

Metadados



Software e Fluxos de Trabalho



3. Software e Fluxos de Trabalho

3.1 Folha de cálculo, **OpenRefine**, Open Data Editor

3.2 Visual Studio, Notepad++

3.3 Exiftool

3.4 MarcEdit, Metadata++, PDF Metadata Editor

3.5 Tropy, Digikam

3.6 Serviços web

3.1 OpenRefine

O OpenRefine (antigo Google Refine) é uma ferramenta open-source para limpar, transformar e explorar dados.

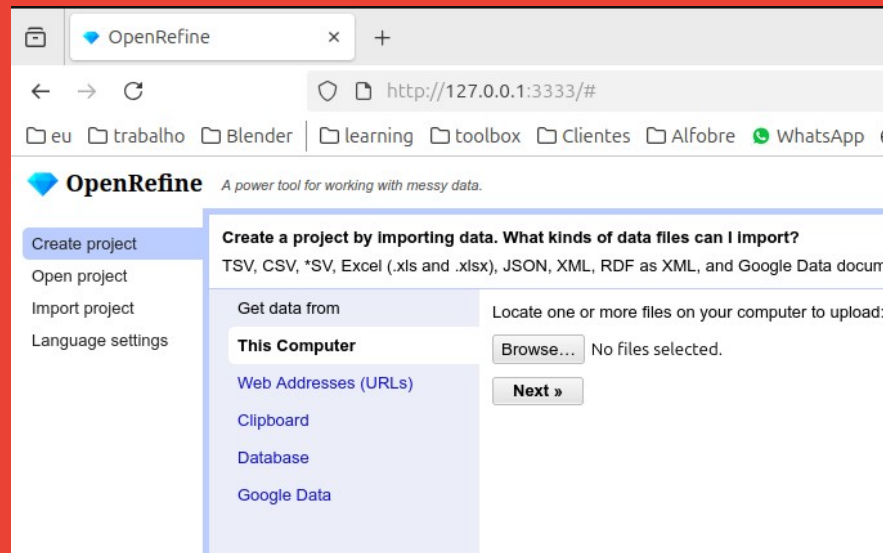
- + Focado na limpeza e transformação de dados
- + Grandes volumes de dados
- + Reprodutibilidade (histórico)

1. Limpar dados: unificar variações, remover espaços em branco, etc.
2. Transformar dados: dividir dados em múltiplas colunas, reorganizar tabelas, padronizar formatos, etc.
3. Explorar dados: Filtrar e agrupar dados rapidamente
4. Integrar com fontes externas: conectar a APIs (dados de Wikidata, VIAF, etc)
5. Exportar para múltiplos formatos

3.1 OpenRefine

1) Inicie o OpenRefine clicando 2 vezes no respetivo ícone. Irá abrir um browser com a aplicação.

Se não arrancar, digite **localhost:3333** (ou 127.0.0.1:3333) na barra de endereços do browser



3.1 OpenRefine

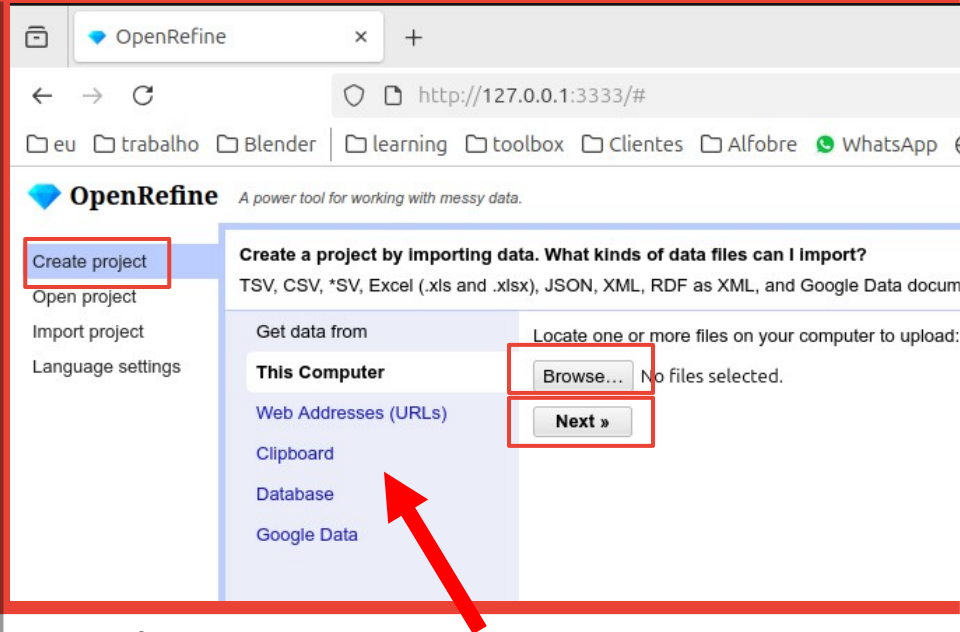
2) Clique na aba **Create Project**

Depois no botão **Browse**/Explorar e localize ficheiro Naufragios.csv

Depois no **Next** para importar os dados

A janela seguinte mostra uma prévisualização dos dados e pode alterar algumas configurações de importação caso necessário.

Por fim clique no botão **Create project**



É possível criar um projeto com outras fontes de dados.

Create project

« start over

Configure parsing options

Project name Naufragios csv

Tags

Create project

Open project

Import project

Language settings

Extensions

	SHIP'S NAME	AKA	SHIP'S OWNER	VESSEL TYPE	YEAR BUILT	WHERE BUILT	DATE LOST	YEAR	MONTH	DAY	LOCATION LOST	ITUDE LOST	LONGITUDE
1.	74 H	93015		Scow			7/28/1916	1916	7	28	Sandy Hook SE 5 mi		
2.	A B Crosby			Schooner	1884		3/12/1888	1888	3	12	Atlantic Highlands		
3.	A B Sherman			Schooner	1883		12/8/1886	1886	12	8	Five Fathoms Bank Light		
4.	A B Thompson			Yacht			7/18/1874	1874	7	18	Absecon		
5.	A C Austin			Schooner			2/1868	1868	2		Sandy Hook Romer Shoal		
6.	A C Wescoat (1989)		A C Wescoat Co	Deck barge			10/11/1989	1989	10	11	Atlantic City Artificial Reef	39-15-540 N	74-14-691 W
7.	A C Wescoat (2006)			Deck barge			7/26/2006	2006	7	25	Ocean City Artificial Reef	39-09-819 N	74-34-310 W
8.	A D Scull			Schooner	1864		4/18/1880	1880	4	18	Townsend's Inlet		
9.	A E Douglass			Schooner	1855		6/4/1862	1862	6	4	Barneget N 8 mi		
10.	A F Baillie			Schooner	1872		11/17/1875	1875	11	17	Carters Bar, VA		
11.	A F Crockett			Schooner	1881	Bath, ME	5/21/1894	1894	5	21	Harvey Cedars NE .5 mi		
12.	A Field	A D Field		Schooner			2/10/1852	1852	2	10	Deal Beach		
13.	A G Ropes		Luckenbach SS Co	Schooner - Barge	1884	Bath, ME	12/26/1913	1913	12	26	Island Beach		
14.	A H Bowman			Steamship			12/4/1857	1857	12	4	Deal Lake N .25 mi		
15.	A H DuMont		Spentonbush Red Star Co	Tanker	1940	Camden, NJ	6/10/1986	1986	6	10	Garden State North Artificial Reef	39-37-727 N	74-01-029 W
16.	A H Edward			Schooner			1820	1820			Nine Mile Beach		
17.	A H Hurlburt			Schooner	1871	Middletown, CT	6/26/1884	1884	6	26	Cape May LSS SW 4 mi		
18.	A J Bentley		Bentley & Gildersleeve	Schooner	1865	Hartford, CT	5/27/1873	1873	5	27	Barneget		
19.	A J Hoole			Schooner			12/19/1902	1902	12	19	Spermaceti Cove LSS S 1 mi		
20.	A L & M Townsend	George White		Schooner	1871	Barneget, NJ	12/30/1888	1888	12	30	Little Egg LSS S 2 mi		
21.	A L Lee (1897)			Schooner	1884	Mays Landing, NJ	3/25/1897	1897	3	25	Ocean City LSS E .5 mi		
22.	A L Lee (1898)			Schooner	1884	Mays Landing, NJ	8/26/1898	1898	8	26	Absecon bar		
23.	A L Lee (1902)			Schooner	1884	Mays Landing, NJ	12/10/1902	1902	12	10	Absecon bar		
24.	A Lincoln			Schooner	1865	Essex, MA	10/12/1891	1891	10	12	Barneget		
25.	A M C Smith			Schooner			10/13/1876	1876	10	13	Green Island LSS N .25 mi	39-36-00 N	74-12-06 W
26.	A M Lee		G H Newhall	Schooner	1864	Tuckahoe, NJ	10/12/1885	1885	10	12	Highlands SE .5 mi		
27.	A P Nowell		Thomas Winsmore	Schooner	1874	Milton, DE	8/3/1886	1886	8	3	Cape May		

Parse data as

Character encoding

UTF-8-BOM

Update preview

CSV / TSV / separator-based files

Line-based text files

Fixed-width field text files

PC-Axis text files

JSON files

MARC files

JSON-LD files

RDF/N3 files

RDF/N-Triples files

RDF/Turtle files

Columns are separated by

☒ commas (CSV)☐ tabs (TSV)☐ custom ,☒ Use character " " to enclose cells containing column separators☐ Trim leading & trailing whitespace from strings

Escape special characters with \

☐ Ignore first 0 line(s) at beginning of file☒ Parse next 1 line(s) as column headers☐ Column names (comma separated)☐ Discard initial 0 row(s) of data☐ Load at most 0 row(s) of data☐ Disable auto preview☐ Attempt to parse cell text into numbers☒ Store blank rows☒ Store blank columns☒ Store blank cells as nulls☐ Store file source☐ Store archive file

Version 3.9.3 [TRUNK]

Preferences

Help

About

Facet / Filter Undo / Redo 22 / 22

4,721 rows

Extensions Wikibase ▾

Show as: **rows** records Show: 5 10 25 50 100 500 1000 rows

« first < previous 1 - 10 next > last »

Using facets and filters



Use facets and filters to select subsets of your data to act on. Choose facet and filter methods from the menus at the top of each data column.

Not sure how to get started?

[Watch these screencasts](#)

▼ DATE LOST	▼ YEAR	▼ MNTH	▼ DAY	▼ LOCATION LOST	▼ LATITUDE LOST	▼ LONGITUDE LOST	▼ CAUSE OF LOSS	▼ CONSTRUCTION	▼
7/28/1916	1916	7	28	Sandy Hook SE 5 mi			Grounded		
3/12/1888	1888	3	12	Atlantic Highlands			Grounded in snowstorm		En
12/8/1886	1886	12	8	Five Fathoms Bank Light			Storm	Wood	US
7/18/1874	1874	7	18	Absecon			Capsized		US
2/1868	1868	2		Sandy Hook Romer Shoal			Grounded	Wood	US
10/11/1989	1989	10	11	Atlantic City Artificial Reef	39-15-540 N	74-14-691 W	Opened hull	Steel	US
7/26/2006	2006	7	25	Ocean City Artificial Reef	39-09-819 N	74-34-310 W	Scuttled	Steel	US
4/18/1880	1880	4	18	Townsend's Inlet			Grounded	Wood	US
6/4/1862	1862	6	4	Barnegat N 8 mi			Foundered	Wood	US
11/17/1875	1875	11	17	Carters Bar, VA			Storm	Wood	US

OpenRefine A power tool for working with messy data.

Create project « start over Configure parsing options

Open project

Import project

Language settings

Extensions

	SHIP'S NAME	AKA	SHIP'S OWNER
1.	74 H	93015	
2.	A B Crosby		
3.	A B Sherman		
4.	A B Thompson		
5.	A C Wescoat		
6.	A C Wescoat (1989)		A C Wescoat Co
7.	A C Wescoat (2006)		
8.	A D Soull		
9.	A E Douglass		
10.	A F Ballie		
11.	A F Crockett		
12.	A Field	A D Field	
13.	A G Ropes		Luckenbach SS Co
14.	A H Bowman		
15.	A H DuMont		Spentonbush Red Star
16.	A H Edward		
17.	A H Hurlburt		
18.	A J Bentley		Bentley & Gildecleave

Pode alterar o idioma da interface a qualquer momento. Basta clicar no ícone do programa para aceder ao menu principal.

É também aí que pode importar projetos, abrir projetos existentes ou criar novos projetos.

OpenRefine Naufragios csv Perma

Facet / Filter Undo / Redo 22 / 22

Using facets and filters

Use facets and filters to select subsets of your data to act on. Choose facet and filter methods from the menus at the top of each data column.

Not sure how to get started?
[Watch these screencasts](#)

3.1 OpenRefine

Estamos na interface principal de trabalho. Podemos alterar a quantidade de linhas exibidas mas este software não é uma folha de cálculo...

3) Ative para mostrar **25**

Naufragios csv [Permalink](#)

Redo 6 / 6

4,721 rows

Show as: rows records Show: 5 10 **25** 50 100

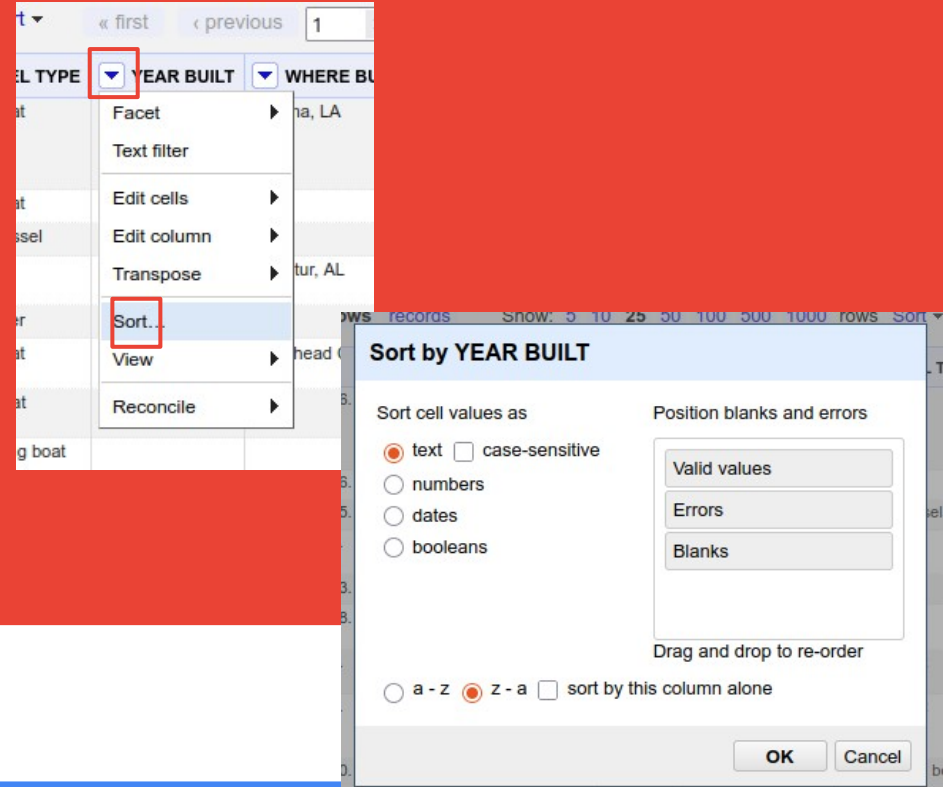
<input type="checkbox"/> All	<input type="checkbox"/> SHIP'S NAME	<input type="checkbox"/> AKA	<input type="checkbox"/> SHIP'S OWNER
☆	1. 74 H	93015	
☆	2. A B Crosby		
☆	3. A B Sherman		
☆	4. A B Thompson		
☆	5. A C Austin		
☆	6. A C Wescoat (1989) \		A C Wescoat Co
☆	7. A C Wescoat (1989)		

3.1 OpenRefine – Sort / Ordenar

Para ordenar os dados usamos a ferramenta **Sort/Ordenar**

Esta ferramenta é configurada de acordo com o tipo de dados. Apesar de serem números, a coluna YEAR BUILT não está reconhecida como dados numéricos...

Este Sort não irá funcionar como desejado...



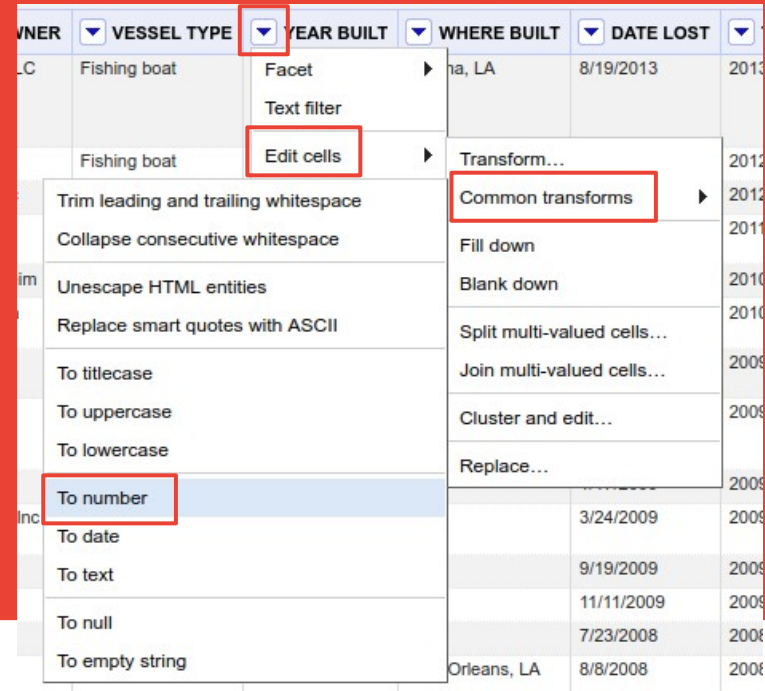
3.1 OpenRefine – Sort / Ordenar

4) Se criou entretanto, remova os Sorts criados

Transforme os dados da coluna para dados numéricos e depois ative a ferramenta Sort.

Quando alterar, os número passam a estar com a cor verde.

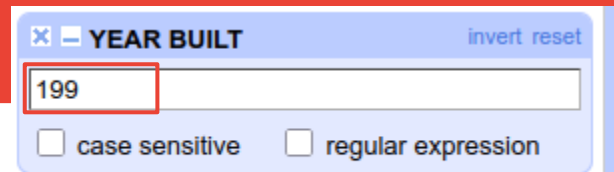
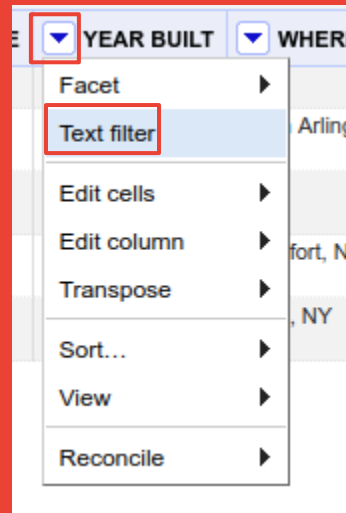
Ative o **Sort**



3.1 OpenRefine – Filtrar

5) Pode usar um filtro de texto

Ative o filtro de texto e escreva a chave com que pretende filtrar

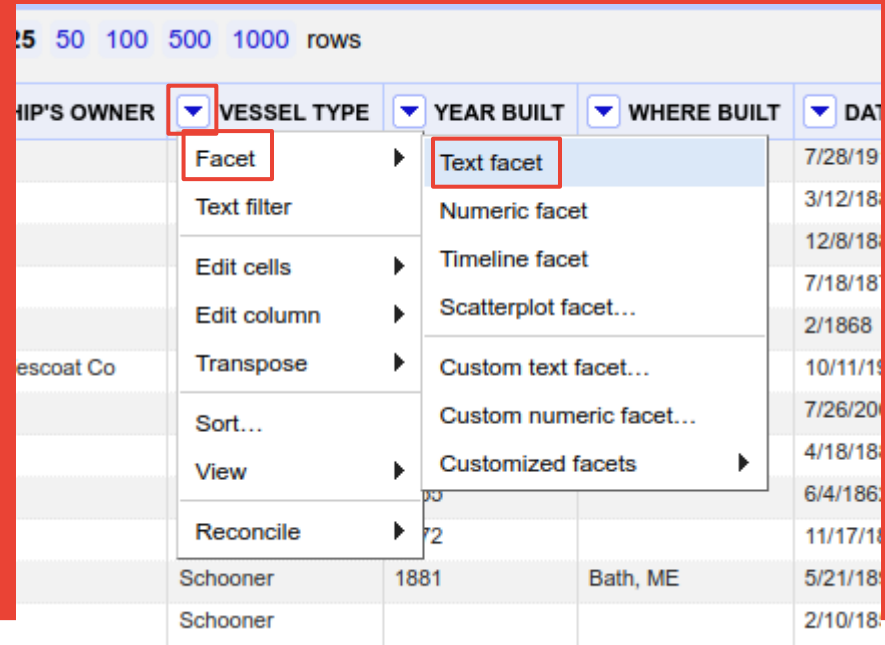


3.1 OpenRefine – Facetas de texto

Vamos criar uma faceta de texto

6) Clique no **menu** de VESSEL TYPE, escolha **Facet** e depois **Text facet**

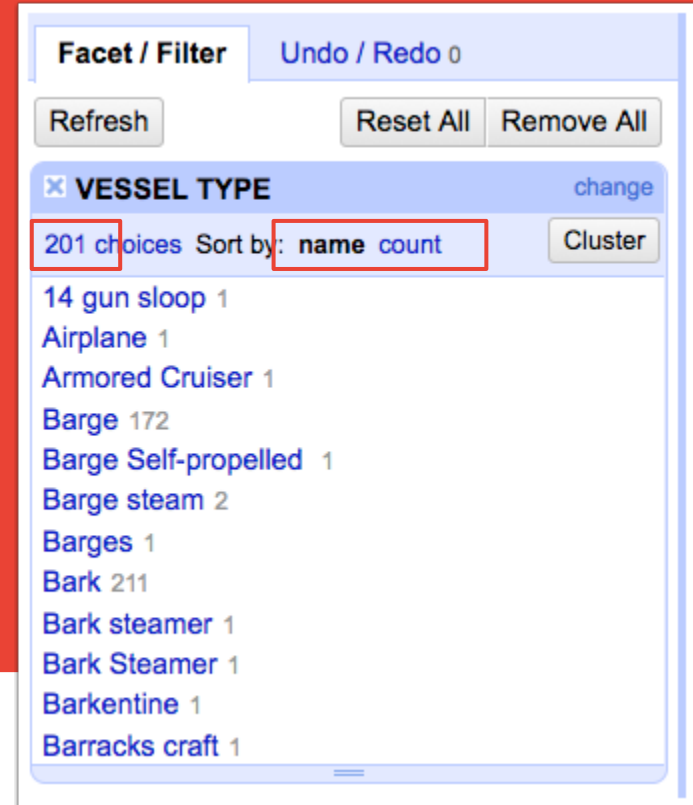
Surgiu agora uma janela-faceta que permite selecionar os termos que existem na coluna VESSEL TYPE.



3.1 OpenRefine – Facetas de texto

Temos 201 termos por ordem alfabética

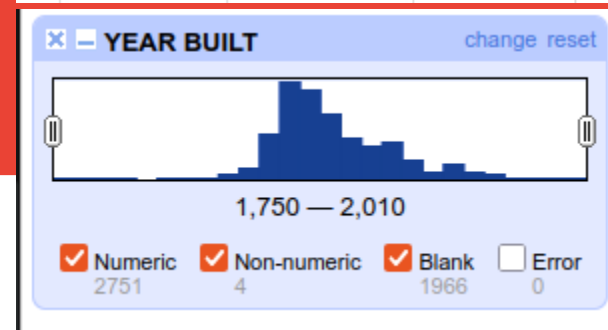
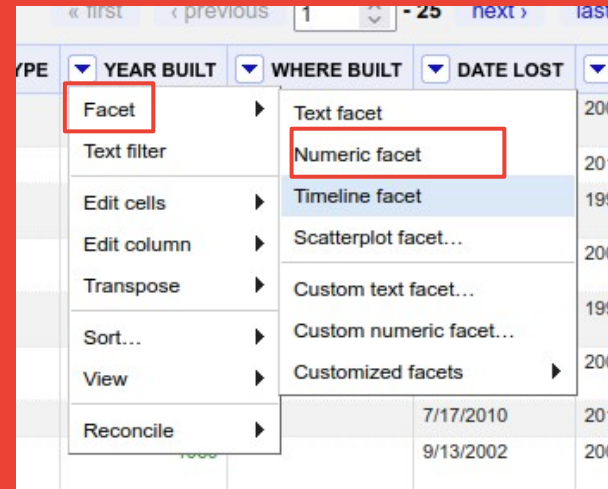
- Experimente ver os termos mais utilizados
- Experimente clicar em cima de um termo mostrar apenas as linhas com esse termo
- Experimente clicar no **include** (quando passa rato por cima)



3.1 OpenRefine – Facetas numéricas

7) Também pode criar uma faceta numérica na coluna YEAR BUILT (porque os dados são numéricos!)

- Experimente usar a faceta para filtrar os dados.



3.1 OpenRefine – Facetas com datas

Também pode criar uma faceta com datas mas os dados têm que ser datas e...

OpenRefine converte para formato...

YYYY-MM-DDTHH:MM:SSZ



A screenshot of an OpenRefine facet titled 'DATE LOST'. The facet displays a list of dates in ISO 8601 format (YYYY-MM-DDTHH:MM:SSZ). The dates are: 1916-07-28T00:00:00Z, 1888-03-12T00:00:00Z, 1886-12-08T00:00:00Z, 1874-07-18T00:00:00Z, 2/1868, 1989-10-11T00:00:00Z, 2006-07-26T00:00:00Z, 1880-04-18T00:00:00Z, 1862-06-04T00:00:00Z, and 1875-11-17T00:00:00Z. The facet is shown in a light blue header with a dropdown arrow.

DATE LOST
1916-07-28T00:00:00Z
1888-03-12T00:00:00Z
1886-12-08T00:00:00Z
1874-07-18T00:00:00Z
2/1868
1989-10-11T00:00:00Z
2006-07-26T00:00:00Z
1880-04-18T00:00:00Z
1862-06-04T00:00:00Z
1875-11-17T00:00:00Z

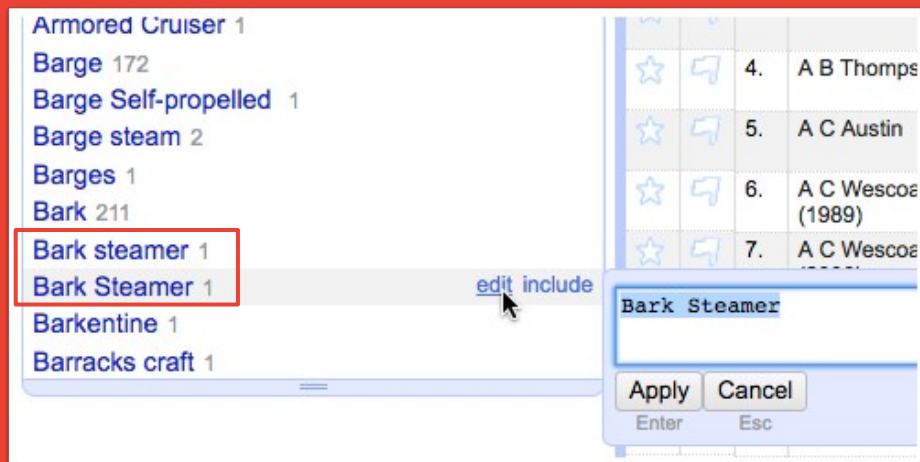
3.1 OpenRefine – Editar

Vamos limpar dados!

Na lista da faceta de texto existe **Bark steamer** e **Bark Steamer**

8) Quando passa o rato por cima do termo **Bark Steamer** surge a opção **edit**. Edite e altere para **Bark steamer**. Clique em **Apply** no final.

Os dois termos fundiram-se, agora existem 200 termos.



3.1 OpenRefine - Cluster

9) No topo da janela de faceta clique em **Cluster**. Depois clique novamente no botão **Cluster** no centro da janela. Surgem os termos que o OpenRefine sugere que sejam fundidos.

Experimente outros algoritmos (method/keying).

Merge & re-cluster para continuar e **close** para fechar.

Merge?	Values in cluster	New cell value	Cluster size	Row count
<input type="checkbox"/>	<input type="checkbox"/> Privateer Schooner <input type="checkbox"/> Schooner - privateer	Privateer Schooner	2	2
<input type="checkbox"/>	<input type="checkbox"/> Fishing Vessel <input type="checkbox"/> Fishing vessel	Fishing Vessel	2	2
<input type="checkbox"/>	<input type="checkbox"/> Freighter steam (17 rows) <input type="checkbox"/> Steam freighter (3 rows)	Freighter steam	2	20
<input type="checkbox"/>	<input type="checkbox"/> Pilot schooner (30 rows) <input type="checkbox"/> Pilot Schooner (2 rows)	Pilot schooner	2	32
<input type="checkbox"/>	<input type="checkbox"/> Sailing ship (24 rows) <input type="checkbox"/> Sailing Ship	Sailing ship	2	25
<input type="checkbox"/>	<input type="checkbox"/> Brig Privateer (3 rows) <input type="checkbox"/> Privateer Brig	Brig Privateer	2	4

Select all Deselect all Export clusters Merge selected & re-cluster

3.1 OpenRefine – Transformações comuns

Existem vários termos com minúsculas/maiúsculas inconsistentes (p. ex. **Armored Cruiser** e **Barge steam**)

10) Vamos tornar tudo minúsculas com a **transformação comum To lowercase**

Existem mais transformações comuns úteis!

The screenshot shows the OpenRefine interface with a table of data. The 'VESSEL T' column is selected, and the 'Edit cells' menu is open. The 'To lowercase' option is highlighted. Red circles 1 through 4 indicate the sequence of actions: 1. Click on the 'VESSEL T' column header. 2. Click on the 'Edit cells' option in the dropdown menu. 3. Click on the 'Common transforms' option in the submenu. 4. Click on the 'To lowercase' option in the submenu.

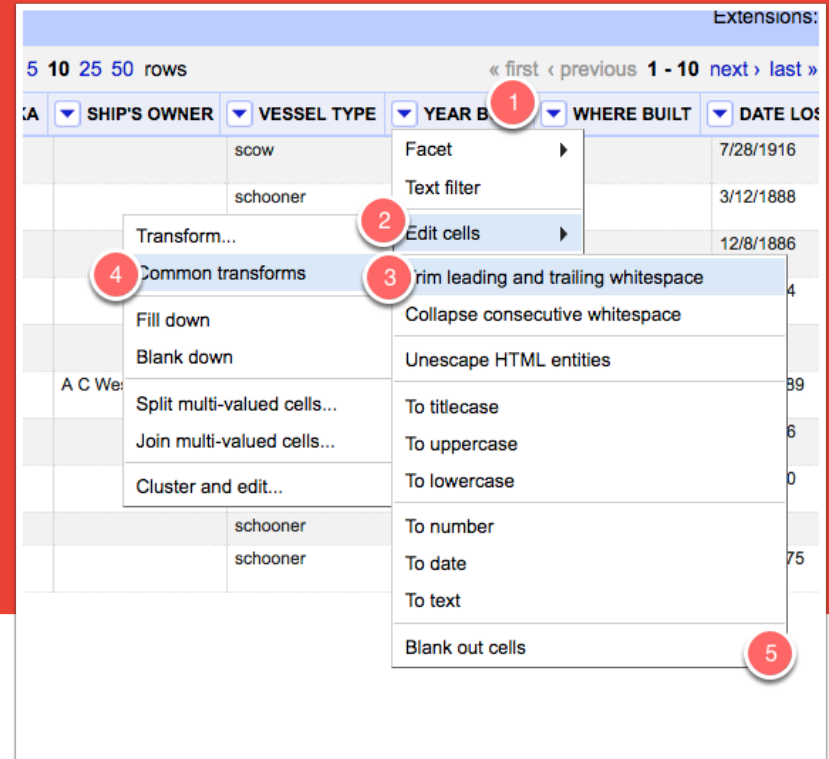
S NAME	AKA	SHIP'S OWNER	VESSEL T	YEAR BUILT	WHERE BUILT	DATE
	93015					7/28/1
oy				84		3/12/1
nan						12/8/1
ypson						7/18/1
n						2/186E
coat	\					10/11/
coat						7/26/2
						4/18/1
lass				55		6/4/18
				72		11/17/

3.1 OpenRefine – Remover espaços em branco a mais

Existem células que têm espaços em branco antes/depois dos valores...

11) Vamos limpar tudo com a **transformação comum Trim leading and trailing whitespace**

Aproveite e faça Collapse consecutive whitespace para remover espaços em branco consecutivos



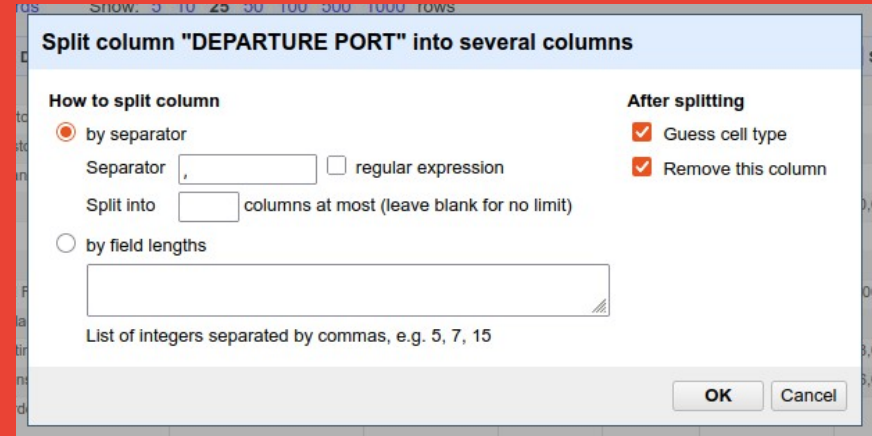
3.1 OpenRefine – Dividir em colunas

A coluna DEPARTURE POINT tem uma localização com vários elementos (cidade, estado, país). Vamos separar a coluna...

12) Escolha **Edit columns** e **Split into multiple columns**

Defina o separador. No exemplo utilizámos “,” (vírgula e espaço em branco!)

No mesmo menu escolha **Rename**



3.1 OpenRefine – Undo/Redo e Histórico

A janela Undo/Redo guarda um histórico das operações (**que pode ser exportado e reutilizado-aplicado!**)

13) Experimente fazer **Undo** e depois **Redo**

The screenshot shows the 'Facet / Filter' and 'Undo / Redo' tabs at the top. Below them are 'Extract...' and 'Apply...' buttons. A 'Filter' input field is present. The main area displays a list of 19 actions in a table-like format:

Index	Action Description
0.	Create project
1.	Star row 9
2.	Unstar row 9
3.	Star row 9
4.	Unstar row 9
5.	Flag row 9
6.	Unflag row 9
7.	Edit single cell on row 1, column SHIP'S NAME
8.	Mass edit 1 cells in column VESSEL TYPE
9.	Mass edit 4 cells in column VESSEL TYPE
10.	Add 1 row
11.	Flag row 1
12.	Edit single cell on row 1, column VESSEL TYPE
13.	Unflag row 1
14.	Remove 1 rows
15.	Mass edit 85 cells in column VESSEL TYPE
16.	Mass edit 26 cells in column VESSEL TYPE
17.	Text transform on 12 cells in column VESSEL TYPE: value.trim()
18.	Text transform on 0 cells in column VESSEL TYPE: value.replace(/[p{Zs}s]+/, '')
19.	Split 3072 cell(s) in column DEPARTURE PORT into several columns by separator

3.1 OpenRefine – Undo/Redo e Histórico

Facet / Filter **Undo / Redo 14 / 14**

Extract... Apply...

Filter:

0. Create project
1. Text transform on 7 cells in column `¿Facility: value.trim()`
2. Text transform on 0 cells in column `Program: value.trim()`

Extract Operation History

Extract and save parts of your operation history as JSON that you can apply to this or other projects in the future.

- ☒ Text transform on cells in column `¿Facility` using expression `value.trim()`
- ☒ Text transform on cells in column `Program` using expression `value.trim()`
- ☒ Text transform on cells in column `Attendance` using expression `value.trim()`
- ☒ Text transform on cells in column `Date` using expression `value.trim()`
- ☒ Text transform on cells in column `Quarter` using expression `value.trim()`
- ☒ Text transform on cells in column `Period_Type` using expression `value.trim()`
- ☒ Text transform on cells in column `ObjectId` using expression `value.trim()`
- ☒ Text transform on cells in column `Attendance` using expression `value.toNumber()`
- ☒ Text transform on cells in column `Date` using expression `value.toDate()`

Select All Unselect All

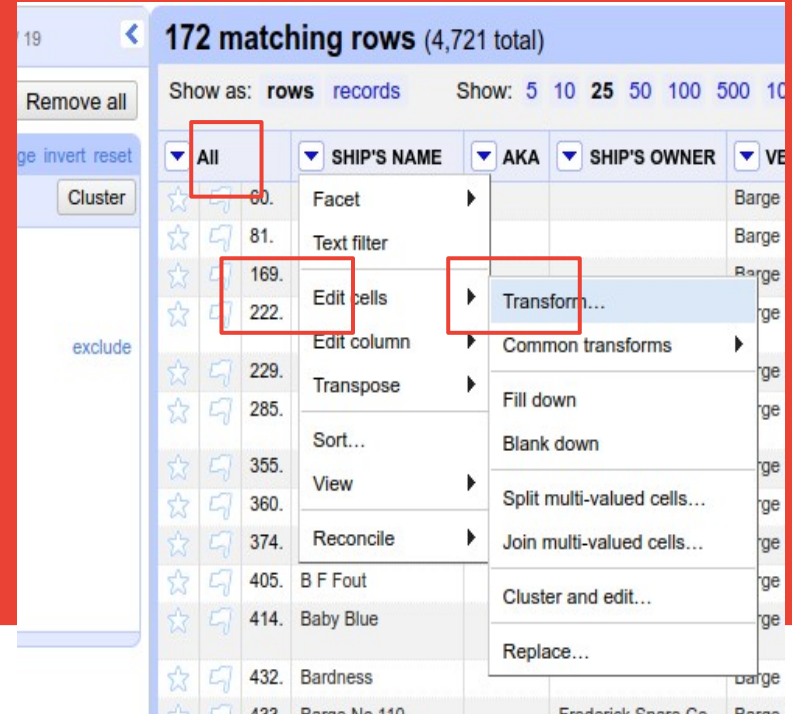
```
[
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "¿Facility",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column ¿Facility using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Program",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Program using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Attendance",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Attendance using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Date",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Date using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Quarter",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Quarter using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Period_Type",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Period_Type using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "ObjectId",
    "expression": "value.trim()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column ObjectId using expression value.trim()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Attendance",
    "expression": "value.toNumber()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Attendance using expression value.toNumber()"
  },
  {
    "op": "core/text-transform",
    "engineConfig": {
      "facets": [],
      "mode": "row-based"
    },
    "columnName": "Date",
    "expression": "value.toDate()",
    "onError": "keep-original",
    "repeat": false,
    "repeatCount": 10,
    "description": "Text transform on cells in column Date using expression value.toDate()"
  }
]
```

3.1 OpenRefine - Transformações

Vamos adicionar um prefixo a todos os barcos do tipo **barge**.

14) Utilize a faceta para escolher os barcos de tipo **Barge**

15) No menu SHIP'S NAME escolha **Edit cells** e **Transform**



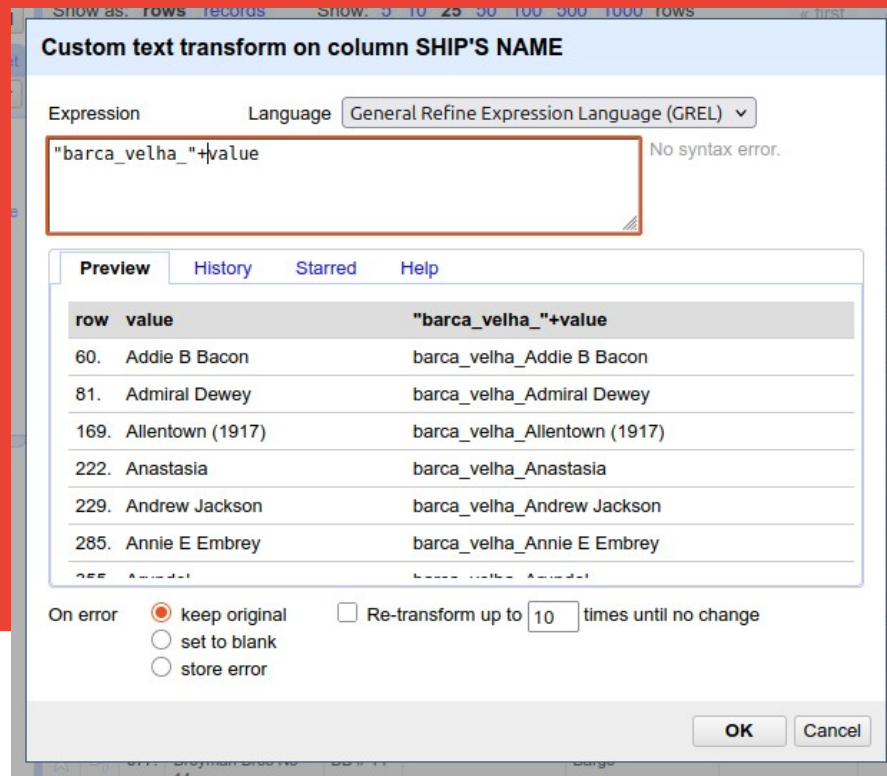
3.1 OpenRefine

Na janela vamos escrever a expressão que permite inserir um prefixo. O *value* representa o valor existente na célula.

Utilizámos esta expressão

"barca_velha_" + value

Em baixo pode pré-visualizar a alteração.



3.1 OpenRefine – Outras transformações

Para substituir caracteres (um conjunto ou vários conjuntos)

`value.replace("barca_velha", "111")`

**`value.replaceEach(["barca",
"velha"], ["111", "222"])`**

The screenshot shows the 'Custom text transform on column SHIP'S NAME' dialog box in OpenRefine. The 'Expression' field contains the code `value.replaceEach(["barca", "velha"], ["111", "222"])`. The 'Language' dropdown is set to 'General Refine Expression Language (GREL)'. A 'No syntax error.' message is displayed. Below the expression field, there are tabs for 'Preview', 'History', 'Starred', and 'Help'. The 'Preview' tab is active, showing a table with three columns: 'row', 'value', and 'value.replaceEach(["barca", "v ...'. The table contains several rows of data, including 'barca_velha_Southwick's', 'barca_velha_Libra', 'barca_velha_Hughes 137', 'barca_velha_Michelle S', 'barca_velha_Eastern 2', and 'barca_velha_Thomas J Lanigan'. At the bottom of the dialog, there are options for 'On error': 'keep original' (selected), 'set to blank', and 'store error'. There is also a checkbox for 'Re-transform up to 10 times until no change'. The 'OK' and 'Cancel' buttons are at the bottom right.

Custom text transform on column SHIP'S NAME

Expression Language General Refine Expression Language (GREL) ▾

`value.replaceEach(["barca", "velha"], ["111", "222"])` No syntax error.

Preview History Starred Help

row	value	value.replaceEach(["barca", "v ...
4115.	barca_velha_Southwick's	111_222_Southwick's
2696.	barca_velha_Libra	111_222_Libra
2077.	barca_velha_Hughes 137	111_222_Hughes 137
3122.	barca_velha_Michelle S	111_222_Michelle S
1189.	barca_velha_Eastern 2	111_222_Eastern 2
4295.	barca_velha_Thomas J Lanigan	111_222_Thomas J Lanigan
4704.	barca_velha_George A. Kellner	111_222_George A. Kellner

On error ☒ keep original ☐ Re-transform up to times until no change
☐ set to blank
☐ store error

OK Cancel

3.1 OpenRefine – Outras transformações

Para substituir data completa

YYYY-MM-DDTHH:MM:SSZ

só pelos anos

```
value.datePart("years")
```

Mas não resolve a faceta de tempo (dados deixam de ser data)!

DATE LOST	DATE LOST
2013-01-01T00:00:00Z	1916
	1888
	1886
2012-01-01T00:00:00Z	1874
2012-01-01T00:00:00Z	1868
2011-01-01T00:00:00Z	1989
2010-01-01T00:00:00Z	2006
2010-01-01T00:00:00Z	1880
	1862
2009-01-01T00:00:00Z	1875
2009-01-01T00:00:00Z	1894
2009-01-01T00:00:00Z	1852
	1913
2009-01-01T00:00:00Z	1857
2009-01-01T00:00:00Z	1986
	1820

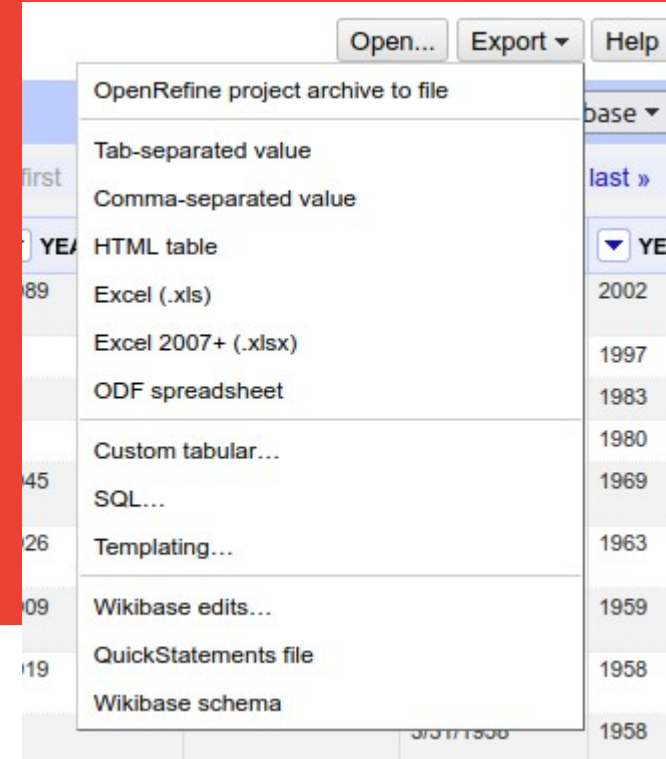
3.1 OpenRefine – Exportar e Fechar

Para exportar dados utilizamos o botão **Export**.

Para partilhar exportar projeto.

Para encerrar,

- a) feche as abas/browser
- b) na janela de terminal clique em CTRL+C (garante gravação)



3.1 OpenRefine – Utilidades nas Colunas

Dividir em colunas

Juntar colunas

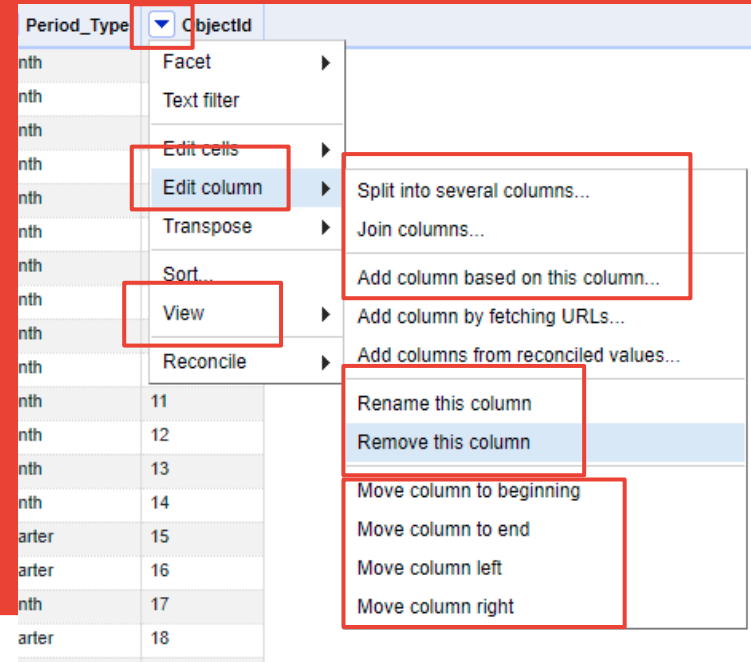
Duplicar colunas

Renomear colunas

Remover colunas

Reordenar/mover colunas

Esconder (colapsar) colunas no menu View



3.1 OpenRefine – Utilidades gerais

Estrelas e Flags

Facetas das estrelas e Flags

Adicionar linhas em branco

Apagar = Marcar com Estrela ou Flag + Ativar Facet by Star ou Flag + Edit Rows + Remove Matching

Estrelas e Flags

Facetas das estrelas e Flags

Adicionar linhas em branco

Apagar = Marcar com Estrela ou Flag + Ativar Facet by Star ou Flag + Edit Rows + Remove Matching

< 4,721 rows

Show as: **rows** records Show: 5 10 25 **50** 100 500 1000 rows

All	SHIP'S NAME	AKA	SHIP'S OWNER	VESSEL TYPE
Transform...	by	93015		Scow
Edit all columns	man			Schooner
Facet				Schooner
Add blank rows				Yacht
Edit rows				Schooner
Edit columns				Deck barge
View				Deck barge
Blank values per column				Schooner
Blank records per column				Schooner
Non-blank values per column				Schooner
Non-blank records per column				Schooner
Field	A D Field			Schooner
A G Ropes		Luckenbach SS Co		Schooner - Barge
A H Bowman				Steamship
A H DuMont		Spentonbush Red Star Co		Tanker
A H Edward				Schooner
A H Hurlburt				Schooner