor

Add class="table_zebra" to the beginning of the table {|, for example:

```
{| class="table_zebra"
|Orange
|Apple
|-
|Bread
|Pie
|-
|Butter
|Ice cream
|}
```

2.2.3.4.4 Examples of Table Styles

table_zebra



This is the table caption

Lorem	Ipsum	Dolor sit	Amet	elementum	Vivamus
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.porttitor.eu ₽	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac @	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at &	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in 倒	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

table_zebra_grid

This is the table caption

Lorem E	Ipsum 🖂	Dolor sit	Amet 🖭	elementum 🗹	Vivamus E
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.portitor.eu.g/	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac.g9	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at d	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in.@	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

table_simpleheadlines

This is the table caption

Lorem H	Ipsum 🗵	Dolor sit H	Amet H	elementum H	Vivamus 🖽
consectetuer	adipiscing	Elit asnean commodo	27 June 1981	http://ligula.porttitor.eu@	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac #	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at @	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.ing	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

table_simplecaption

THIS IS THE TABLE CAPTION					
Lorem 🗹	Ipsum 🖼	Dolor sit	Amet 🖼	elementum 🖼	Vivamus M
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.porttitor.eu@	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac &	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at @	pellentesque eu pretiun
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in @	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

table_roundedcorners

This is the table caption

Lorem M	Ipsum 📔	Dolor sit	Amet ⋈	elementum 📔	Vivamus 🗵
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.porttitor.eu ₪	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac &	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at &	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in ₪	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.



table_roundedcorners_zebra

This is the table caption

Lorem M	Ipsum 📔	Dolor sit	Amet 🖼	elementum 🗵	Vivamus 🗹
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.porttitor.eu &	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac @	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at ₺	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in ₽	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

table_shadow

This is the table caption

Lorem 🖽	Ipsum 🖽	Dolor sit	Amet E	elementum E	Vivamus E
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.porttitor.eu.g/	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac.g?	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricles nec	5 March 1977	http://enim.aliquam/lorem.at.g/	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in@	Donec pede
Justo	fringilla	vei aliquet nec	12 May 1980		vulputate eget.

table_shadow_zebra

This is the table caption

Lorem 35	Ipsum 🖽	Dolor sit	Amet E	elementum E	Vivamus 🖽
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.portitor.eu.g/	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac.g/	penatibus et
magnia dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at @	pellentesque eu pretiun
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in@	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

smwtable

This is the table caption

Lorem	lpsum	Dolor sit	Amet	elementum	Vivamus
consectetuer	adipiscing	Elit aenean commodo	27 June 1981	http://ligula.porttitor.eu@	ligula eget
dolor	Aenean massa	Cum sociis natoque	13 May 1973	http://consequat.vitae/eleifend.ac &	penatibus et
magnis dis	parturient	montes nascetur ridiculus	24 December 1988		mus
Donec	quam felis	ultricies nec	5 March 1977	http://enim.aliquam/lorem.at &	pellentesque eu pretium
quis sem	Nullaconsequat	massa quis enim	30 January 1990	http://dapibus.in @	Donec pede
Justo	fringilla	vel aliquet nec	12 May 1980		vulputate eget.

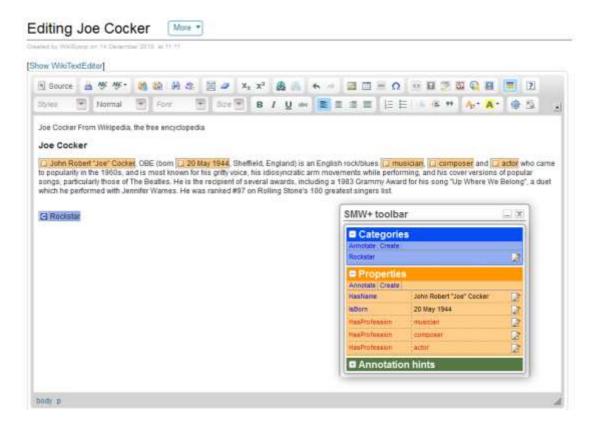
2.2.4 Creating annotations

The Data toolbar contains tools for the semantic annotation of text and it shows the current annotations in a page. The Data toolbar may be used with the WYSIWYG editor.

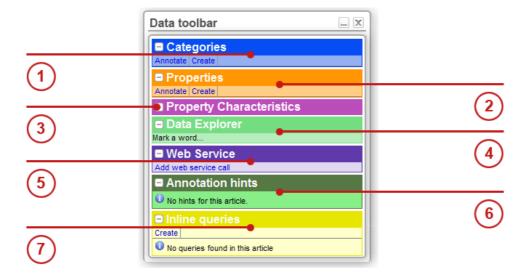
- It is automatically displayed at the right bottom of the page when using the standard wikitext editor and when opening a page in the so-called Advanced annotation mode.
- It can be opened by clicking the button = in the WYSIWYG editor bar



The graphic below shows the content of the Data toolbar for an article about "Joe Cocker".



The image below shows all available sections and controls of the Data toolbar.



1. **Categories** - the blue box provides links for annotating and creating categories, besides it lists all categories an article is annotated with



- 2. **Properties** the orange box provides links for annotating and creating properties, besides it lists all properties and their values an article is annotated with
- 3. **Property Characteristics** the pink-coloured box is available on property pages and provides several options for creating properties
- 4. **Data Explorer** the lightgreen box provides a link to the DataExplorer when a word is marked
- 5. **Web Service** the purple box is only available when the Data Import extension is installed;it provides a link for adding a web service call to the article
- 6. **Annotation hints** the dark green box is only available when the Gardening extension is installed; it contains suggestions of the gardening bots for the current article
- 7. **Inline queries** the yellow box only appears when editing articles in wikitext mode; provides a link for adding inline queries to the article

The Annotation Process

Typically, annotating starts with the selection of the text in the editor. Depending on the type of annotation, the Annotate link has to be clicked in the sections Categories, Attributes or Relations. The selected text will correspondingly appear as value or as a category in the form that opens. If a property is to be annotated, its name has to be specified. Auto-completion supports the user at this point. An alternative representation for the value may be entered in the field Show, in the end.



3 Managing pages

3.1 Moving and renaming a page

Moving (renaming) a page amounts to you giving it another name. This is done using the "move" tab that is at the top of the page. One should simply enter the new name and then click "movepage". In normal circumstances, you would wish to leave "Move associated talk page" option ticked.

This is what happens when you move page "A" to a new title "B":

- The system renames the title of page "A" as "B"
- It renames all the editing history of that page "A" to be that of page "B"
- A new page "A" is then created and this pages content is a redirect to page "B"

The second point is significant. Note that while using the "Move" feature, you also move the editing history, which is desirable in most situations. The editing history allows people to see how the page contents were built up and who contributed what. So if you move the contents around using the copy and paste instead of using the move feature, you will lose the editing history.

Like we noted above, the move operation leaves behind a redirect, so as not to result in any broken links. One may however want to look for all the pages or other redirects that are linked to this particular redirect with the goal of changing the links, such that they direct to the new title. To do this, you should use the "whatlinkshere" Special Page, which can be accessed from the link that is in the toolbox.

3.1.1 Making a proposal for a move

The process involved while naming a page is a rather difficult aspect of wiki organization and one that can at times be a matter of discussion. If you feel that moving a particular article is sensitive and that it might be a matter of controversy, we suggest that one should first make a proposal for the move. This is done by leaving a note that justifies this intended move in the talk page. You might also establish a system for labeling this page with a move proposal template so that everybody is made aware of your intentions.

3.1.2 How to undo a move

As with all wiki editing, a move operation can be reversed (by any user). To reverse a move operation, simply move the page back, e.g. move page "B" back to "A".

The page title "B" will still be left behind as a redirect from "B" to "A". Any user can remove the redirect and propose that the page be deleted. However the final deletion will require sysop privileges.

3.1.3 How to move a category

Categories cannot be easily moved like other pages. It is for this reason that one should choose the category names carefully.



Assuming that you have administrator rights and you wish to move a category, the easiest way to do this would be to:

- create the new page,
- delete the old one and then
- change the tags in each member of the category manually or with a bot.

However, doing this loses the page history - this is not a huge problem if categories are used only for navigation. However, this is undesirable in cases where the wiki is structured differently such that category pages contain significant amounts of text.

3.2 Working with History Mode

All editable pages on Wikipedia have a page history that is associated with them. This page has information about the old wikitext versions as well as a record of the date and time of every edit, the username or IP address of the user who wrote it as well as an edit summary. The page history is accessed by clicking the "history" tab that is at the top of the page.

3.2.1 Quick Guide

- All changes made to the page are listed in reverse-chronological order.
- Viewing a specific version is done by clicking on the corresponding date.
- Comparing an old version with the current version is attained by clicking cur.
- To compare a version with its predecessor one should click prev.
- If one wishes to compare two specific versions one should click the leftcolumn radio button of the older version and the right-column radio button of the newer version and then click the "Compare selected versions" button.
- Minor edits are indicated by a m.

For more details, please consult the official MediaWiki guides available here:

- http://en.wikipedia.org/wiki/Help:Page history
- http://www.mediawiki.org/wiki/Help:Tracking_changes

3.3 Deleting a Page

Normal users do not have the permission or rights to delete a wiki page permanently. 'Sysop' users however have the capability of deleting a page semi-permanently.

3.3.1 When to Delete a Page

Typically, you would delete a page if the content is entirely inappropriate and does not match to the wiki's use. In other situations, you might prefer to take a less severe course of action. Below are some sample scenarios. Let's say that:

- The page needs to have a different title in this case you may just "move" the page to the appropriate title.
- The content belongs to a different page the solution here would be to "merge" the content into the existing page and then create a redirect.



- The content is already on a different page you may do away with all
 the duplicate content and just leave a redirect. That way, this page
 title which might have made more sense to somebody, will helpfully
 redirect this user to the new correct location of the information.
- The page is out-of-date In this case an update is foreseeable. Rephrasing the content to match the appropriate tense should be done to articles that are about events or occurrences that have already come to pass. In doing this, one is gets a page that records this event historically. You may alternatively mark the information as out-of-date and go on to attach a warning notice in that article.

You notice that deleting an article is not necessarily compulsory except for cases where the entire article or title is inappropriate. In most situations, merging or redirecting is most appropriate.

3.3.2 How to Unlink a Page

If a page is no longer of any significance, then you indeed do not desire to have any links pointing to it. Do you?

There is a **What links here** feature that may be accessed from you're the "More" dropdown menu on any page. It shows all the pages that are linked to the current page. So make a point of always using this feature before you delete since these pages that are linked will need to be correspondingly edited to reflect the change.

3.3.3 The Deletion Process

Normal users do not have the permission rights or privileges to delete a wiki page permanently. This is an absolutely deliberate design feature, which is important part of the wikis functionality. All types of edit operations may be reverted by any other user. This even includes resurrecting deleted content. Try not to let this wind you up too much. It doesn't cause significant wasted space and with nothing but a 'delete' label the page is effectively deleted anyway.

'Sysop' users have the capability of deleting a page semi-permanently. Typically sysops might look for delete labels and eventually delete these pages permanently after some time. If you for some reasons wish to have a page deleted more urgently, you should contact a sysop and request that this be done.

3.3.4 Further Information

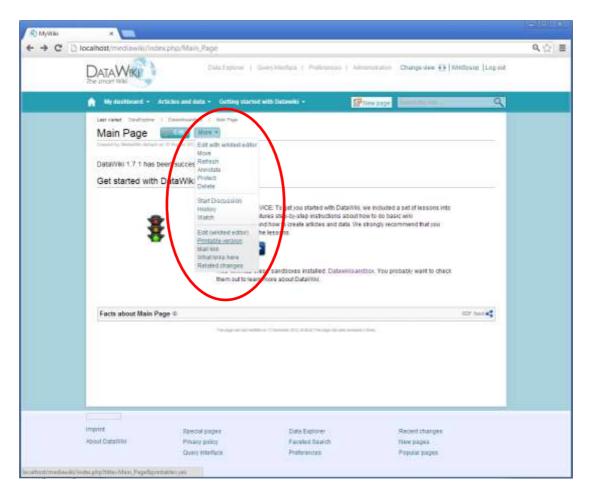
For more details, please refer to the official MediaWlki guide on deleting pages: http://www.mediawiki.org/wiki/Help:Deleting_a_page

3.4 Printing pages

While browsing the wiki you come across a page that you really like and you want to print it out so you can read it later or show it to someone. The approach for printing wiki pages depends on the skin you use.

- 1. Move the cursor over the More-tab
- 2. Select **Printable version**
- 3. You get a print preview of the desired page
- 4. Now press Ctrl + P to print the page





3.5 Handling Redirects

Redirects serve the purpose of forwarding users from one page name to another. They can be useful if reference has been made to a particular article using multiple names or if the article has alternative punctuation, capitalization or spellings.

3.5.1 Creating a Redirect

To create a redirect, you must start a new page with the name you want to direct from. Do this by typing the desired name into the search box or type it straight into the URL.

To enter the new page's text, enter the following string (use the wikitext editor!):

```
#REDIRECT [[pagename]]
```

pagename here is the name of the page you wish to redirect users to. You can use the 'preview' button, to check whether you have entered the correct page name.

Hint: Generally, one creates a redirect to a page name that already exists, so the link should be in blue and not red.



3.5.2 Viewing a Redirect

Once you create a redirect, you will get to that page name directly. The browser will always redirect you! There is however a link at the top the page that gives you access to the redirected page name.

You may "view" the redirect once you click on this link. In doing this, you are able to do all the things that any wiki page allows you to. You may even go to the associated discussion page and talk about the redirect. You may also view the history of the page that existed before the redirect was created. One may also edit the page if the redirect was wrong and you may also revert to an older version so as to remove the redirect.

3.5.3 Deleting a Redirect

There's generally no need to delete redirects. They do not occupy any significant amount of database space and they do not show up in wiki search results. It is not even a big deal if a page name is vague. Indeed, there is some benefit in having it as a redirect to the most relevant existing page in your wiki.

Having said that, we understand that for some reason, one would actually want to delete a redirect, for example if the redirect's page name was offensive, or in some cases one would wish to discourage users from referring to a particular concept by that certain name. In this case one may simply go to the redirect page and go on to follow the procedure that is used to delete a page.

3.5.4 Double Redirects

A so called double redirect occurs when one attempts to create a redirect to a page that is also already a redirect. **Such redirects will not work** since multiple directing will not follow through to the end of the chain. Users will instead just be presented with the relevant link, which is a view of the redirect page. This is a deliberate restriction, partly to prevent infinite loops and also to keep things simple. It serves the purpose of preventing the creation of rather unpleasant and complicated tree of redirects!

However, this does mean that you should look out for double redirects and eliminate them by changing them to be 1-step redirects. This is mostly necessary only if you do a significant page move. Use the 'what links here' toolbox link to find double redirects to a particular page, or use Use the 'what links here' link in the "More" dropdown menuto find double redirects to a particular page, or use Special:DoubleRedirects to search through the entire wiki.

3.5.5 A Redirect to a Page in the Category Namespace

To prevent a page that redirects to a category from appearing in the category, precede the word Category with a colon as shown here:

#REDIRECT [[:Category:Glossary]]



3.5.6 Further Information

For more details on redirects, please consult the official MediaWiki guide http://meta.wikimedia.org/wiki/Help:Redirect

4 Searching for pages and data

4.1 Using the search box

The search box can be found at the top right of every wiki page. You can search for content or articles by simply clicking into the text field and typing your search terms. In case you are searching for a distinct article name, you are supported by autocompletion.



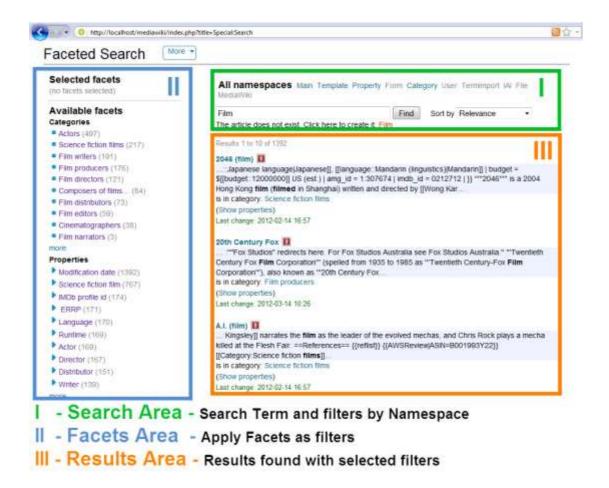
When you have entered your search terms, hit ENTER to trigger the search process. Depending on the result of the search, there are two possibilities:

- 1. If an article exists that has exactly the same name as the search term you entered, you will automatically be redirected to this article
- 2. If no such article can be found, you will be redirected to the Faceted Search (see below), where you can see the search results and refine your search.

4.2 Faceted Search

The Faceted Browser interface consists of three areas as depicted in the image below:





- 1. The Search area contains the search text and filters for selecting a Namespace.
- 2. The Facets area shows all categories and properties. These are the facets that are applied to filter the results according to the selected Facet.
- 3. The Results area shows the hit list according to the filters that you have selected.

4.2.1 The Search Area

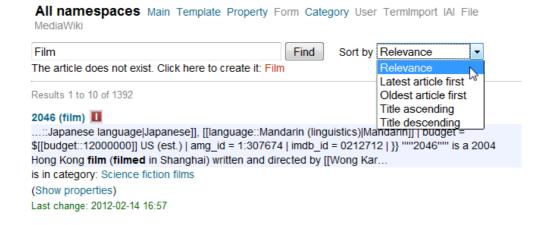
The search area has the following parts:

- Search text field this is where you enter the term that you wish to search for. If a string is added, results that contain the entered string will be displayed, if not, all results are displayed. Search result are only updated when you stop typing
- Namespace section this section lets you limit the results by letting you
 define the Namespace that you want to search in. The selected
 Namespace is in bold. The default selection in this section is All
 namespaces as seen in the image below:
- **Sort by drop down list section** define the manner in which the search results are presented according to the following criteria:
 - Relevance this option sorts the results hits according to the match to the entered term
 - Latest article first this option sorts the results hits showing the newest articles at the top



- Oldest article first this option sorts the result hits showing the articles oldest articles at the top
- Title ascending this option sorts the results hits in ascending alphabetical order
- Title descending this option sorts the result hits in descending alphabetical order

When you enter a character into the text field, the result area and the facets area will be automatically be refreshed with every character that you enter.



How to Use the Search Area

- 1. Access the Faceted Browsing Interface
- 2. Enter a few characters in the search field
- 3. (optional) Select the **Namespace** from which you want to search from. All namespaces is selected by default
- 4. Define the manner in which the search results are presented by selecting one of these options from the **Sort by** drop-down list (the default selection is Relevance):
- 5. Hit the **Find** Button this will automatically find the results
- 6. Proceed to refine your search by selecting facets as described below

4.2.2 Facets Area

The Facets area is generated automatically from the Categories and Properties that match your search. There are three components:

- List of all categories (that contain your search term) the list of categories shows up to ten categories, which are arranged in descending order according to the number of result hits that belong to them. The number of matching hits is put in brackets. Click more to view the next ten items in the category list (if applicable).
- List of all properties (that contain your search term) the list of properties shows up to ten properties, which are arranged in descending order according to the number of the result hits related to them. The number of matching hits is put in brackets. Click more to view the next ten items in the property list (if applicable).
- Link to search the bottom of the Facets area has a Link to this search link. The URL of this link specifies the current search with all your



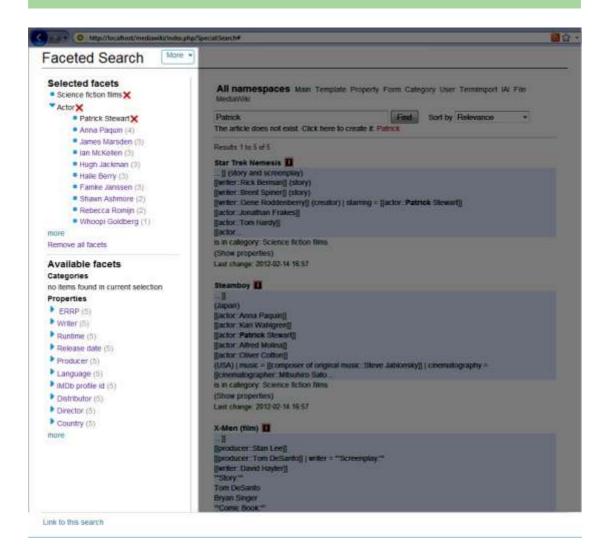
selected facets. Copy the link and use it on other pages, e.g. to provide other preselected search results.

In the screen-shot depicted below, the user entered the term **Patrick** and added the following Facets:

- Category Science fiction films
- Property Actors
- Value of Property Actor Patrick Stewart

Note:

Notice that Faceted Browsing will display all Categories and all Properties as Facets that may be applied if NO search Term in entered. The entries in the Facets area support Tree-view such that they can be extended to view deeper levels by pressing the blue icon



How to use the Facets Area

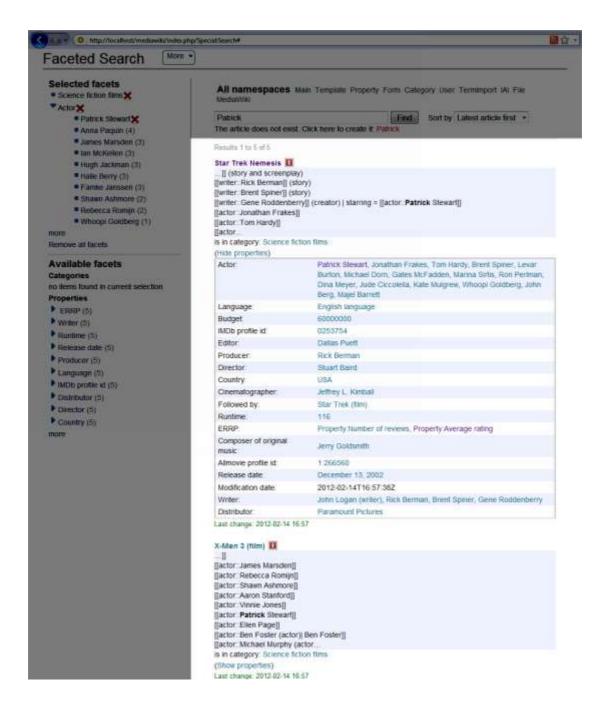
- 1. Access the Faceted Browsing Interface
- 2. Use the **Search area** as described in How to use the Search area user guide
- 3. Select the facets intuitively, from either the facets in the **Category list** or from the facets in the **Property list**
 - a. You can select multiple Facets results are updated automatically
 - b. To remove a Facet as a filter for your search, press the red X icon X results are updated automatically
 - c. Every Facet has a **blue arrow icon** hitting this icon expands the view, letting you navigate deeper into the hierarchy. You can go back to the previous level by clicking the **Hide details** icon
- 4. (optional) Once the search delivers the results as desired, you can copy the link address that is located in the link labeled as "Link to this search" this is the direct link to the search results with all the results. You can re-use the search with this link.
- 5. Proceed to access and use your results as described in the next section

4.2.3 Results Area

The result area shows the results sorted by the date of the last change. Every entry has the following information:

- Title this is the title of the hit
- Icon indicating whether the respective hit is an instance, property or category
- is in category: the first five categories are shown (alphabetical order). Click more to see all categories.
- (Show properties) click this link to display to see the properties and their values as seen in screen-shot above.
- Last change: this shows the last time the hit was edited





How to use the Results Area

- 1. Access the Faceted Browsing Interface
- 2. (optional) Enter a search term using the Search area
- 3. (optional) Use the Facets area to search for specific facets
- 4. Use the Result area as follows:
 - Click on the title of the result to go to its page
 - Notice that each results has an entry is in Category: showing the category to which the hit belongs (multiple entries will be displayed where applicable)
 - Notice that each hit has a **last changed** information field showing the date when the respective hit was last edited
 - Expand the **Show properties** link to view all the properties that belong to the respective hit.



5 Querying for pages and data

This section describes the Query Interface and explains how to formulate, load or edit inline queries.

5.1 Description of the Query Interface

Inline queries may be used to retrieve specific semantic data in your wiki. The #ask syntax used to make these queries is often somewhat complex. We therefore were of the opinion that the less experienced users should also be given a methodology to use queries without having to learn the syntax. This was done by integrating a query interface into DataWiki. It allows users to make queries easily.

5.1.1 Accessing the Query Interface

You can access the Query interface in three ways:

From the menu: "Articles and data > QueryInterface" ← → C | localhost/mediawiki/index.php/Main_Page 00 Americania Chargeview #9 | Wildhood | Log od DATAWIKE Mair Page Special Pages Get an overview Pages pert a pet of leasons into ers with that halfares size-by-step instruments about with go bossic with administration and how to breate articles and of the strongly recommend that you carefully follow the lessons: This will has these sandscess installed: Datawilliandsor, You probably want to check Facts about Main Page ® Date Explorer Recent changes Pyliany points Faculad based New pages Preferences: Popular pages

• From the Data Toolbar (visible in edit mode) by clicking the **Create** link in the **Inline queries** section





 From the WYSIWYG editor tooblar by clicking the "Insert Query" button in the toolbar:



If you access the query interface via the WYSIWYG editor, remember to click " \mathbf{OK} " to save you query and insert it into the article you are editing.



5.1.2 Overview of the Query Interface

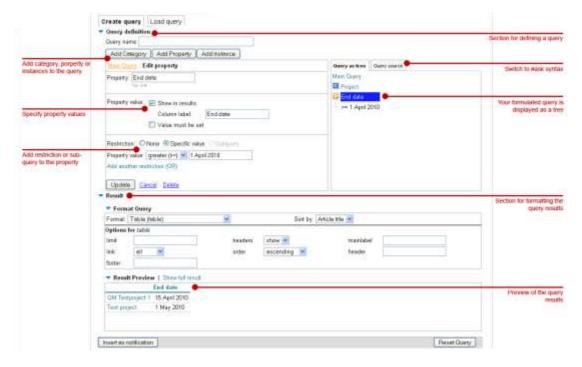
The Query interface is divided into two tabs:

- Create query lets you create a new query.
- Load query lets you load an existing query.

The pane at the bottom level has a menu bar which has two buttons which work as follows:

- Insert as notification button directs you to the special page
 Special: SemanticNotifications and adds the formulated query to
 your semantic notifications. This button is only available if you have
 accessed the query interface by the special page
 Special:QueryInterface
- Reset Query button resets the current query together with all its suband super-queries.





5.1.3 The Query Definition Section

This section has a "Query name" entry field - specify a name for the new query (optional setting). It is recommended that you enter a name that is descriptive since you have the option of reusing the query in other articles. You can use this name to search and find the query later.



Below the "Query name" entry field, are three buttons, namely:

- Add Category,
- Add Property and
- Add Instance.

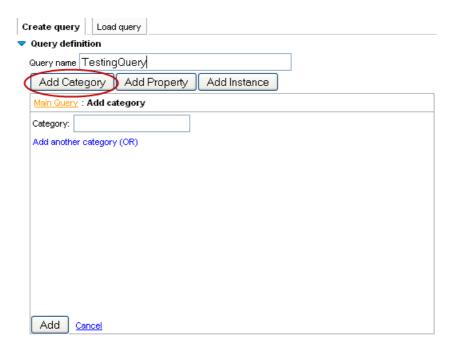
The functionality of these buttons is described below.

5.1.3.1 The Add Category menu

Clicking this menu lets you specify a category. In specifying this, you display the articles (instances) of this category. This is how you can use this menu:

- 1. Specify the name of the category you want to use by entering it in the "Category" entry field.
- 2. Press "Add" to add the selected category in the query the "Query as tree" pane which is to the right, should now have the category in the query's tree, and the "Query source" pane should display the syntax of the query.
- 3. Hit the Add another category (OR) to add another category with a disjunction (OR) and validate this as described in the preceding step
- 4. Proceed to define property settings as described below.



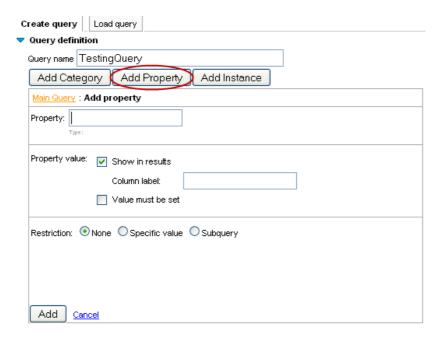


5.1.3.2 The Add Property Menu

Clicking this button lets you specify a certain property that the results ought to fulfill. You may either list all results or define specific values. This is how you specify these settings:

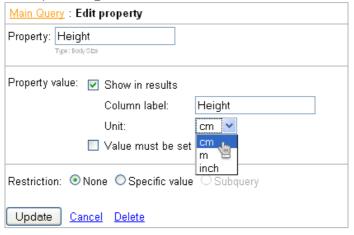
- 1. Enter the name of the property autocomplete feature assists you in selecting the property that you wish to use.
- 2. Activate the **Show in results** checkbox to show the property explicitly in the results.
- 3. The field **Column label**: will be automatically be filled in with the property name you enter
- 4. Activate the **Value must be set** checkbox, to display only the results that include the mentioned property.
- 5. Define restrictions to your property as follows:
 - a. Select **none** to make no restrictions
 - b. Select the **Specific value** radio button to enter a specific value that should be fulfilled.
 - c. Select the **Subquery** radio button to add restrictions to the property in the form of a subquery. For details on subqueries, see below.
- 6. Press "Add" to add the property to your query the "Query as tree" pane which is to the right, should now have the property in the queriy's tree, and the "Query source" pane should display the syntax of the query.
- 7. Proceed to define the instance settings as described below.





Notes on Custom unit support

Whenever you ask for properties that have a custom unit, the Query interface will display all corresponding units in a selection list:



To get unit support define a custom type first, e.g. Type:Body_Size

5.1.3.3 The Add Instance menu

Clicking this button lets you specify an instance such that only one article is included. To specify an instance:

- 1. Enter the name of the instance that you wish to use.
- 2. Press "Add" to add the Instance to your query the "Query as tree" pane which is to the right, should now have the instance in the query's tree, and the "Query source" pane should display the syntax of the query.
- 3. Proceed to check the query status as described below.



5.1.3.4 Query as tree menu

The Query tree is on the right sector. It presents the query as a tree graph which indicates the query structure. Navigate through it by clicking on the single items. Clicking on any item in the tree (either a category, property or instance), opens its edit menu letting you do the following:

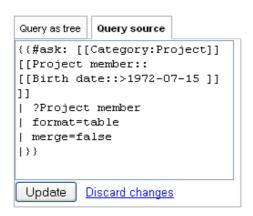
- **Update** make modifications on the item and hit this button to update and include the changes to the query
- Cancel hit cancel to exit the items edit pane without making any changes
- **Delete** press delete to remove the item from the query



5.1.3.5 Query source menu

Click **Query source** to get the query in #ask syntax. You may edit the query accordingly. This pane has these actions:

- Update make modifications on the item and hit this button to update and include the changes to the query
- Discard changes click this link to exit the items edit pane without making any changes



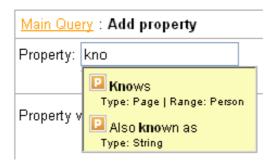
Note:

The Query source window displays ask syntax only. SPARQL syntax is not supported, because it offers a bigger variety of functionality in queries



5.1.3.6 Semantic autocomplete feature

The Query interface supports the semantic autocomplete feature as shown in the picture below:



The semantic autocomplete feature is triggered by pressing the Ctrl + Alt + Space key combination as you add a category constraint, a property or an instance to your query.

5.1.4 The Result Section

The second section of the Query interface is the Result section which divided into two subsections, namely:

- The **Format Query** subsection defines the layout of the query results
- The **Result Preview** subsection displays a preview of the query results



Note:

Contract the Query definition section by clicking on the blue arrow to get a larger preview of the results. To expand a section, hit the right blue arrow or hit the blue down arrow to contract a section

5.1.4.1 The Format Query Subsection

Format	Ask Syntax Format	Output
Ajax (live)	format=live subformat=table	Always displays the most current query results via Ajax calls. The result can be displayed in table, ordered or unordered list and template, specify this with the 'subformat' parameter; default is subformat=table



		D: 1
Atom export (atom)	format=atom	Displays a link to the results in Atom RSS-file
Average of number	format=average	Displays the average of a queried set of numbers
BibTex export	format=bibtext	Exports bibliographic data in the BibTeX format
Broadtable	format=broadtable	Table with full width
CSV export	format=csv	Displays link to the results as cvs-file
Category	format=category	Results shown in category format * All Class
Count results	format=count	This gives you the number of the results
DSV export	format=dsv	Data Source Views (DSVs) are a new concept to SQL Server 2005. Displays link to the results as dsv-file
Embed page contents	format=embedded	The content of the pages is embedded Al Gate Fired Fired Companies 1200 (2000)
Enumeratio n	format=ol	Ordered list 1. Action 2. First parts are it However 1975, Income John, Many Tange, Manage, Adap, Saise, Adap, Tany, Tanig, John Tane, Additional Science of Saisy 1975, Notice Pred, Jane Stray, Millional Saisy, Millional Saisy
Eventline	format=eventline	Dates are shown in an eventline
FancyTable	format=fancytable style=table_zebra	Offers various styles, see previous chapter
Gallery°	format=gallery	Al Sam Fred Joe Mystery John Dise
Google Maps v2*	format=googlemaps 2	Displays a map using the Google Maps API
Google Maps v3*	format=googlemaps 3	Displays a map using the Google Maps API
Google bar chart°	format=googlebar	Displays a bar-graph of number values, using the Google Charts API

Google pie chart°	format=googlepie	Displays a pie-chart of number values, using the Google Charts API
JaPlot bar chart	format=japlotbar	Displays a bar-chart of number values, using the jQuery plugin jqPlot
JaPlot pie chart	format=japlotpie	Displays a pie-chart of number values, using the jQuery plugin jqPlot Herry Industry Constituting Contentions
Itemization	format=u	Unordered list Total part of the least list Total part of the least list list list list list list list li
KML	format=kml	Keyhole Markup Language (KML) is an XML notation for expressing geographic annotation and visualization within two-dimensional maps and three-dimensional Earth browsers (e.g. Google Earth). Displays link to the results as kml-file
List	format=list	Comma-separated list
Мар*	format=map	OpenStreetMap is one of the mapping services locally supported by the Maps extension, and displays map point parser functions.
Minimum number	format=min	Displays the number with the highest value from the queried set of numbers
Maximum number	format=max	Displays the number with the highest value from the queried set of numbers
OFC bar	format=ofc-bar	Displays values in a bar-graph - Percent complete 110 100 100 100 100 100 100 100 100 1
OFC bar 3D	format=ofc-bar_3d	Displays values in a 3D bar-graph

		- Percent complete
		110 200 200 200 200 400 200 200 100 100 100 100 100 100 100 1
OFC line°	format=ofc-line	Displays values in a line-graph in 2D
		118
OFC pie°	format=ofc-pie	Displays values in a pie-graph in 2D
		Do hiskeff weekshop 1.70 But one a 1.00 Implement detabase energy of the Tack = 10
OpenLayers	format=openlayers	Displays a dynamic map, using the OpenLayers API
Outline	format=outline	Lists pages in a hierarchical outline, based on property values - and the last three the last three t
RDF export	format=rdf	Displays link to the results as rdf-file
RSS 2 export	format=rss2	Displays link to the results as RSS 2.0-file (more details)
Sum of numbers	format=sum	Displays the sum of a queried set of numbers
Table	format=table	Table with adapted width Birth date Knows Affiliation Al Gore Fred B November 1975 John Some company Haul Ringu Genne Afried Susan Allan Tom Sally John Due Joe Mystery 15 July 1972 Fred Some company John Due John Due 25 April 1900 Joe Mystery Some company Fred
Tabular form	format=tabularform	Displays results as tabular forms

Tag cloud	format=tagcloud	Displays result values in a tag cloud Asin Arange Anabarg Austria Belgium Bede Brossels Den Haup Bermalk Drosser Seinbeven England Brossels Brossels Den France Cert Germany London Moscow Paris Poland Rotterdem Russia San Fransisco Semanto Mass examples Sweden The Netherlands Utrecht Vienna Washington
Timeline	format=timeline	Displays pages in a scrollable timeline
Yahoo! Maps*	format=yahoomaps	Displays a dynamic map, using the mapsYahoo! API

Note:

The items marked with ° belong to the Semantic Result Format extension while the items marked with * belong to the Semantic Maps extension. Depending on your setup, you have to install these extensions additionally.

Notes on Semantic Result Formats

Some formats, 'googlebar' and 'googlepie', for instance, send data to external web services for rendering, which may be considered a data leak.

- eventline: requires Javascript to render.
- exhibit: requires Javascript to render; requires access to Javascript files hosted by MIT (not locally included), but does not send any data to MIT(besides the requester's IP and the URL of the site with the query). Some subformats of Exhibit, like the Google Maps view, send data to Google for rendering.
- googlebar: sends data to Google for rendering. Googlebar requires access to the Google servers in order to render.
- googlepie: sends data to Google for rendering. Googlepie requires access to the Google servers in order to render.
- graph: in order to get the graph format to run, you first must have the MediaWiki Graph extension running.
- process: in order to get the process format to run, you first must have the MediaWiki Graph extension running
- ploticus: requires that the Ploticus application be installed on the server.
- timeline: requires Javascript to render.

5.1.4.2 Formatting Options

An explanation of the available format options as well as what these options do will be mentioned in this section. We also wish to inform you that you can



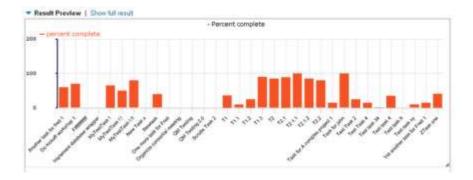
also get information about what an option does by looking at the tooltips that pop up whenever one puts the mouse cursor over any Query interface option. You may also experiment and see what these options do.

Layout Option	Allowed Values	What it does
Format	Table, bullet list, numbered list, list, count, timeline, etc (all values are described in the table above)	Defines the query's output format.
Sort by	All columns that are shown in the result	Defines the result table column that is used to sort the results
order	Ascending, descending	Ascending or descending order
link	Subject, all, none	Defines which parts of the result should be linked. Subject indicates that only the first column will be linked to the corresponding article.
limit	Number	Sets the maximum number of results that will be displayed. If there are more results, a link for the full result list will be provided automatically
headers	Show, hide, plain	Defines if the headers of the table are to be displayed or not.
mainlabel	Text (81 chars)	This is the label of the result table's first column
header	Text (73 chars)	This is the text that will appear before the results are displayed
footer	Text (43 chars)	This is the text that will appear after the results are displayed
default	Text (64 chars)	This is the text that will appear if no results are available
sep	Text	Defines separation between the values, available in format 'list' and 'csv'
columns	Number	Sets the maximum number of columns that will displayed, available in format 'Category', 'Itemization'
timelinebands	Decade, year, month, week, day, hour, minute	Sets the time frame, available in format 'eventline', 'timeline'
timelinestart	Date	Define start time of the timeline
timelineend	Date	Define end time

timelinesize	Number in pixel	Define the height of the timeline in pixel, e.g. '200px'
timelineposition	start, middle, end	Define the position of the timeline within the page
searchlabel	Text (38 chars)	Text for continuing the search (default is ' further results')
width, height	Number in pixels	Define the width and height in pixel, available in format 'OFC pie, bar, line', 'map', 'OpenLayers',
outlineproperties	Property	Define which property in the results should be outlined

5.1.4.3 The Result Preview Section

The query interface shows intermediate results as the query is in its formulation stage. The status of the intermediate result preview shall be refreshed whenever a category constraint is added or deleted, whenever a property is added or deleted or whenever any parameter in the Format Query is altered.



Note:

You may disable the dynamic result preview of query result. If you do this, the 'full preview' link is displayed. This option can be set to limit traffic to the server especially when queries to the Triple store connector take a long time.

5.2 Formulating queries with the Query Interface

The embedded Query Interface allows you to add inline queries to your article with the WYSIWYG editor. The page that is used to add these queries is the same as special page Special:QueryInterface which is described in detail in the description of the Query Interface 1.5.2 user guide only that it is this time opened from the WYSIWYG editor.

In contrast the special page, the embedded Query Interface of the WYSIWYG editors notably adds the query to your article's edit area directly. In



doing this, the result - which may for example be displayed as a table - is displayed and added your location of choice in your article's edit area.

5.2.1 Prerequisites

You need to be more or less familiar with the ontology in your wiki. If you are not quite familiar with this, you can quickly get the related information by using the DataExplorer.

You can further explore the Ontology in your wiki from the Special page DataExplorer if you wish.

5.2.2 Creating and Adding an Inline Query

- 1. Create as new page or edit an existing one with the WYSIWYG editor.
- 2. Place the cursor on the favored position in the editing area, where you want to insert the query.
- 3. Click on the Query Interface button on the toolbar. This opens up the Insert Query dialog



- 4. Enter a **name** for the query though this is an optional setting, we recommend that you enter a descriptive name for you to easily search, find and re-use the query later and in other articles.
- 5. Click Add category.
- 6. Enter the name of a category you would like to query for. Press the Ctrl + Alt + Space key combination to use autocompletion.



- 7. Click **Add**. The category has now been added to your query. You can check this by looking at the **Query as tree** section on the right.
- 8. Optionally click on **Add another category (OR)** to add another category with a disjunctionand validate this as described in the preceding step. You may also click **Add category** again to add a second category with no disjunction.
- 9. Click Add property.



- 10. Enter the **name** of the property. Press the Ctrl + Alt + Space key combination to use autocompletion.
- 11. Check the following options for **Property values**:
 - a. **Show in results**: The property value will be shown in the result. Default: Checked.
 - b. **Column name**: Only available if the property value will be shown. Default: name of the property.
 - c. **Value must be set**: Only results where the property value is set will included in the query. Default: Unchecked.
- 12. Define **restrictions** to the property values:
 - a. **None**: No restrictions all property values will included to the query.
 - b. **Specific value**: Enter an operator (depends on property type) and a value to restrict the results. See the example below.
 - c. **Subquery**: Add restrictions to the property in the form of a subquery.

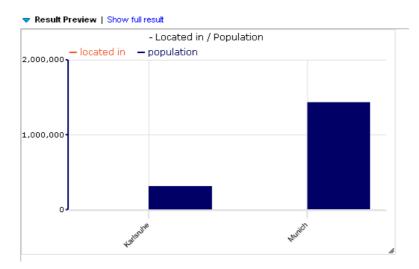


- 13. Click **Add**. The property has now been added to your query. You can check this regarding the Query as tree section on the right.
- 14. Optionally you may click again Add property to add another property to the query.
- 15. Optionally click **Add instance**. You can add an instance on the same way like adding a category (step 5).
- 16. If you have completely defined your query, click on **Query definition** (top of the dialog). The Query definition section now closes and you get a larger view on the result section.





- 17. Choose a **format** for your query from the drop-down list.
- 18. Define the **options** of the selected format. The offered options depend on the format you chose in the previous step. Overview of the formatting options
- 19. Check the output in the **Result Preview**.



20. Click **OK** to create and insert the query.

The query interface will exit, you will automatically be returned to the WYSIWYG edit mode. The created query will be loaded into your article and represented by the query icon.

5.3 Editing queries with the Query Interface

An inline query can be edited in two ways using the Query interface:

- In the graphical interface by making corresponding definitions in the:
 - Query definition section which has the
 - Add Category,
 - Add Property and
 - Add Instance menu.
 - o Result section which also has the
 - Format Query and
 - Result Preview subsections.
- In the Query source menu which is on the upper right section of the Query interface
 - We recommend that only advanced users with good knowledge of the #ask syntax should edit an inline query in this manner!

5.3.1 Prerequisites

An inline query has already been inserted to the relevant article.

5.3.2 Editing Query in the Graphical Interface

- 1. Edit the article with the relevant query in the WYSIWYG editor
- 2. Right-click the query symbol inside the editing area. The context menu appears:





- 3. Click on **Query Interface**. This will open up the Query Interface window.
- 4. Click on an element (for example the property Population) from the **Query as tree** menu which is on the upper right section of the Query interface to update it. Having done this, you can edit the chosen property, for example:
 - a. Change the property settings for this property, e.g. enter a specific value
 - b. Enter another column label; the default is the property name
 - c. Enter another property
 - d. Add a subquery to this property
 - e. Click Delete to remove the property completely from the query
- 5. Click **Update** to apply the changes.
- 6. You can optionally add another category, property or instance to the query.
- 7. You can optionally change the result format in the **Format query** section.
- 8. Check your changes in the **Result Preview**.
- 9. Click OK.

The Query Interface window now closes and you can proceed to save the article.

5.3.3 Editing Query in the Query Source Mode

- 1. Edit the article with the relevant query in the WYSIWYG editor
- 2. Right-click the query symbol inside the editing area. The context menu appears:



- 3. Click on Query Interface. This will open up the Query Interface window.
- 4. Click Query source on the right to see the query formulated in #ask syntax





- 5. Make your desired changes to the source code
- 6. Click Update to apply the changes to the Result Preview
- 7. Click OK

The Query Interface window now closes and you can proceed to save the article.

5.4 Using property chains

Property chains are concatenations of properties that have the type "Page". They may also be expressed as sub queries. Notably, the syntax used in property chains is less complex and easier to understand than the one used in subqueries. DataWiki supports property chains in the printout statements when the Triple Store is used.

Example of a property chain

Instead of a subquery:

```
[[Category:Cities]]
[[located in::<q>[[member of::European Union]]</q>]]
```

you can write a property chain:

```
[[Category:Cities]][[located in.member of::European
Union]]
```

5.4.1 Prerequisites

- A Triple store has to be installed
- The checkbox in the QueryInterface "Include inferred results via triple store" has to be activated

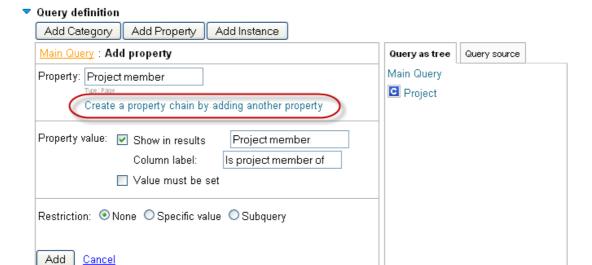
5.4.2 Sample methodology for creating a query using property chains

- 1. Create a new page or edit an existing page in the WYSIWYG mode.
- 2. Click on the **Query interface** button which is in the WYSIWYG toolbar.

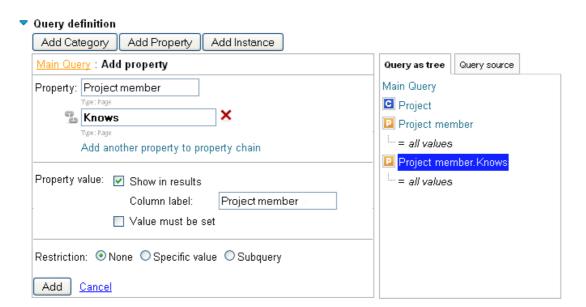




- 3. Click Add category
- 4. Enter "Project"
- 5. Click Add
- 6. Click Add property
- 7. Enter "Project member"
- 8. Click Add
- 9. Click Add property
- 10. Enter "Project member" again
- 11. Whenever property chains are supported, the link "Create a property chain by adding another property" is displayed:
- 12. Click Create a property chain by adding another property



- 13. A new field below the property 'Project member' now appears
- 14. Enter "Knows"
- 15. Click Add



16. The properties "Project member" and "Knows" are now concatenated and build a property chain. This results to a query like the one shown below

Project member Knows A complex project Daniel A complex project Dian Fred Alfred A complex project A complex project Fred Allen A complex project Fred George A complex project Fred Joe Mystery Fred A complex project John Fred John Doe A complex project A complex project Fred Paul Fred A complex project Ringo A complex project Fred Sally A complex project Fred Susan Fred Tom A complex project A complex project Joe Mystery Fred A complex project Joe Mystery John Doe A complex project Regina Another complex project Fred Alfred Allen Another complex project Fred

Another complex project Fred

Result Preview | Show full result

George

6 Editing data with the DataExplorer

The DataExplorer gives a quick and detailed overview of the wiki's ontology. Changes on the ontology may also be done through it.

6.1 Prerequisites

You have granted rights for ontology editing in your LocalSettings.php file either for only WikiSysop:

```
$wgGroupPermissions['sysop']['ontologyediting'] = true;
```

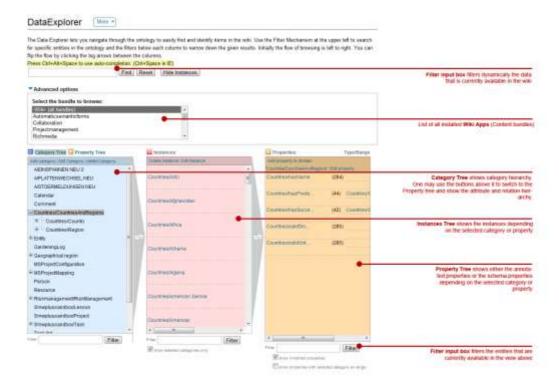
or for all users (which is not recommended for unexperiences users):

```
$wgGroupPermissions['user']['ontologyediting'] = true;
```

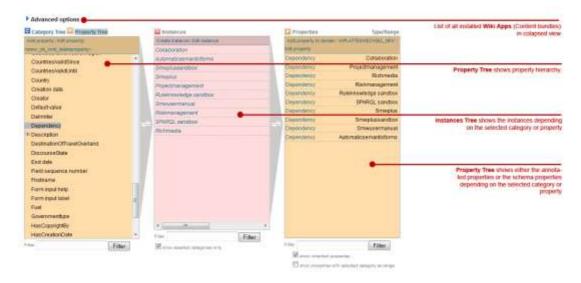
6.2 Overview

The DataExplorer has 3 basic views:

- Category Tree: Shows category hierarchy. One may use the buttons
 above it to switch views and show the property hierarchy in the socalled Property Tree (second image below).
- **Instances**: This view will always show the instances depending on the selected category or property
- **Properties**: This view will either show the annotated properties or the schema properties depending on the selected category or property.







6.2.1 Filter Input Box

The top left corner has an input box with a 'FilterBrowsing' button next to it. This is the basic DataExplorer (formerly known as OntologyBrowser) feature. You may enter a term and press the 'FilterBrowsing' button or the 'return' key. Alternatively, you may press Ctrl+Q to use auto-completion. This is how it works:

- Depending on the tree view you select, the currently visible tree is filtered. If you are in the category view, all the categories that match with the filter string as substrings are identified and shown in the category hierarchy. Their super categories are also shown. Note that this is case sensitive. If a category inherits from several categories it will appear in the view more than once. This same behaviour applies to the property tree.
- All the instances that match with the filter string as substrings are displayed. Again this is case sensitive.
- All properties that match to the filter string as substrings are displayed. This is case sensitive.



There are no partitions in the FilterBrowser mode.

6.2.2 Advanced Options

Clicking the **Advanced options** displays all installed Wiki Apps (content bundles) in the wiki. Select a bundle to browse only the ontology (categories and properties) which belongs to the bundle.

6.3 The Category Tree

The Category Tree will initially show the root categories. Hierarchies of categories are displayed with a small plus icon that is in front of every category name. Expand the tree by clicking the plus icons or by selecting the category directly.



6.3.1 Category Selection

When selecting a category the selected item gets a gray background. In this case, the Instances view shows all instances belonging to that category. The direct categories will be displayed first while the inherited categories are displayed afterwards.

The Properties view shows the properties that have the category as their domain. It shows the inherited properties in italics. Some additional information about properties is also shown:

- **type** e.g. string, integer, boolean. The property that defines this value has a specific type
- **cardinality** e.g. 1..2, 0..* (the last value is set by default). The property which defines this value has min cardinality or has max cardinality.
- range The property which defines this value a has a range
- **symmetrical / transitive**: These ones determine if a property is symmetrical and/or transitive. Categories: transitive properties, symmetrical properties.

With the two check boxes underneath the property view you may modify, which properties should be listed:



- If you only want to see the direct properties, you need to uncheck the **show inherited properties** option.
- If you want to see all properties which have the selected category defined as their range, you need to activate the show properties with selected category as range option.

6.3.2 Instance Selection

If you select an instance, the property view will switch to the annotations of this instance. It's a two-column table showing property name and its value.

The instance list in the DataExplorer is filtered for instances of the selected bundle.

6.4 The Partitions

Lets assume that the thresh hold value in our case was set to 20. If there are more than twenty entities on a tree level or in the instance list, two small arrows, one pointing forwards and the other backwards, will be seen on top level. These arrows allow you to navigate through the 'partitions' that were created in accordance to the threshold rule. An integer is displayed between the two arrows and it informs about the partition he is currently viewing. Only the partition that is currently being viewed stays in the memory at every time time. This makes the DataExplorer capable of accessing large sizes of schema data, because only parts of it are loaded in the memory at a time. This will mostly occur in category/property root level and in the instance list and



happen less often on deeper tree levels. This is a mechanism that works on every tree level but it currently doesn't particularly work well in the Property View.

6.4.1 How to Switch the Selection Flow

You may change the direction towards which the big gray arrows point by clicking on them. This will have the effect that your selection will trigger an operation in the opposite direction.

Sample scenario: Let's say that the arrow now points to the left: If you select an instance, you will get all the instance's categories in accordance to their position in the category hierarchy. Selecting an annotation or a schema property will accordingly open the domain category.



This is especially useful while applying FilterBrowsing, since the views are not related to each other in this case. All types of entities are searched independently only by using the substring matching.

The arrow that points to the right may also be altered. Once this is done, a selection in the annotation/schema property view will display all instances that define this property's annotations.

6.5 Inheritance

Inherited entities are displayed in italics. Inheritance comes up when you select an item in the tree view. For example,

 If you select a category: All instances, even those that belong to subcategories, will be displayed. All properties even those that belong to subcategories, are also displayed. • If you select an property: All instances using this selection or one of its sub-properties will be displayed.

6.6 Miscellaneous

- The **Reset** button resets the tree view depending on the current view. It may for example be used to return to the root entities.
- The **Hide instances** button allows you to hide the center column. Thus, you can focus on modeling the ontology (categories and properties) without being distracted by the instances in the middle
- You may navigate to an entity's page by selecting an entity while
 pressing the Ctrl key. This works for all entities, even for the range
 categories in the Property View. There is additionally a [Goto] link
 which points to the entity's page behind each entity.

6.7 Modifying Categories



Note:

Press the keys Ctrl + Alt + Space to activate the auto completion in input fields

6.7.1 Adding a category

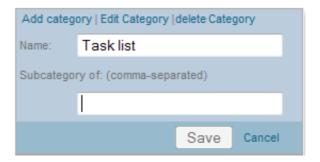
- 1. Select a category
- 2. Click Add category
- 3. Enter a name for the new category
 - a. Red background indicates a category with this name already exists
- 4. To create a catgory on top level, remove the name in the field **Subcategory of:**
- 5. To create a category that should be a subcategory of more than one category, add the names of the categories as comma-separated list
- 6. Click Add



6.7.2 Editing category

- 1. Select a category
- 2. Click Edit category in the toolbar
- 3. To rename a category remove the name and add a new one
- 4. Click Save





When the category gets renamed, a redirect from the old to the new name is generated automatically.

Additional note for renaming categories in the DataExplorer

By default Mediawiki doesn't allow the move operation on categories. When a category is renamed, this is a move operation internally. Therefore if you want to rename categories in the DataExplorer a Mediawiki file must be modified to achieve this. Edit the file includes/Namespace.php in your wiki installation. Replace the line:

```
return !( $index < NS_MAIN || ($index == NS_FILE && !$wgAllowImageMoving) || $index == NS_CATEGORY );
```

with:

```
return !( $index < NS_MAIN || ($index == NS_FILE &&!$wgAllowImageMoving) );
```

The location of this content is around line 50ff. If you have installed the Rich Media extension the changes have been applied already and you don't need to do anything.

6.7.3 Adding a Property to a Domain

- 1. Select a category for example 'Person'
- 2. Click Add property to domain: 'Person' in the Property view
- 3. Enter a name for the new property
 - a. Red background indicates a property with this name already exists
- 4. Tick the checkbox **Mandatory** this means the new property should always have value(s)
- 5. Select a type from the list
- 6. Enter a range, for example 'Person'
- 7. Click Create





6.8 Modifying properties

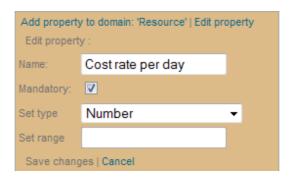
6.8.1 Adding a property

- 1. Switch to the **Property Tree**
- 2. Select a propery
- 3. Click **Add property**
- 4. Enter a name for the new property
 - a. Red background indicates a property with this name already exists
- 5. To create a property on top level, remove the name in the field **Subproperty of**:
- 6. To create a property that should be a subproperty of more than one property, add the names of the properties as comma-separated list
- 7. Click Add



6.8.2 Editing a property

- 1. Select a property
- 2. Click Edit property in the toolbar
- 3. To rename a property remove the name and add a new one
- 4. Click Save



When the property gets renamed, a redirect from the old to the new name is generated automatically.



6.9 Modifying instances

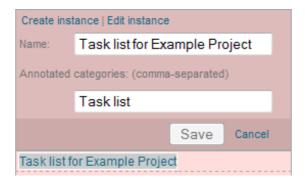
6.9.1 Creating Instance (in Selected Domain)

- 1. Select a category (or a property) or search directly by using the filter input box.
 - a. You get a list of all instances belonging to the category (or using the property)
- 2. Click Create instance
- 3. Enter a name for the new instance, with namespace if required
 - a. Red background indicates a property with this name already exists
- 4. Click Create



6.9.2 Editing instances

- 1. Select a category (or a property) or search directly by using the filter input box
- 2. Click the instance you wish to modify
- 3. Click Edit instance
- 4. Rename the instance or change the annotated categories
- 5. Click Save





7 Creating annotations

7.1 Introduction

Annotation means "addition" or "hint". Semantic annotations are such "hints" which allow computer programs to interpret some piece of information given in the wiki. DataWiki has introduced special markup elements which allow editors in to provide annotations in wiki pages.

7.1.1 Annotations

Annotations in DataWiki can be seen or taken as an extension of the existing system of categories. Categories are a means to classify articles according to certain criteria. For example, by adding [[Category:Cities]] to an article, the page is tagged as describing a city. MediaWiki can use this information to generate a list of all cities in a wiki, and thus help users to browse through the information.

Example of the category pages "Capitals in Europe" of Wikipedia: Pages in category "Capitals in Europe" The following 61 pages are in this category, out of 61 total. This list may not reflect recent changes (learn more): · List of European capital cities by area Helsinki . City of San Marino Sarajevo ĸ Skopje · Amsterdam • Sofia · Kity Andorra la Vella · Stockholm · Ankara L Sukhumi · Athens • Lisbon B Ljubljana • Tallinn • Baku • London Luxembourg (city) · Tirana Betfast • Belgrade Bertin Madrid Vaduz • Bern Valletta Minsk • Monaco · Vatican City Brussels · Moscow · Vienna · Fischarest Vilnius · Budapest N W · Nicosia · Cardiff North Nicosia Warsaw · Chisināu 0 Z · Copenhagen · Oslo Zagreb P · Dubiin . Template Capital cities of the European Union · Paris Podgorica Template: European Capital of Culture • Prague . Template Capital cities of the European Union candidates Edinburgh · Episkopi Cartenment Pristina Template:Capitals in Europe · Reykjavík · Gibraltan . Template: List of European capitals by region · Riga · Rome

DataWiki provides a further means of structuring the wiki. Wiki pages have links and text values in them which may only be understood by a human reader since he has the ability to know what the link or text represents. For example, "is the capital of <u>Germany</u> with a population of 3,396,990" has a

whole different meaning as "plays football for <u>Germany</u> and earns 3,396,990 dollars a year".

DataWiki allows you to annotate any link or text on the page thereby describing the meaning of the hyperlink or text. This turns links and text into explicit **properties** of an article. In this example "Berlin" gets the properties capital of, population, area, coordinates and located in:



This addition enables users to go beyond mere categorization of articles. Since categories and properties merely emphasize a particular part of an article's content, they are often called **semantic annotations**.

Having used this, we are able to ensure that the information which was provided in an article (e.g. that Berlin is the capital of Germany) is now provided in a formal way which is now accessible to software tools.

7.1.2 Benefit of annotations

While semantic annotations first might appear to make things more complex, they greatly simplify the structure of the wiki, help users to find more information in less time, and improve the overall quality and consistency of the wiki.

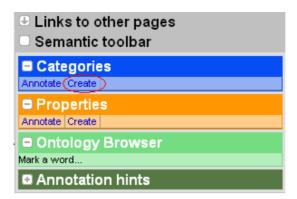
Retrieving information can be done with so called **inline queries**. In doing this, readers of the wiki can view query results without having to learn a special query language. This feature is explained in the querying for data section.

7.2 Working with Categories

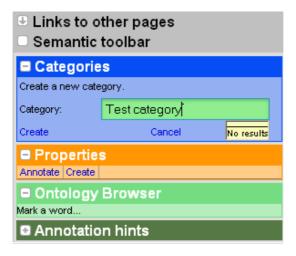
7.2.1 Creating Categories with the Data Toolbar

1. Edit an arbitrary article

2. Click **Create** from the Categories section of the Data Toolbar



- 3. Enter the name of your new category- the autocompletion feature supports you at this step. The system will check whether the category already exists as soon as you stop typing.
 - a. if it gets a red background, then the such a category exists and you cannot create a category under the entered term rename it!
 - b. if it gets a green background, this indicates that the entered category does not exist and you can create it.



- 4. Click Create to create a new category as defined.
- 5. Finally you can easily check if your category was successfully created using the DataExplorer.



7.2.2 Creating Hierarchies of Categories

Hierarchies can be created using the Data toolbar with either properties or categories. One can either create super- or sub- hierarchies. A supercategory is superior to the sub-category. In an attempt to elaborate this, picture a car and its components, i.e. Engine, Steering-wheel, etc.

One can for example build a hierarchy such that the car is the Supercategory, while the components are the sub-categories.

To create a category hierarchy:

- 1. Open a category page this can be one of the category that you want to work with.
- 2. Access the data toolbar notice that there is the Sub/Super link in the Categories toolbar



3. Click the Sub/Super link - This opens up the category definition toolbar which lets you enter the category that you want to define the hierarchy with.



- 4. Make the category a super- or a sub-category as desired and proceed to enter the category that you intend to create the hierarchy with.
 - a. if the entered category gets a green background this indicates that the category exists and you may proceed create it as desired.
 - b. if The category entered gets an orange background this indicates that the entered category does not exist.



- 5. Choose the desired action thereby creating a hierarchy
- 6. Save the page.

These steps below are optional. To prove that the category hierarchy has been created as desired:

- 1. Open the special page Special:DataExplorer
- 2. Go to the category list and look for the super-category You should see the hierarchy. The "expand" or "collapse" buttons should be usable



7.2.3 Annotating with categories

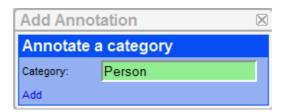
Annotation means "addition" or "hint". Semantic annotations are such "hints" that allow computer programs to interpret some piece of information given in the wiki. DataWiki has introduced special markup elements which allow



editors in to provide annotations in wiki pages. Annotations in DataWiki can be viewed as an extension of the existing system of categories. Categories are a means to classify articles according to certain criteria. For example, by adding to an article, the page is tagged as describing a city. MediaWiki can use this information to generate a list of all cities in a wiki, and thus help users to browse the information.

7.2.3.1 Annotate Categories in the WYSIWYG Editor

- 1. Click **Edit** in your desired article
- 2. Click **Add category** A dialog box appears
- 3. Enter a name of an existing category (press Alt + Ctrl + Space to activate autocompletion)



4. Click Add - The annotation appears as a C icon at the bottom of the page

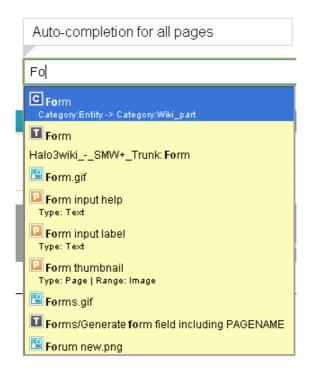


5. Save the article

7.2.4 Adding Icons for Categories

With category icons users can quickly identify the category of a certain instance. You may define the category icon by using the property Category has icon for the concerning categories. Many of the pre-configured categories of DataWiki are already characterized by an icon.

For example if you search through your wiki with auto-completion, each property can be identified by the icon with the "P".



This icon is determined in the category which contains all properties. If you visit the page Category: Property, which contains all properties, you can find this icon again. Just scroll down and take a look on the factbox. As mentioned before, the icon is set by the property Category has icon.

So, you might want to add your own icons to new properties you have created. Therefore, just go on as follows:

- 1. Upload the icon you want for a category in the file namespace. For example File:Star.jpg
- 2. Create a new category or edit an existing one where you would like to add an icon. For example Category:Stars
- 3.
- 4. Open the Properties section of the Data Toolbar.
- 5. Enter "Category has icon" in the **Property** text field.
- 6. Enter the name of your icon in the **Category has icon** text field.



- 7. Click on Add.
- 8. Finally click on **Save page**.



Now, you have added the icon to the category. If you search again through your wiki, you can identify instances which belong to the new category by the new icon.



7.2.4.1 Change Category Icon

If you want to exchange an already existing category icon, you might do this on two different ways:

- edit category page
- upload a new version of the icon

Edit Category Page

Before you edit the category page, you should have uploaded the new icon to your wiki. Then you just have to change the value of the annotation for the property Category has icon.

Upload a new version of the icon



Important Note:

You should verify that the icon has no other usage in your wiki. If the icon is used for some other reasons, you would overwrite it for each usage

- 1. Open the page of the icon. For example: File:Star.jpg
- 2. Click on **Upload a new version of this file**.
- 3. Choose the new file from your local file system.
- 4. Do not change the Destination filename.
- 5. Click on the **Upload** file button.

Now, you can keep the annotation of the category and the new icon will replace the old one.

7.3 Working with Properties

7.3.1 Creating a New Property

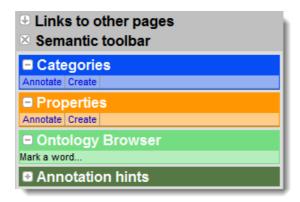
7.3.1.1 Prerequisites

- You know how to access the Data Toolbar
- You know how to create categories

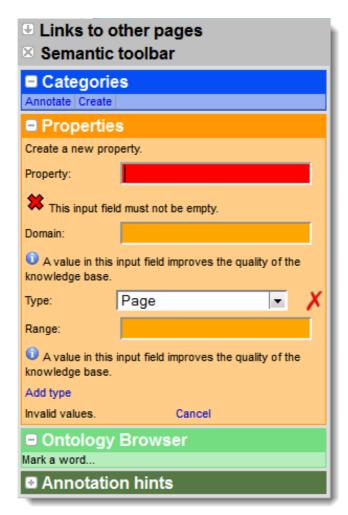
7.3.1.2 Creation Using the Data Toolbar

1. Click **Create** in the Properties toolbar.





- 2. Specify the **name** of the property and its **domain** and **range**. The default type is set to Page
 - a. To remove the type field, hit red X-cross icon beside it.
 - b. To add a new type click on the Add type link.



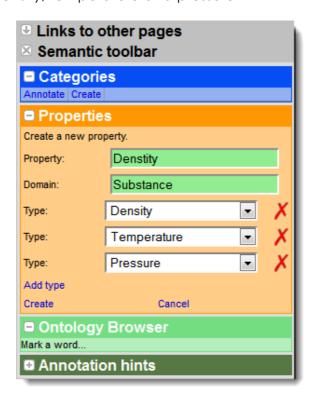
3. Hit Create to create your property - Your property has not been created as defined.

7.3.1.3 Creating Record Properties

Record properties are like binary properties but with additional conditions. For instance, the density is a property of a substance that varies with temperature and pressure. This can be expressed with a record property. Such properties are defined the same way as described above - you just need to add additional types and ranges by clicking on the corresponding link.

To define an n-ary property:

- 1. Click Create in the Properties toolbar.
- 2. Define the property name, domain and range as desired
- 3. Add multiple types. In our example, one would need three data points, namely density, temperature and pressure



4. Hit create to create the property

Open the newly created property page - the content of this page in wikitext editor contains amongst others:

```
[[Has type::Record]]
[[Has fields::Type:Temperature;Type:Number;Type:Number]]
[[Has domain and range::Category:Substance;]]
```

Record properties are therefore defined as a list of types and separated with semi-colons.



7.3.2 Creating Hierarchies of Properties

Hierarchies can be created using the Data toolbar with either properties or categories. One can either create super- or sub- hierarchies.

A super-property is superior to the inferior property. In an attempt to elaborate this, picture a car and its components, i.e. Engine, Steering-wheel, etc. One can for example build a hierarchy such that the car is the Super-property, while the components are the sub-properties.

With this in mind we now proceed to create a hierarchy using "color" has subproperty of "Has Appearance".

Categories and properties are used to build hierarchies. New entities shall inherit the schema properties of their master entity.

Steps

- 1. Open a property page
- 2. Access the data toolbar notice that there is the Sub/Super link in the Properties toolbar

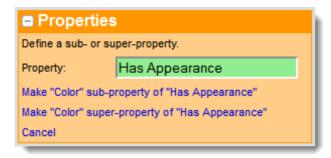


3. Click the Sub/Super link - This opens up the property definition toolbar which lets you enter the property that you want to define the hierarchy with.



- 4. Select one of the two links depending on whether you wish to make the property a super- or a sub-property
- 5. At this step the wiki checks if the properties already exist, this is indicated by the background color:
 - a. The property entered gets a green background the entered property exists and you may proceed create it as desired. Choose the desired action thereby creating a hierarchy.
 - b. The property entered gets an orange background the entered property does not exist. Choose the desired action thereby creating a hierarchy. This time the in-existent property will be created automatically.





- 6. To prove that the property hierarchy has been created as desired:
 - a. Open the special page Special:DataExplorer
 - b. Click the Property list to view the property list and look for the super-property
 - c. You should see the hierarchy. The "expand" or "collapse" buttons should be usable

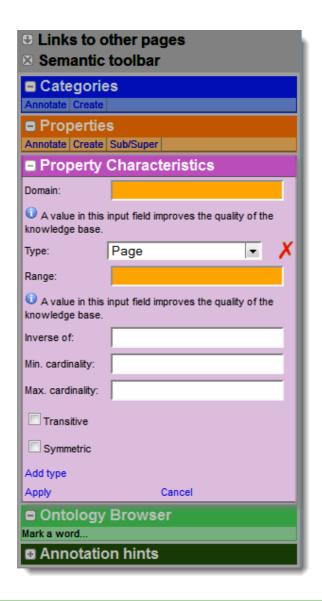


7.3.3 Specifying Property Characteristics

7.3.3.1 Accessing the Property Characteristics Toolbar

- 1. Open a property page
- 2. Edit a property page and access the data toolbar in any of the editors the Property Characteristics toolbar is now available
- 3. Proceed to add, delete or modify the options in this tab to fit to your needs as described in the section below.





Note:

has name

The Property Characteristics toolbar is exclusive to property pages - if you do not see it, ensure that you are editing a property page, i.e.

"www.yourwiki/index.php/Property:<Random_Property>",
where "<Random_Property>" is the name of your property, e.g.

7.3.3.2 Function Overview

Property	What it does	
Characteristic	Wikitext / Example	
Domain	Articles of this category can have values for this property	
	[[has domain and range::Category: <domain>;</domain>	
	Category: <range>]]</range>	
	example - [[has domain and range::Category:Chemical	
	Substances; Category:Chemistry]]	
Range	Articles of this category are object of the property. This field is	
	only enabled, if the property's type is Page	
	[[has domain and range::Category: <domain>;</domain>	

	Category: <range>]]</range>	
	example - [[has domain and range::Category:Chemical	
	Substances; Category:Chemistry]]	
Inverse of	The name of the property that is the inverse of the current	
	property	
	<pre>[[Is inverse of::Property:<inverse property="">]]</inverse></pre>	
	example - [[Is inverse of::Property:Inverse	
	property]]	
Type	One of the predefined types. The default type Page indicates	
	that the property's values are wiki articles.	
	[[has type::Type: <data type="">]]</data>	
	example - [[has type::Type:Page]]	
Min.	The minimum number of values of the property - the entry	
cardinality	must be a whole number	
	[[Has min cardinality:: <number>]]</number>	
	example - [[Has min cardinality::1]]	
Max.	The maximum number of values of the property - the entry	
cardinality	must be a whole number	
	[[Has max cardinality:: <number>]]</number>	
	<pre>example - [[Has max cardinality::5]]</pre>	
Transitive	Defines that the property is transitive. This field is only enabled,	
	if the property's type is Page	
	[[Category:Transitive properties]]	
Symmetric	Defines that the property is symmetric. This field is only	
	enabled, if the property's type is Page.	
	[[Category:Symmetrical properties]]	

7.3.3.3 Facts about the Property Characteristics Toolbar

- 1. Whenever one opens a property definition article for editing, the Property Characteristics are initialized according to the wiki text. If schema relevant properties are changed in the wiki text, they are updated in the data toolbar after a short delay.
- 2. The Domain, Range and Inverse of fields are supported by auto completion. The system checks if the categories or properties really exist in case they lose the input focus. Valid entries are marked in green and invalid ones in orange. However, the system does not enforce valid values as you might create the missing category or property later.
- The fields for the cardinality are also checked for compliance with the syntax. They must contain valid numbers. Wrong values are marked in red and cannot be applied.
- 4. The lower left corner of the Property Characteristics shows usability hints:
 - a. Nothing changed. As long as no property has been changed, the properties cannot be applied.
 - b. Error messages for invalid cardinality.

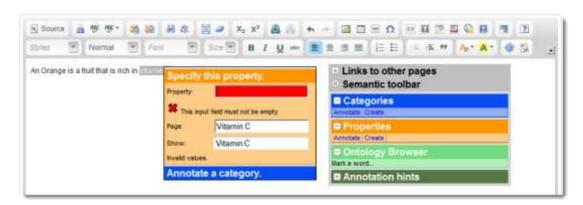


- c. Apply Changed values can be applied i.e. the wiki text is updated accordingly.
- 5. New values are only applied when the Apply link is clicked. Clicking the link Cancel restores the current values of the wiki text in the Property Characteristics
- 6. If property fields are empty, their corresponding wiki text will be deleted. If a property is newly introduced, its wiki text will be appended at the very end of the article. If the same kind of property definition appears several times in the wiki text, only its first value will be shown in the data toolbar.

7.3.4 Annotating with Properties

7.3.4.1 Annotate Properties in the WYSIWYG Editor

- 1. Open the article that you want to annotate in WYSIWYG mode
- 2. Open the Data toolbar
- 3. Mark the text that you wish to annotate
- 4. Click **Annotate** from the Data toolbar this opens up a pop- up window that lets you specify the property that you want to annotate with

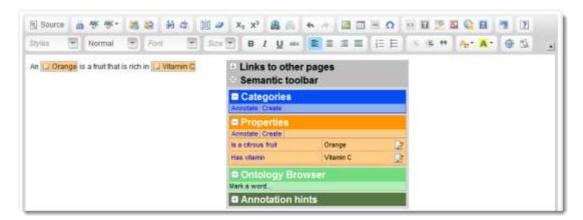


- 5. Specify the property by entering its **name** in the property entry field.
 - a. **autocompletion** gets activated at this point and helps you select the desired property
 - b. a green background indicates that the property exists and you may proceed to annotate
 - c. an orange background indicates that the property does not exist; you may proceed to annotate but you should remember to create this property later on.





6. Click **Add** to add the annotation - this adds annotation mark up to the selection, closes the popup and adds the markup in the Data toolbar.



7. Proceed to **save** your annotation by saving the article you are editing.

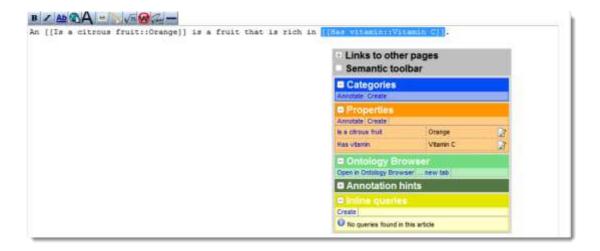
7.3.4.2 Annotation with properties in Wikitext Mode using the Data toolbar

- 1. Open the article that you want to annotate in Wiki Text mode mode
- 2. Open the Data toolbar
- 3. Mark the text that you wish to annotate
- 4. Click **Annotate** from the Data toolbar this expands the Data toolbar allowing you to specify the property that you want to annotate with



- 5. Specify the property by entering its name in the property entry field.
 - a. auto completion gets activated at this point and helps you select the desired property
 - b. a green background indicates that the property exists and you may proceed to annotate
 - c. an orange background indicates that the property does not exist: you may proceed to annotate but you should remember to create this property.
- 6. Click **Add** to add the annotation this adds annotation mark up to text edit area and adds the markup in the Data toolbar.





7. Proceed to save your annotation by saving the article you are editing.

7.3.4.3 Manual Annotation with Properties in Wikitext Mode

The general syntax used in annotating with properties is:

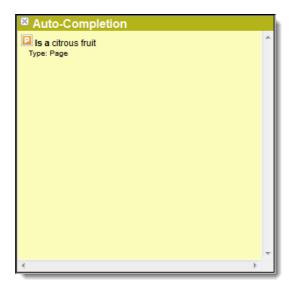
```
[[Property name 1::property target]]
[[Property name 2::property target 1;property target
2;property target 3|show this text]]
```

To annotate with a property manually:

- 1. Open your article in Wikitext mode
- 2. Type in the open double square brackets the auto-completion floater will appear automatically, if not press Ctrl+ Alt+ Space to activate it.

```
[ [
```

 Now type in the first letters of the property you want to annotate with the results in the auto-completion floater are filtered as you enter your property



4. Select the property - this automatically prints the selected property's full name and adds double colon "::" behind it

```
[[Is a citrus fruit::
```

- 5. Proceed to add the property value i.e. "Orange" if you target an article and use autocompletion again, the annotation will be closed automatically. You can skip the next step
- 6. Close the annotation with double close square brackets

```
[[Is a citrus fruit::Orange]]
```

7. Save article - the annotation has been added and can be seen on the factbox

7.3.4.4 Results

All the methods mentioned above deliver the following results:

- The annotations are added to the article's text
- Looking at the "static facts" box in the lower sections of the article, you
 notice that the annotations have been included here





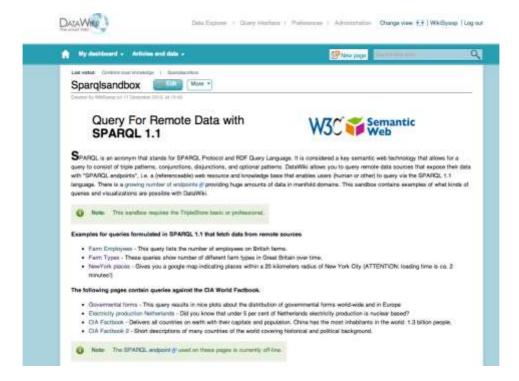
8 Using Linked Data

8.1 Prerequisites

- Install the DIQA-product "Triplestore Basic 1.7.2"
- Install the content bundle "SPARQL sandbox"

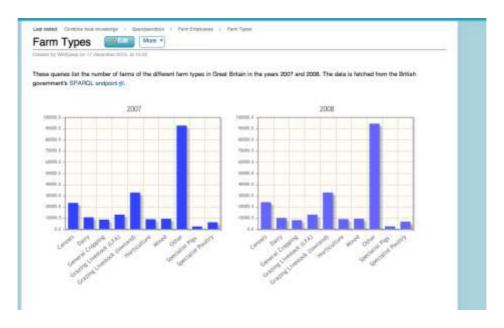
8.2 Description of the SPARQL Sandbox

The SPARQL Sandbox is a showcase content bundle. It contains a number of predefined pages and properties that serve as a demo and starting point for using linked data by querying external data sources.



After installing the SPARQL Sandbox using the Wiki Administration Tool, you can access it by visiting the page **SparqIsandbox** in your wiki. There, you will find a number of links to other wiki pages which showcase how one can make use of external data. In the screenshot below, you can see the "**Farm Types**" page, which shows a number of bar charts based on public data from an agricultural and historical survey of England, conducted in June 2007 and June 2008.

There are other show cases which make use of different public SPARQL endpoints and different output types like tables and maps.



When looking at the code behind such a page by accessing the raw edit mode (More > Edit with wikitext editor), one can see the SPARQL parser function, which is the basis of querying data endpoints. You can have a look at the queries to learn about their syntax and about the data that is provided by the respective endpoint. The next section will cover the details of querying SPARQL endpoints.

8.3 The "sparql"-Parser Function

With the SPARQL-syntax you can extract complex information like existing resource references and their relationships. Triple Store Basic supports SPARQL 1.0, which provides all features of ASK and additionally supports the use of subselections and queries.

The results are returned by default in the table format. Like in ASK queries, you can select result formats like pie-charts and bar-graphs. These results can be incorporated in wiki articles such that you can build complex mash-ups with this approach.

You can ask a SPARQL endpoint for any result that match a specific pattern that you provide. You many for example, ask this:

```
{{#sparql: SELECT ?x ?engine WHERE {
?x rdf:type category:Car .
?x property:HasEngine ?engine . }
}}
```

This returns all instances of category Car which have an engine.

```
{{#sparql: SELECT ?car ?engine WHERE {
?car rdf:type cat:Car .
?x prop:hasEngine ?engine .
?car prop:HasDoors ?doors .
FILTER (?doors > 3) }
```

This returns all instances of Car which have an engine and more than 3 doors.

The following prefixes are predefined and do not need manual specification whenever you run an inline query:

- 1. cat OR category: http://halowiki/ob/category/ (Categories)
- 2. prop OR property: http://halowiki/ob/property/ (Properties)
- 3. a: http://halowiki/ob/a/> (Articles / Instances)

Note:

Since Triplestore Basic 1.5.2 you can use the prefixes category, property, a both in the wiki and on the remote console. The prefixes cat, prop, a still exist for compatibility in the wiki. In any case, you can define your own prefixes.

You may further add printout statements. Their function in SPARQL queries is to change the label of a column. For example:

```
{{#sparql: SELECT ?x ?engine WHERE {
?x rdf:type category:Car .
?x property:HasEngine ?engine .
|?x=Car
|?HasEngine=Has engine
} }
```

If you want to learn more about SPARQL, there is a very good SPARQL tutorial at http://jena.sourceforge.net/ARQ/Tutorial/.

Important Note:

The Triplestore does not understand "no" and "yes" as boolean values. If you try to filter for empty property values with "::-" in #ask-parser functions you still get a warning from DataWiki that "-" is no proper boolean value.

8.4 Using Standard Ontologies

In the web, you will find a special purpose ontology for each problem. Examples of ontologies, which are available for free, are:



- Dublin Core: http://semanticweb.org/wiki/Dublin_Core
- FOAF: http://semanticweb.org/wiki/FOAF
- Basic Geo Vocabulary:
 - http://semanticweb.org/wiki/Basic Geo Vocabulary
- VCard RDF: http://semanticweb.org/wiki/VCard_RDF
- Good relations: http://semanticweb.org/wiki/Goodrelations
- Music Ontology: http://semanticweb.org/wiki/Music Ontology

You can load such ontologies into DataWiki and re-use them for your needs. This saves your time and makes you benefit from the work of others.

The following example gives details on how you can download the FOAFontology from the internet and deploy it into your DataWiki installation in order to make use of it.

8.4.1 Prerequisites

- Install DataWiki 1.7.1 including the Wiki Administration Tool
- Install TripleStore Basic
- You also need an ontology file in OWL or RDF format. This is the file that you want to import - you can download the FOAF-ontology from this link: http://xmlns.com/foaf/0.1/

Note:

Make sure that you have configured the "onto2mwxml" tool that is part of Triplestore Basic

- To configure the path to the onto2mwxml tool properly, a variable must be set in the onto2mwxml script which is located under <mediawikidir>/deployment/tools/onto2mwxml.
 - For Linux: set the TSCDIR variable in the shell-script onto2mwxml.sh
 - o For Windows set it in **onto2mwxml.bat**.
- The line in the batch file could look like this:

SET TSCDIR=c:\TSC

In our example, TripleStore was installed in: c:\TSC

8.4.2 Step 1: import the FOAF Ontology

1. Download the FOAF-ontology from the following link to your local hard disk: http://xmlns.com/foaf/0.1/

Note: the following file formats are supported for ontologies: .owl (RDF/XML), .rdf (RDF/XML), .n3 (N3), .nt (N-Triple), .ttl (Turtle)

2. Open the Main Page of your DataWiki installation in your browser and login with administrator privileges

Note: the default administrator account is: **WikiSysop** (password: **root**)



3. Open the Wiki Administration Tool which is located in the menu - Administration/Wiki Administration Tool.

Note: you will again be asked for the credentials of an account with administrator privileges.

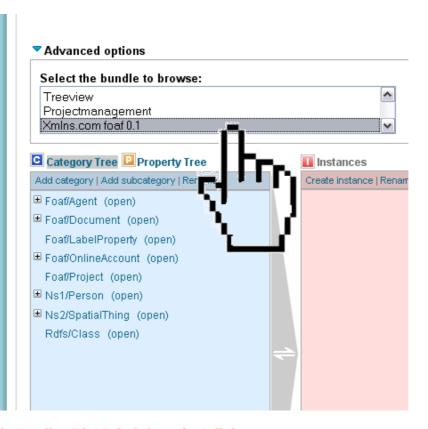
- 4. Open the tab **Upload local bundles/ontologies**, click on **Browse...** and select your local ontology-file to upload the file from your local file system to the server hosting the wiki.
- 5. Your ontology should appear in the list of uploaded ontologies.
- 6. Click on the **Install** button to actually import it into the wiki. Depending on the size of the ontology file, the import process can take a while. Please be patient, the progress and successful upload will be indicated in the pop-up window that opens.
- 7. Once the upload and import processes are finished, close the Wiki Administration Tool and return to the Main Page of your Wiki.

Note: Click on the Go to Wiki-link in the headline of the screen.

After the upload and installation has finished successfully, we can inspect the results using the DataExplorer:

- 1. Open the **DataExplorer** and click on the arrow next to the label **Advanced options** to expand it this opens a list of bundles (and ontologies) that are installed in this wiki.
- 2. Click on the bundle named **XmIns.com foaf 0.1** to filter the list of categories such that only FOAF-categories are displayed
 - a. The category tree should now only show categories that belong to the FOAF-ontology (e.g. Foaf/Agent, Foaf/Document etc).
- 3. Click on individual categories to see the instances and properties that are associated to them.
 - a. For example, the category **Foaf/Agent** has the following properties: **Foaf/Account**, **Foaf/age**, **Foaf/birthdate** etc.





8.4.3 Step 2: Use the FOAF Ontology in Articles

This step explains how you can make use of the FOAF-ontology in articles by assigning an article to the category Foaf/person.

- 1. Open the DataExplorer and select the category: Foaf/person
- 2. Go to the middle column it is labeled as **Instances** and is light red in color and hit the **Create instance** link this opens a micro-form with an entry field
- 3. Enter the name of the new article, in this case: **Daniel Note**: the system will highlight the entered string in green if it is appropriate, i.e. if it does not exist and add a **Create** link if not, it will be highlighted in red and an Element exists!
- 4. Now click **Create** to create the article Daniel the new article Daniel appears in the list of instances of the category Foaf/person after a short delay.
- 5. Open Daniel by clicking on the **open** link.
- 6. Now open the Daniel article in edit-mode by clicking on **edit** the WYSIWYG-editor opens.
- 7. In the WYSIWYG editor, click on the Data Toolbar-icon to open the Data Toolbar.
- 8. Click Annotate in the Data Toolbar to create the category annotation Foaf/person - once you have created the category annotation, you will notice that a couple of properties appear in the Recommended Properties section of the Data Toolbar.
- Create annotations for the properties Foaf/firstName, Foaf/lastName, Foaf/schoolhomepage by pressing the green plus (+) icon adjacent to the respective property.
- 10. Save the article when done



11. Go to the Factbox and observe that the annotated data is listed in the factbox (static facts) - you can always modify this data by clicking on the edit-tab which opens the WYSIWYG-editor again.



8.4.4 Step 3: Create a New Property for FOAF/Person

These steps give details on how you can relate your ontology to the imported FOAF-ontology.

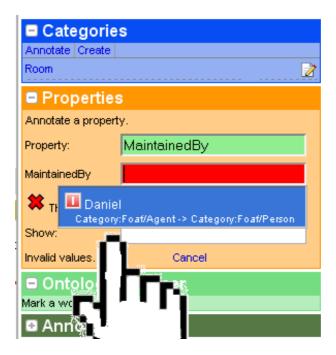
- We presume that you have a category **Room** and that you want to create a new property that relates a room with a person who is maintaining it - if your Wiki does not have a category Room, create it in the DataExplorer.
- 2. Select the category Room and click on Add property to domain 'Room' from the DataExplorer.
- 3. In the microform enter the name of the property **maintainedBy** and select **Page** in the Type-field.
- 4. In the Range-field, you can enter the category that this property points to

Note: this field offers auto completion. You can trigger the **autocompletion** by pointing with your mouse pointer into the field and hitting the Ctrl + Alt + Space key combination.

- 5. Select the category Foaf/Person.
- 6. Submit the micro-form by clicking the **Create** link.
 - **Note**: Upon submission of the micro-form, a new property with the name maintainedBy is created. You can open the property by clicking on the open-link in the DataExplorer.
- 7. Create an article (example: **EF-307**) that is assigned to the category Room and open it in the **WYSIWYG-editor**.
- 8. Select from the list of recommended properties the property **maintainedBy** and enter the value **Daniel**.

Note: you can use the autocompletion in the field. This will offer only articles that are assigned to the category **Foaf/person**.





- 9. Save the article.
- 10. Open the newly created article EF-307 the new facts are displayed in the factbox notice that you have made use of the FOAF-ontology!



8.4.5 Conclusion

This example demonstrated that pre-fabricated ontologies can be loaded into DataWiki and the constituents of the ontology can be inspected in the DataExplorer. One can make use of an imported ontology by assigning articles to its categories and populating properties with values. Another way of re-using an imported ontology is by relating properties of another ontology in the Wiki to elements of the imported ontology. This is useful if you want to

extend your own ontology. Finally you can easily query the imported ontology in the QueryInterface. Re-using ontologies saves time and reduces errors.

9 Advanced topics

Important Note:

As of this version, this section might contain incomplete or wrong information. We plan to review and update this section with the next revision of the document.

9.1 Managing your account

9.1.1 Working with User Pages

A user page is a web-based display of information relating to a certain wiki user. This is someone who is registered on the wiki and is in most cases also a contributor and the author of this page. Once registered, one may create his own user page which is linked on the page's top right pane.

Moreover, others will see links to your user page from various places thereby assisting in wiki collaboration. Such places include the 'Recent changes' and page 'history' pages. You may also link to your user page within a wiki page's text. This is mainly useful on talk pages as you sign and associate an article with your name.

9.1.1.1 What to put on your user page

User pages are just as flexible as any other wiki page. This is a page that allows you to put your information, so generally one is allowed to freely write this user page in the format that you like. Just take not that it is something sort of a 'profile' page that should serve the purpose of letting other users know who you are help bring the online community closer together. It would be good if you enter details about your location any your qualifications, main area of interest together with a description of some of the topics you have contributed in. You may also indicate your current work area.

User scratchpad / development area

The user page may also be used as a scratchpad. This is an area where you may freely develop ideas without cluttering the main namespace. If subpages are enabled, you may find them useful for creating sub pages under you user page.

9.1.1.2 Other people's user pages

As mentioned earlier links to other peoples pages will be seen in various places throughout the wiki.

User Contributions

Once you visit another users user page, you will see an additional link, "user contributions", which can be seen on the toolbox area. Clicking this link takes you to a list of all wiki edits that this use has made. This information may be used to get a picture of the user's degree of proficiency. One may even look at the edits made possibly by a user who is troublesome or one who makes undesired wiki edits.

Editing someone else's page



A user page has a sort of personal affiliation thus it is rather odd and it is indeed considered impolite to rewrite or rephrase another user's page. The editing feature is nonetheless available but one should hence refrain from adding sensitive information and mostly opinions that might be misinterpreted and in some cases consequently cause undesired differences.

Some forms of edit are widely acceptable they are less likely to be contentious:

- Fixing wiki links, when a page has been moved or deleted
- Fixing broken external links
- Categorizing or fixing categories of user pages.

User talk pages

Every user page has an associated talk page; a "user talk page". This is a special kind of talk page, for leaving messages directed to a particular user.

9.1.1.3 Further Information

For more information on user pages, please consult the official MediaWiki Guide: http://meta.wikimedia.org/wiki/Help:User_page

9.1.2 Changing User Preferences

Clicking on the **my preferences** link in the upper right while logged in allows you to change your preferences. You will be presented with the User profile section, as well as a bar of tabs across the top for changing other types of settings. In the following sections, the contents of these tabs and their function will be described in further detail.

9.1.2.1 User Profile

- **Username**: Your user name. Only bureaucrats can change your username, and the wiki must also have the Renameuser extension installed.
- **User ID**: A number assigned to your account when you created it (for example, if your number is 42 you are the 42nd user to sign up at this particular wiki). This number is used for internal purposes.
- **Number of edits**: How many edits you have made. Not all wikis will have this.
- **Real name**: If provided, this will be used for attribution (rather than using your username). Providing your real name is entirely optional. Some wikis do not have this option.
- **E-mail**: Your email address, if you have supplied one. You can also change or remove your address here.
- Nickname: When you sign your name (using ~~~~), what you enter here will be used as your name instead of a simple link to your user page.
- Language: This controls what language the interface is displayed in. MediaWiki's default interface includes localisations for all supported languages, but this is not necessarily the case with extensions or custom skins. Page text will not be translated, nor will templates (unless the templates integrate text localisation).



9.1.2.1.1 Change Password

To change your password, enter your old password in the first box and your new password in the last two. If you want this site to remember your login, check Remember my login on this computer. Note that this function requires you to have cookies enabled in your browser, and if your cookie is cleared or expires you will no longer be remembered.

9.1.2.1.2 E-Mail

If you have supplied an email address, you will need to click the verify address button in order to use these functions. You will receive an email; simply open it and follow the link to enable the following functions.

- E-mail me when a page I'm watching is changed
- E-mail me when my user talk page is changed
- E-mail me also for minor edits of pages
- Enable e-mail from other users
- Send me copies of emails I send to other users

9.1.2.2 Appearance

Here you can choose the skin you want to use (use Preview if you want to see a skin before you choose it). While you can choose whatever skin you like, bear in mind that some wikis will incorporate templates or layout elements that will not display as intended in some of these skins. Generally speaking, sticking with OntoSkin3 will ensure you see pages as intended.

9.1.2.3 Date and Time

Here, you can define a default format for rendering dates and times, depending on your preferences.

9.1.2.4 Editing

Settings to control editing pages, including the size of the edit box displayed and whether to watch pages that you have edited or created automatically.

Whether to show Data toolbar on startup in WYSIWYG or not is configurable now in editing preferences: Open Data Toolbar automatically

9.1.2.5 Recent Changes

- **Days to show in recent changes**: Here you can specify how far back the recent changes pages will go. Note that the list will stop prematurely if the number of edits is exceeded (see below)
- Number of edits to show in recent changes: Here you can specify how many edits should be displayed.
- Hide minor edits in recent changes: This enables you to hide edits marked as minor (see Help:How do I edit a page?). Since some users will rapidly make a lot of tiny tweaks to update templates or fix spelling errors you may find enabling this to be useful. You can also turn this on temporarily from the recent changes page (see Help:How do I track changes to my wiki?).
- Enhanced recent changes (JavaScript): Enhanced recent changes condenses edits into a per-page list. As indicated, this requires JavaScript to be enabled. See Help:How do I track changes to my wiki? for more information on this feature.



9.1.2.6 Search Options

Default settings for searches including how many results to display and how much context to show for each result.

9.1.2.7 Misc

Other settings such as numbering and justification.

9.1.2.8 Further Information

For more details on user preferences, please refer to the official MediaWiki guide: http://meta.wikimedia.org/wiki/Help:Preferences

9.2 Editing data with Forms

9.3 Refactoring data

9.4 Detecting User Contributions

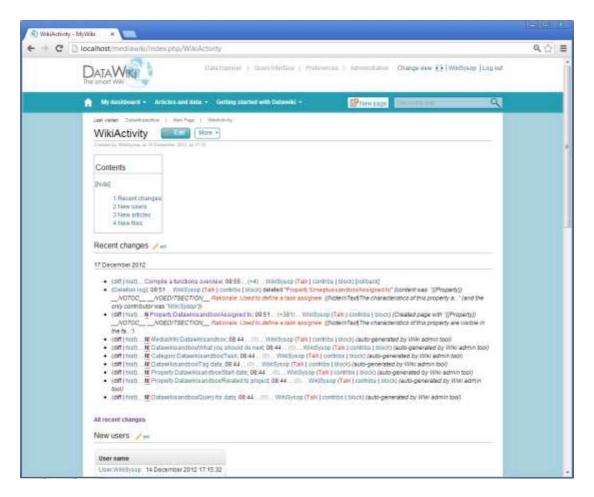
User Contributions Pages have a list of all the edits that have been made by a particular user. These pages are project specific, so a user contributions page for meta will not show the edits that user has made to Wikipedia or any other project.

Having an overview on your contributions especially helps you refresh your memory about the pages that you have worked on and you may thus access these pages again easily. Reading on, we note that you can also use this page to see if there were any subsequent edits. This makes it possible to "watch" pages even if you haven't put them on your watchlist. User contribution pages from other users may also be accessed and in doing this one sees what other users have contributed. This follow up capability may prove useful in tracking down vandals, copyright violations and so on.

9.4.1 How to Access a User Contributions Page

- 1. Go to the special page Special:RecentChanges by clicking on the Recent Changes link in the footer.
- 2. You can now modify a number of settings to refine your search:
 - a. Select an IP address or username to filter for user-specific contributions
 - b. Select the **Namespace** from the drop-down menu to limit results to selected Namespace
 - c. Activate the **Deleted only** check-box to show the pages that have been deleted by new accounts
 - d. Activate the **Only show edits that are latest revisions** check-box to limit the results to the edits that have not been edited by any other user since the new user edited
 - e. Add time parameter with **year** and **month** to your search to only display the edits that have been made within a certain period of time





9.5 Advanced Annotation

9.5.1 Properties and Types

Properties and types are used by a simple mark-up, similar to the syntax of links in MediaWiki:

```
[[property name::value]]
```

This statement defines a value for the property of the given property name. The page where this is used will just show the text for value and not the property assignment.

9.5.1.1 Creating Properties

9.5.1.1.1 Turning Links into Properties

Consider the Wikipedia article on Berlin (http://en.wikipedia.org/wiki/Berlin). This article contains many links to other articles, such as «Germany», «European Union», and «United States». However, the link to «Germany» has a special meaning: it was put there since Berlin is the capital of Germany. To make this knowledge available to computer programs, one would like to «tag» the link

```
[[Germany]]
```



in the article text, identifying it as a link that describes a «capital property». With Semantic MediaWiki, this is done by putting a property name and :: in front of the link inside the brackets, thus:

```
[[Is capital of::Germany]]
```

In the article, this text still is displayed as a simple hyperlink to «Germany». The additional text capital of is the name of the property that classifies the link to Germany. As in the case of categories, the name of the property is arbitrary, but users should try to re-use properties that already appear elsewhere.

To simplify this re-use, every property has its own article in the wiki, just as every category has an article. You can see all the properties in use in the wiki with the **Special:Properties** page. Just as category articles are prefixed with Category:, all property articles are prefixed with Property: to distinguish them from other articles. So you can also use MediaWiki's **Special:Search** page to find existing properties. As with categories, a property's article can be empty, but it is strongly recommended to add a description that explains the intent of the property and its proper usage.

There are various ways of adding properties to pages:

What you type	What it does
Classify a [[example property::link]] with the property "example property."	Classify a link with the property "example property."
<pre>Make [[example property::link alternate text]] appear in place of the link.</pre>	Make alternate text appear in place of the link.
To hide the property [[example property::link]] from appearing at all use a space as the alternate	To hide the property from appearing at all, use a space as the alternate text.
text.	Note: The space after is necessary because otherwise undesirable effects might occur (to make a space appear in the text, use as a space symbol).
The [[:C++ :: operator]].	To make an normal link that contains "::" without creating a property, escape the link with a colon in front
[[property1::property2::link]].	To assign one value to multiple properties, add :: between each property name

9.5.1.1.2 Turning Values in Text into Properties

There is other useful information in wiki articles besides links to other articles. For example, there is a number in the Berlin article giving its population. To make this knowledge available to computer programs, one would like to "tag" the text

```
3,396,990
```

in the article, identifying it as a value for the "population property". With Semantic MediaWiki, this is done by putting the property name and :: in front of the text and surrounding it with [[]] brackets, thus:

```
[[population::3,396,990]].
```

This works fine. However, it creates a link to a 3,396,990 page, and having an article for every population value probably does not make sense. Furthermore, if you wanted to create a list of all German cities ordered by population, numeric order is different from the alphabetical order that you would expect for article names. For example, in alphabetical order, "1,000,000" comes before "345". We want to be able to tell Semantic MediaWiki that "population" is a number, not a link to a page in the wiki. The way to do this is to specify a type for the "population" property. This will be covered in the next section.

9.5.1.2 Datatypes for Properties

Semantic MediaWiki has several built-in datatypes that we can choose for properties. For our previous population example, the appropriate type is called **Number**. We want to give property "population" a special property that specifies it has the datatype "number". To support this, Semantic MediaWiki has a built-in special property called **Property:Has type**. We use the same syntax for this special property as for any other property, so in the **Property:Population** article, we write:

```
[[Has type::number]]
```

Semantic MediaWiki knows a number of special properties like Property:has type. Regardless of whether these properties have their own articles in the wiki, they have a special built-in meaning and are not evaluated like other properties.

Datatypes are very important for evaluating properties. Firstly, the data type determines how tools should handle the given values, e.g. for displaying values and sorting values in search results. Secondly, the data type is required to understand which values have the same meaning, e.g. the values "1532", "1,532", and "1.532e3" all encode the same number. Finally, some data types have special behavior, as will be described below. For these reasons, every property used should be defined with a data type.

The reason we didn't have to specify a data type for the "capital of" property above is that the default data type is **Page**, which is displayed as a link. Even though the datatype Page is the default, you should explicitly specify a datatype for every property, just to prevent confusion or later redefinition with an unintended type. It is also possible for the administrator of an SMW website to change the default datatype.

The same mark-up for properties that are links to pages also works for properties of other datatypes. Here are some more examples:

What you type	What it does
This country has a population of	Assign the value 1,234,567 to the
[[Population::1,234,567]]	property "Population".
This country has a population of	Assign a numeric value, but
[[Population::999,331 about a	showing different text in the article
million]]	
This property is a [[Has	Specifying the type in a property's
type::number]]	article, e.g.
	This property is a number
Find us online at	Display a web link by using a
[[website::http://example.com]].	property of type "URL
You can reach John at [[email	Display a "mailto" link by using a
address::john@example.com]]	property of type "Email"

9.5.1.2.1 List of Datatypes

Using different types, properties can be used to describe very different kinds of values. More information on properties and datatypes is available at http://semantic-mediawiki.org/wiki/Help:Properties and types

- Type:Page links to pages (the default)
- Type:String text strings that are not longer than 250 letters
- Type:Number integer and decimal numbers with optional exponent
- **Type:Boolean** restricts the value of a property to true/false (also 1/0 and yes/no)
- Type:Date specifies particular points in time
- **Type:Text** like Type:String but can have unlimited length; the trade-off is values of this type cannot be selection or sort criteria in queries.
- **Type:Code** like Type:Text but with additional precautions to preserve special formatting as used for technical texts. The value displays as regular text everywhere else (query results, factbox, "Pages using the property", etc.).
- **Type:Temperature** variation of Type:Number that supports units of temperature (cannot be user-defined since converting temperature units is more complicated than multiplying by a conversion factor).
- Type:Telephone number: validates and stores international telephone numbers based on the RFC 3966 standard
- Type:Record: type for compound property values that consists of a short list of values with fixed type and order



For specifying URLs and emails, there are some special variations of the string data type:

- Type:URL displays an external link to its URL object.
- Type:Email displays an e-mail address as a link (with mailto:).
- Type:Annotation URI: similar to Type:URL but with some technical differences in SMW's RDF export

Some extension provide further types:

- Type:Geographic coordinate (provided by Semantic Maps): describes geographic locations. Different forms of geographic coordinates are supported.
- Types provided by DataWiki/Halo extension:
 - Type:Annotation URI
 - Type:Email
 - Type:Integration link
 - Type:Quantity
 - Type:URL

9.5.1.2.2 Enumerations and "Allows value"

In addition to assigning a datatype to a property, you can also restrict the allowed values to a given set (like a whitelist for property inputs). This is done by using the special property **Property:Allows value** to enumerate its permitted values. This works for every datatype.

9.5.1.2.3 Units

The datatype **Type:Quantity** allows a unit after the numeric value to distinguish values (e.g. "30 miles" versus "42 km"). To support automatic conversion and multiple unit formats, one needs to declare each supported unit as described in the documentation on custom units. Property values are then automatically converted between different units, so that users are free to use their preferred unit in each article yet still query and compare with property values in other articles.

9.5.1.3 Special Properties

We mentioned the special property Property: Has type that you use to define the data type of a property. SMW has other predefined special properties that have special meaning (even if you do not create property pages for them in your wiki). You cannot use these names for your own properties, but since SMW 1.4.0 you can use them in browsing and querying interfaces just like all other properties. For more information, see **Category:Special property** and the individual property pages.

9.5.1.4 Silent Annotations using #set

Instead of using the standard double-brackets markup, you can also define semantic data using the #set parser function. This function takes in pairs of property names and values and stores them semantically; but it does not print anything to the screen. An example call would be:

{{#set:Has population=3,396,990|Has country=Germany}}



The #set call is specifically helpful when trying to save a String or Text value that contains square brackets, such as wiki-links; such brackets often don't work with conventional SMW markup.

9.5.1.5 Defining Recurring Events

Another type of complex data is recurring events, which are events that have multiple dates, defined according to a preset rule (such as a weekly meeting). You can define the date values for these using the #set_recurring_event parser function, which, like #set, is "silent" and does not print anything. An example call would be:

```
{ #set_recurring_event:
  property=Has date
  |start=January 4, 2010
  |end=June 8, 2011
  |unit=week
  |period=1
  |include=March 16, 2010; March 23, 2010
  |exclude=March 15, 2010; March 22, 2010} }
```

More information on recurring events can be found at http://semantic-mediawiki.org/wiki/Help:Recurring events

9.5.1.6 Handling in Earlier Versions

Up to SMW/DataWiki 1.5.6, datatypes had individual wiki pages in their own namespace called "Type". This was abolished to reduce the number of extra namespaces. You may still find expressions like "Type:Number" in places in this wiki. Both writings are accepted for assigning a datatype to a property.

In very early versions of SMW, properties with datatype Page were known as relations and only those used double colons (::) as the separator between property name and link text. All other properties (numbers, strings, etc.) were known as attributes and had to use colon equals (:=) as the separator.

9.5.2 Domain and Range

The set of properties belonging to a category is called schema. This article describes how to best handle Domain(s) and Range(s).

9.5.2.1 Introduction to Domains and Ranges

Categories may sometimes comprise properties. For instance, an atom has an atomic weight, which is a number. Atom is the category and atomic weight is the property. So each instance of an atom has an atomic weight, e.g. 1.008 for Hydrogen.

Normally, it would be sufficient to create an attribute, e.g. Property:atomic weight and then assign a type to it, e.g. [[has type::Type:float]]). The problem is that the attribute may be used in every article of any category. As a result, you realize that even a car could end up having an atomic weight.



To identify such errors, the property articles should be annotated with a domain and range. The Property:atomic weight article should contain the following line:

```
[[has domain and range::Category:Atom]]
```

The domain is the subject of a property's relation, just like the grammatical subject in an ordinary sentence: **An atom has an atomic weight**.

For data types other than Page, defining a domain is sufficient. However, this is different for properties of type page. Such properties connect two wiki articles, and each article itself is in a category. Thus, we can now not only specify in which category the subject should be (domain), but also in which category the object of an annotation should be. This is called the range of a property. For example the **product of a chemical reaction** is a **molecule**:

- The property is: has product
- Its subject (domain) is Chemical reaction and
- Its object is (range) Molecule.

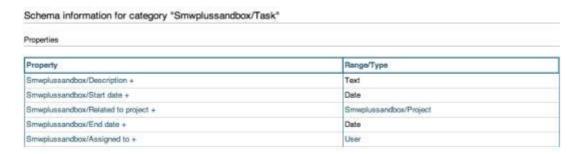
Both Chemical reaction and Molecule are categories. So the property has product should be defined as follows in the Property: has product page.

```
[[has domain and range::Category:Chemical reaction;
Category:Molecule]]
```

9.5.2.2 Schema information on Category Pages

The set of properties that belong to a category is called schema. The schema is described in the **Schema information for category** section that can be found on every category page. It can consist of several tables:

- The category's properties i.e. all properties whose domain is the category.
- Normal articles whose domain is the category. This table indicates modeling errors since normal articles must not have a domain.
- Properties whose range is the category.
- Normal articles whose range is the category. This table indicates modeling errors since normal articles must not have a range.





9.5.2.3 The "Redirect-Trap"

Sometimes a property is redirected to a normal article. For instance, a user who wants to open the definition of a property e.g. Property: Atomic weight, might be automatically redirected to the article Atomic weight (without the namespace Property). If one goes on to annotate a domain and range in the normal article this results in an error even though it is not noticeable. The schema information lists the redirects from properties to normal articles.

Due to a change in the wiki's data structure, redirects that have been created with older versions might not be detected. However, the erroneous articles will still be listed.

9.5.2.4 Example

We will present a small example by defining some properties for a project context.

Property: Project start date

For each article in the category "Project", we would like to have a start date:

```
[[has domain and range::Category:Project]]
[[has type::Type:date]]
```

Property: Project subtask

A project consists of a number of subtasks, where each subtask is represented by its own wiki page:

```
[[has domain and range::Category:Project;Category:Task]]
[[has type::Type:page]]
```

Property: Has Owner

Every task has an owner, who is responsible for that task:

```
[[has domain and range::Category:Task;Category:Person]]
[[has type::Type:page]]
```

Property: Estimated Effort

For each task, one would like to provide a number representing the estimated effort in hours:

```
[[has domain and range::Category:Task]]
[[has type::Type:number]]
```

Property: Task summary

Finally, every task shall be annotated with a short summary:

```
[[has domain and range::Category:Task]]
[[has type::Type:text]]
```



9.5.3 Viewing all Properties, Types and Values

Each property has an own page in the Property-namespace, similar to the category pages in MediaWiki's Category-namespace. These property pages show all pages using the property together with the according property value(s).

Besides the links in the Factbox and the normal search, there are also special ways of finding properties of a wiki:

Special:Properties lists properties that appear in annotations in alphabetical order and indicate the frequency of their usage

Special:UnusedProperties lists property pages that are not in any annotations. This may indicate that a property was abandoned and should be deleted.

Special:WantedProperties lists properties that are used but do not have a descriptive page. This is not desirable, since users then cannot find any documentation on such properties, so that confusion may arise regarding their proper use.

Special:Types lists the available datatypes for properties.

These special pages are particularly useful for wiki gardeners and editors, since they give some overview of how properties are used in the wiki.

Semantic Browsing (Special:Browse) offers a simple browsing interface for the computer-readable data of DataWiki. You start by entering the name of a page. The semantic browsing then displays on the left all semantic links that lead to that page and on the right all semantic properties of that page (similar to the content of the Factbox). By clicking on the icon \mathfrak{D} , you can 'semantically' browse to another article.



These approaches all search for semantic properties of pages. To simply view existing pages about properties, categories, and types, even if unused, use MediaWiki's **Special:Allpages** to display all pages within these namespaces.

9.5.4 Defining a Set of Allowed Values for a Property

In some situations, one may want to define and use a property which takes only certain predefined values - this is the so called enumeration.

To picture this, we look at the chemical state of matter which can take the gaseous, aqueous, liquid or solid states. One can set a property that can take



only the defined states where these constants will be the possible values of an enumeration.



Defining the sets of allowed values is done with the property Property: Allows value which is a special property that comes with the installation

9.5.4.1 Creating a Property that has a Set of Allowed Values

1. Create a new property as usual, e.g. by using the Data Explorer or Data Toolbar



- 2. Open the property page
- 3. Edit the property in Wikitext mode
- 4. Add the set of allowed values to the edit area
 - a. The possible values of an enumeration are defined with the property Property: Allows value which is used with this syntax:

[[Allows value::replace this by allowed value]]

5. Save the property page



Every "allowed value" shall be annotated with the property Property: Allows value

Example for allowed values for the property "State of matter":

```
[[Allows value::liquid]]
[[Allows value::gaseous]]
[[Allows value::aqueous]]
[[Allows value::solid]]
```

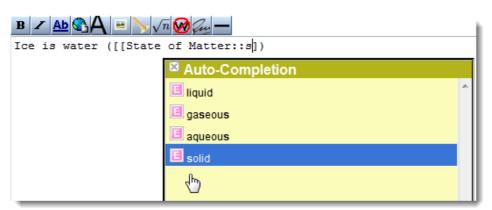
9.5.4.2 Annotate Allowed Values Using Autocompletion

Autocompletion supports you by proposing the allowed values of a property. The following example shows how this happens when you annotate using the wikitext view:

- 1. Open the page that you want to annotate in Wikitext mode
- 2. Place the mouse on the location where you want to annotate
- 3. Type in the open double square brackets "[["
- 4. Auto-completion floater will appear automatically, if not press the Ctrl+ Alt+ Space to activate it.
- 5. Now type in the first letters of the property you want to annotate with the results in the auto-completion floater are filtered as you enter your property



- 6. Select the property this automatically prints the selected property's full name and adds double colon "::" behind it
- 7. Proceed to add the property value the Autocomplete floater will show you a set of allowed values.



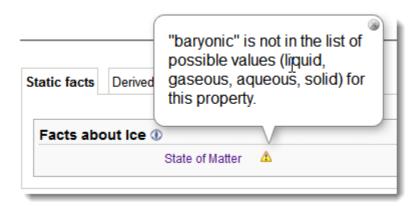
8. Select the allowed value - the annotation mark up will be added and the annotation will be closed automatically.



9. Save the article

Results

- The annotation is added in the text area and can be seen on the factbox once the article is saved.
- The saved article's fact box shows whether the correct values have been assigned.
- If the wrong value is added, an error will be shown on the factbox and in the article with a detailed warning



9.5.5 Turning a Link into a Property

If you have a look at the article about Berlin in Wikipedia (http://en.wikipedia.org/wiki/Berlin), this article contains multiple links to other articles, such as «Germany», «European Union», and «United States». However, the link to «Germany» has a special significance: it was put there since Berlin is the capital of Germany. To make this knowledge available to computer programs, one would like possibly wish to «tag» the link

```
[[Germany]]
```

in the article text, identifying it as a link that describes a «capital property». This is done with DataWiki by putting the property and the link inside double squire-brackets and separating them with two successive semicolons, :: as shown below.

```
[[capital of::Germany]]
```

Having done this, the text in the article still remains as a simple hyperlink to «Germany». The additional text capital of of is the name of the property that classifies the link to Germany.

Just like in the case of categories, the name of the property may be chosen randomly but we recommend that one should try to re-use properties that already appear elsewhere. Re-use of properties is made simpler since every property has its own article in the wiki just like every category has an article. You can get all the properties in use in the wiki in the Special: Properties page. Category articles are prefixed with Category: In line with this, the property



articles also have a Property: prefix which distinguishes them from other articles. Consequently, you may also use the Special:Search page to find existing properties.

A property's article, just like a category's article may be left empty. We however strongly recommend that one adds a description that gives details about the purpose of the property and how it may best be used.

9.5.6 Using the Property Type Record

The datatype **record** is used for property values that consist of multiple values In earlier versions of SMW, record properties have also been called many-valued properties or n-ary properties.

For each property that uses this datatype, the order and type of the individual fields of the record is fixed, based on a **Has fields** declaration on the property page.

```
[[has fields::Birth date;Location| ]]
```

Annotating records just work like one would edit the custom properties. When the property's name is entered, the Data toolbar provides the corresponding input fields. This example is illustrated in the image below using the property "IsBorn" that has the properties birth date and birth location as an example.



Result



9.5.6.1 Create a Record Annotation

A record property is declared by writing [[has type::record]] on the respective property page, and by setting the types of the record's fields with the property Has fields. For example, to define a record myrecord with a Date, a Page and a Number field, you can edit the myrecord property page and write

```
[[has type::Record]]
[[has fields::Date; Page; Number]]
```

In a similar way, you can set any list of types for the record. It is recommended that the number of fields in a record does not exceed five, but larger records are possible. There are some technical restrictions on record sizes, so record declarations with more than 50 fields are likely to fail. Note that records are already unusable for human editors at much shorter lengths.

When using a record-type property on a page, the values for the individual fields are given as a value, separated by semicolons. If the property *myrecord* were declared as above, one could write the following annotation on a page:

```
[[myrecord::May 12 1005; Some pagename; 1234]]
```

When setting a value for a record-type property, it is also possible to leave some of the fields unset by leaving them empty or setting question marks:

```
[[myrecord::May 12 1005; ?; 1234]]
[[myrecord::May 12 1005;; 1234]]
```

Values at the end of the record can also be omitted completely:

```
[[myrecord::May 12 1005; Some pagename]]
```



If the value that is given for some field in the record is not allowed for the datatype declared for this field, SMW will also try to leave the field empty and use the value for the next field. For example, [[myrecord::Some pagename; 1234]] is interpreted as [[myrecord::?; Some pagename; 1234]]

9.5.6.2 Querying Record Annotations

Using record properties for searching pages can be done in a similar fashion as for all other properties. As with any property, you can use the + wildcard to select all pages with some value for a record property, for example $\{ \#ask : [Employment::+] \} \}.T$

o find pages that match a particular value for some of the fields of the record, just list the values to match, separated by semicolons. If you do not care about the value of one of the datatypes, use ? to match any value for it including omitted.

The values given for fields in a record query are written according to the datatype of the field. For most datatypes, this means that comparators such as ! for not and < for less than can be used with each field.

For example,

```
{{#ask: [[Employment:: ?; !professorship; <July 1950; ?]] }}
```

selects values for the property Employment with any value for the employer string, where the title string is not "professorship", the start date is before July 1951, and with any value for end date.

When displaying the values of records in query results, it is possible to use the printout parameter index to obtain a particular field of the record. For example, one can write the following query:

```
{{#ask: [[U.S.A.]]
| ?has president
| ?has president#name |+index=1
| ?has president#start |+index=2
| ?has president#end |+index=3
}}
```

to display all presidents of the U.S.A. in a table: the first column shows the complete record, the second shows only the first field (name), and the third and fourth show that second and third field, respectively (start and end of office). Note that the only "result" of this query is the page U.S.A so the table has a single row that shows all of this page's values for has president, not many rows for each president. The latter cannot be achieved with records.

9.5.6.3 Limitations

• You cannot use the special **Allows value** property to limit the values of any field of a record.

- You cannot use the special Display units property to control how a specific field appears.
- You cannot set the layout of the values; they will always appear as a comma-separated list.
- Fields of records cannot be the basis for special purpose query formats such as Timelines or Maps.
- Records can not be nested, and thus can only consist of simple datatypes.

9.5.6.4 Notes on Automatic Semantic Forms

When using Automatic Semantic Forms record values are displayed in a common text field.

Example

If you have an article annotated with:

```
[[myrecord::May 12 1005; Some pagename; 1234]]
```

Then you will see in formedit mode a form input field that shows the value:

```
May 12 1005; Some pagename; 1234
```

Be careful with delimiters

If a property has defined a cardinality bigger than 1 or no cardinality, then the ASF extensions assumes that you want to enter multiple values into a form input field.

ASF uses , (comma) as default delimiter, but you can define another delimiter with the property **'Use delimiter'**. If you explicitly set ; (semicolon) as delimiter for the value, then you might create unwanted annotations because the ASF extension splits 'May 12 1005; Some pagename; 1234' into three property values:

```
[[myrecord::May 12 1005]]
[[myrecord::Some pagename]]
[[myrecord::1234]]
```

9.6 Using the Autocompletion Feature

The Autocompletion feature provides suggestions while you type into a field without actually typing it in completely. The feature is available per default in the search field and the wikitext edit mode. Furthermore a Wiki application expert can select the Autocompletion to provide suggestions for Semantic Form input fields.

9.6.1 Prerequisites

Within a DataWiki installation the Autocompletion is activated by default, e.g. in the search field, Data toolbar and the editor.



If you want to use the Autocompletion with Semantic Forms within a SMWHalo installation you need to install the Semantic Forms extension additionally, therefore have a look at the Technical information section below.

If you don't wish the autocompletion being activated by default, set the option Manual auto-completion on **Preferences** > **User profile** in your settings. Now, the autocompletion is triggered with the key combinations below.

9.6.2 Trigger the Autocompletion

Use one of the following key combinations depending on the browser you use, to trigger the Autocompletion. Alternatively it may be triggered automatically whenever the system recognizes a matching context.

- Mozilla Firefox
 Ctrl + Alt + Space
- Internet Explorer Ctrl + Space
- Apple Safari Ctrl + Space / Ctrl + Alt + Space /

9.6.3 Autocompletion in the Search Box

The main search box, that is to the left, supports autocompletion: The text that is to the cursor's left in the search box, which is part of an article's name, is considered as user input. It is used as a string for pattern matching. Thus one needs to at least enter one character so as to use the Autocompletion feature. Where no context was detectable, only the page titles are used for pattern matching.

9.6.4 Autocompletion in Semantic forms

You can use autocompletion in Semantic forms, too. This requires changing the wikitext code of the forms.

9.6.4.1 Specify the Form Field to use Autocompletion

If you have a field in a semantic form that looks like this:

```
{{field|Author|input type=text|size=66|autocomplete on category=Person|default=current user|list}}}
```

Change it to:

```
{{field|Author|input type=haloACtext | size=66 |constraints=ask: [[Category:Person]] |default=current user |list}}
```

9.6.4.2 Specify Field Size

Using input type=haloACtext the field size is specified by the parameter size, e.g.:

```
{{field|has prerequisites |input type=haloACtext| mandatory| size=100| constraints=ask:[[Category:Event]]}}}
```



Using input type=haloACtextarea the field size is specified by the parameters cols and rows, e.g.:

```
{{field|has prerequisites|input
type=haloACtextarea| mandatory| columns=100| rows=10|
constraints=ask:[[Category:Event]]}}}
```

If not defined, the default values are: cols=80 | rows=5.

9.6.4.3 Specify Behaviour of the Autocompletion

The constraints parameter defines the behaviour of the autocompletion and can consist of several commands. It has the syntax:

```
constraints=command1: param1,param2,...|command2: param1,
param2,...|...
```

9.6.4.3.1 Commands for Autocompletion

values

A simple list of fixed values

```
constraints=values: draft,reviewed,approved
```

schema-property-domain

All properties of the given domain category (including inferencing)

```
constraints=schema-property-domain: Resource
```

Returns all properties of the category 'Resource'

schema-property-range-instance

All properties which can have the given instance as range (including inferencing)

```
constraints=schema-property-range-instance: Project_A
```

annotation-property

All properties which are used on pages of the given category (including inferencing)

```
constraints=annotation-property: works for project
```

Returns all properties which are used together with 'works for project' or if there are no such properties, return all.

annotation-value



All values the given properties are annotated with (including inferencing)

```
constraints=annotation-value: Has_attendee
```

schema-property-type

All properties which uses the given type or unit

```
constraints=schema-property-type: Date
```

Returns all properties that are using the type 'Date'

instance-property-range

All instances of the range of property. In contrast to using a hard-coded ask-query-constraint with Category: $X \mid Y \mid Z$, this new command is more flexible with respect to changed range annotations

```
constraints=instance-property-range: Is project member of
```

Returns all ranges of the property 'Is project member of'

namespace

All pages of the given namespace index, you can use either the name of the namespace or the indices

```
constraints=namespace: 102
constraints=namespace: property
```

lexical

Lexical matching is used to shrink down the results coming from other constraints, means any page which just match the user input.

```
constraints=lexical
```

ask

A semantic query. May have a second parameter denoting the property value which should be used instead of the main result.

```
constraints=ask: [[Category:Project]][[Begins::>June 30,
2009]]
```





Note:

The commands are executed in the order of appearance. If a command returns at least one result, the execution is stopped. Exception: the command values can return values and the execution still continues.

9.6.4.4 Supress Printing Namespaces

If you use the option 'pasteNS=0' (or 'pasteNS=false') for a Semantic form field, the Autocompletion will suppress printing the namespace of a page in the common prefixed form (namespace:localname). Default is to print the full page name (i.e. namespace:localname), e.g. User:WikiSysop.

```
{{field|Author|input type=haloACtext| size=66|
constraints=ask: [[Category:Person]] | pasteNS=false|
default=current user| list}}
```

9.6.5 Autocompletion in Input Fields

You can also use the Halo autocompletion within input fields for content and offer autocompletion on instance of the category content. If you have an input field in a semantic form that looks like this:

```
{{#forminput:form=Content|size=45|button text=Create
content | autocomplete on category=Content}}
```

change it to:

```
{{#forminput:form=Content|size=45|button text=Create
content|useHaloAC=1|constraints=ask:
[[Category:Content]]}}
```



Note:

Currently you cannot use the forminput parser function twice on the page, once with Halo autocompletion and one with the standard semantic form autocompletion.

9.6.6 Autocompletion in Edit Mode

Autocompletion in the edit mode may be triggered inside a bracket context [[...]] by pressing Ctrl + Alt + Space. The following contexts are detected automatically:

Category annotation context

Type [[category:<match>: all categories are listed

Property annotation context

This context has two special subcontexts



- Type [[Is subproperty of::<match>: Only properties appear
- Type [[<a property>::<match>: Only instances will appear

Template annotation context

Type { <match> : All templates appear

Untyped link

Type [(<match>: All instances appear)



Note:

<match> is at least one character

9.6.7 Technical information

The Semantic Forms extension allows to define hooks for input type fields. The SMWHalo extension defines these. There is a new type named haloACtext which has the same functionallity as the normal text field, but it uses in addition the autocompletion. This is accessed by JavaScript. Therefore the generated input elements in a form must have special attributes to make use of the Javascript for the autocompletion.

Furthermore you can use the Triple store connector as autocompletion backend.

9.7 Working with tabular forms

This section describes the new query output format Tabular form, which enables users to directly edit semantic data within the displayed query. It also explains how to create Tabular form queries and how to work with them.

If you have added an inline query to a wiki page, you can see the results and their semantic data on this page. With Tabular forms you can directly edit the semantic data of each single result within the displayed query. So, you don't have to visit the origin page to change a value of a property. With Tabular forms you can also delete pages or create new pages and annotate them directly. This is a very comfortable and time-saving way to organize your data, especially for batch processing.

Creating a Tabular Form Query 9.7.1

Tabular Form (TF) is query result printer like an eventline, a list or an ofc pie. To create a TF query, you just need to select this in the result definition. The query definition stays like in every other query. You can create a TF query with the Query Interface or by using the #ask syntax in the wiki code. The #ask syntax enables you to add some additional parameters.

9.7.1.1 Prerequisites

We assume that you know how to create a guery with the Query Interface. This article only mentions the characteristics of the Tabular form result printer. To learn more about queries, refer to the Querying for data user guide section.



9.7.1.2 Create a Tabular Form query with the Query Interface

To create a Tabular Form query with the Query Interface:

- 1. Open the Query Interface via the WYSIWYG editor.
- 2. Define the query in the **Query definition** section.
- 3. Go to the Result section.
- 4. Select format Tabular Form (tabularform) from the drop-down list.



- 5. Define the **Options** for tabularform in contrast to other result printers, TF has **two additional options**:
 - a. **enable add**: Enables users to add new instances (to create a new page) by using the TF query. Default: true.
 - b. **enable delete**: Enables users to delete complete instances (from the wiki, not only from the query). Default: true.



- 6. Check the output in the Result Preview
- 7. Click OK to create and insert the guery.

Results:

- The Query Interface will exit, you will automatically be returned to the WYSIWYG edit mode.
- The created query will be loaded into your article and represented by this query icon:

Once you have saved the page, you can work with the Tabular Form query and use its features.

9.7.1.3 Advanced options by using the #ask syntax

You can also create a Tabular Form query by using the #ask syntax and entering an inline query to the wiki code. This enables you to define some additional parameters for the Tabular Form query.



9.7.1.3.1 Enable Adding and Deleting instances

You can use the following parameters to enable adding and deleting instances. These parameters comply with the options from the Query Interface (see above).

```
| enable add=true
| enable delete=true
```

9.7.1.3.2 Including Templates

Tabular Form introduces Template Parameter Print Requests, since it does not allow users to edit annotations which are made within a template.

Template Parameter Print Requests in #ask queries have the following syntax:

```
| #Template-name#Parameter-name=Label
```

The Tabular Form then displays an additional column which displays the value of the given parameter and the given template for each instance. The parameter name is optional so you can also write this:

```
| #Template-name =Label
```

In this case, columns for all parameters that are used together with this template are displayed.

Templates which are embedded in other templates or parser functions are not supported.

9.7.1.3.3 Preloading Values

If users are allowed to add new instances, then they also need to enter values to the given properties. You can define a dafault value for each property, which is offered to the user by Tabular Form. The syntax for preloading is:

```
{{#ask: .....
| ?Property name = Label = Preloading value
.....
}}
```

You can also preload several values for one property. Just seperate the values with a semicolon. You can't use Magic Words like {{CURRENTIMESTAMP}}, since Magic Words are evaluated when an article is edited. The preloading value therefore would be the timestamp, when the article, which contains the Tabular Form, was created and not the timestamp when the user is adding a new instance in the Tabular Form.

You may "hide" the Magic Words like in the following example:



```
{{#ask: .....
| ?Property name = Label =
  {{OpenCurlyBracket}}{{OpenCurlyBracket}}CURRENTTIMESTAMP{{
  CloseCurlyBracket}}{{CloseCurlyBracket}}
  ....
}}
```

You also need two additional templates in your wiki named OpenCurlyBracket and CloseCurlyBracket which are already contained in DataWiki.

You can also preload the name for new instances. Therefore, just add the new parameter 'instance name preload value' to the query definition:

```
| instance name preload value=New instance name
```

9.7.1.3.4 Silent Annotations

If you add an instance, you can automatically add some annotations. By default, the annotations will be added to the instance by the squared bracket syntax:

```
[[property::value| ]]
```

You can use the following parameter to define whether a Tabular Form shall use the CreateSilentAnnotations template for new annotations.

```
| use silent annotations template=true
```

9.7.1.3.5 Write Protected Annotations

You can define annotations, which should be write protected within the Tabular form. The write protection only avoids the editing of the values with the TF query, which is useful if the values should be editable by the user in general but not in the TF query. You can define one or several annotations (separated by semicolon) with the parameter 'write protected annotations':

```
| write protected annotations=Property1;Property2
```

9.7.1.4 Automatic Preloading

Since DataWiki 1.7.0 TF supports automatic preloading based on the query string. Automatic preloading can be done for all query conditions, in which an exact value is requested. Boolean or-conditions in the query will be ignored, so that several values will be preloaded. Query chains are not supported.

Syntax in the query string		Automatic preloading value(s)	
[[Located in::Germany]]		Germany	
		Germany, France	



[[Located in::France]]	
[[Located in::Germany France]]	No preloading
[[Population::>250,000]]	No preloading

Automatic preloading for an annotion only works:

- if there is no manual preloading value for that annotation
- if the annotation has not been made write-protected

•

Automatic preloading is currently not suppported for SPARQL queries and for properties of type record.

9.7.1.5 Automatic disabling of 'Add instance' button

The **Add instance** button will be disabled automatically, if all of the following facts agree to one of the annotations, which are used in the query string:

- The annotation is not shown, respectively there is no print request for this annotation.
- The annotation has no manual preload value.
- No sufficient automatic preload value can be computed for the annotation.
- The annotation is not write protected.

In most of these cases, a new instance would not be part of the query result. For this reason, this function will be disabled automatically.

9.7.2 Working with a Tabular Form Query

Tabular form queries provide you four different operations to edit your semantic data:

- Change value of property: Change the value of a property, which is listed in the query result.
- Delete annotation: Delete the annotation of a property to a certain instance, which is listed in the guery result.
- Add instance: Add a new instance and annotate it with all properties, which are listed in the guery result.
- Delete instance: Delete an instance, which is listed in the query result. This will delete the instance completely from your wiki.

9.7.2.1 Prerequisites

Maybe you are not able to edit or delete some values. This could have two reasons:

- You don't have the user rights to edit the instance or the property value.
- TF can't edit the value.



The second case can occur again for two reasons. Generally Tabular Forms (TF) can't edit a value, when they don't find the annotation inside the instance. This happens if:

- the value is inferenced (e.g. subproperties or inverse properties).
- the value is embedded in a parser function or a template call.

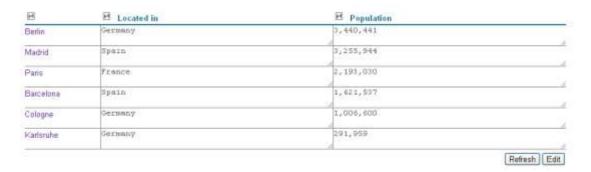
It is also possible that you are not able to add or delete instances in general. In this case, the options enable add and/ or enable delete are disabled in the result definition of your query.

9.7.2.2 Overview of a Tabular Form Query

Tabular Forms provides two different display modes. One mode for just viewing the query result and another mode for editing the instances and their values of the query result. In both modes the result of your query is shown as table. They show the instances, which fulfill the query restrictions, with their queried properties and values.

9.7.2.2.1 View mode

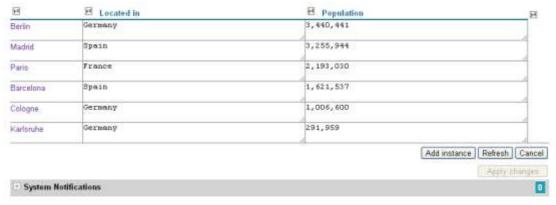
The view mode is allways the default mode if you open an article which contains a Tabular form query.



The view mode provides two buttons:

- **Refresh**: Use this button to refresh the query result.
- **Edit**: Use this button to change to the edit mode.

9.7.2.2.2 Edit Mode



The layout of the query result doesn't change. But in the edit mode, you are able to edit the semantic data. Each value is shown in a seperate cell. If you hover the cursor over a cell, the cursor design changes and an icon appears. This icon tells you, that you are able to edit this value. If this icon doesn't appear, you can't edit the value. Check the prerequisites in this case.



M	■ Located in	■ Population
Berlin	Germany	3,440,441
Madrid	Spain I	3) 255,944

The edit mode provides four buttons:

- Add instance: Use this button to add a new instance.
- **Refresh**: Use this button to refresh the query result. The query will automatically refreshed when you apply changes. You may use this button to get the last changes of other editors.
- Cancel: Use this button to change to the view mode. Changes which haven't been applied will get lost.
- **Apply changes**: Use this button to save your changes. The button is only available after you have changed any data.

In the edit mode you can also get some information from the **System Notifications** section. In this section, the system will inform you about the most important actions: For example if you have deleted an instance or if your input was invalid. The system will also warn you if you might lose an instance because of your changes.

9.7.2.3 Change Value of Property

- 1. Open the edit mode of the TF query.
- 2. Click inside the cell, you want to edit The cell will be marked with a light blue background color



3. Edit the value. An edited value is displayed in bold. An icon signalizes: Instance has been modified



4. Optionally you can edit some other values: Click inside the next cell.



5. Click on **Apply changes** to save the new values.

Note:

After you start typing into the selected cell, auto-completion may help you to find the desired value.

The changes have been saved and the query result has been automatically refreshed. Maybe your changes have caused that the order of the results changes or that an instance is no more part of the results.





Note:

You can click on **Refresh** to reset all changes which haven't been applied yet. This will help you, if you have changed the wrong property and can't remember its origin value. You can also use the Cancel button. In this case, you will additionally leave the edit mode.

Result:

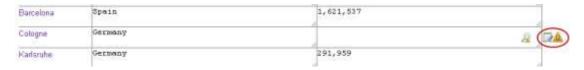
As soon as the instance has been modified succesfully, the old value has been overwritten within the instance.

Annotation labels:

If an annotation uses a label, the label will also be overwritten by the new value. Example: Cologne has a population around one million, so you eventually made the following annotation for a better reading: [[Population::1,000,660] around a million]]. Unfortunately you will lose this label after using TF.

9.7.2.4 Delete annotation

Deleting a whole annotation is the same procedure as changing a value. If you have selected the corresponding cell, just delete the value and enter nothing. TF will delete the whole annotation, because an annotation without a value makes no sense. Note again, that the instance may disappear after refreshing, if it doesn't fulfill the query restrictions any more. If an instance may disappear, TF signalizes this with a warning symbol.



9.7.2.5 On-the-fly warnings for invalid values or losing instances

If you edit or delete an annotation with TF this might cause some effects, you didn't thought about before. The following could happen:

- The new value is invalid and so the annotation gets lost.
- Due to the change of a value, an instance is no more part of the query result, because it doesn't fulfill the restrictions anymore.

TF will warn you in both cases on-the-fly with a symbol and also with a message in the System notifications section, while your are editing the semantic data.

9.7.2.5.1 Invalid values

A value is invalid if it doesn't match the restrictions that are set by the annotation type, e.g. 'Yesterday' is not a valid value for a property of type date. Additionally values could be invalid, if a property has some allowed values defined and the new value doesn't belong to this list. Invalid annotations values are ignored by Semantic MediaWiki.

If you enter an invalid value, TF will warn you on three ways:

- The concerning cell is highlighted with a red border.
- A warning symbol is displayed on the right of the row.
- The warning is mentioned in the **System Notifications** section at the bottom of the Tabular form.

In the following example the new value is invalid because the property 'Population' has the type number:



9.7.2.5.2 Losing Instances

Losing an instance means that an instance will not be part of the query result after you have applied your changes. Of course the instance won't be deleted from your wiki. The most obvious reason for losing an instance is, that a new value doesn't match to the query restrictions. In our example we have restricted the query results to instances, which have a population value higher than 250,000.

If you might lose an instance, then TF will warn you on-the-fly by

- a warning symbol displayed on the right of the row and by
- a warning message in the System Notifications section at the bottom of the Tabular form.

In the following example the new value would cause losing the instance because the value for the property 'Population' is smaller than 250,000.



Final warnings and on-the-fly warnings:

On-the-fly warnings can't detect all possibly losing instances. This has several reasons mentioned below. Because of that TF provides a final warning for lost instances. After you have applied your changes, you get a list of all lost instances in the **System Notifications** section:



When on-the-fly warnings can't detect losing instances:

- If conditions in a query string use the 'like' or 'not like' operator.
- If disjuctions (i.e. all boolean ORs) were used in the query.
- If values of a properties with type 'record' were edited.
- If the query has been defined in SPARQL syntax.
- If there are restrictions to the instance name and a new instance has been added.



If changing a value from instance A causes the losing of another instance B.

9.7.2.6 Add Instance

If you add an instance, TF will create a new page and add the annotations you made automatically. TF creates a new row after the last row of the table.



The instance will be created by TF. If the new instance matches to the query restrictions it will be shown directly in the table.

Paris	France	2,193,030
Hamburg	Germany	1,800,000
Barcelona	Spain	1,621,537

- Open the edit mode of the TF query.
- Click on **Add instance** underneath the table.
- Select the left cell and enter a name for the new instance. You can't enter already existing instances.
- Enter values for the given properties.
- Click on **Apply changes**.

9.7.2.6.1 Adding Instances with Automatic Semantic Forms

The Automatic Semantic Forms extension introduces so-called display templates.

If you have this extension installed and create a new instance with Tabular forms using a category that has a display template defined, then the new instance uses the display template.

9.7.2.7 Delete Instance



Important Note:

Please note, that this procedure will delete the whole instance with its annotations and its content from your wiki. It has the same effect like deleting a page manually

- 1. Open the edit mode of the TF query.
- 2. Hover the cursor over the instance. The **Delete** button appears.



- 3. Click on **Delete**.
 - a. The values become transparent. Icon signalizes: instance will be deleted





4. Click on Apply changes.

After a short time, the instance disappears from the result list. The **System Notifications** section also reports, that the instance is no more part of the query result. The instance has now been deleted completely from the wiki.



🚺 Note:

The Delete button transforms into an Undelete button, after being clicked. So you can easily retract your choice before applying changes.

9.7.3 Filtering and Pagination

Tabular Forms now support filtering and paging, i.e. column headers show filter input fields with which the shown results can be filtered and the bottom of the tabular form shows a paging feature so that users can browse through the complete query result within the tabular form and do need to open Special: Ask in order to see further results.

9.7.3.1 Prerequisites

Filtering can be enabled with the new query parameter 'enable filtering=true'. The paging widget is always shown.

9.7.3.2 Description of the Filter Feature

IWith filtering enabled, all TF column headers will show input fields for filtering. The following input field types are supported:

- Columns for properties of type Boolean will show a dropdown with the values true and false as well as an empty value.
- Columns for properties that have a 'Allows value' annotation will show a dropdown
- Columns for properties of type date or number will show a dropdown and an input field. The dropdown offers the options '>', '<' and '=' and the input field is for the compare value.
- Columns for template parameter print requests will not show an input field because filtering is currently not supported for those columns.
- All other column headers will show a input field with standard autocompletion.
 - The filter input field in the column for the instance name autocompletes on the query results. The filter value must exactly match on of the instance names in the query result, e.g. if one of the instance names is '1. example' and the filter value is '1. example' or '1. Example' then the filter will not return any results.
 - o If the column shows categories, then the filter input field will autocomplete on the namespace category and again exact filter values are needed.
 - All other input fields will autocomplete on all values that the corresponding property already has somewhere in the wiki. This means that the autocompletion feature also autocompletes on values that do not occur in the guery result. The filter input field



supports partially matches if the property is of type 'page', 'url', 'text', 'string' or if the property does not have a type at all. Otherwise exact matches are needed again.

- It will not be possible to enter more than one filter criteria for one column, e.g. it will not be possible to select two values in the dropdown.
- It will be possible to combine filters for several input fields with the limitations described below in the filter implementation section.
- As soon as the user modifies, adds or deletes an instance in the TF, the filters will become write protected until the user commits his changes, i.e. filtering is not possible while the TF shows an uncommitted state.

9.7.3.3 Description of the Paging Feature

The bottom of the TF will show a common pagination widget.

- It shows a next and a previous results link.
- It shows the range of the currently shown results.
- It shows links for choosing whether 20, 50, 100, 200 or 500 results should be shown at once.
- There is no element that shows how many pages there are altogether.
- Also the paging feature is disabled if the TF currently shows an uncommitted state.

9.7.3.4 How to Add the Filter Feature to Tabular Forms

The filters are implemented based on #ask. This works as follows: The filter criteria will be added to each disjunctively connected part of the query.

Example

- Original query:
 - o [[Category:Task]] [[Assignee::Kai]] OR [[Category:Task]] [[Assignee::Thomas]]
- Filters:
 - o [[Has status::Finished]], [[Belongs to project::SMW plus]]
- Resulting query:
 - [[Category:Task]] [[Assignee::Kai]] [[Has status::Finished]]
 [[Belongs to project::SMW plus]] OR [[Category:Task]]
 [[Assignee::Thomas]] [[Has status::Finished]] [[Belongs to project::SMW plus]]

0

This approach will have the following implications:

- Filter values must exactly match the property values of the instances, e.g. [[Belongs to project::SMW plus]] will return other values than [[Belongs to project::SMW PLUS]]. An exception are those properties that support the like operator, so that the filter condition can be written as [[Belongs to project::~*SMW*]]. In this cases also partially matches are supported. However this is not a big limitation, since we have autocompletion for the filter value input fields.
- SMW limits the amount of constraints for one query, i.e. if the original query consists of several disjunctively connected parts and if several filters should be applied, then the filter query may not return a result



because of that limit. It will be the responsibility of the user to deal with that limitation.

9.7.3.5 Additional notes

SPARQL queries

Filtering is not supported for sparql queries.

Expert mode

If one uses the new query parameter 'expert mode=true', then the tabular form

- will not start in the view mode. There will only be the edit mode shown.
- the system notifications feature will be hidden.

9.8 Working with wiki applications

- 9.8.1 Working with templates
- 9.8.1.1 Creating templates
- 9.8.1.2 What are Semantic templates
- 9.8.2 Using Parserfunctions
- 9.8.3 Using Variables
- 9.8.4 Using StringFunctions

9.9 Overview of Special Pages

Special pages are created by the software on demand. They are located in Special: namespace and have no corresponding wikitext. A list of most special pages is available by the **Special pages** link on every wiki page.



Note:

Special pages are pages that have no wikitext. It is not possible to make a redirect to a special page or edit it. Developers can also create new special pages.

9.9.1 Maintenance reports

Maintenance work is a vital part of keeping Mediawiki running optimally.

- **Broken redirects** = Shows all brocken redirects.
- **Dead-end pages** = Pages without any outgoing links to other pages.
- **Double redirects** = Redirects to other redirects. May contain false positives. Double redirects are fixed by bots in many projects.
- **Long pages** = Pages in the main namespace, with size in bytes, in order of decreasing size.
- Oldest pages = Shows oldest pages
- Orphaned pages = Shows pages which are not linked from another page.



- Pages with the fewest revisions
- Pages without language links
- Protected pages = Pages protected from editing.
- **Protected titles** = Titles protected from creation. This feature replaced cascading protection hack. Titles can be also protected by mask with MediaWiki:Titleblacklist.
- **Short pages** = Pages in the main namespace, with size (of the wikitext excluding that of templates used) in bytes, in order of increasing size.
- **Uncategorized categories** = Categories without category tags.
- **Uncategorized files** = Images and other files without category tags.
- **Uncategorized pages** = Pages without category tags. Note that after adding a tag to a page, refreshing this page does not immediately reflect the change.
- Uncategorized templates = Templates without category tags.
- Unused categories
- Unused files
- Unused properties
- **Unused templates** = Templates which are not transcluded (however, they may be used for substitution).
- Wanted categories = Categories with members but no category page.
- Wanted files = Missing image files and others.
- **Wanted pages** = Shows non-existent pages which have at least 2 incoming internal links.
- **Wanted properties** = Shows non-existent properties which have internal links.
- Wanted templates = Shows non-existent templates which have internal links.

9.9.2 Lists of pages

- All pages
- All pages with prefix
- Categories = List of all categories, alphabetically ordered, showing the number of top elements in each category.
- **Disambiguation pages** = Pages that link to a disambiguation page, which should link to the appropriate topic instead. A disambiguation page is defined as a page on which a disambiguation template (defined in MediaWiki:Disambiguationspage) is transcluded.
- Forms = List of The forms that exist in the wiki.
- List of redirects
- **Templates** = List of all Templates, alphabetically ordered
- **Types** = List of all datatypes that can be assigned to properties. Each datatype has a page where additional information can be provided.

9.9.3 Login / sign up

In this page you are able to login or to create an account if you don't have one.

9.9.4 Users and rights

User rights are specific access and ability permissions that can be assigned to customizable groups.

• Active users list = Displays a list of all active users.



• **Block user** = Allows you to block write access from a specific IP address or username.

Note:

This should be done only to prevent vandalism, and in accordance with your wikis policy

- Blocked IP addresses and usernames = Displays a list of blocked IP addresses and usernames.
- Change password = to change your password.
- **Deleted user contributions** = To deleted user contributions.
- **Preferences** = allows you to view and modify your personal settings.
- User contributions = links to user contributions page, they are automatically generated pages that list the edits that a particular user has made.
- **User group rights** = Displays a list of user groups defined on the wiki, with their associated access rights.
- **User list** = Displays a list of all existing users.
- **User rights management** = To edit user rights.

9.9.5 Recent changes and logs

- Gallery of new files = Shows the last uploaded files.
- Logs = Combined display of all available logs of DataWiki Semantic Enterprise Wiki. You can narrow down the view by selecting a log type, the user name (case-sensitive), or the affected page (also casesensitive).
- My watchlist = Watching pages feature allows any logged in user to keep a list of "watched" pages and to be notified of recent edits to these pages.
- **New pages** = List of all recent created pages.
- Recent changes = To track the most recent changes to the wiki on this page.
- **Related changes** = A list of changes made recently to pages linked from a specified page (or to members of a specified category).
- Valid change tags = Lists the tags that the software may mark an edit with.

9.9.6 Media reports and uploads

- **File list** = Shows all uploaded files. By default the last uploaded files are shown at top of the list.
- **File path** = Returns the complete path for a file. Images are shown in full resolution, other file types are started with their associated program directly.
- **MIME search** = Enables the filtering of files for its MIME-type.
- **Search for duplicate files** = Search for duplicate files on base of its hash value.
- Upload file = To upload documents, images or media and to attach it to your article.



9.9.7 Wiki data and tools

- **Popular pages** = List of pages sorted by popularity (number of views).
- **Semantic statistics** = Gives informations about existing properties in your wiki.
- **Statistics** = Lists various statistics (e.g Page statistics, Edit statistics, User statistics ...)
- **System messages** = A list of system messages available in the MediaWiki namespace.
- **Version** = Gives informations about the license of your wiki, installed software and extensions.

9.9.8 Redirecting special pages

- External links = To search external links, many protocols will be supported.
- **Random page** = Redirects to a random page from the main namespace.
- Random redirect = Redirects to a random redirect page, only redirect pages.
- **Search** = For searching an article, The search input box will take you to the article which matches your query if it exists. Otherwise it displays the search results.

9.9.9 High use pages

- Most linked-to categories = Lists the most linked pages to categories.
- Most linked-to files = Lists images and other files linked from the largest number of pages.
- Most linked-to pages = Lists the most linked pages to pages.
- Most linked-to templates = Lists the most linked pages to templates.
- Pages with the most categories = Lists pages with the most associated categories.
- Pages with the most revisions = Lists pages with the most revisions.

9.9.10 Page tools

- **Export pages** = To export the text and editing history of a particular page or set of pages wrapped in some XML.
- Import pages = You can apply two types of import :
 - Import a file in a special XML format produced by exporting pages from another wiki.
 - o Import pages directly from another wiki, the settings of the destination wiki determine which source wikis are enabled.
- View deleted pages = Search deleted pages (available to administators).
- What links here = This is used to see a list of the pages that link to (or redirect to, or transclude) the current page. These are sometimes referred to as backlinks.

9.9.11 Semantic MediaWiki

- Admin functions for Semantic MediaWiki = Helps you during installation and upgrade of Semantic MediaWiki. Remember to back up valuable data before executing administrative functions.
- Browse wiki = offers a simple browsing interface for the computerreadable data of Semantic MediaWiki. By default, the sidebar for



every page, within the "toolbox" links, contains a "Browse properties" link that leads to the Special:Browse page for that page. Users can also go to Special:Browse, directly, then enter the name of a specific page they want to browse. Special:Browse displays all semantic properties of a page (similar to the content of the factbox), as well as all semantic links that point to that page. By clicking on the icon \odot , the user can browse to another article. For a more detailed description and some configuration settings,

- Export pages to RDF = Allows you to obtain data from a page in RDF format.
- **Search by property** = Search for all pages that have a given property and value.
- Semantic search = Helps you to make database query.

9.9.12 DataWiki

- **Find w**ork = Suggests articles that are somehow problematic but which you might enjoy editing/correcting. Read more
- **Gardening** = It provides some tools which helps to keep the wiki knowledge base clean and consistent. Read more
- GardeningLog = Provides access to logs created by the Gardening Bots. You can filter them in various ways. Read more
- **DataExplorer** (formerly known as OntologyBrowser) = Lets you navigate through the ontology to easily find and identify items in the wiki. Use the filter mechanism at the upper left to search for specific entities in the ontology and the filters below each column to narrow down the given results. Initially the flow of browsing is left to right. You can flip the flow by clicking the big arrows between the columns. Read more
- Properties = List of properties used in the wiki. Read more
- Query Interface = empower to easily compose queries and preview query results with different output formats. Read more
- **Triple store administration** = Helps to administrate the wiki/triplestore connection. Read more
- Check Installation = Helps to find out if your installation was successful.
- Saved Queries

9.9.13 Semantic Forms

- Create a category = To create a new category.
- Create a class = To create a new class.
- Create a form = To create a new form.
- **Create a property** = To create a new property.
- Create a template = To create a new template.
- **Edit data** = To edit your page.
- **Edit with form** = To edit page using defined form.
- **Run query**= To run a query, using a form.
- **Start form** = Allows you to enter the name of a page, and select the form to edit it with.

9.9.14 Data Import

• Data Import Repository = Lists all valid Wiki Web Service Definitions (WWSD) that have been declared in the Wiki. You can confirm a WWSD, edit it in the graphical user interface and manually update its



results here. (You must be logged in with administrative user rights in order to update or confirm a WWSD.) Read more

- **Define Web Service** = To define a new web service. Read more
- Import Vocabulary = To import vocabulary. Read more
- Use Web Service = To use web service. Read more

9.9.15 Other special pages

- Access Control Lists = To create new and manage an existing ACLs.
 Read more
- **Book sources** = To search for book sources (ISBN).
- Collaboration = Lists all comments. Read more
- **Enhanced Retrieval Statistics** = Statistical information about search matches. Read more
- **Upload Window** = Allows you to upload your files (Documents, Images, Audio and Video).

9.10 Advanced Editing with Wiki Markup Language

Wiki Markup Language is the basic language for formatting wiki pages and adding links. In DataWiki, all of these tasks can be easily achieved using the WYSIWYG editor. However, you might want to edit an article using basic wikitext from time to time. The following sections will provide a short introduction to wiki text. For a comprehensive guide, please refer to the official documentation: http://www.mediawiki.org/wiki/Help:Formatting

9.10.1 Adding Images to a Page

The complete syntax for adding an image on a page is:

```
[[Image:{file_name}|{options}]]
```

The option entry may be omitted or one may enter one or a combination of any of the following options, which are to be separated by pipes:

- border, frame, thumb, or frameless: Control how the image is formatted
- left, right, center, none: align the image within a text accordingly
- baseline, sub, super, top, text-top, middle, bottom, text-bottom: control the vertical alignment of the image within a text
- {width} px: resize the image to the given width in pixels
- {width}x{height}px: resize the image such that it fits within the given width and height in pixels; One may only specify the height by writing x{height}px
 - o Note that the image will always retain its aspect ratio.
- link={destination}: Lets you create a link to an arbitrary title, URL or even a link to nowhere
 - o *link*=: Will display an image without its link, e.g. [[Image:Name.jpg | 20px | link=Help:Images]].
 - Note that link cannot be used in conjunction with thumb as thumb is always meant to link to the larger version of the image.
 In addition, link cannot be used with frame.
- alt={alternative text}: this changes an image's alternative text (alt="")
- Special cases:



 page=1: Displays the specified page when showing a djvu or pdf file

The options may be entered in any order. If the entered options are in conflict with one another, the last working option is put to effect. This entry of options in any order does not apply to the format options: in this case, the options are prioritised in the frame, thumb, and frameless and/or border order.

If an entered option does not match to any of the predefined possibilities, it is taken to be the caption text. Caption text may contain wiki links or other formatting.

9.10.1.1 Examples

Show picture without formatting

[[Image:ExampleSun.jpg|Sunflowers]]



Thumbnail (centered, 100 pixels wide, with caption)

[[Image:ExampleSun.jpg|center|thumb|100px|Sunflowers]]



9.10.1.2 Further Information

For more details, please refer to the official MediaWiki documentation:



- http://meta.wikimedia.org/wiki/Help:Images and other uploaded file
 <u>s</u>
- http://en.wikipedia.org/wiki/Wikipedia:Extended_image_syntax

9.10.2 Using Lists

There are three basic list types:

- Ordered lists,
- Unordered lists and
- Definition lists.

Examples

Wikitext	Result
* Lists are easy to do:	Lists are easy to do:
** start every line	start every line
* with a star	with a star
** more stars mean	more stars mean
*** deeper levels	deeper levels
# Numbered lists are good	 Numbered lists are good
## very organized	 very organized
## easy to follow	2. easy to follow
; Definition lists	Definition lists
; item : definition	item
; semicolon plus term	definition
: colon plus definition	semicolon plus term
	colon plus definition

9.10.2.1 Further Information

For more information on formatting lists, please refer to the official MediaWiki documentation: http://en.wikipedia.org/wiki/Help:List

9.10.3 Using Tables

The following image shows an overview of the basic table markup:



{	table start
+	table caption, optional; only between table start and first table row
1-	table row, optional on first row wiki engine assumes the first row
1	table header cell, optional. Consecutive table header cells may be added on same line separated by double marks (11) or start on new lines, each with its own single mark (1).
1	table data cell, required! Consecutive table data cells may be added on same line separated by double marks () or start on new lines, each with its own single mark ().
}	table end

Examples

You type	You get		
{ border="1" Orange Apple 12,333.00 - Bread Pie 500.00 - Butter Ice cream 1.00 }	Orange Bread Butter	Apple Pie Ice cream	12,333.00 500.00 1.00

You type		You get	
{ style="color:green; background-color:#ffffcc;" cellpadding="20" cellspacing="0" border="1" Orange	Orange	Apple	
Apple - Bread Pie -	Bread	Pie	
Butter Ice cream }	Butter	Ice cream	

9.10.3.1 Further Information

For detailed information on formatting tables using wikitext, please refer to the official guide: http://meta.wikimedia.org/wiki/Help:Table

9.10.4 Using Links

There are four types of links in MediaWiki:

- Internal Links are links to other wiki pages.
- External Links are links to pages in other websites.
- Interwiki Links are links to other websites that are registered to the wiki in advance.
- Interlanguage Links are links to other websites registered as other wiki language versions.

Internal Links

Description	You type this	You get
Internal link	[[Main Page]]	<u>Main Page</u>
Piped link	[[Main Page different text]]	different text
Shortened sort-of- piped link	[[Main Page]]s	<u>Main Pages</u>
Redirect	#REDIRECT [[Main Page]]	→ Main Page
Internal link to an anchor	[[#Anchor name Anchor link]] Section headings and the top of the page are automatically anchored	Anchor link
Internal link to an anchor at another page	[[Help:Images#See also]]	Help:Images#Se e also
Internal link to the current page's talk page	<pre>[[{{TALKPAGENAME}} Discussion]]</pre>	<u>Discussion</u>
Internal link to a subpage	[[/example]]	Shortcut for [[Help:Links/exa mple]].
Internal link to a category page	[[:Category:Help]]	Category:Help
Internal link to an image or a file of other types	[[media:example.jpg]]	media:example.j



External Links

Description	You type this	You get
External link	http://mediawiki.org	http://mediawiki .org
External link with different label	[http://mediawiki.org MediaWiki]	MediaWiki
External link that is numbered	[http://mediawiki.org]	[1]
External link icons	[http://en.wikipedia.org/wiki/.avi video] [http://en.wikipedia.org/wiki/.wav sound] [http://en.wikipedia.org/wiki/.pdf document] External link icons may differ depending on the file type of the target	video ■ sound □ document □
External link to the same host	<pre>[http://{{SERVERNAME}}/pagenam e]</pre>	[2]
External link to other host passing the pagename	<pre>[http://google.com/search?q={{ PAGENAMEE}}]</pre>	[3]
Mailto link	<pre>[mailto:info@example.org email me]</pre>	<u>email me</u>
Mailto named with subject line and body	<pre>[mailto:info@example.org?Subje ct=URL%20Encoded%20Subject&bod y=Body%20Text info]</pre>	info

Interwiki Links

Interwiki links are links with the internal link markup to a website that is already registered in advance. For example, you can link to the Sunflower article on http://en.wikipedia.org by typing [[wikipedia:Sunflower]], which will result in a link wikipedia:Sunflower. This is because http://en.wikipedia.org/wiki/ is registered to your wiki by default with wikipedia as its prefix. This link may not work properly if your wiki admin has changed this setting

Similar to internal page links, you can create piped links with alternate link label, e.g.

[[wikipedia:Sunflower|big yellow flower]].



Basically this is an abbreviation for longer URLs. A very similar link could be created as a normal external link by typing [http://en.wikipedia.org/wiki/Sunflower Sunflower],but interwiki links serve the purpose of letting you type in an easy and compact link, almost as if you were linking to a page on your own wiki.

Interlanguage Links

If your wiki has other language versions, you may find "interlanguage links" in the sidebar, just below toolbox in the box named "in other languages."

Interlanguage links are handled similar to interwiki links. The only difference is that they are listed in the sidebar. To create an interlanguage link from a page, just type [[language prefix:pagename]] wherever you like in the page; the language prefix is the prefix specified at your wiki for the other language version (typically the ISO language code).

If you wish to have the interlanguage link in your page content, just add a colon before the language prefix, e.g. [[:en:Sunflower]].

9.10.5 Using Templates

If you have standard texts you want to include on several pages, the MediaWiki template feature comes into play.

9.10.5.1 Creating a Template

Templates are standard wiki pages whose content is designed to be transcluded (embedded) inside other pages. Template names are prefixed with Template:, you create them like any other wiki page. The simplest use of templates is as follows: If you create a page called "Template:Welcome" with the contents:

```
Hello! Welcome to DataWiki
```

you have already created your first template! If you then insert the code:

```
{{Welcome}}
```

into any other page, that page will display the contents of the template, namely

```
Hello! Welcome to DataWiki
```

The template content is "transcluded" into the other page, i.e. it is integrated in the page. You can then insert {{Welcome}} at any point of any page where you wish to welcome someone. Suppose it is used in 100 pages. If you then change the template contents to:



Hello! Welcome to this wonderful product!

and revisit any of the 100 pages where the template was used, you'll see the new text instead of the original one. In this way, you have changed the content of 100 pages without editing them, because the template is transcluded into these pages.

This is the basic mechanism. There are several additional features of transclusion that enrich this mechanism and make templates very useful.

9.10.5.2 Using a Template

Templates are wiki pages which can be used in other pages in these ways:

- {{Name}} includes the content of the template Template: Name at the moment the page containing it is fetched
- {{subst:Name}} inserts the content of the template into the code of the page in a form that is editable normally after you have saved your text.
- {{safesubst:Name}} was introduced to allow for substitution that doesn't break transclusion, see
 http://en.wikipedia.org/wiki/Help:Substitution#The safesubst: modifier for more details
- {{msgnw:Name}} when the page containing it is fetched, it includes the template in a form that displays it as raw wiki syntax, like <nowiki> does.

In fact, an ordinary wiki page can also be used as a template, simply by specifying the namespace it resides in, so:

- {{Template:Pagename}} includes [[Template:Pagename]]
- {{Foo:Pagename}} includes [[Foo:Pagename]]
- {{:Pagename}} includes [[Pagename]]
- {{subst::Pagename}} replaces itself with the contents of [[Pagename]]

If no such namespace exists, the full title is assumed to be a template:

• {{Foo:Bar}} includes [[Template:Foo:Bar]]

9.10.5.3 Using Parameters in Templates

To enrich the mechanism of transclusion, MediaWiki allows parameters to be passed to a template when it is transcluded. Parameters allow the template to produce different contents or have different behaviors.

The following code box shows a more advanced template that contains named parameters, namely reason and signature



```
<div tyle="float:right; border:1px solid blue;
width:200px; background-color:#fff; padding:3px;">
  [[Image:ExampleSun.jpg|left|80px|Example sunflower image]]
  '''A little thank you...''' <br />
  <small>for {{{reason}}}. <br />
  hugs, {{{name}}}</small>
  </div>
```

Assuming this template is called Thankyou, then including it in the following way will lead to the result shown below:

```
{{Thankyou
|reason=all your hard work
|signature=Joe}}
```



When using the template on a page, you fill in the parameter values, separated by a pipe char (|), as can be seen in the code box above. The advantage of using named parameters in your template is that they are flexible in order. It also makes the template easier to understand if you have many parameters.

You can also provide default values for parameters, i.e. values that are going to be used if no value is provided for a parameter. For example, {{reason|all your hard work}}} would result in "all your hard work" if no value was provided for the parameter reason.

9.10.5.4 Further Information

For detailed information on how to use templates, please consult MediaWiki's official template guide: http://meta.wikimedia.org/wiki/Help:Template