# Import data from SQL database to Heurist

## Export data from SQL database as CSV

- Make sure to begin to export first the tables in your database model that depend the least on other tables.

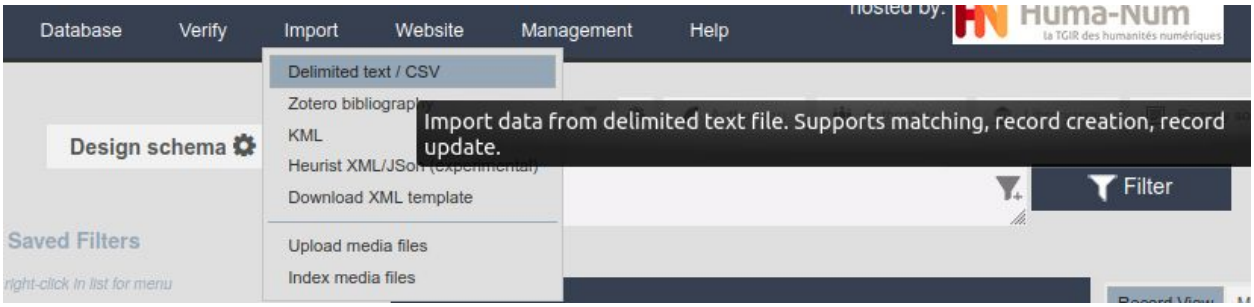
  For example, if in our model, there is two tables, one for the manuscripts and one for the libraries in which they are curated, it is better to begin to import the library table, as it does not contain IDs from the manuscript table. Make sure to import the ID of the SQL database in Heurist to allow later content matching.
- In your database management system, go to the table you wish to export and click on the export button.


- Choose the CSV format and configure the export in order to show the column names.

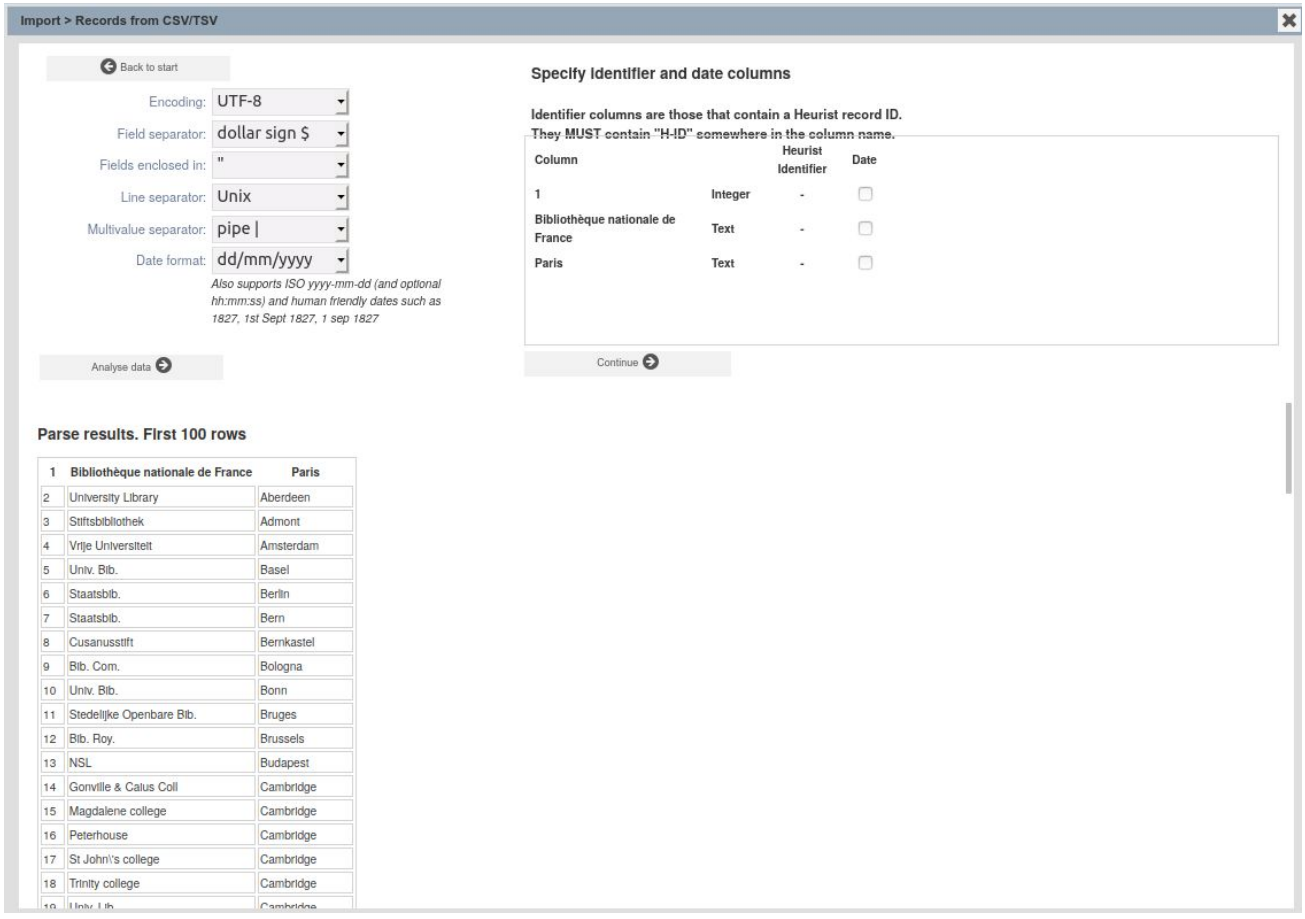
  You can avoid certain issues during the import by choosing a column separator that is less common, for example a tab ( ).
  You may encounter problems if certain fields contain line breaks: it is preferable to remove them or convert them to linefeeds using Notepad++ or Sublime (See documentation for more information on how to format data).

# Import CSV to Heurist (no dependencies)

- In the Heurist interface, click on the “Import” button in the navigation bar and choose “Delimited text / CSV”.




- Upload you file and set the parsing of the file according to your file configuration then click on “Analyse data”.

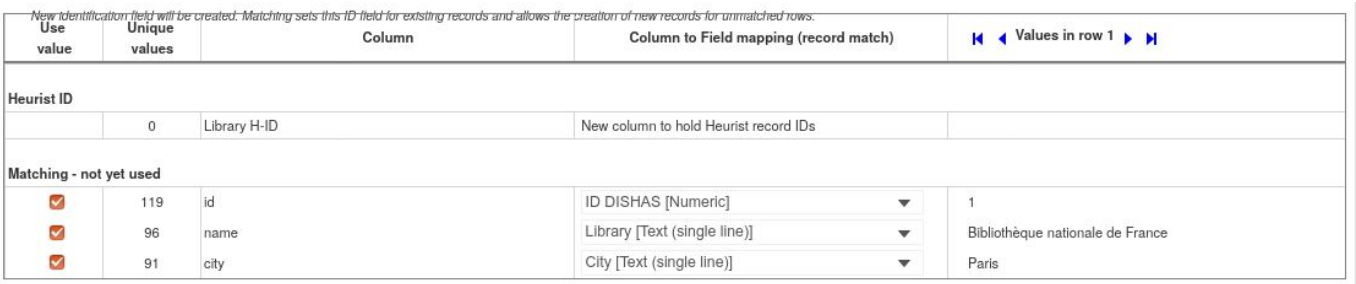


- If certain fields contain dates or heurist identifiers[1] (i.e. containing “H-ID” in their field title), check the corresponding boxes in the upper left corner and click on “Continue”.
- Select the record type (i.e. the table name) in which to import the data: in case of dependencies, see next chapter.

## Step 1: Matching

- Check all boxes corresponding to the fields in the CSV file that you want to match with fields of the record type.
- In the dropdowns that appeared, select the corresponding fields in the record type.

The heurist identifiers will be automatically generated with every new record detected.




- Click on “Match against existing records”.

## Step 2: Prepare

- Check if you want to create new records, update existing records or both.


- Click on prepare : a dialog box will warn you might add incomplete records : click on “Proceed”.

[1] More on managing database relation in the next chapter

## Step 3: Insert

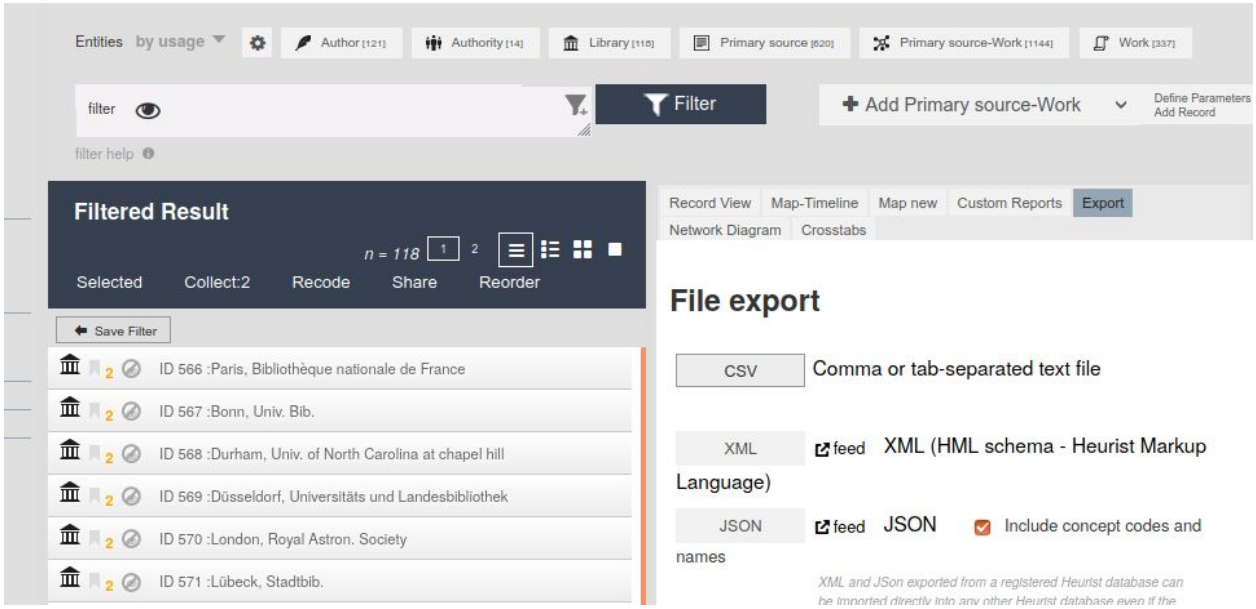
- Check everything is ok then click on “Start insert”.
- If everything went well, a dialog box with a summary of the new data inserted in Heurist will appear. You can close it and click on "Clear uploaded file" before going to consult the newly inserted data.

# Import CSV to Heurist (with dependencies)

## Prepare CSV

- Export the data from the table you wish to import in Heurist as a CSV file.
- In Heurist, click on the record types on with the table you wish to insert relies on

  In our previous example, if you want to import the manuscript table that contains in its fields a library ID, go to the Library record type.
- Click on “Export” in the menu on the left and choose CSV.




- Select ID and ID from your previous database as fields to export in the CSV file.


- Open the CSV file you exported from the SQL database in a text editor as well as the CSV file containing the IDs from Heurist.

- Copy the content of the ID file somewhere  in the export file from the SQL database like so.

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | id | library_id | shelfmark | title | | | | | Library H-ID | ID DISHAS |
| 2 | 1 | 2 | 123 | NULL | | | | | 566 | 1 |
| 3 | 2 | 3 | 2° 461 | NULL | | | | | 567 | 10 |
| 4 | 3 | 4 | 1334 | NULL | | | | | 568 | 100 |
| 5 | 4 | 98 | 214 | NULL | | | | | 569 | 101 |
| 6 | 5 | 5 | F II 7 | NULL | | | | | 570 | 102 |
| 7 | 6 | 6 | Lat. F. 246 | NULL | | | | | 571 | 103 |
| 8 | 7 | 6 | Lat. 4° 175 | NULL | | | | | 572 | 104 |
| 9 | 8 | 6 | Lat. 8° 438 | NULL | | | | | 573 | 105 |
| 10 | 9 | 6 | Lat. 4° 23 | NULL | | | | | 574 | 106 |
| 11 | 10 | 7 | 545 | NULL | | | | | 575 | 107 |
| 12 | 11 | 8 | 211 | NULL | | | | | 576 | 108 |
| 13 | 12 | 8 | 212 | NULL | | | | | 577 | 109 |
| 14 | 13 | 8 | 213 | NULL | | | | | 578 | 11 |
| 15 | 14 | 9 | 1601 | NULL | | | | | 579 | 110 |
| 16 | 15 | 9 | 2284 | NULL | | | | | 580 | 111 |
| 17 | 16 | 10 | 2° 497 | NULL | | | | | 581 | 112 |
| 18 | 17 | 10 | 2° 498 | NULL | | | | | 582 | 113 |
| 19 | 18 | 11 | 466 | NULL | | | | | 583 | 114 |
| 20 | 19 | 12 | 0926-40 | NULL | | | | | 584 | 115 |
| 21 | 20 | 12 | 1022-47 | NULL | | | | | 585 | 116 |
| 22 | 21 | 12 | 1086-1115 | NULL | | | | | 586 | 117 |

- Insert a column to the right of the column ID you wish to match; name it with a string containing “H-ID”.
- Rename your columns in order to match (see example).
- Inverse the order of the ID columns, in order to make the previous SQL id to appear on the right.

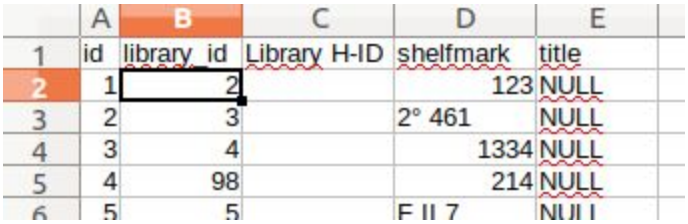
| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | id | library_id | Library H-ID | shelfmark | title | | | | library_id | Library H-ID |
| 2 | 1 | 2 | | 123 | NULL | | | | 1 | 566 |
| 3 | 2 | 3 | | 2° 461 | NULL | | | | 10 | 567 |
| 4 | 3 | 4 | | 1334 | NULL | | | | 100 | 568 |
| 5 | 4 | 98 | | 214 | NULL | | | | 101 | 569 |
| 6 | 5 | 5 | | F II 7 | NULL | | | | 102 | 570 |
| 7 | 6 | 6 | | Lat. F. 246 | NULL | | | | 103 | 571 |
| 8 | 7 | 6 | | Lat. 4° 175 | NULL | | | | 104 | 572 |
| 9 | 8 | 6 | | Lat. 8° 438 | NULL | | | | 105 | 573 |
| 10 | 9 | 6 | | Lat. 4° 23 | NULL | | | | 106 | 574 |
| 11 | 10 | 7 | | 545 | NULL | | | | 107 | 575 |
| 12 | 11 | 8 | | 211 | NULL | | | | 108 | 576 |
| 13 | 12 | 8 | | 212 | NULL | | | | 109 | 577 |
| 14 | 13 | 8 | | 213 | NULL | | | | 11 | 578 |
| 15 | 14 | 9 | | 1601 | NULL | | | | 110 | 579 |
| 16 | 15 | 9 | | 2284 | NULL | | | | 111 | 580 |
| 17 | 16 | 10 | | 2° 497 | NULL | | | | 112 | 581 |
| 18 | 17 | 10 | | 2° 498 | NULL | | | | 113 | 582 |
| 19 | 18 | 11 | | 466 | NULL | | | | 114 | 583 |

- In the first cell of the column you wish to fill with Heurist IDs, click to enter a formula

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | id | library_id | Library H-ID | shelfmark | title |
| 2 | 1 | 2 | | 123 | NULL |
| 3 | 2 | 3 | | 2° 461 | NULL |
| 4 | 3 | 4 | | 1334 | NULL |
| 5 | 4 | 98 | | 214 | NULL |
| 6 | 5 | 5 | | F II 7 | NULL |

- Use the formula VLOOKUP with parameter like so :

`<first cell of the column with SQL id>;`



| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | id | library_id | Library H-ID | shelfmark | title |
| 2 | 1 | 2 | | 123 | NULL |
| 3 | 2 | 3 | | 2° 461 | NULL |
| 4 | 3 | 4 | | 1334 | NULL |
| 5 | 4 | 98 | | 214 | NULL |
| 6 | 5 | 5 | | F II 7 | NULL |

`<coordinates of the table with IDs from Heurist and SQL database preceded by dollar signs>;`

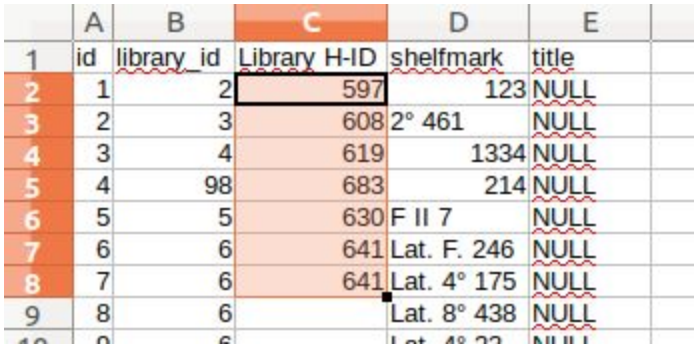
| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | id | library_id | Library H-ID | shelfmark | title | | | | library_id | Library H-ID |
| 2 | 1 | 2 | | 123 | NULL | | | | 1 | 566 |
| 3 | 2 | 3 | | 2° 461 | NULL | | | | 10 | 567 |
| 4 | 3 | 4 | | 1334 | NULL | | | | 100 | 568 |
| 5 | 4 | 98 | | 214 | NULL | | | | 101 | 569 |
| 6 | 5 | 5 | | F II 7 | NULL | | | | 102 | 570 |
| 7 | 6 | 6 | | Lat. F. 246 | NULL | | | | 103 | 571 |
| 8 | 7 | 6 | | Lat. 4° 175 | NULL | | | | 104 | 572 |
| 9 | 8 | 6 | | Lat. 8° 438 | NULL | | | | 105 | 573 |
| 10 | 9 | 6 | | Lat. 4° 23 | NULL | | | | 106 | 574 |
| 11 | 10 | 7 | | 545 | NULL | | | | 107 | 575 |
| 12 | 11 | 8 | | 211 | NULL | | | | 108 | 576 |
| 13 | 12 | 8 | | 212 | NULL | | | | 109 | 577 |
| 14 | 13 | 8 | | 213 | NULL | | | | 11 | 578 |

`2;0`

In our example case, the formula looked like that:

`=VLOOKUP(B2;$I$2:$J$119;2;0)`

- Draw the lower left corner of the cell in order to apply the formula to every cell of the column.



| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | id | library_id | Library H-ID | shelfmark | title |
| 2 | 1 | 2 | 597 | 123 | NULL |
| 3 | 2 | 3 | 608 | 2° 461 | NULL |
| 4 | 3 | 4 | 619 | 1334 | NULL |
| 5 | 4 | 98 | 683 | 214 | NULL |
| 6 | 5 | 5 | 630 | F II 7 | NULL |
| 7 | 6 | 6 | 641 | Lat. F. 246 | NULL |
| 8 | 7 | 6 | 641 | Lat. 4° 175 | NULL |
| 9 | 8 | 6 | | Lat. 8° 438 | NULL |

- Select the newly generated column (CTRL+C) then do a “Special paste” (right click > “Special paste”) in order to paste the result value of the formula and not the formula: select everything except “Formula”.

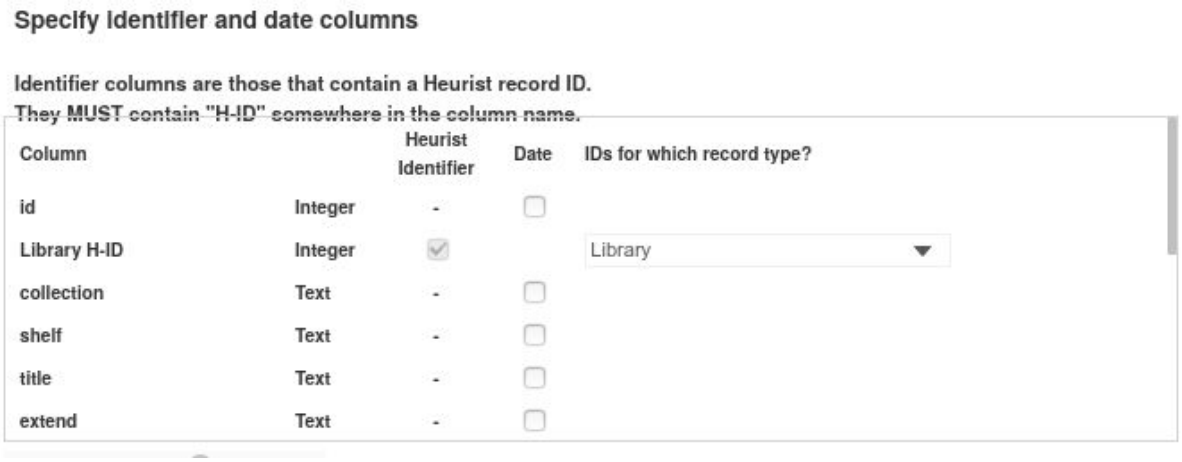
- Remove the ID table and the column with the SQL IDs.

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | id | Library H-ID | shelfmark | title | | | | | | |
| 2 | 1 | 597 | 123 | NULL | | | | | | |
| 3 | 2 | 608 | 2° 461 | NULL | | | | | | |
| 4 | 3 | 619 | 1334 | NULL | | | | | | |
| 5 | 4 | 683 | 214 | NULL | | | | | | |
| 6 | 5 | 630 | F II 7 | NULL | | | | | | |
| 7 | 6 | 641 | Lat. F. 246 | NULL | | | | | | |
| 8 | 7 | 641 | Lat. 4° 175 | NULL | | | | | | |
| 9 | 8 | 641 | Lat. 8° 438 | NULL | | | | | | |
| 10 | 9 | 641 | Lat. 4° 23 | NULL | | | | | | |
| 11 | 10 | 652 | 545 | NULL | | | | | | |
| 12 | 11 | 663 | 211 | NULL | | | | | | |
| 13 | 12 | 663 | 212 | NULL | | | | | | |

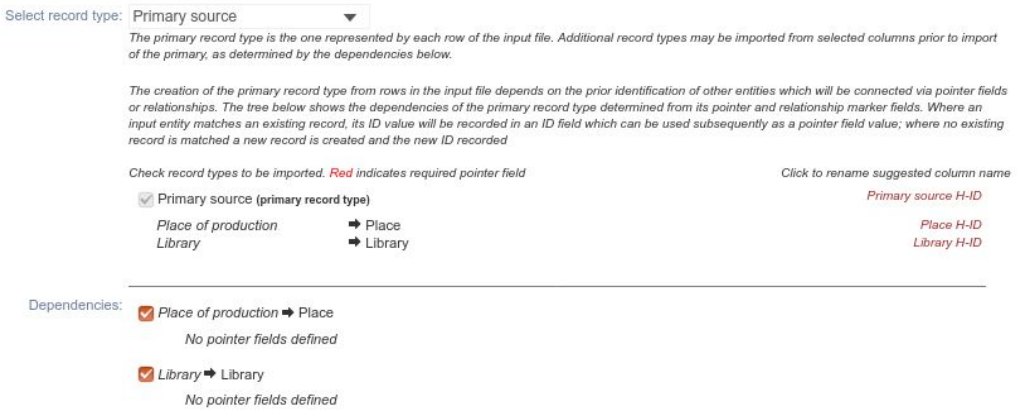
- The CSV file is now ready to be imported in Heurist. Save it and go to Heurist backoffice.

## CSV import in Heurist

- Click on “Import” in the navigation bar and select the CSV file you just made. Configure import and analyse data.
- Heurist will automatically spot that certain column names contain “H-ID”: select in the dropdown to which record type it refers to.

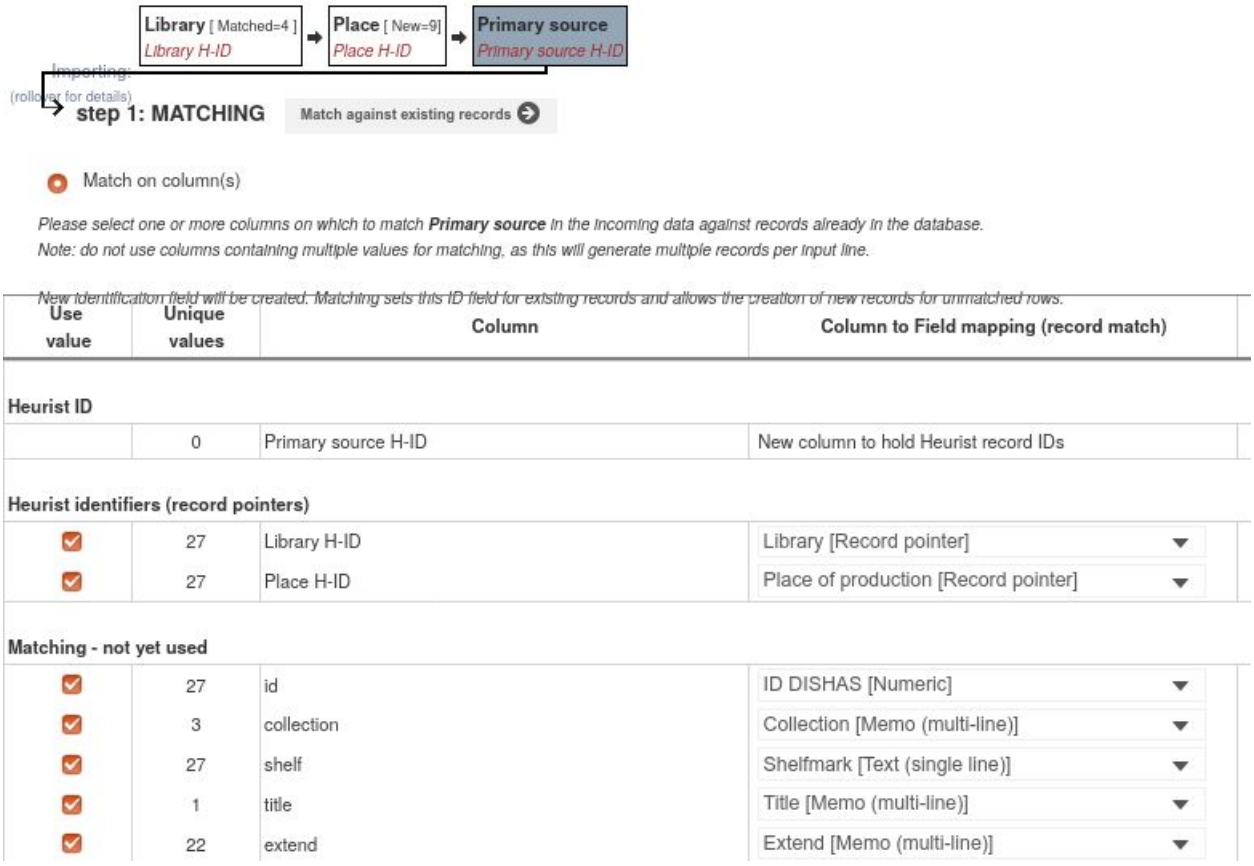



- Select the record type in which to import the data: check all the dependencies that are indicated.



- For each dependency, select/click on “Use <record type> H-ID”


- When you arrive at the target record type corresponding (in our example case : Primary source), select all checkboxes and math to the corresponding fields in the record type.




- Then click on “Match against existing records” and follow the procedure as for regular CSV file (see previously)