

# Making sense out of Voyager Reporting using Access : Ten tips to help you be successful

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# Introduction

- Twelve tips to help you with Access and Voyager data
- Examples from Acquisitions, Cataloging, and Circulation
- Voyager 7.2 and Access 2010
- Focus on areas that typically are complex or are pit falls

# 1. Installation

- Need Oracle and ODBC drives
- Use BEAT script to install
- Read the BEAT documentation, it is good!
- Only one version of Oracle can be on your PC
- Get the right Oracle tool for your OS – Windows 7 has a separate set of directions
- Old directions – test the networking configuration
  - Programs/Oracle/Config/NetManager/Local/Service Naming

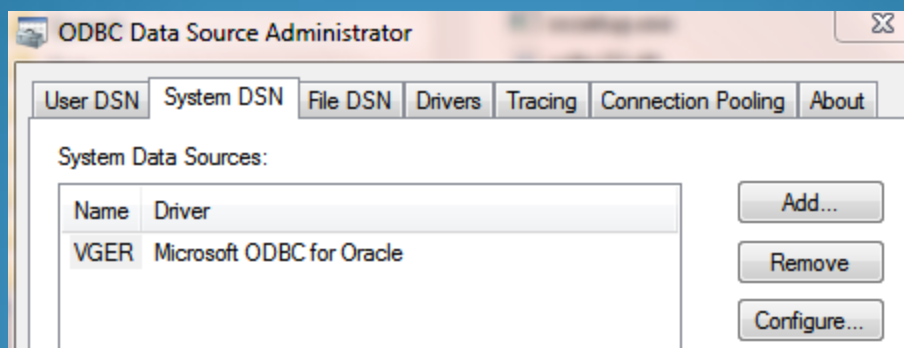
Special note for Windows 7 64 bit and Office 2010  
32 bit

Drivers will not appear in System DSM

Go in the back door by using

C:\Windows\SysWOW64\odbcad21.exe

Double click on file to get to System DSN



- Do not forget the one registry change for language
- Office 2010 to initiate linking is hidden. External Data tab > More > ODBC Database Linking to the tables
- Permissions: Power user; full control on Access, Oracle & Voyager

- Can embed password into Connection Code module  
Do it before linking tables; display hidden objects

Add this line after `ONewTable.Connect = sConnect`

**`ONewTable.Attributes = dbAttachSavePWD`**

- Keep blank copy of reports.mdb
- Never let a client push over write an unsaved copy of reports.mdb

## 2. Choosing the right tables

- Use the ER diagrams and data dictionary
- Circulation transactions versus Circulation Transaction Archives

CIRC\_TRANSACTIONS – Currently charged items

CIRC\_TRANS\_ARCHIVE – Historical charge details

If history turned off the patron link will not be in Archive

Query needs to be a Union of both tables

# Invoice line vs. Invoice line item funds vs. fund transactions

Title	Price (Adjustments)	# of Copies	Location	Fund
Ancestry library edition [ele	\$4,515.00	1	elf1 Internet Resour	FY12 6901190 / MDF 1704
British periodicals [electroni	\$1,050.00	1	elf1 Internet Resour	<<Multiple>>

- INVOICE\_LINE\_ITEM– unit or line price directly from the Invoice line, in base currency
- INVOICE\_LINE\_ITEM\_FUNDS table links money amounts from the Invoice to the Funds, more detail at this level. Only way to obtain fund split details
- FUND\_TRANSACTION table – use this when want a value aggregated at the fund level. No good for individual titles

UNIT_PRICE ▾	LINE_PRICE ▾
451500	451500
105000	105000

AMOUNT ▾	PERCENTAGE ▾
451500	100
63000	60
31500	30
10500	10

# Bib\_Text versus Bib\_Index

- Before you use the Blob consider these tables
- Look at the tables to see what they contain
- BIB\_TEXT includes many fields needed for reports
- BIB\_INDEX is not as obvious - Contains fields used in indexing, very useful for subjects and additional authors
- Picking the 'wrong' table can greatly effect your results



# Ways to avoid using the BLOB

BIB\_TEXT table includes title, author, imprint information, some fixed fields and many id numbers. It does NOT include subjects, and many added entries.

BIB_ID	AUTHOR	TITLE_BRIEF	EDITION	ISBN	LANGUAGE	BIB_FORMAT	PUBLISHER
3205327	Rowling, J. K.	Harry Potter and the goblet of fire /	1st American ed.	0439139597	eng	am	Arthur A. Levine Books,

BIB\_INDEX table supplies data for indexing but can be used for reporting

The screenshot shows a database query tool interface. At the top, a window titled 'BIB\_INDEX' displays the table structure:

```

*
BIB_ID
INDEX_CODE
NORMAL_HEADING
DISPLAY_HEADING
    
```

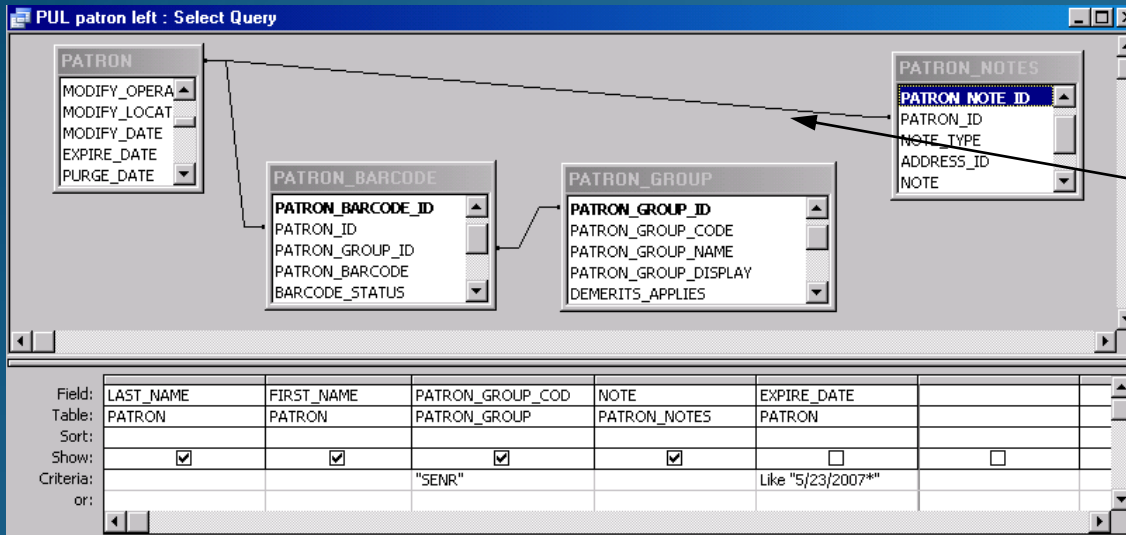
Below this, a query criteria panel is visible:

Field:	BIB_ID	DISPLAY_HEADING
Table:	BIB_INDEX	BIB_INDEX
Total:	Group By	Group By
Sort:		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	"3205327"	

BIB_ID	DISPLAY_HEADING
3205327	eng
3205327	nyu
3205327	2000
3205327	3205327
3205327	00131084
3205327	0439139597
3205327	Magic Fiction.
3205327	Rowling, J. K.
3205327	Wizards Fiction.
3205327	PZ7 .R79835 Hal 2000
3205327	(CStRLIN)DCLC00131084-B
3205327	Harry Potter and the goblet of fire /
3205327	Potter, Harry (Fictitious character) Juvenile fiction.
3205327	Hogwarts School of Witchcraft and Wizardry (Imaginary place) Juvenile fiction.

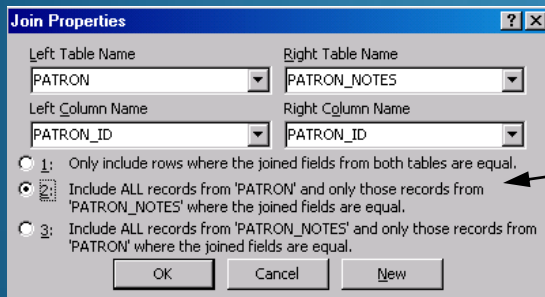
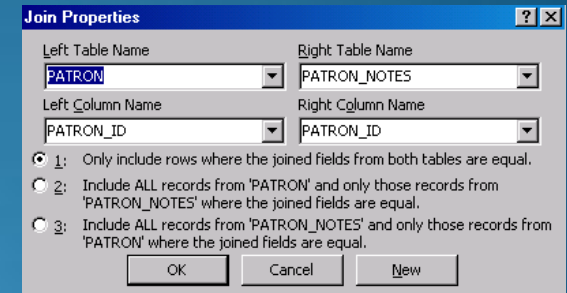
# 3. Linking tables

- Inner joins – joined fields from both tables are equal
- Access will automatically assign inner joins, do not accept them without question
- Outer joins – might be needed
- Right click on join line to access choices
- Double links



**Inner Join**  
Is the default

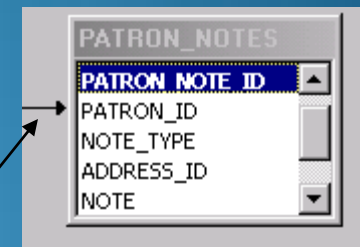
Linking line has no arrow head



**Outer Join**

Right click on linking line to pull up dialogue box

Select option 2



Option 3 is just the opposite of 2, look at the arrow head

Linking line now has arrow head

# Inner and Outer join examples

Field:	PATRON_GROUP_C	BARCODE_STATUS	EXPIRE_DATE	PATRON_ID	NOTE
Table:	PATRON_GROUP	PATRON_BARCODE	PATRON	PATRON	PATRON_NOTES
Total:	Group By	Group By	Group By	Group By	Group By
Sort:					
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	"SENR"	"1"	Like "5/21/2008*"		

Inner Join on Patron\_Notes results in only 26 rows. Displays the records that only had data in a note field  
No arrow head on join link

PATRON_ID	NOTE	ADDRESS_ID	MODIFY_DATE
21628			
23111	DEPT(998)		
23376			
27130			
27605	Withdrawn, 2006-01-30 - djv		
31628			
31716			
32061			

Outer join link results in 1,154 rows

21628	
23111	DEPT(998)
23376	
27130	
27605	Withdrawn, 2006-01-30 - djv
31628	
31716	
32061	

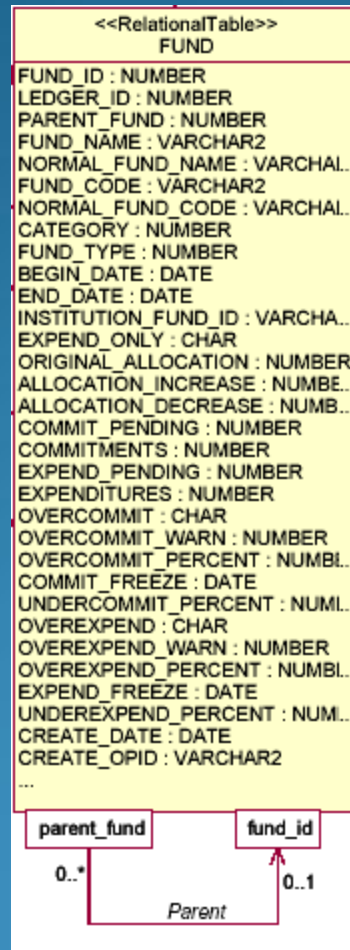
# Fund Table

Category field determines your output

0=summary

1=allocated

2=reporting



When linking this table to other tables you need a double link: Fund id and Ledger id

Allocated, reporting funds hierarchy are stored in the one table. May need to add the table twice to extract required information

## 4. Normalized fields

- Normalized data is captialized, punctuation and diacritics removed
- Why – makes it easier to report on, sort
- Many Voyager fields have two versions: regular data and normalized version
- Use both: Criteria with normalized; regular data for display

# Call numbers from MFHD\_MASTER

Sort on Display call no

DISPLAY_CALL_NO	NORMALIZED_CALL_NO
HC1 .R1981q	HC 1 R 1981 Q
HC10 .A3	HC 10 A 3
HC106.5 .A4	HC 1065 A 4
HC196 .C8	HC 196 C 8
HC226 .A83q	HC 226 A 83 Q
HC240.A1 S63aq	HC 240 A 1 S 63 AQ
HC301 .B225	HC 301 B 225
HC411 .A7545	HC 411 A 7545
HC511 .S72	HC 511 S 72
HC59 .D49	HC 59 D 49
HC59.69 .P47	HC 5969 P 47
HC60 .B65	HC 60 B 65
HC601 .A5	HC 601 A 5
HC701 .A8	HC 701 A 8
HC79.C6 J68	HC 79 C 6 J 68
HC800.A1 A35	HC 800 A 1 A 35

Sort on Normalized call no

DISPLAY_CALL_NO	NORMALIZED_CALL_NO
HC1 .R1981q	HC 1 R 1981 Q
HC10 .A3	HC 10 A 3
HC59 .D49	HC 59 D 49
HC59.69 .P47	HC 5969 P 47
HC60 .B65	HC 60 B 65
HC79.C6 J68	HC 79 C 6 J 68
HC106.5 .A4	HC 1065 A 4
HC196 .C8	HC 196 C 8
HC226 .A83q	HC 226 A 83 Q
HC240.A1 S63aq	HC 240 A 1 S 63 AQ
HC301 .B225	HC 301 B 225
HC411 .A7545	HC 411 A 7545
HC511 .S72	HC 511 S 72
HC601 .A5	HC 601 A 5
HC701 .A8	HC 701 A 8
HC800.A1 A35	HC 800 A 1 A 35

Need both fields

In a past release the field type changed to memo

Create answer table and change the field type to text

# 5. Handling Currency

Currency fields are stored and displayed as text, so 233700 not \$2,337.00

Use the CCur function, CCur([Field name]/100)

Field:	VENDOR_CODE	Amount: CCur([INVOICE_TOTAL]/100)	INVOICE_STATUS
Table:	VENDOR		INVOICE
Total:	Group By	Group By	Group By
Sort:	Ascending		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:		Not 0	"0"
or:			

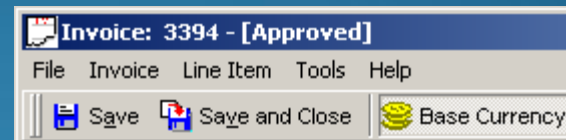
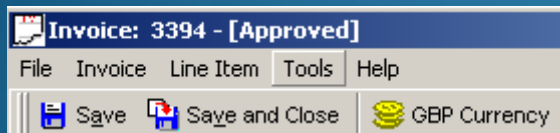
VENDOR_COD	Amount
BERNAN	\$37.88
BERNAN	\$41.12
BERNAN	\$81.00
BHBL	\$141.61
BHBL	\$243.27
BHBL	\$753.41
BHBL	\$1,348.75
BHBL	\$1,451.66
BNA	\$1,234.59
BNA	\$1,390.82
BNA	\$1,161.24

Produces a formatted result

Apologies to all for the US dollar example!



If you pay for materials in currencies other than the Base Currency (USD in the US), you need this expression to convert the foreign currency into US dollars



Line Price: Sum(CCur(Convert([INVOICE]![Conversion\_Rate],[INVOICE\_LINE\_ITEM\_FUNDS]![AMOUNT],[currency\_code])/100))

Expression

Converts any currency into the base currency and expresses as USD

PUL detailed expend t : Table			
	INVOICE_NUME	TITLE	Line Price
	3394	Queen's letter to the King.	\$243.58
	3394	Art of measuring, containing the description	\$1,826.85

# Queries using SUM

	Expenditure	Allocated fund	Reporting fund
▶	\$27,853.38	1100 Acq Handling	Shipping 1100
	\$700.00	1172 Libn. Discretion	MDF 1172
	\$1,596.00	1173 Dep. Libn Discretion	MDF 1173
	\$250.75	1173 Dep. Libn Discretion	Monograph 1173
	\$78,723.22	1180 Binding	Binding 1180
	\$4,662.33	1180 Binding	Preservation Rebind 1180
	\$703.15	1201 Architecture	Standing Order 1201
	\$87.26	1201 Architecture	Subscription 1201
	\$1,989.95	1201 Architecture	Monograph 1201
	\$287.81	1201 Architecture	E journal 1201

Standard query produces expenditure at the reporting fund level

	Allocated fund	SumOfExpenditure
▶	1100 Acq Handling	\$27,853.38
	1172 Libn. Discretion	\$700.00
	1173 Dep. Libn Discretion	\$1,846.75
	1180 Binding	\$83,385.55
	1201 Architecture	\$3,068.17

Select Allocated fund and SUM the expenditure

Field:	Allocated fund	Expenditure
Table:	PUL expend by obj	PUL expend by obj
Total:	Group By	Sum
Sort:		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		
or:		

Your answer produces expenditure totals for the allocated funds

## 6. First and Last Functions

- Need to know the first/last issue received
- First/last issue may not correlate to first/last date
- Cannot do a first/last issue received along with a date field that may be different
- May need a subsequent query to bring in another element

Goal is to report on the date of the first issue that needed claiming along with that issue number

Title	Reporting fund	EXPECTED_DATE	COMPONENT_ID
PUL serial claims over	PUL serial claims over	PUL serial claims over	PUL serial claims over
Group By	Group By	First	Group By
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Title	Reporting fund	FirstOfEXPECTED_DATE	COMPONENT_
Journal of organic chemistry.	Subscription 1405	10/15/2010	12504
Journal of Oriental and African studie	Standing Order 1509	4/15/2008	22197
Journal of personality assessment.	Subscription 1417	2/15/2010	7830
Journal of philosophy.	E journal 1247	1/1/2011	3454

Link back to original answer with component id and date field to pull in the issue number

Title	Reporting fund	FirstOfEXPECTED_DATE	ENUMCHRON	COMPONEN
Journal of organic chemistry.	Subscription 1407	10/15/2010	v. 74, no. 25 (2007 Apr. 27)	12504
Journal of Oriental and African studies	Standing Order 1509	4/15/2008	v. 14 (2003)	22197
Journal of personality assessment.	Subscription 1417	2/15/2010	v. 92, no. 1 (2010 Jan-Feb)	7830
Journal of philosophy.	E journal 1247	1/1/2011	v. 107, no. 7 (2010 July)	3454

# 7. Union Query

- Combine the results of several select queries
- Frequently used with Circulation data
- Pulls in data from both Current and Archived data
- SQL only, not design review

```
PUL circ trans charges union
SELECT
CIRC_TRANSACTIONS.ITEM_ID,
CIRC_TRANSACTIONS.CHARGE_DATE,
CIRC_TRANSACTIONS.CHARGE_LOCATION
FROM CIRC_TRANSACTIONS
WHERE ( (CIRC_TRANSACTIONS.CHARGE_DATE) Between [Start Date:] And [End Date:]);
UNION SELECT
CIRC_TRANS_ARCHIVE.ITEM_ID,
CIRC_TRANS_ARCHIVE.CHARGE_DATE,
CIRC_TRANS_ARCHIVE.CHARGE_LOCATION
FROM CIRC_TRANS_ARCHIVE
WHERE ( (CIRC_TRANS_ARCHIVE.CHARGE_DATE) Between [Start Date:] And [End Date:]);
```

# 8. Other useful queries

- Append query



- Take data from different tables and append one answer to an earlier one

Append To  
Table Name:

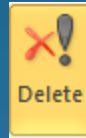
PUL detailed expend adjustments 1t

*
VENDOR_CODE
VENDOR_NAME
Adjust Amt
REASON_TEXT
Reporting fund
Allocated fund

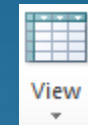
  

Field:	Adjust Amt	REASON_TEXT	Reporting fund	VENDOR_CODE	Allocated fund
Table:	PUL detailed expend ;	PUL detailed expend ;	PUL detailed expend ;	PUL detailed expend ;	PUL detailed expend ;
Sort:					
Append To:	Line Price	TITLE	Reporting Fund	VENDOR_CODE	Allocated fund
Criteria:					

- Delete query



- Specify a criteria and this will delete those lines
- Take great care - run it in View first



Field:	PO_NUMBER	title	Allocated fund	LOCATION_CODE	NOTE
Table:	PUL open orders t	PUL open orders t	PUL open orders t	PUL open orders t	PUL open orders t
Delete:	Where	Where	Where	Where	Where
Criteria:				"f"	Like "**Cancelled**"
or:					

**You are about to delete 20 row(s) from the specified table.**

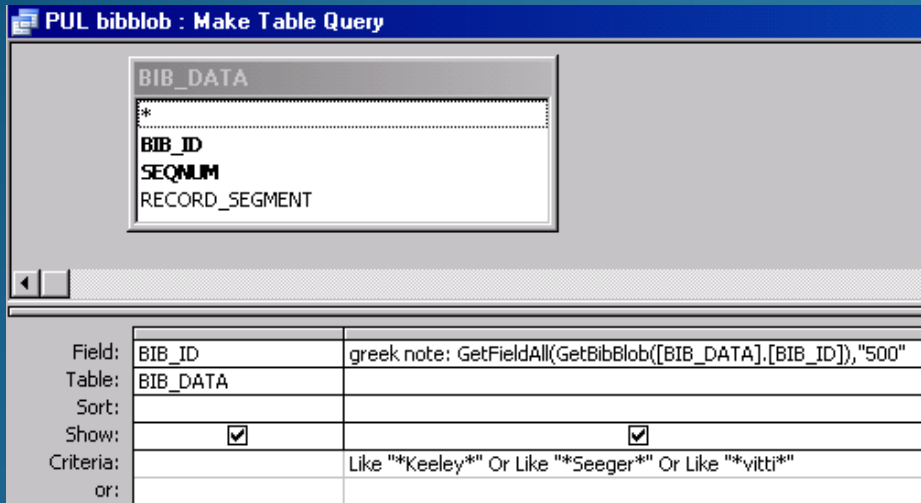
# 9. The Blob

- Alternatives to the blob
- BibBlob, MfhdBlob, AuthBlob
- Can take a long time
- Create a limited data source to work off
- Test out the query first
- Use criteria where possible
- Break up queries for quicker response time



# BibBLOB Example

Goal is to extract bib records containing certain words found in 500 fields



Use the GetFieldAll function.

This will extract all 500 fields that contain the criteria specified.

I could add other tables but often quicker to do this query first

Syntax: `GetFieldAll(GetbibBlob([Table].[Bib_ID]),"Tag")`

Example: `GetFieldAll(GetbibBlob([BIB_DATA].[BIB_ID]),"500")`

Result: Princeton copy is gift of Edmund Keeley.

# MFHDBLOB EXAMPLE

PUL mfhdblob current issues eg : Select Query

Field:	BIB_ID	TITLE	CAS: GetFieldAll(GetMFHDBlob([MFHD_MASTER].[MFHD_ID]),"866")	DISPLAY_CALL_NO
Table:	BIB_TEXT	BIB_TEXT	MFHD_MASTER	MFHD_MASTER
Total:	Group By	Group By	Group By	Group By
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	"561768"		Like "**CURRENT ISSUES**"	

Use the GetFieldAll function.

This will extract all 866 fields from the MFHD record

Syntax: `GetFieldAll(GetMFHDBlob([Table].[MFHD_ID]),"Tag")`

Example: `GetFieldAll(GetMFHDBlob(MFHD_MASTER).[MFHD_ID],"866")`

“Current Issues”  
note does not seem  
to display!

PUL mfhdblob current issues eg : Select Query

	BIB_ID	TITLE	CAS	DISPLAY_CALL
▶	561768	Forbes.	Vol. 59, no. 1 (1947)-v. 177, no. 13 (June 19, 2006)	HF5001 .F74

Place cursor in CAS column and hit the down arrow key, data is there

PUL mfhdblob current issues eg : Select Query

	BIB_ID	TITLE	CAS	DISPLAY_CALL
▶	561768	Forbes.	CURRENT ISSUES IN: Pliny Fisk Library (PF). Firestone	HF5001 .F74

# Other examples of GetField functions

GetFieldRaw(GetAuthBLOB([AUTH\_ID]), "1", 1)

Gets the first 1XX field from an Authority record

**150 aBlack Death**

GetFieldAll(GetBibBLOB([BIB\_ID]), "6")

Gets all 6XX (subject) fields from Bibliographic record

**Black Death. Medicine, Medieval. Diseases and history**

GetSubField(GetFieldRaw(GetBibBLOB([BIB\_ID]), "300",1),"c",1)

Gets the first 300 field, delimiter c from a Bibliographic record

**23 cm.**

# 10. Some not so obvious uses

- Security profiles
- Clean up, especially where 'bad' records cannot be viewed in the client
- Linking to data from other sources: ERM, SFX – need a match point
- Finding interesting examples for your OPAC/Primo interface testing

THANK YOU!

QUESTIONS

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