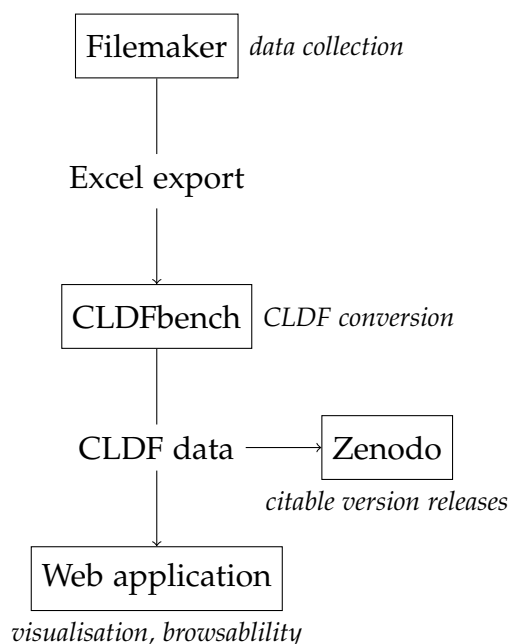


# 1 Introduction

Before data in a Filemaker database can be converted into [CLDF](#), we need to get it out of the actual database. Unfortunately there is no way to extract the data directly from the database file, so it is necessary to export the data into an intermediate file format.

The overall workflow looks as follows. The data is created and edited inside of Filemaker. Then the data is exported as a batch of Excel files. The Excel files will be placed into the *raw* folder of a [CLDFbench](#) project and converted into CLDF. After that the CLDF data is published on [Zenodo](#) and can be read into a web application or used for further processing.

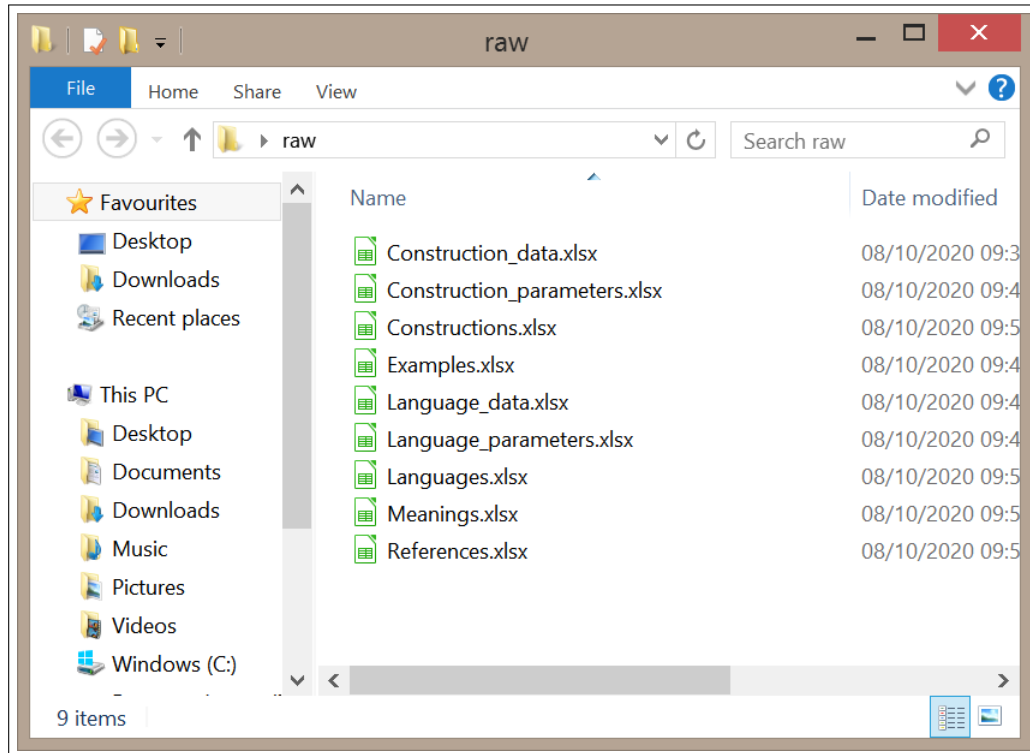


This document describes the exporting step from Filemaker to Excel. As mentioned above the files will be exported into multiple Excel files; one for each view. This workflow assumes that the Filemaker database is organised into the following views:

- *Languages* (All languages in the database)
- *Language parameters* (Questions one could ask about a language)
- *Language data* (Concrete answers to these questions for specific languages)
- *Constructions* (All language-specific constructions in the database)
- *Construction parameters* (Questions one could ask about a construction)
- *Construction data* (Concrete answers to these questions for specific constructions)
- *Meanings* (Comparable meanings of constructions)
- *Examples* (Example sentences)

- *References* (Bibliographic information)

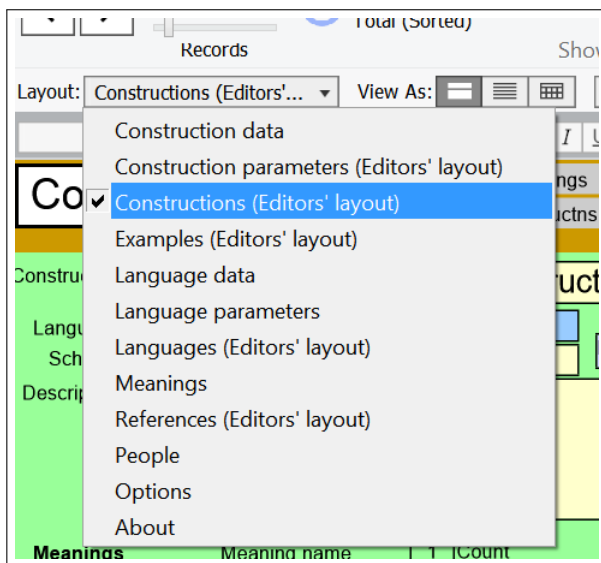
After the export, these views correspond the following files in the *raw* folder:



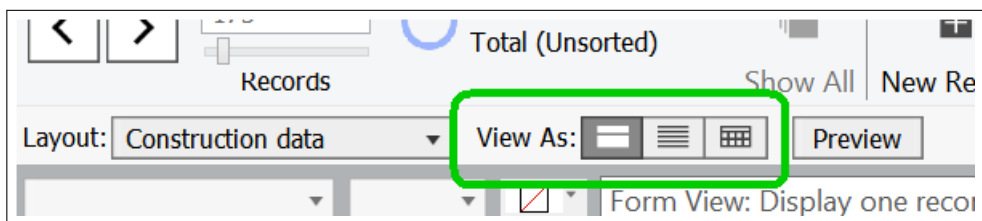
Section 2 describes step by step, how a view in Filemaker is converted into an Excel spreadsheet. Section 3 provides a list of all columns that need to be included in the spreadsheets for each view.

## 2 How to export a view from Filemaker

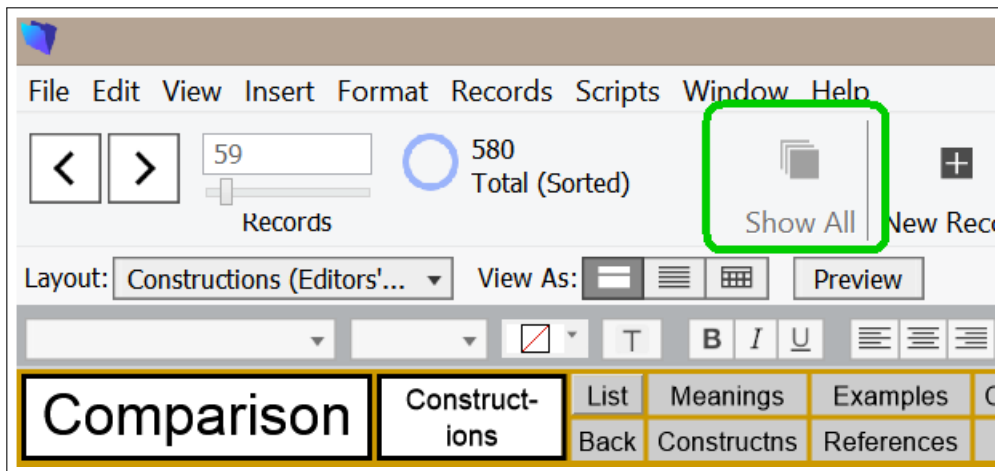
1. Choose the view you want to export (e. g. *Constructions (Editors' layout)*).



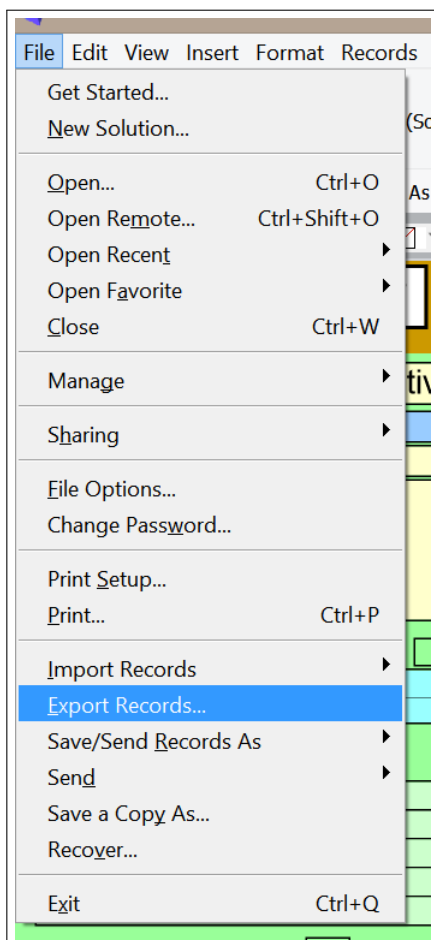
2. The export yields different output, depending on how the data is currently displayed. So, for this export to work, set the view to a single record using the *View as* option.



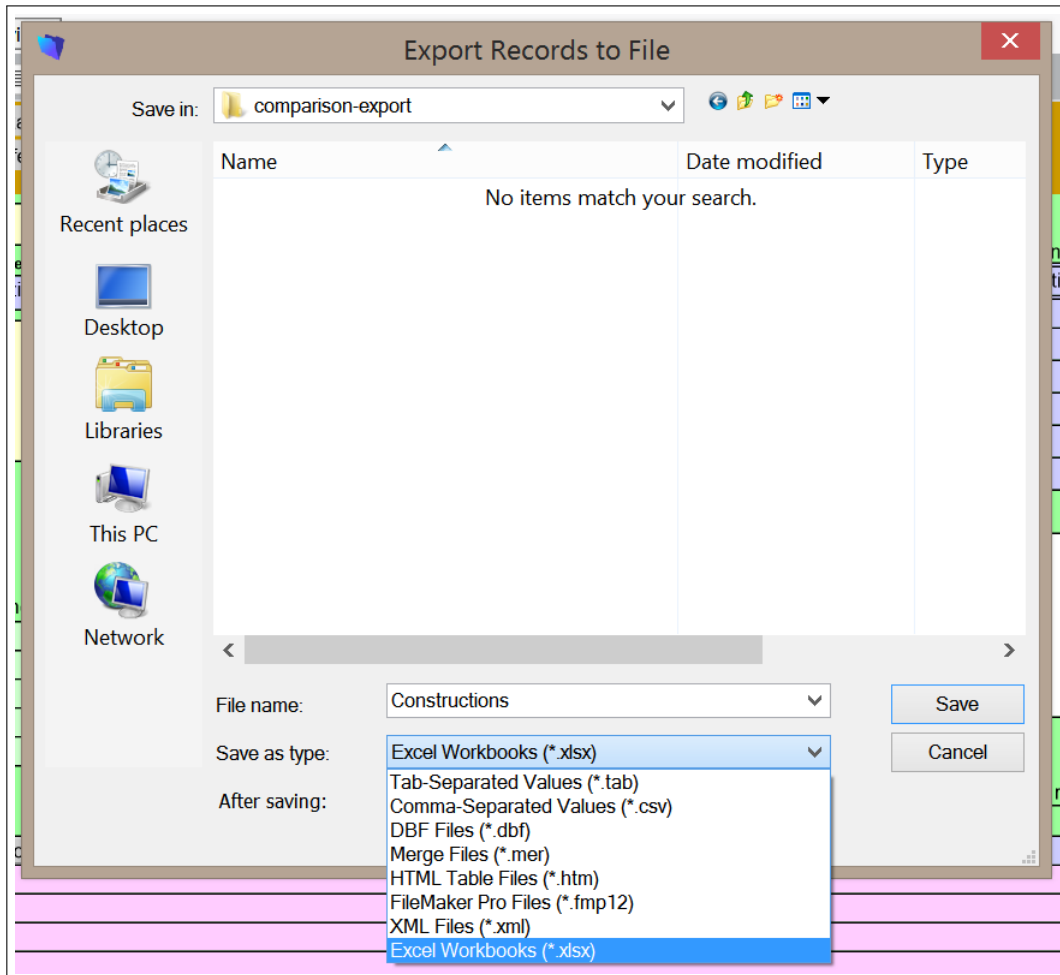
3. Also, the export does not include any data that is currently hidden, so to make sure *all* data gets exported, click the *Show All* button in the toolbar.



4. From the menubar choose *File* → *Export Records...*



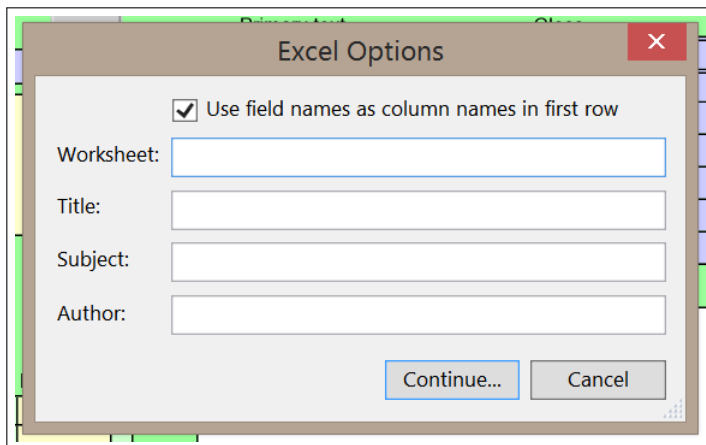
5. In the upcoming file dialog, set the file type to *Excel Workbooks (\*.xlsx)* and choose the file name for the view as shown in Table 1. Note that the file names need to match the ones from the table *exactly*. Even minor differences in punctuation or capitalisation may cause the conversion script to fail to recognise the files properly.



View	File name
Construction data	Construction_data.xlsx
Construction parameters (Editors' layout)	Construction_parameters.xlsx
Constructions (Editors' layout)	Constructions.xlsx
Examples (Editors' layout)	Examples.xlsx
Language data	Language_data.xlsx
Language parameters	Language_parameters.xlsx
Languages (Editors' layout)	Languages.xlsx
Meanings	Meanings.xlsx
References (Editors' layout)	References.xlsx

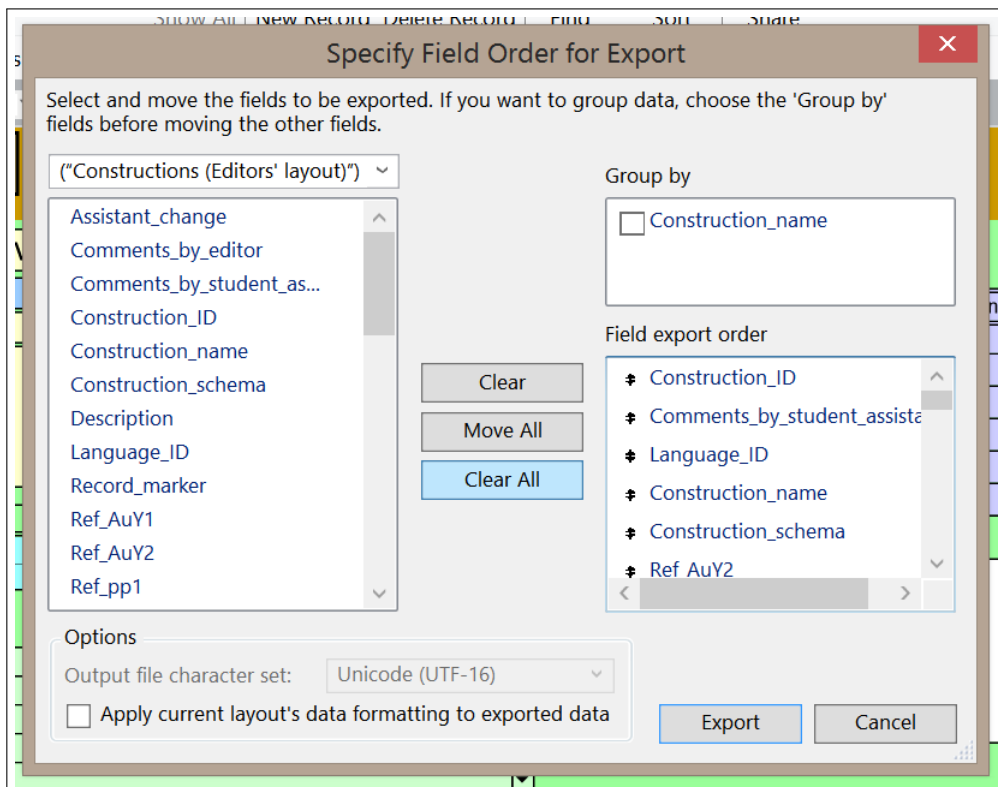
Table 1: Views in Filemaker and their corresponding Excel file names

6. In the following *Excel Options* dialog, make sure the checkbox *Use field names as column names in first row* is ticked. The other fields in the dialog can just be left blank.



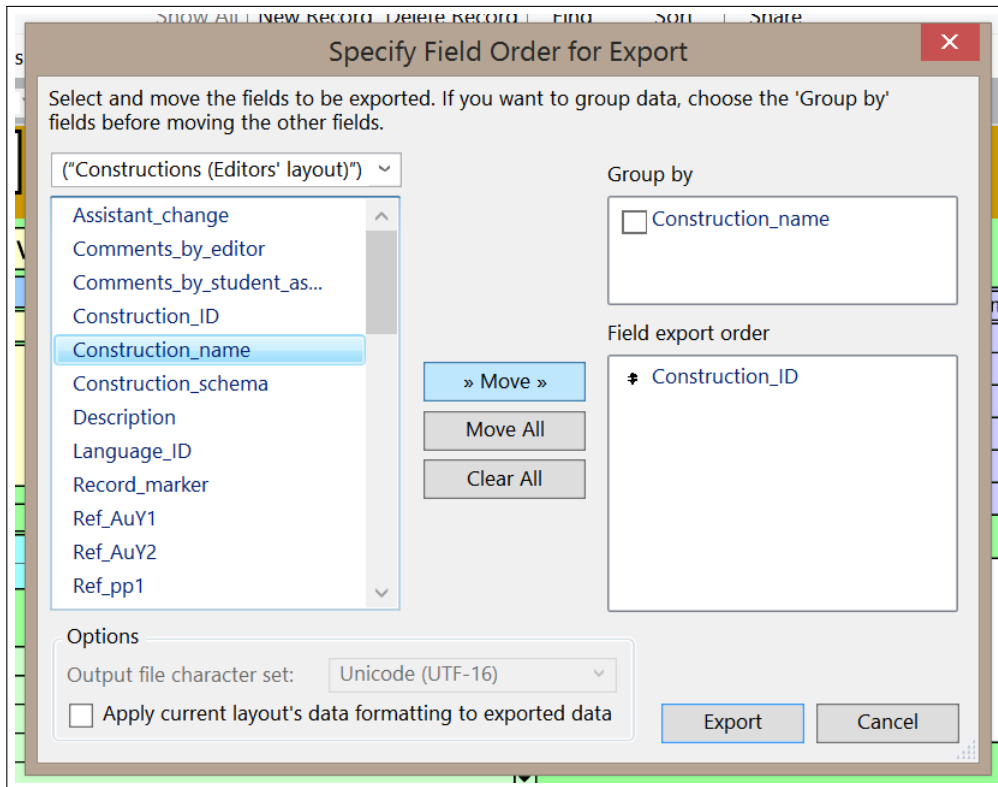
The 'Excel Options' dialog box is shown. It has a title bar with a close button (X). Inside, there is a checkbox labeled 'Use field names as column names in first row' which is checked. Below this are four text input fields: 'Worksheet:', 'Title:', 'Subject:', and 'Author:'. At the bottom right are two buttons: 'Continue...' and 'Cancel'.

7. Next Filemaker wants you to specify all table columns that should be exported. This dialog may contain settings from a previous export. If you wish to remove those and start from scratch, hit the *Clear All* button.



The 'Specify Field Order for Export' dialog box is shown. It has a title bar with a close button (X). The main area contains a list of fields on the left, a 'Group by' section on the right, and a 'Field export order' list on the right. The 'Group by' section has a checkbox for 'Construction\_name'. The 'Field export order' list shows a sequence of fields: Construction\_ID, Comments\_by\_student\_assiste, Language\_ID, Construction\_name, Construction\_schema, and Ref AuY2. At the bottom, there is an 'Options' section with a dropdown for 'Output file character set' set to 'Unicode (UTF-16)' and a checkbox for 'Apply current layout's data formatting to exported data'. There are also buttons for 'Clear', 'Move All', 'Clear All', 'Export', and 'Cancel'.

8. To include table columns in the export, either double-click them in the left list or select them and hit the » *Move* » button. For a list of all columns that need to be included refer to Section 3 of this document. Note that the exact order of columns is irrelevant to the conversion script. When you are done hit the *Export* button to create the Excel export.



## 3 Columns to be included in the export

### 3.1 Construction data

File name: Construction\_data.xlsx

**Specify Field Order for Export**

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

Current Layout ("Construction data")

- Assistant\_change
- Assistant\_comment
- Construction\_ID
- Construction\_parameter\_ID
- Construction\_parameter\_value\_...
- Editor\_comment
- RefProblem
- Value\_Construction\_ID
- Value\_description
- z\_calc\_Button\_label\_list\_form\_to...
- Construction\_data\_examples::E...
- Construction\_data\_references::...
- Construction\_data\_references::...
- Construction\_parameter\_value\_...
- Construction\_parameters::Cons...
- Constructions::Construction\_na...
- Examples\_of\_Construction\_data...
- Examples\_of\_Construction\_data...
- Examples\_of\_Construction\_data...
- Examples\_of\_Construction\_data...
- Languages::Language\_name
- Meanings::Meaning\_name
- References\_of\_Construction\_da...
- References\_of\_Construction\_da...
- References\_of\_Construction\_da...

Group by

(Unsorted)

Field export order

- Construction\_ID
- Construction\_parameter\_ID
- Construction\_parameter\_value\_name\_ID
- Construction\_parameter\_value\_names\_of\_Construction\_data::Value\_name
- Value\_description
- Construction\_data\_examples::Example\_ID
- Construction\_data\_references::Reference\_ID
- Construction\_data\_references::Pages

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Export Cancel



## 3.2 Construction parameters

File name: Construction\_parameters.xlsx

Comparison

### Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

tion parameters (Editors' layout\*)

- Checked\_by\_editor
- Checked\_by\_student\_assistant
- Comments\_by\_editor
- Construction\_parameter\_ID
- Construction\_parameter\_name
- Description
- z\_calc\_Button\_label\_list\_form\_to...
- z\_calc\_Completeness\_check
- z\_calc\_Count\_construction\_reco...
- z\_calc\_Count\_examples
- z\_calc\_Sum\_construction\_data\_...
- Construction\_data::Constructio...
- Construction\_data::Constructio...
- Construction\_parameter\_value\_...
- Construction\_parameter\_value\_...
- Constructions::Construction\_na...
- Examples\_of\_Construction\_data...
- Examples\_of\_Construction\_data...
- Examples\_of\_Construction\_data...
- Languages::Language\_name
- Meanings::Meaning\_name
- z\_LEGACY\_Alternation\_types::C...
- z\_LEGACY\_Alternations\_and\_Alt...

Group by

(Unsorted)

Field export order

- ✦ Construction\_parameter\_ID
- ✦ Construction\_parameter\_name
- ✦ Description

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Move Move All Clear All Export Cancel

### 3.3 Constructions

File name: Constructions.xlsx

Comparison

Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

("Constructions (Editors' layout)")

Assistant\_change  
Comments\_by\_editor  
Comments\_by\_student\_as...  
Construction\_ID  
Construction\_name  
Construction\_schema  
Description  
Language\_ID  
Record\_marker  
Ref\_AuY1  
Ref\_AuY2  
Ref\_pp1  
Ref\_pp2  
z\_calc\_Button\_label\_list\_fo...  
z\_calc\_Count\_alternation\_r...  
z\_calc\_Count\_examples  
z\_calc\_Count\_meanings  
z\_calc\_Sum\_construction\_...  
Construction\_data\_exempl...  
Construction\_data::Constr...  
Construction\_data::Constr...  
Construction\_data::Value\_...  
Construction\_data::z\_calc\_...  
Construction\_examples::Ex...  
Construction\_meanings::...

Move  
Move All  
Clear All

Group by

☐ Construction\_name

Field export order

† Construction\_ID  
† Construction\_name  
† Construction\_schema  
† Description  
† Language\_ID  
† Construction\_meanings::Meaning\_ID  
† Construction\_examples::Example\_ID  
† Construction\_references::Reference\_ID  
† Construction\_references::Pages

Options

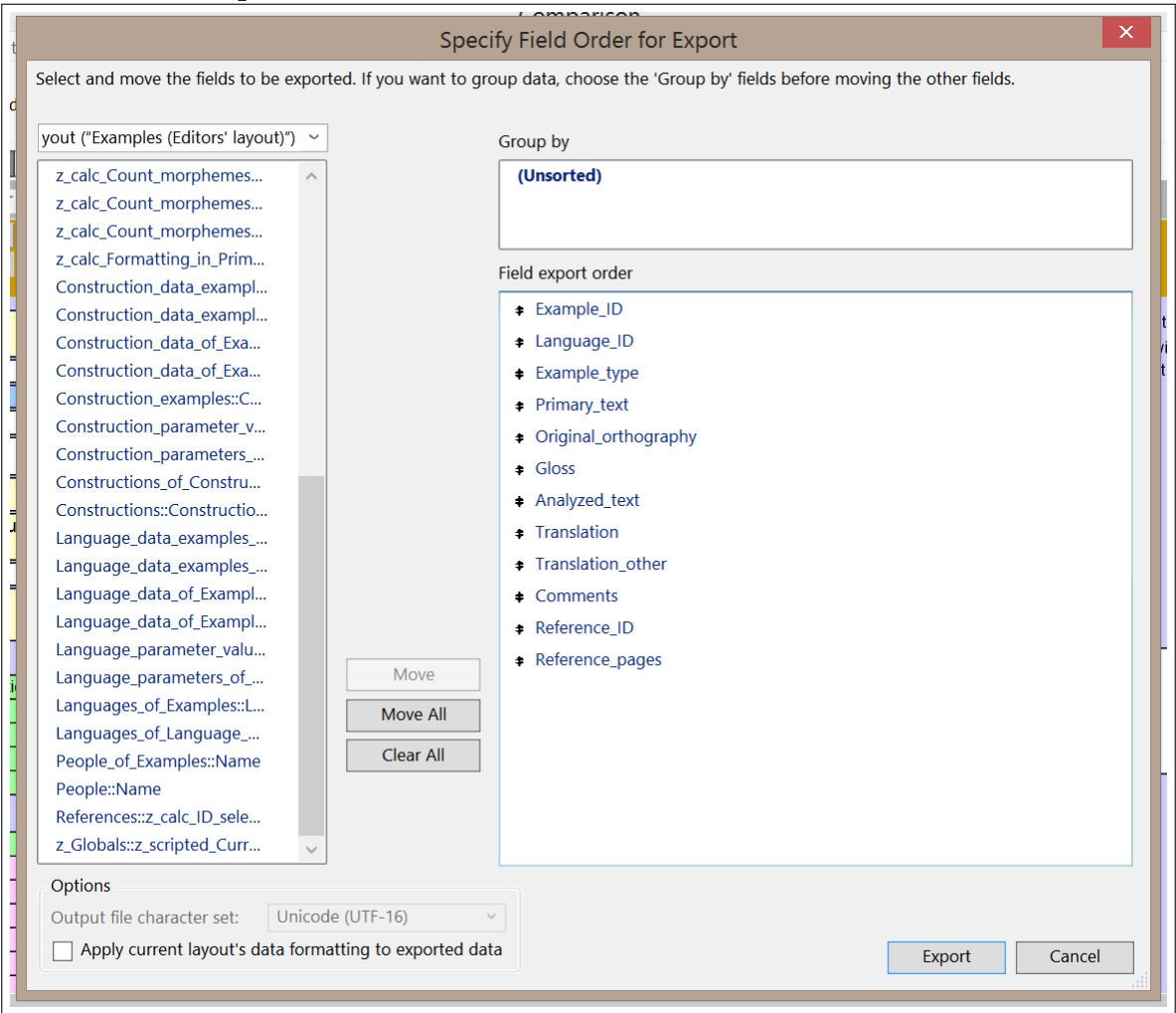
Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

ExportCancel

### 3.4 Examples

File name: Examples.xlsx



## 3.5 Language data

File name: Language\_data.xlsx

Comparison

### Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

Current Layout ("Language data") ▾

- Language\_ID
- Language\_parameter\_ID
- Language\_parameter\_value\_na...
- Value\_construction
- Value\_description
- Construction\_data::z\_calc\_Butto...
- Examples\_of\_Language\_data::E...
- Examples\_of\_Language\_data::Gl...
- Examples\_of\_Language\_data::Pr...
- Examples\_of\_Language\_data::Tr...
- Language\_data\_examples::Exa...
- Language\_data\_references::Pag...
- Language\_data\_references::Ref...
- Language\_parameter\_value\_na...
- Language\_parameters::Langua...
- Languages::Language\_name
- References\_of\_Language\_data::...
- References\_of\_Language\_data::...
- References\_of\_Language\_data::...

Group by

(Unsorted)

Field export order

- ✦ Language\_ID
- ✦ Language\_parameter\_ID
- ✦ Language\_parameter\_value\_name\_ID
- ✦ Language\_parameter\_value\_names\_of\_Language\_data::Value\_name
- ✦ Value\_description
- ✦ Language\_data\_examples::Example\_ID
- ✦ Language\_data\_references::Reference\_ID
- ✦ Language\_data\_references::Pages

Options

Output file character set: Unicode (UTF-16) ▾

☐ Apply current layout's data formatting to exported data

Move Move All Clear All Export Cancel

## 3.6 Language parameters

File name: Language\_parameters.xlsx

Comparison  
Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

t Layout ("Language parameters")

Description  
Language\_parameter\_ID  
Language\_parameter\_name  
Source\_file  
Construction\_parameters::z\_cal...  
Examples\_of\_Language\_data::E...  
Examples\_of\_Language\_data::Pr...  
Examples\_of\_Language\_data::Tr...  
Language\_data::Language\_ID  
Language\_data::Language\_para...  
Language\_data::Value\_construc...  
Language\_data::Value\_descripti...  
Language\_parameter\_value\_na...  
Language\_parameter\_value\_na...  
Languages::Language\_name

Group by  
(Unsorted)

Field export order

- Language\_parameter\_ID
- Language\_parameter\_name
- Description

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Move  
Move All  
Clear All  
Export  
Cancel

### 3.7 Languages

Note that the language table is the most inconsistent across databases. Some lack columns the *Glottocode* or *Language\_family*. The conversion script will try and add missing information from the Glottolog.

File name: Languages.xlsx

Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

out ("Languages (Editors' layout)")

Comments\_by\_editor  
Glottocode  
ISO\_code  
ISO\_Code 2  
Language\_family  
Language\_ID  
Language\_name  
Language\_variety  
Latitude  
Longitude  
WALS\_Code  
z\_calc\_Button\_label\_list\_form\_to...  
Examples\_of\_Language\_data::E...  
Examples\_of\_Language\_data::Pr...  
Language\_data\_examples::Exa...  
Language\_data::Language\_para...  
Language\_data::Language\_para...  
Language\_data::Value\_descripti...  
Language\_data::z\_calc\_Count\_e...  
Language\_parameter\_value\_na...  
Language\_parameters::Langua...  
Languages\_selfjoin\_on\_BJ\_lang...

Group by  
(Unsorted)

Field export order

- Language\_ID
- Language\_name
- Glottocode
- ISO\_code
- ISO\_Code 2
- WALS\_Code
- Language\_family
- Language\_variety

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Export Cancel

## 3.8 Meanings

File name: Meanings.xlsx

Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

Current Layout ("Meanings")

- Meaning\_ID
- Meaning\_name
- Typical\_context
- z\_calc\_Button\_label\_list\_form\_to...
- z\_calc\_Completeness\_check
- z\_calc\_Count\_constructions
- Construction\_meanings::Constr...
- Constructions::Construction\_na...
- Languages::Language\_name
- z\_Globals::z\_calc\_Template\_vers...
- z\_Globals::z\_calc\_Template\_vers...
- z\_Globals::z\_scripted\_File\_path

Group by

(Unsorted)

Field export order

- Meaning\_ID
- Meaning\_name
- Typical\_context

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Export Cancel

## 3.9 References

File name: References.xlsx

Part 1:

Comparison  
Specify Field Order for Export

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

Output ("References (Editors' layout)")

Group by  
(Unsorted)

Field export order

- Article\_title
- Authors
- BibTeX\_type
- Book\_title
- Chapter
- Checked\_by\_editor
- Checked\_by\_student\_assis...
- City
- Comments\_by\_editor
- Editors
- Full\_reference
- Issue\_number
- Journal
- LaTeX\_cite\_key
- Pages
- Publisher
- Reference\_ID
- School
- Series\_title
- URL
- Volume

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Move Move All Clear All Export Cancel



Part 2:

Comparison

Specify Field Order for Export

✕

Select and move the fields to be exported. If you want to group data, choose the 'Group by' fields before moving the other fields.

Output ("References (Editors' layout)")

Additional\_information

Article\_title

Authors

BibTeX\_type

Book\_title

Chapter

Checked\_by\_editor

Checked\_by\_student\_assis...

City

Comments\_by\_editor

Editors

Full\_reference

Issue\_number

Journal

LaTeX\_cite\_key

Pages

Publisher

Reference\_ID

School

Series\_title

URL

Volume

Year

Year\_disambiguation\_letter

z\_calc\_Button\_label\_list\_fo...

Move

Move All

Clear All

Group by

(Unsorted)

Field export order

✚ Book\_title

✚ Chapter

✚ City

✚ Editors

✚ Full\_reference

✚ Issue\_number

✚ Journal

✚ LaTeX\_cite\_key

✚ Pages

✚ Publisher

✚ Reference\_ID

✚ School

✚ Series\_title

✚ URL

✚ Volume

✚ Year

✚ Year\_disambiguation\_letter

Options

Output file character set: Unicode (UTF-16)

☐ Apply current layout's data formatting to exported data

Export

Cancel