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AtoM Camp 2017: Navigating the MySQL backend

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Session outline and goals

- MySQL tools
- Overview of data model / table structure
- An example: Navigating part of the database
- Batch updates

Tools

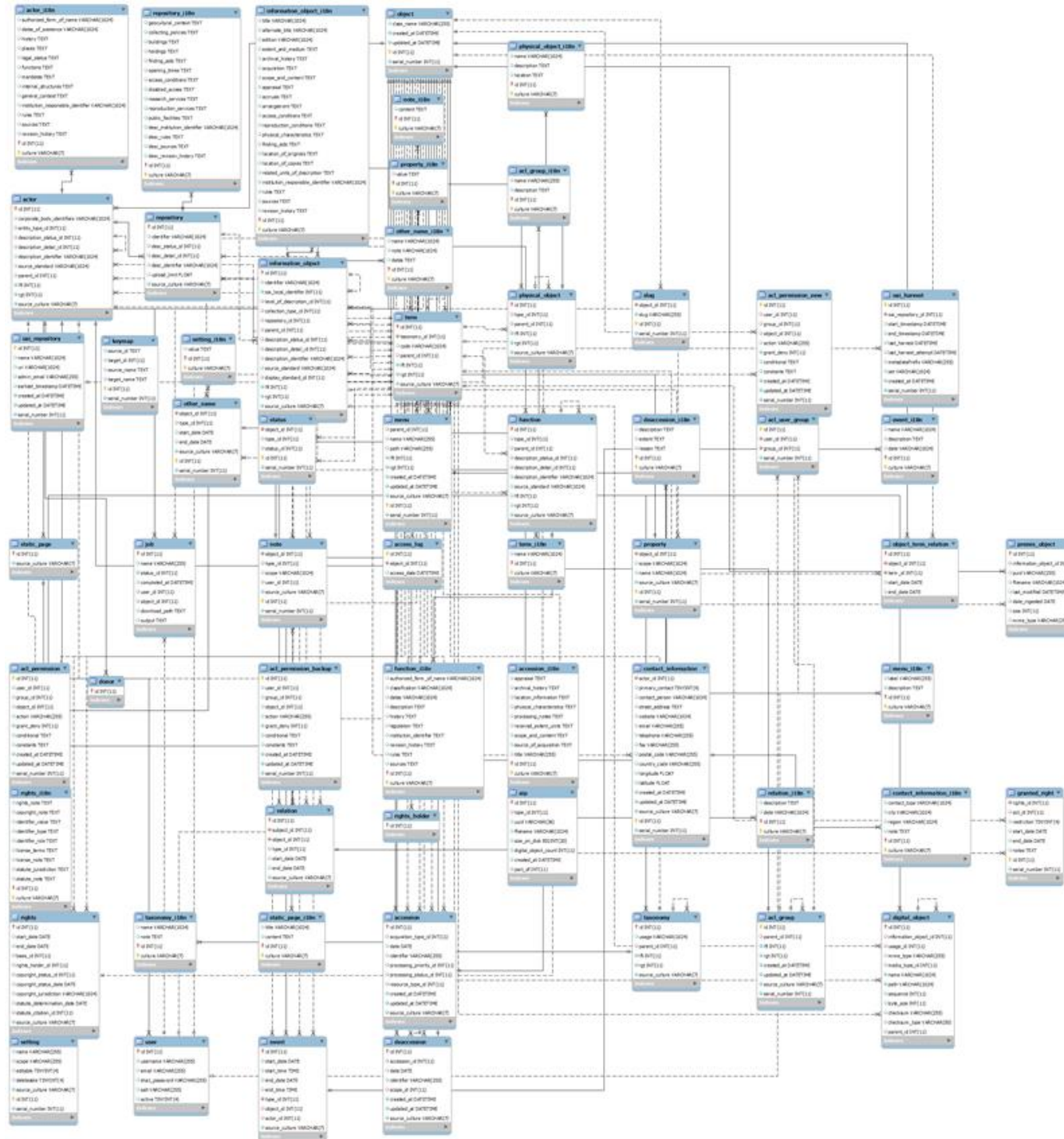
- Command line (terminal access)
- ***MySQL Workbench – local installation
 - a) <https://www.mysql.com/products/workbench/>
 - b) Need to create user with access from host (for vagrant box):

```
sudo -H -u root mysql -hlocalhost -  
uroot mysql -e "GRANT ALL ON *.* to  
root@'10.10.10.1' IDENTIFIED BY  
'root'; FLUSH PRIVILEGES;"
```

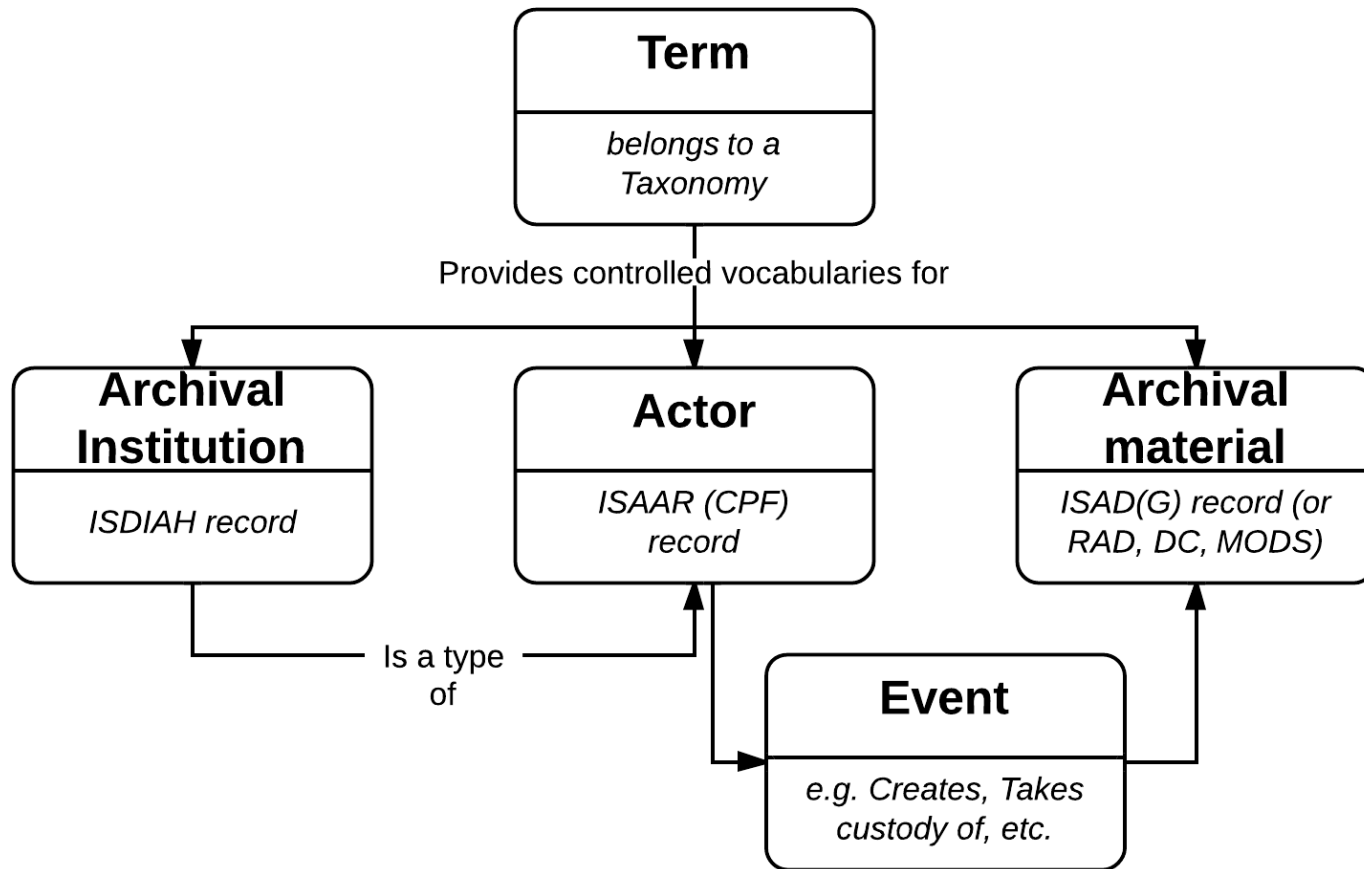
- Phpmyadmin (installation on server)
- Sequel Pro (OS X)

Entity relationship diagram

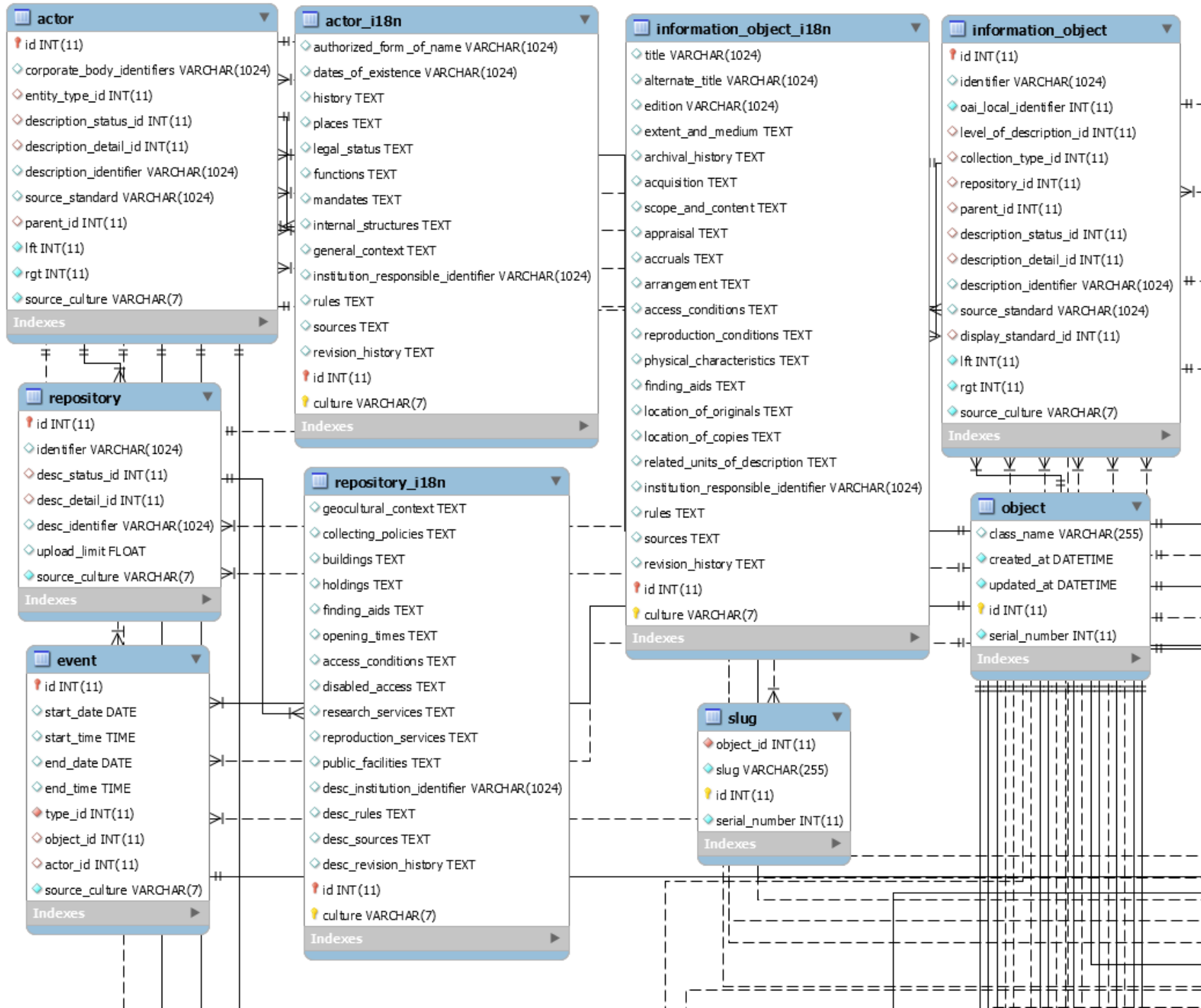
- Lots of tables – just to get the big picture (next slide)
- But we'll focus on a small portion



Entity model



Source: AtoM docs



A navigation example

- SAIN – David Carpenter fonds

David Carpenter fonds - X

10.10.10.10/david-carpenter-fonds

atom

SAIN Collections

Browse

Search

Log in

Saskatchewan Archival Information Network

University of Saskatchewan,
University Archives &
Special Collections

Search our collection

Search

Browse our collection

HoldingsQuick search

Fonds Fonds 163 - David Carpenter fon...

Series I. Family

Series II. Personal

Series III. Correspondence

Series IV. Fiction - Published

Series V. Fiction - Unpublished

5 more...

Fonds Fonds 163 - David Carpenter fonds

Identity elements

Reference code	Fonds 163
Name and location of repository	University of Saskatchewan, University Archives & Special Collections
Level of description	Fonds
Title	David Carpenter fonds
Date(s)	• 1834-1999, predominant 1976-1994 (Creation)
Extent	11.3 metres of textual records
Name of creator	Carpenter, David, 1941- Biographical history: Though born in Edmonton in 1941, David Carpenter's youth was spent in Edmonton, Jasper, Banff and Lake Louise. Graduating in 1964 with a B.A. and B.Ed. from the University of Alberta, he taught high school for one year before entering a M.A program in ...

Content and structure elements

Scope and content	This fonds contains correspondence, diaries, published and unpublished manuscripts by Carpenter, publications by Carpenter and others and photographs. Series I deals primarily with the genealogy and history of the Carpenter, Smith and Lawrence families.
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Conditions of access and use elements

Conditions governing access	There are no restrictions
Finding aids	Finding aid available: file titles with some descriptions

Acquisition and appraisal elements

Accruals	Further accruals expected
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Access points

Clipboard

Add

Explore

Reports

Browse as list

Browse digital objects

Export

Dublin Core 1.1 XML

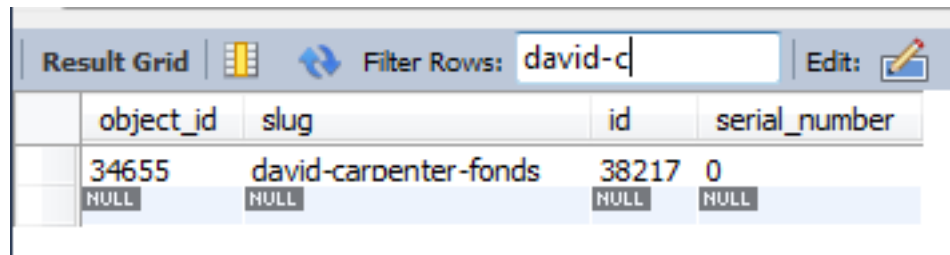
EAD 2002 XML

Related people and organizations

Carpenter, David, 1941- (Creation)

Example cont'd

- Find the object ID
- Slug = “david-carpenter-fonds”



The screenshot shows a database interface with a 'Result Grid' tab. A search filter 'david-c' is applied to the 'Filter Rows' field. The grid displays a single row with the following data:

object_id	slug	id	serial_number
34655	david-carpenter-fonds	38217	0

Below the main row, there is a row with 'NULL' values for all four columns.

- Object_id = 34655

Identity elements

Reference code	Fonds 163
Name and location of repository	University of Saskatchewan, University Archives & Special Collections
Level of description	Fonds
Title	David Carpenter fonds
Date(s)	1834-1999, predominant 1976-1994 (Creation)
Extent	11.3 metres of textual records
Name of creator	Carpenter, David, 1941- Biographical history: Though born in Edmonton in 1941, David Carpenter's youth was spent in Edmonton, Jasper, Banff and Lake Louise. Graduating in 1964 with a B.A. and B.Ed. from the University of Alberta, he taught high school for one year before entering a M.A program in ...

Content and structure elements

Scope and content	This fonds contains correspondence, diaries, published and unpublished manuscripts by Carpenter, publications by Carpenter and others and photographs. Series I deals primarily with the genealogy and history of the Carpenter, Smith and Lawrence families.
-------------------	---

```
1 • SELECT * FROM atom.information_object_i18n where ID=34655;
```

Extent_and_medium: 11.3 metres of textual records

Archival_history:

Acquisition:

Scope_and_content: This fonds contains correspondence, diaries, published and unpublished manuscripts by Carpenter, publications by Carpenter and others and photographs. Series I deals primarily with the genealogy and history of the Carpenter, Smith and Lawrence families.

Appraisal:

Accruals: Further accruals expected

Identity elements

Reference code	Fonds 163
Name and location of repository	University of Saskatchewan, University Archives & Special Collections
Level of description	Fonds
Title	David Carpenter fonds
Date(s)	• 1834-1999, predominant 1976-1994 (Creation)
Extent	11.3 metres of textual records
Name of creator	Carpenter, David, 1941- Biographical history: Though born in Edmonton in 1941, David Carpenter's youth was spent in Edmonton, Jasper, Banff and Lake Louise. Graduating in 1964 with a B.A. and B.Ed. from the University of Alberta, he taught high school for one year before entering a M.A program in ...

1 • SELECT * FROM atom.information_object where id=

Id: 34655

Fonds 163

Identifier:

Oai_local_identifier: 12072

Level_of_description_id: 184

Collection_type_id: 128

Repository_id: 34553

Identity elements

Reference code	Fonds 163
Name and location of repository	University of Saskatchewan, University Archives & Special Collections
Level of description	Fonds
Title	David Carpenter fonds
Date(s)	<ul style="list-style-type: none"> 1834-1999, predominant 1976-1994 (Creation)
Extent	11.3 metres of textual records
Name of creator	<p>Carpenter, David, 1941-</p> <p>Biographical history:</p> <p>Though born in Edmonton in 1941, David Carpenter's youth was spent in Edmonton, Jasper, Banff and Lake Louise. Graduating in 1964 with a B.A. and B.Ed. from the University of Alberta, he taught high school for one year before entering a M.A program in ...</p>

1 • `SELECT * FROM atom.actor_i18n;`

Result Grid								
Filter Rows: carpenter			Edit:	Export/Import:	Wrap Cell Content:	Fetch rows:		
authorized_form_of_name	id	dates_of_existence	history	places	legal_status	functions	mandates	
Carpenter, David. 1941-	34654	NULL	Thou...	NULL	NULL	NULL	NULL	
Carpenter Familv	35128	NULL	The C...	NULL	NULL	NULL	NULL	
Simard, Louise. 1947-	38865	NULL	Rose ...	NULL	NULL	NULL	NULL	
King, John (Jack) Greorv. 1909-1944.	41327	NULL	John "...	NULL	NULL	NULL	NULL	
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

1 • `SELECT * FROM atom.actor_i18n;`

Form Editor

Navigate:

Edit:

History:

Though born in Edmonton in 1941, David Carpenter's youth was spent in Edmonton, Jasper, Banff and Lake Louise. Graduating in 1964 with a B.A. and B.Ed. from the University of Alberta, he taught high school for one year before entering a M.A program in English at the University of Oregon. In 1967 he returned to Edmonton, M.A. in hand, and resumed his high school teaching career. Two years later he enrolled in the Ph.D. program at the University of Alberta, graduating in 1973. Dr. Carpenter spent the next two years as a post-doc at the University of Manitoba

Places:

Dates are found in the event_* tables – linked to creator/authority records

Dates of creation area

Date(s) • 1834-1999, predominant 1976-1994 (Creation)

1 •

SELECT * FROM atom.event inner join atom.event_i18n on event.id = event_i18n.id where object_id=34655

id	start_date	start_time	end_date	end_time	type_id	object_id	actor_id	source_culture	name	description	date	id
34656	NULL	NULL	NULL	NULL	111	34655	34654	en	NULL	NULL	NULL	34656
34657	NULL	NULL	NULL	NULL	111	34655	NULL	en	NULL	NULL	1834-1999, predominant 1976-1994	34657

(less of a surprise if you look at the edit screen)

Event

Actor name

Event type

Creation

Place

Date

1834-1999, predominant 1976-1994

Start

End

Event note

Submit

Cancel

Tracking down terms...

Access points

- Subject access points
 - Authors, Canadian
- Place access points
 - Saskatoon
- Name access points
 - Carpenter, David, 1941- (Creation)

```
1 • SELECT * FROM atom.object_term_relation where object_id=34655;
```

Result Grid Filter Rows: Edit: Export/Import: Wrap C

id	object_id	term_id	start_date	end_date
55227	34655	48580	NULL	NULL
55228	34655	44578	NULL	NULL
NULL	NULL	NULL	NULL	NULL

```
1 • SELECT * FROM atom.term_i18n where id=48580 or id=44578;
```

Result Grid Filter Rows: Edit: Export/Import:

name	id	culture
Authors, Canadian	44578	en
Saskatoon	48580	en
NULL	NULL	NULL

```
1 • SELECT * FROM atom.term where id=48580 or id=44578;
```

Result Grid Filter Rows: Edit: Export/Import:

id	taxonomy_id	code	parent_id	lft	rgt	source_culture
44578	35	NULL	110	1320	1321	en
48580	42	NULL	110	1532	1533	en
NULL	NULL	NULL	NULL	NULL	NULL	NULL

1 • `SELECT * FROM atom.taxonomy_i18n where id=35 or id=42;`

Result Grid Filter Rows: Edit: Export/Import:

	name	note	id	culture
	Themen	NULL	35	de
	Subjects	NULL	35	en
	Materias	NULL	35	es
	Suiets	NULL	35	fr
	Materias	NULL	35	ol
	Subiek	NULL	35	id
	socgetti	NULL	35	it
	??	NULL	35	ia
	??????????	NULL	35	ka
	Onderwerpen	NULL	35	nl
	Assuntos	NULL	35	pt
	osebe	NULL	35	sl
	??????	NULL	35	th
	Orte	NULL	42	de
	Places	NULL	42	en
	Lugares	NULL	42	es
	Lieux	NULL	42	fr
	Lugares	NULL	42	ol
	Tempat	NULL	42	id
	luoghi	NULL	42	it

1 • `SELECT * FROM atom.taxonomy_i18n where (id=35 or id=42) and culture='en';`

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content

	name	note	id	culture
	Subjects	NULL	35	en
	Places	NULL	42	en
	NULL	NULL	NULL	NULL

Back to level of description

1 • `SELECT * FROM atom.taxonomy_i18n where culture='en';`

Result Grid Filter Rows: level Edit: Export/Import: Wra

	name	note	id	culture
	Description Detail Levels	NULL	31	en
	Levels of description	NULL	34	en
	NULL	NULL	NULL	NULL

1 • `SELECT * FROM atom.term inner join atom.term_i18n on term.id = term_i18n.id where taxonomy_id=34 and culture='en';`

Result Grid Filter Rows: Export: Wrap Cell Content:

	id	taxonomy_id	code	parent_id	lft	rgt	source_culture	name	id	culture
	184	34	NULL	110	182	183	en	Fonds	184	en
	185	34	NULL	110	184	185	en	Subfonds	185	en
	188	34	NULL	110	190	191	en	Subseries	188	en
	189	34	NULL	110	192	193	en	File	189	en
	190	34	NULL	110	194	195	en	Item	190	en
	48703	34	NULL	110	1542	1543	en	Part	48703	en
	48915	34	NULL	110	1688	1689	en	collectionblah	48915	en
	55211	34	NULL	110	186	187	en	Collection	55211	en
	55212	34	NULL	110	188	189	en	Series	55212	en

Notes and Property tables

Notes area



Physical condition	Good physical condition
Immediate source of acquisition	Donated by David Carpenter in several accessions
Arrangement	Some re-organization was required
Language of material	<ul style="list-style-type: none"> English
Language and script note	Most material is in English
Restrictions on access	There are no restrictions
Terms governing use, reproduction, and publication	Copyright retained by donor
Finding aids	Finding aid available: file titles with some descriptions
Accruals	Further accruals expected

1 • `SELECT * FROM atom.note inner join atom.note_i18n on note.id = note_i18n.id where object_id=34655;`

Result Grid

Filter Rows: Export: Wrap Cell Content: [IA](#)

object_id	type_id	scope	user_id	source_culture	id	serial_number	content	id	culture
34655	174	NULL	278	en	4098	0	Most material is in English	4098	en

1 • `SELECT * FROM atom.property_i18n inner join atom.property on property.id = property_i18n.id where object_id=34655;`

Result Grid

Filter Rows: Export: Wrap Cell Content: [IA](#)

value	id	culture	object_id	scope	name	source_culture	id	serial_number
a:1:f:0:s:2:"en":}	24212	en	34655	NULL	language	en	24212	0
a:1:f:0:s:2:"en":}	24213	en	34655	NULL	languageOfDescription	en	24213	0
NULL	46683	en	34655	NULL	technicalAccess	en	46683	0
N:	46684	en	34655	NULL	script	en	46684	0
NULL	46685	en	34655	NULL	editionStatementOfResponsibility	en	46685	0
NULL	46686	en	34655	NULL	editionStatementOfResponsibility	en	46686	0

Repositories

- Need both Actor_* and Repository_* tables
- actor.parent_id = 6
- Actor_* has fields common to repositories and authority records
- Repository_* has additional fields such as opening hours

1 • `SELECT * FROM atom.actor inner join atom.actor_i18n on actor.id = actor_i18n.id where parent_id=6`

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

ulture	authorized_form_of_name	dates_of_existence	history	places	legal_status	functions	mandates	ir
	Allen Sapp Gallery	NULL	NULL	NULL	NULL	NULL	NULL	NU
	Anglican Church of Canada Diocese of Saskatch...	NULL	NULL	NULL	NULL	NULL	NULL	NU
	Archives of the Humboldt & District Museu...	NULL	NULL	NULL	NULL	NULL	City of Humboldt and surrounding area.	NU
	Athol Murray College of Notre Dame Archives/M...	NULL	NULL	NULL	NULL	NULL	The purpose of the Athol Murray College of Not...	NU
	Briercrest College and Seminary - Archibald Library	NULL	NULL	NULL	NULL	NULL	The main objective of the Archive is to gather. ...	NU
	City of North Battleford Historic Archives	NULL	NULL	NULL	NULL	NULL	The City of North Battleford Historic Archives C...	NU
	City of Saskatoon Archives	NULL	NULL	NULL	NULL	NULL	The City of Saskatoon Archives is a public instit...	NU
	City of Yorkton Archives	NULL	NULL	NULL	NULL	NULL	To gather heritage specific documents, photoar...	NU
	Franciscan Sisters of St. Elizabeth	1622 - present	NULL	NULL	NULL	NULL	NULL	NU

Update queries

- Backup the db (and know how to restore!)
- Probably best for cleanup affecting only one table at a time (relationships can get messy)
- Rebuild search index afterwards

Exercise

- It is discovered that there are several duplicate entries for the same repository (many with only one archival description), due to problems with data entry. How would you investigate which repository is the right one, and how would you fix the problem through the MySQL backend?