

8a: Getting started with custom reports

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What is a Custom Report ? :

A **Custom Report** is a template that structures your database records into various output formats such as **HTML** (for web display), **plain text** (for transfers without formatting), **CSV** (for spreadsheet work, e.g. in Excel or Open Office), **JSON** (for data feeds), or **XML** (for tagged data exchange).

Note however that CSV, JSON and XML are handled much more easily in the Export tab in Explore unless some very specialised formatting is required.

The development of custom reports can be quite a slow process, so it is best to plan well what reports you need and apply good naming conventions. Some level of simple HTML will be required, and knowledge of CSS will allow for much greater control of the output. PHP and JS functions can also be included (optional).

Custom Reports are useful when you need to extract and format specific data for further analysis or publication. They are particularly useful in formatting data to appear in web pages (see chapter 9). They can also be used to download formatted information or set up feeds of data for other purposes.

They are also useful for displaying a single record in Record View, a popup on the map, or wherever data needs to be displayed in response to selection of one or more records.

Tip : Before creating your Custom Report, define clearly what sort of display you plan to do. Your formatting goal will determine both the data you select and the way you format the output.

Reports are built using **Smarty**, a templating language that combines standard **HTML** with **Smarty tags** to dynamically insert data from Heurist.

You may see this message above your report format in the middle panel. CSS and JS are disabled by default in report formats and websites generated by a database as a security precaution, to avoid unwanted actions from parasitic databases. If you wish to use these - many websites will want to customise their appearance or behaviours more than the default settings allow - you should contact the server administrator who will add the database to a list of authorised databases.

CSS and Javascript are disabled by default. Request authorisation from info@HeuristNetwork.org if required

If you change the name of a database, clone it or create a new database it will not allow CSS or JS.

The new name will need to be added to the list.

How to start :

In the Explore menu ① you can focus on a specific record type ([Explore > Entities](#)) and select the record type from the list ②

You may wish to perform a more flexible filter, either by entering it in the Filter field ③ or using the Filter builder or Facets builder just below it, or use a [\[Saved Filter\]](#) from

the Filters section ② that returns the records you want to include in your report.

The selected records will appear in the middle section of your screen. ④

To work with Custom Reports, click on the [\[Report\]](#) tab ⑤

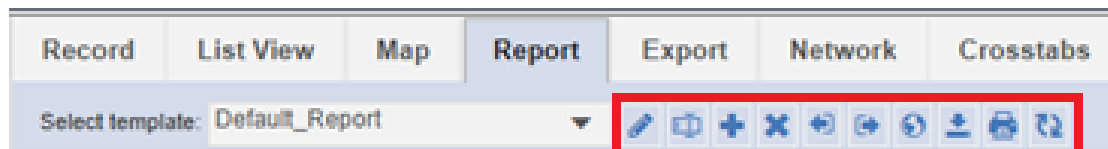
The Custom Report template for your filtered data will appear below the [\[Report\]](#) button.

d72124d4-bb65-4cec-93fc-6f660b22ac00.png

The report shown in the backend interface is limited to 50 records by default (can be increased to 200 or 500 in Design > My Preferences) and ends with a line stating this limit, as it is really designed as a preview function. To view the full results click the globe or download icons - see below).

The Toolbar

In the upper part of the **Custom Report** tab, you'll see a toolbar:



Edit Tool

79c1beb9-c035-44aa-81d6-6e206f432aa7.png

Click [\[Edit\]](#) to open the template editor and start writing your **Custom Report** with **Smarty**.

The editor is split into three panes ①, ⑤ and ⑨

8d546035-c69d-49a6-9162-866b14eb7905.png:::info Tips :

Actions pane ① :

Insert fields, loops, and conditions via dropdown helpers ②, and a tree view ④ selected with the record types dropdown ③

The tree view ④ allows you to select multiple fields, including from the metadata attached to each record (ID, date of addition, owner etc.), the method of representation of term fields (label, description, code), and to drill down into connected records through record pointer fields or relationship markers.

The screenshot shows the 'Edit: Bug report list.tpl' interface. On the left, the 'Add Fields' panel is active, displaying a tree view of available fields. The 'Person' record type is selected. The tree view includes sections for 'Person', 'metadata', and 'fields'. Under 'fields', there are sub-sections for 'Primary information', 'Contact info', 'Classification', 'Life', and 'Relationship'. Each section contains checkboxes for specific fields, such as 'Family name', 'Given name(s)', 'Person type', 'Alternate name(s) / title(s)', 'VIAF', 'Unique public identifier', 'Birth place', 'Story element list', 'Language spoken', 'URL(s)', and 'Relationship'. A green 'ADD SELECTED FIELDS' button is visible. On the right, a 'CSS and HTML' preview pane shows the rendered output of the template, including HTML tags like <html>, <h2>, <div>, and <hr>, along with CSS classes and IDs.

The fields can be organised in record form order (default view, showing the tabs and headings in bold font), or in alphabetic order. The tree can also show record types which have record pointers pointing TO the record type selected (*Show linked-from record types* checkbox)

Having selected one or more fields, make sure the cursor is positioned where you want them inserted in the report format and click **Add selected fields**. This will display the following popup;



Inserting fields in report

inserting **Family name**

☐ Test if value exists (if...)

☒ Include line break

☒ Precede with field name

☐ Field name as comment

☐ Wrapper e.g. tags (always applied to media)

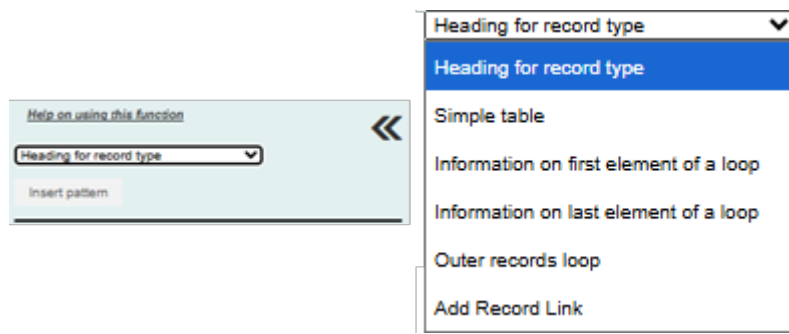
Insert all applies these settings to the remaining fields but does not change those already inserted

Insert field Insert all Skip Cancel

By selecting the checkboxes you can accompany insertion with various additional functions and pieces of information - the two selected by default will be useful in many cases to get some sort of reasonable default output.

Fields can be inserted one-by one (**Insert field**) allowing the accompanying information to be changed between fields, or you can insert all the remaining fields with the same accompanying information by clicking **Insert all**. Fields can be omitted with **Skip**.

The **pattern insertion dropdown** ② above the treeview function allows insertion of a number of simple html patterns such as tables and record links, as well as patterns to carry out some action eg. writing some label or separator, at the beginning or end of a loop. Note that the list of available patterns may change as new capabilities are added.



Editor pane ⑤ : write and edit your HTML + Smarty template here.

In the editor, you'll see the template you selected or the default starter message/template (note that this template may change through time as we improve on it, but it will contain a basic loop for records and some instructions at the end to help you get started).

{ This is a simple Smarty report template which you can edit into something more sophisticated.*

It should give basic output for any database, as it uses the standard record types which are part of all databases.

Enter html for web pages or other text format. Use tree on the left to insert fields, loops and tests.

Use this format to include comments in your file, use `<!-- -->` for output of html comments.

*Smarty help describes many functions you can apply, loop counting/summing, custom functions etc. *}*

For Smarty syntax please see the following chapter (8b).

Preview pane ⑨ : shows the output when you click [\[Test\]](#) ⑧ .

You can choose to truncate the preview to n records ⑥ and select how to handle debug messages, warnings, and errors ⑦.

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Click[Test] to preview ! Nothing is saved when testing.

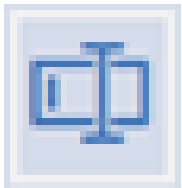
Use [Save] (or [Save As]) to store your template and keep versions.

Use Ctrl+Z / Cmd+Z to undo recent edits. You can undo a lot of edits by repeating this.

We strongly recommend using the test function frequently making only one or two changes at a time and clicking Test to see the results. If something doesn't work, you can immediately undo it and try an alternative. Undo can be applied repeatedly.

Don't get tempted to write a lot of code and then test it because then you will have trouble finding the problem.

Rename



Allows renaming of an existing template. Note that if a template is renamed, any URL or scheduled regeneration which uses the old name will fail.

Create a new template

b15e250f-4f31-448a-8dca-bb4bfe84c27e.png

[Create a new template] works similarly to the [Edit] tool. It opens the same editor interface where you can create a new Custom Report template from scratch.

Use it when you want to **start a fresh layout** instead of editing an existing one.

For Smarty syntax please see the following chapter (8b).

Delete the Selected Template

908eefb4-58d6-49be-ab40-6528f7ef25c9.png

The [Delete] tool allows you to **delete** the currently selected template.

When clicked, a **warning message** will pop up asking for confirmation.

1563b9ca-7411-472c-998c-400a6f25bc05.png

It will display the name of your template ① like *name_file_.tpl* . As here for exemple "Basic (inital record types).tpl"

Click [Proceed] to confirm deletion, or [Cancel] to abort the action.

Import and Export Templates

e4cb072c-5139-4059-87be-a9e32f904de7.png
ca292056-ca7e-460d-af1d-d32105aa548d.png

The Import ← and Export → tools allow you to share and reuse Custom Report templates.

For this we have developed a 'global template' format (.gpl) which uses Heurist's unique Concept IDs so that the template can be used by any database that includes those concepts (definitions of record types, fields and terms). Template files stored in the Heurist database are the same as global files except that they use local codes rather than the unique global concept IDs.

Templates can only be exported from a registered database to ensure that there are Concept IDs for any definitions used in the template. If the database is not registered you will see the following message.

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Import lets you upload an existing global template file (.gpl) and convert it to a local template file (.tpl)

Export lets you download your customized template as a .tpl file, so you can back it up or share it with others.

Obtain the URL, JavaScript to embed a report, and set a publishing schedules

46ab971b-127c-4fd7-aef9-e97e59e5a277.png

The [Publish] option lets you :

- embed a Custom Report in an external website in another CMS
- schedule periodic regeneration with caching for faster load times on large/complex reports.

Publish report

Enclose within `<code>` for Wordpress sites (the use of `<code>` may need to be enabled for your site). Similar steps may need to be taken with other CMS.

☒ embed ☐ javascript wrap

```
<iframe src="https://heurist.huma-num.fr/heurist/?db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=t%3A90&template=Agent%20Detail%20View.tpl" width="80%" height="70%" frameborder="0"></iframe>
```

Content-type: **html** [Open in new window](#)

Note: records will only appear according to the visibility setting that is applied to the current user and group permissions. Result set could therefore be limited or empty.

[Set up publishing schedule](#)

OK

Embedding

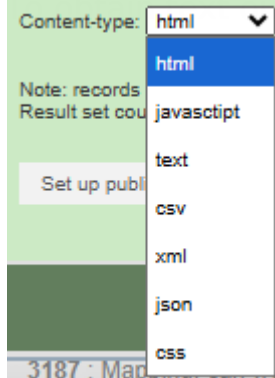
The dialogue above gives an iframe instruction to embed the report into another website. Switching to *javascript wrap* will give an alternative text such as:

☐ embed ☒ javascript wrap

```
<script type="text/javascript" src="https://heurist.huma-num.fr/heurist/?db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=t%3A90&template=Agent%20Detail%20View.tpl&mode=js"></script><noscript><iframe width="80%" height="70%" frameborder="0" src="https://heurist.huma-num.fr/heurist/?db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=t%3A90&template=Agent%20Detail%20View.tpl"></iframe></noscript>
```

The Open in new window link is a useful way of seeing the report cleanly and for obtaining a URL for use elsewhere.

The Content-type dropdown allows a number of different output formats to be specified, setting a parameter on the URL used by Open in new window. html and text are the two most useful, the others produce generic outputs which may or may not be of any use. The text output, do not include any html tags in the report format.



Setting up a scheduled (cached) report

Pros/cons of scheduling

Much faster for large tables, complex calculations, or media-heavy pages.

Content is a snapshot at the last generation time (not strictly real-time), so frequency of update needs to be appropriately set

The first screen shows any existing scheduled actions:

Manage Reports										
- Use this function to set up calls to write a report to file using the Smarty report formatter (writes HTML and JS files). - Click on  to run the report and update the files. Copy the URL from this link and create a hyperlink in your web page to allow updating the files from the web site. - The URLs of the generated files are shown in the HTML and JS columns - copy these to show the report as a web page or in an iframe (HTML) or embed the report in your web page (JS).										
Search: Showing 1 to 20 of 23 entries										
										Add New Report Schedule
Status	#	Edit	Exec	HTML	Raw	Title	Query	Interval (min)	Last updated	Del
	1				TXT	estampillage-events	db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=id%3A%2067744	Never	2026-02-27 04:12	
	2				TXT	stock-sales-events	db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=id%3A%2067745	Never	2026-02-27 04:15	
	3				TXT	confiscations-events	db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=id%3A%2067746	Never	2026-02-27 04:15	
	4				TXT	permission-simple-events	db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=id%3A%2067743	Never	2026-02-27 04:16	
	5				TXT	rank-works-by-dataset	db=MPCE_Mapping_Print_Charting_Enlightenment&w=all&q=t%3A64%2C77	Never	2026-03-03 06:52	
	6				TXT	rank-editions-by-dataset	db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=t%3A64	Never	2026-03-03 06:41	

Adding a new report schedule pops up a dialogue to define the parameters of a new schedule using the current filter ("Query") with a number of different options - a title to identify it, the report template to be used, the frequency with which to regenerate the output (the default value of 1440 minutes = daily, 0 = only manual regeneration, which is useful for data that will never, or very rarely, change).

Edit report schedule

ID: to be generated

* Title:

The title of scheduled report

File name:

The base name of the report being published - will be compelled with file types

* Query:

db=MPCE_Mapping_Print_Charting_Enlightenment&w=a&q=t%3A90

The Heurist query to be used in generating this report

* Template:

Agent Detail View

The name of the template to be used in generating this report

Interval (minutes):

1440

The interval in minutes between regenerations of the report output
Enter 0 (zero) to skip this report during automated report regeneration

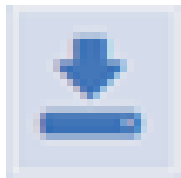
Content-type:

Content type for output

Save

Cancel

Download



This allows the download of a plain text file without html formatting (assuming you did not use html tags in the report format)

Print

836bb8bc-875d-4e85-8e79-79efd7bd114a.png

The [Print] button simply generates a PDF of the output from your current **Custom Report** template. It's a quick and convenient way to export information in an easy readable and shareable format.

Tip: Don't hesitate to use this feature to:

Enrich your Data Management Plan (DMP),

Place in a hardcopy archive,

Keep track of specific datasets, or

Share information with colleagues who may not be comfortable navigating Heurist or other "sophisticated" data formats.

Refresh

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Click on the [Refresh] button to update the data used by your Custom Report template. For filters other than Facet filters (where you must make further selections) you may also simply hit the Filter button to rerun the filter, which will cause the report to be rewritten.

If your database has been modified (new records, edits, deletions) but the output of your report does not reflect these changes, simply hit Refresh to reload the most recent data and ensure your preview is accurate.

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