ALL THE ANSWERS WITH ADVANCED POLARIS SQL

PRESENTER: RICHARD KENIG

WELCOME TO IUG 2016

INTRO AND OUTLINE

- Polaris Database Structure
- Most Commonly Used Tables
- Transaction Database
- Using Your Own Database
- Building Reports

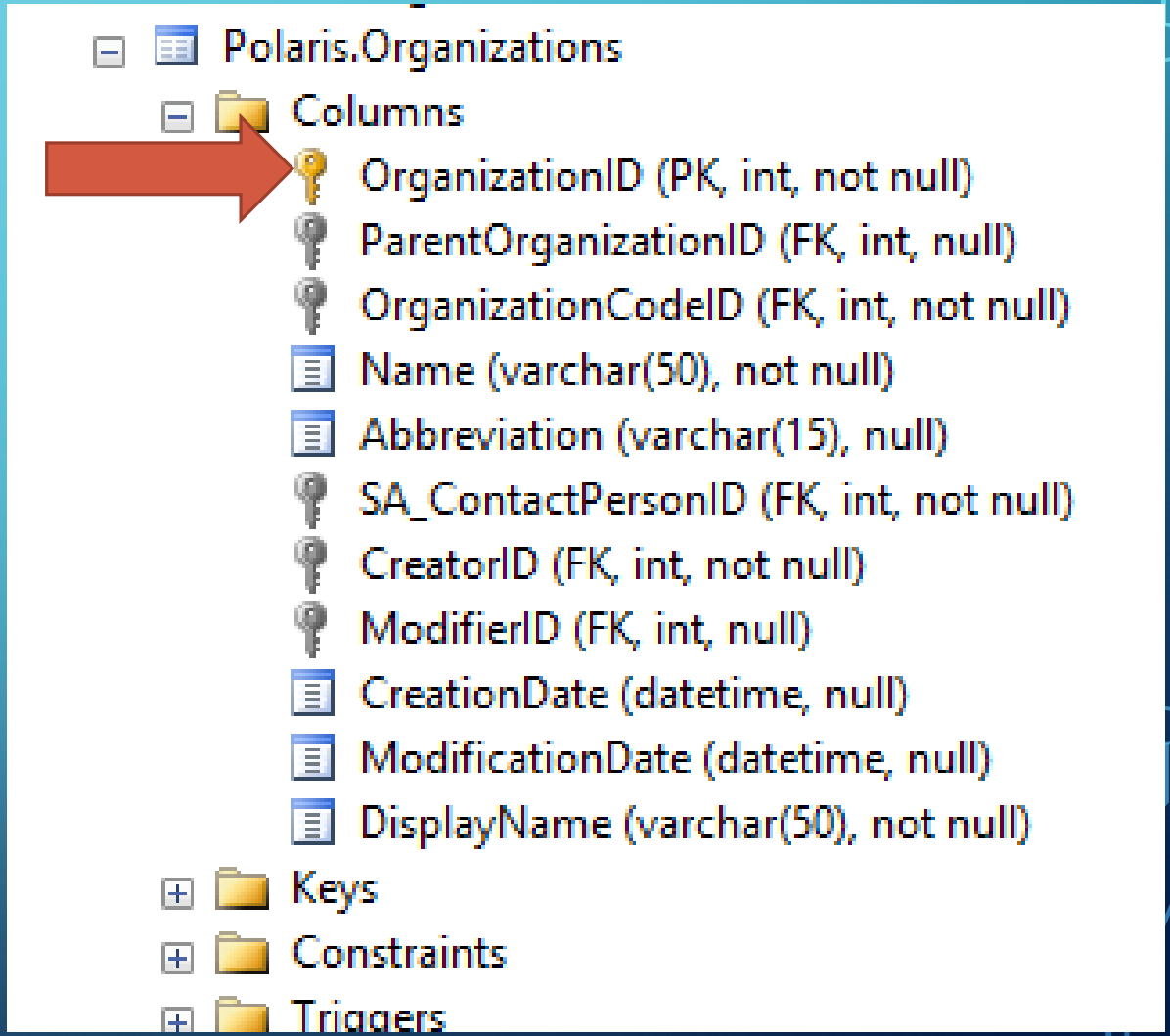
POLARIS DATABASE STRUCTURE

- TableID Field
- Dependencies
- Stored Proceedures
- Functions
- Jobs

DATABASE STRUCTURE

TABLE ID FIELD

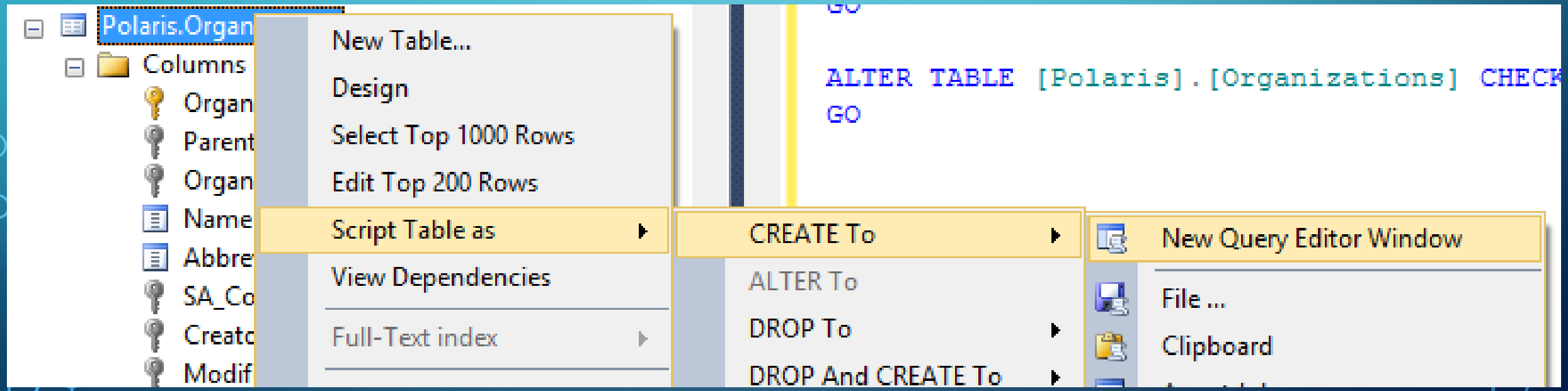
- Each table has a unique ID field
- Always (with few exceptions) is formatted <tablename>ID



DATABASE STRUCTURE

TABLEID FIELD

- Not 100% - to view details



DATABASE STRUCTURE

TABLEID FIELD

- Code View

```
ALTER TABLE [Polaris].[Organizations]  WITH CHECK
ADD  CONSTRAINT [fk_OrgHierarchy]
FOREIGN KEY([ParentOrganizationID])
REFERENCES [Polaris].[Organizations] ([OrganizationID])
GO
```

DATABASE STRUCTURE

TABLEID FIELD

- Code View

```
ALTER TABLE [Polaris].[Organizations]  WITH CHECK
ADD  CONSTRAINT [fk_OrgHierarchy]
FOREIGN KEY([ParentOrganizationID])
REFERENCES [Polaris].[Organizations] ([OrganizationID])
GO
```

Name of Key

DATABASE STRUCTURE

TABLEID FIELD

- Code View

```
ALTER TABLE [Polaris].[Organizations]  WITH CHECK
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GO
```

Name of Key

Name of Column in table

DATABASE STRUCTURE

TABLEID FIELD

- Code View

```
ALTER TABLE [Polaris].[Organizations]  WITH CHECK
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FOREIGN KEY([ParentOrganizationID])
REFERENCES [Polaris].[Organizations] ([OrganizationID])
GO
```

Name of Key

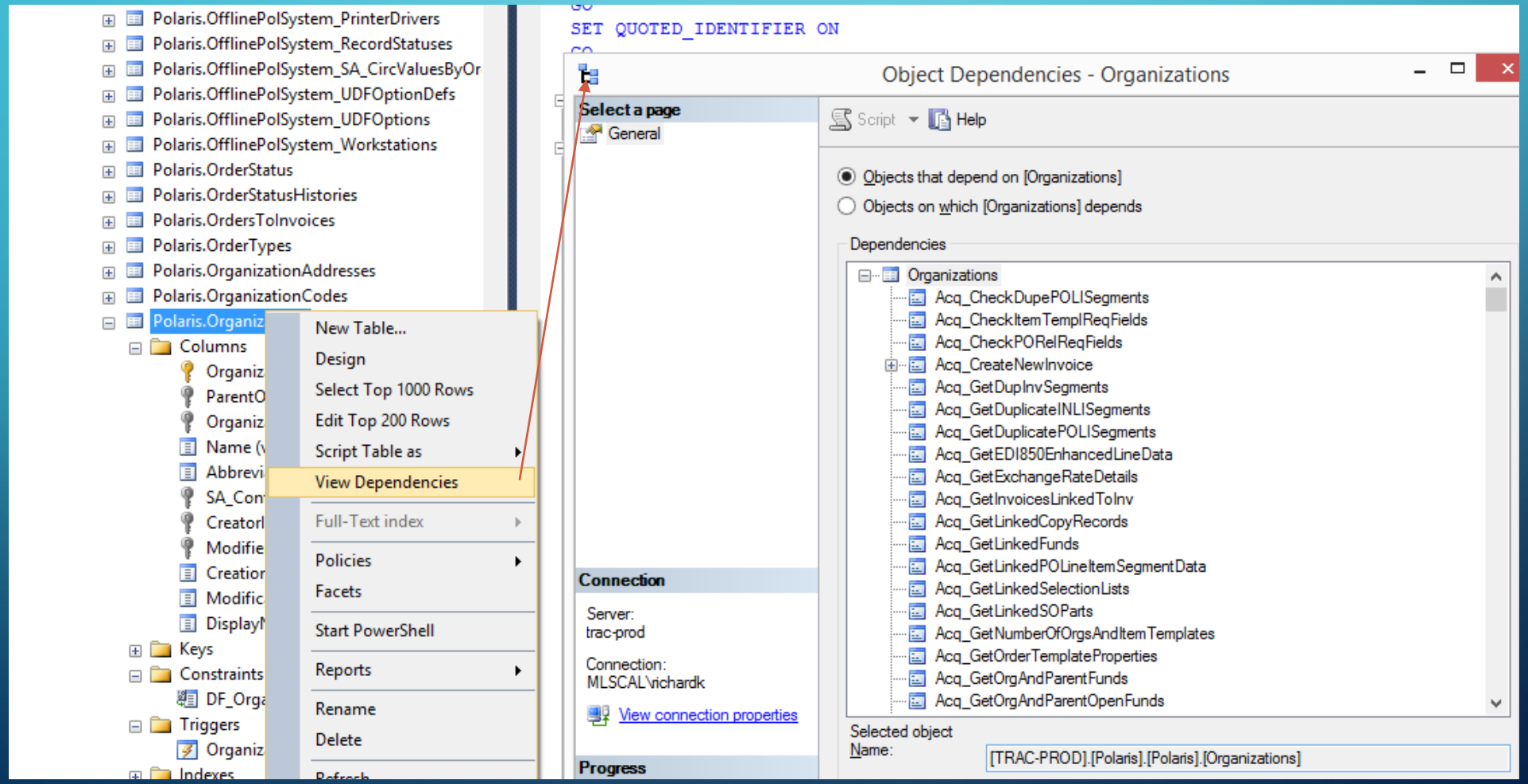
Name of Column in table

Name of Referenced Table

Referenced Column

DATABASE STRUCTURE

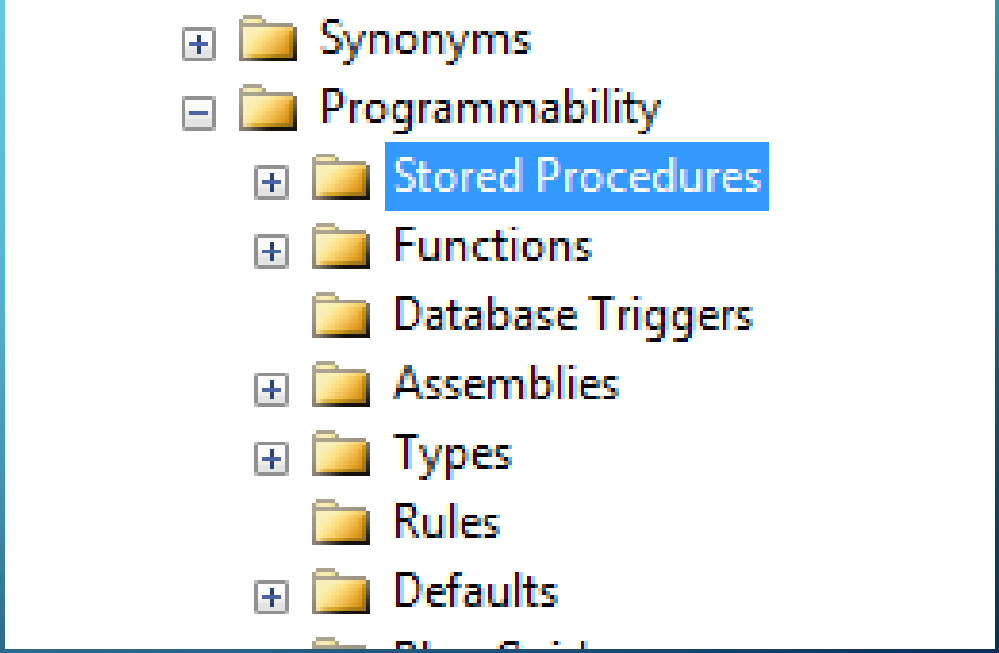
DEPENDENCIES



DATABASE STRUCTURE

STORED PROCEDURES

- Used to perform complex tasks
- Can return results
- Can be scheduled
- Can be used to insert or modify data in the database
- Can be given variables during runtime



DATABASE STRUCTURE

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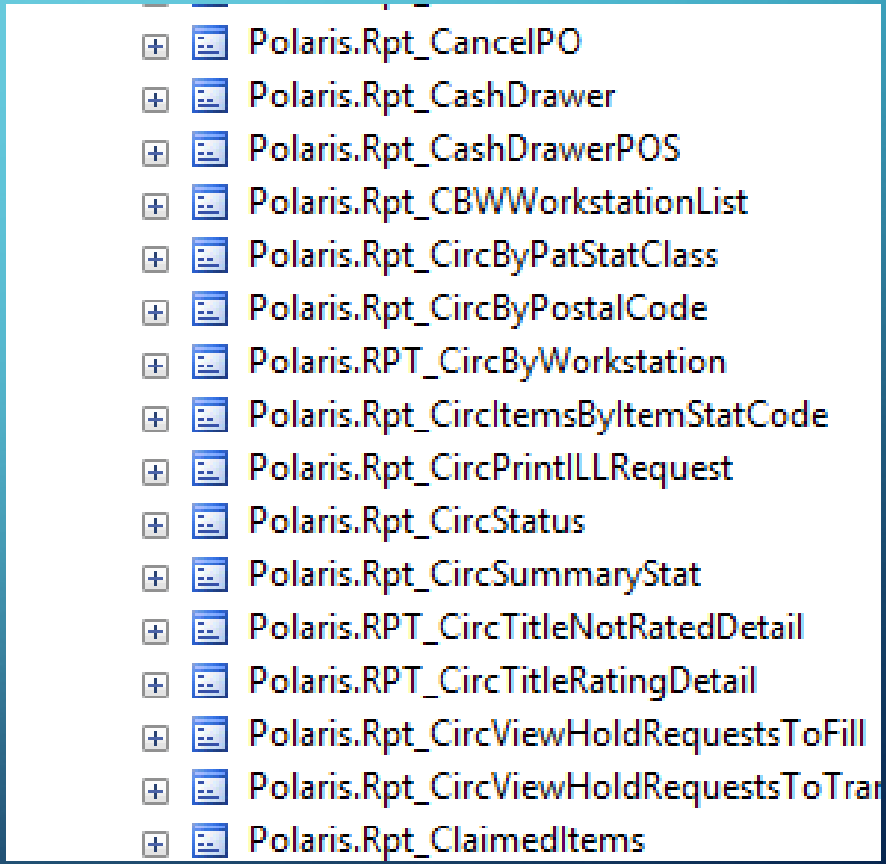

DATABASE STRUCTURE

STORED PROCEDURES

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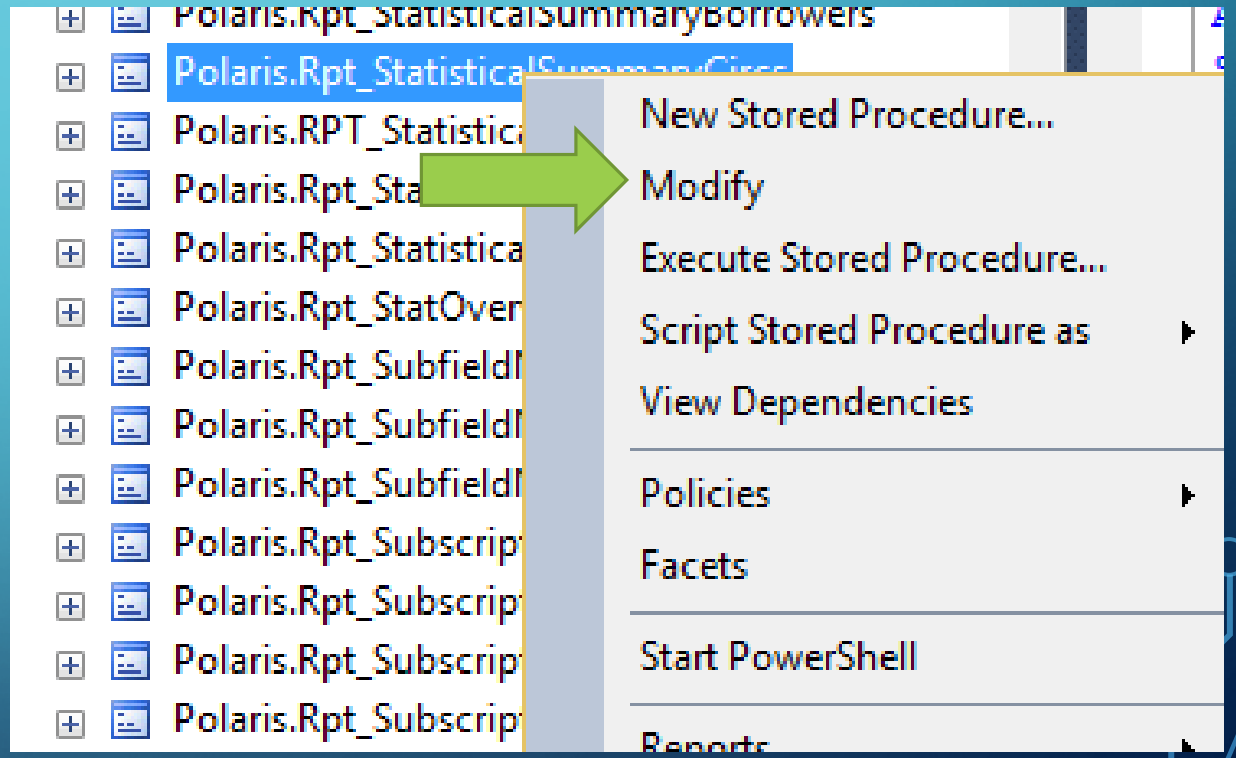

DATABASE STRUCTURE

STORED PROCEDURES

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- Can be given variables during runtime

DATABASE STRUCTURE

STORED PROCEDURES

- Can be given variables during runtime

```
ALTER PROCEDURE [Polaris].[Rpt_StatisticalSummaryCircs]
    @dtBeginDate as datetime, -- Beginning date range
    @dtEndDate as datetime,   -- Ending date range
    @OrganizationList as varchar(max)    -- OrganizationIDs that was selected.
AS
SET NOCOUNT ON
```

DATABASE STRUCTURE

STORED PROCEDURES

- Can reference or run other procedures

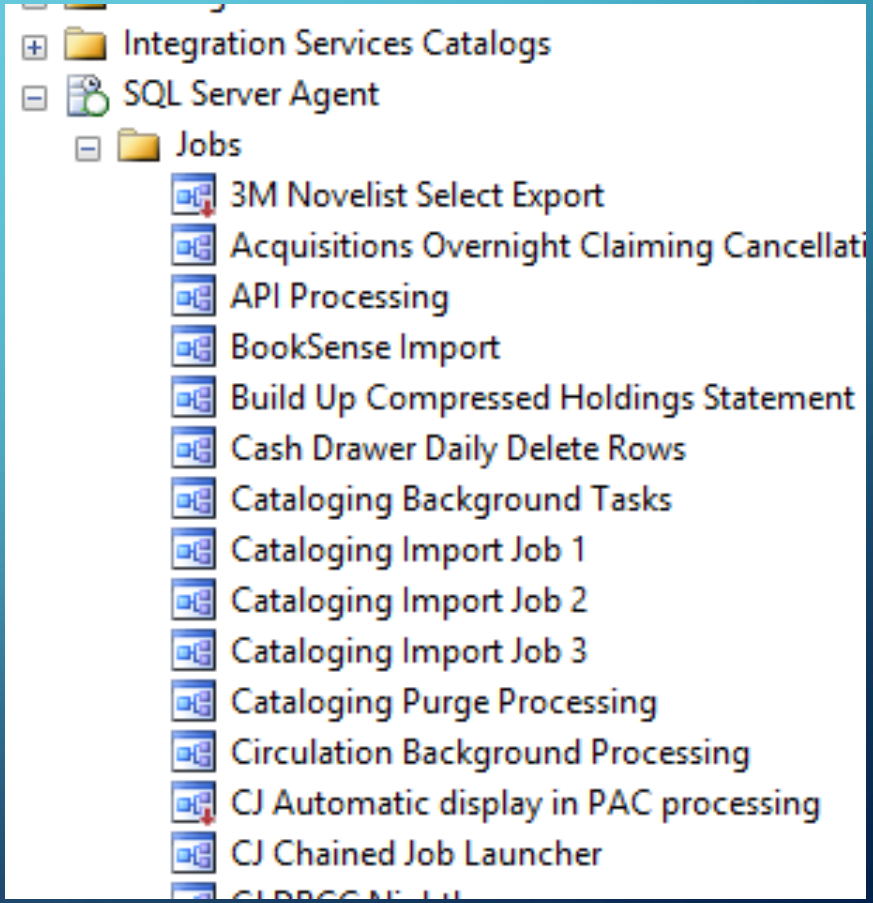
```
SET @SQLStmt = 'INSERT INTO #TempCircs EXECUTE Polaris.Rpt_StatisticalSummaryCircs ''' + @cBeginDate + '
exec sp_executesql @SQLStmt

SET @SQLStmt = 'INSERT INTO #TempFinancials EXECUTE Polaris.Rpt_StatisticalSummaryFinancials ''' + @cBeg
exec sp_executesql @SQLStmt
```

DATABASE STRUCTURE

JOBS

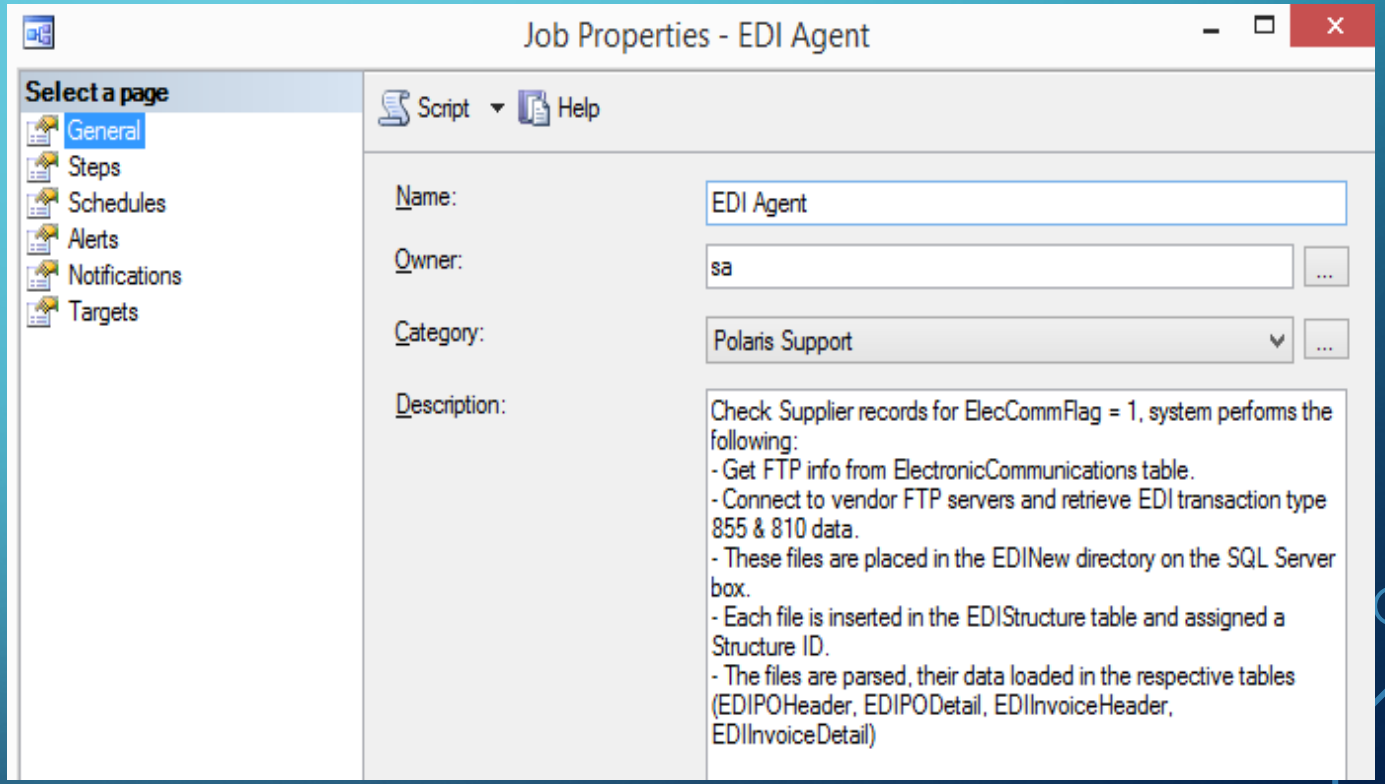
- Perform scheduled activities
- Can be coded directly, or call procedures and functions
- Used extensively for any regular task



DATABASE STRUCTURE

JOB CREATION

- Mulitiple parts to a job
- Properties and description
- Steps to perform
- Schedules
- Alerts
- Notifications



DATABASE STRUCTURE

JOB CREATION

- Mulitiple parts to a job
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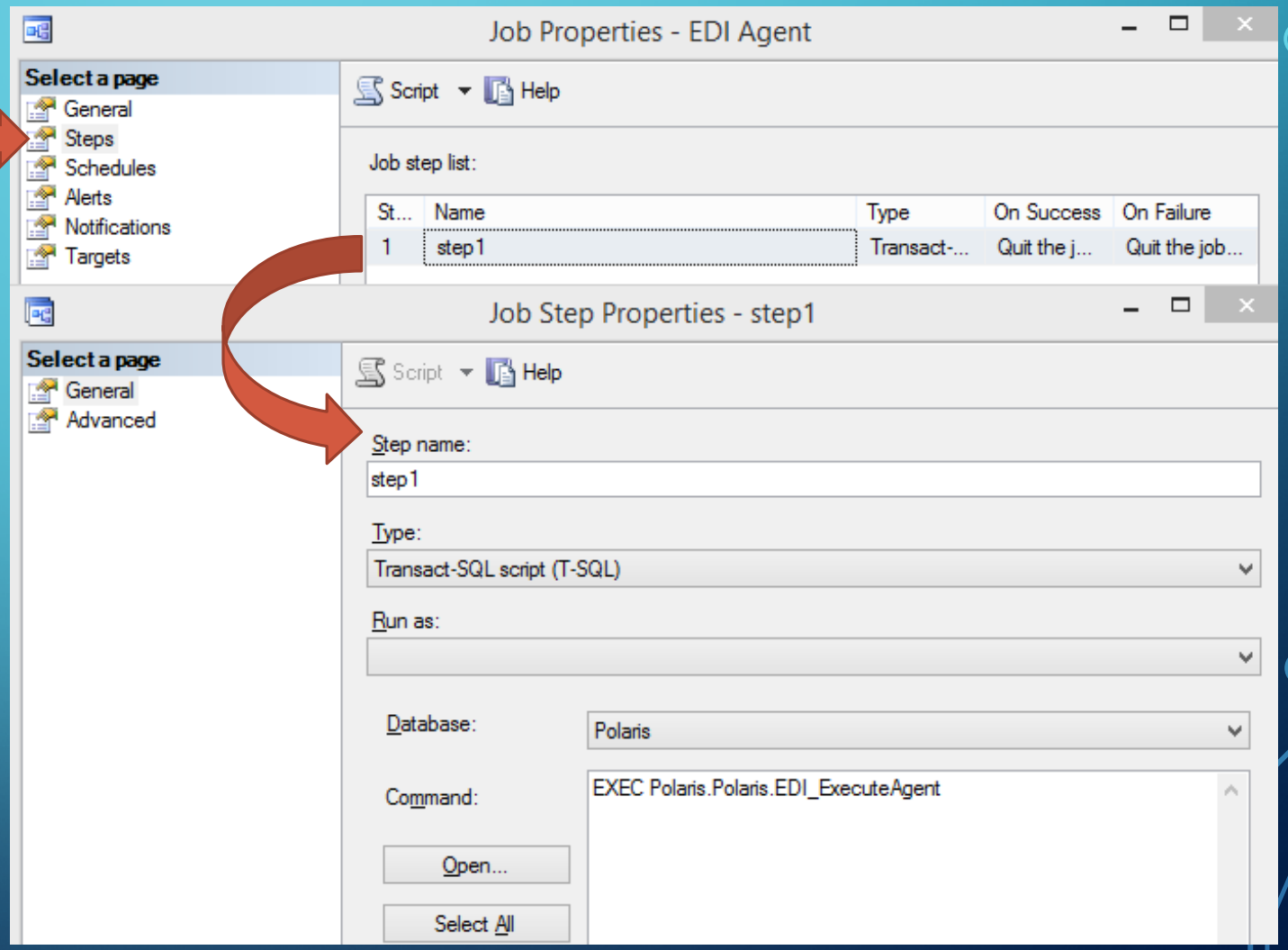

DATABASE STRUCTURE

JOB CREATION

- Mulitiple parts to a job
- Properties and description
- Steps to perform
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- Alerts
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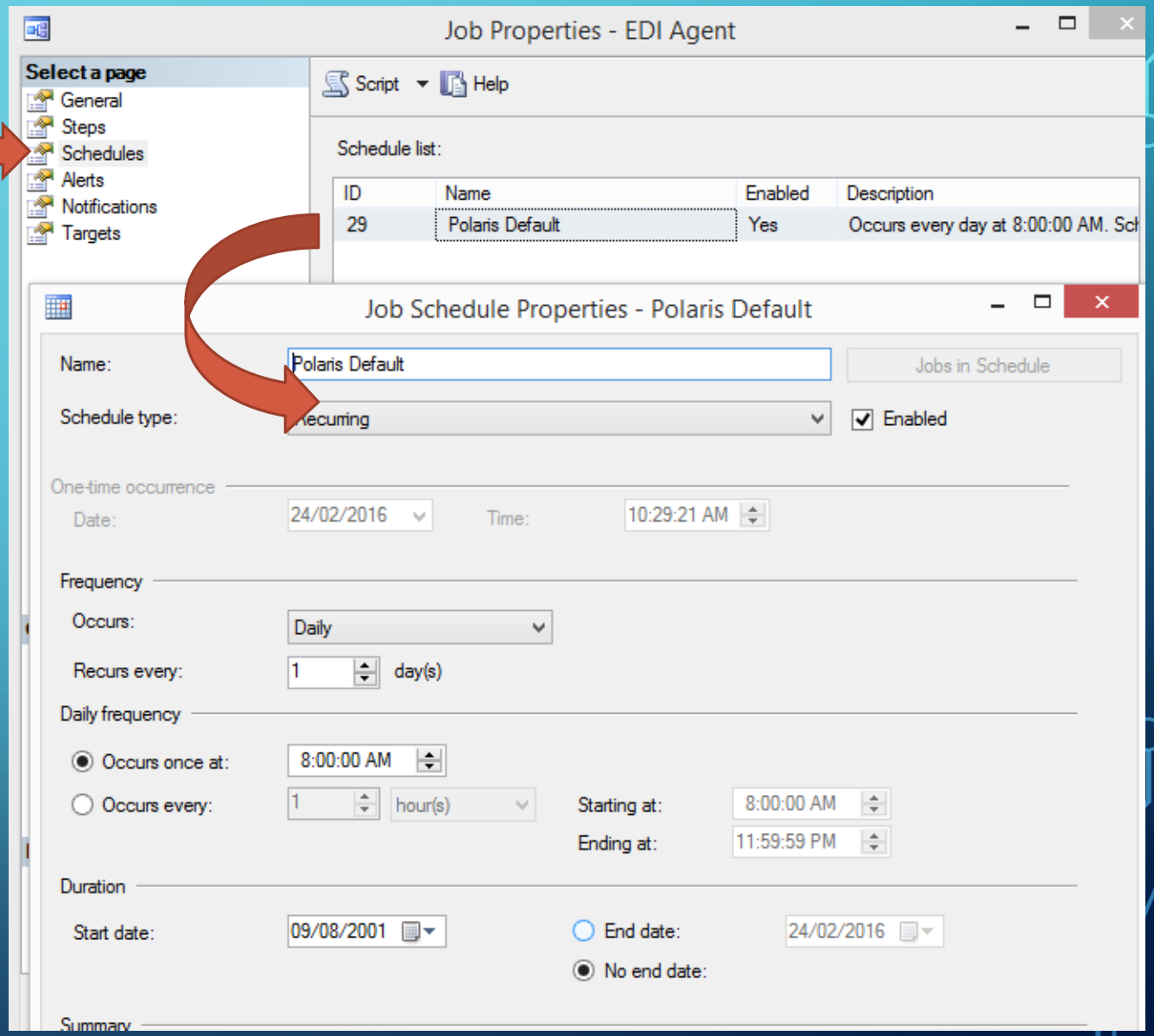


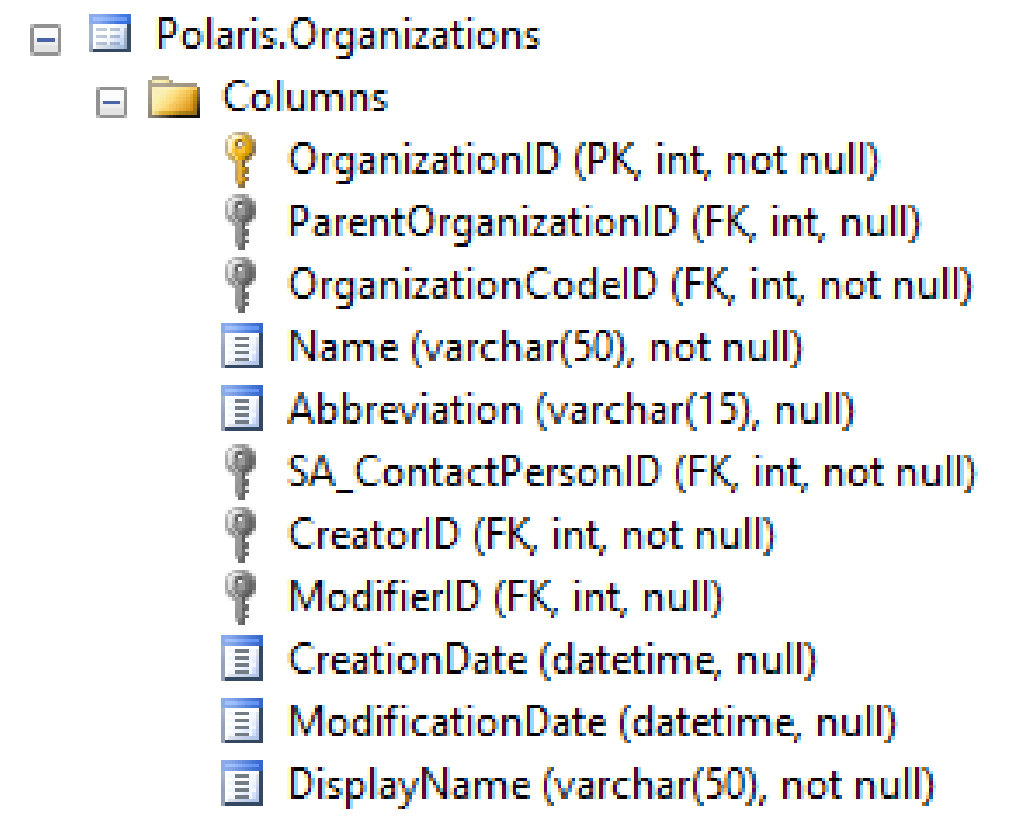
MOST COMMONLY USED TABLES

- Organizations
- Items
- Patrons
- Accounting
- Bibliographic

MOST COMMONLY USED TABLES

ORGANIZATIONS

- Most frequently used table
- In most reports
  - As a variable
  - As a way of splitting data
- Polaris.Polaris.Organizations



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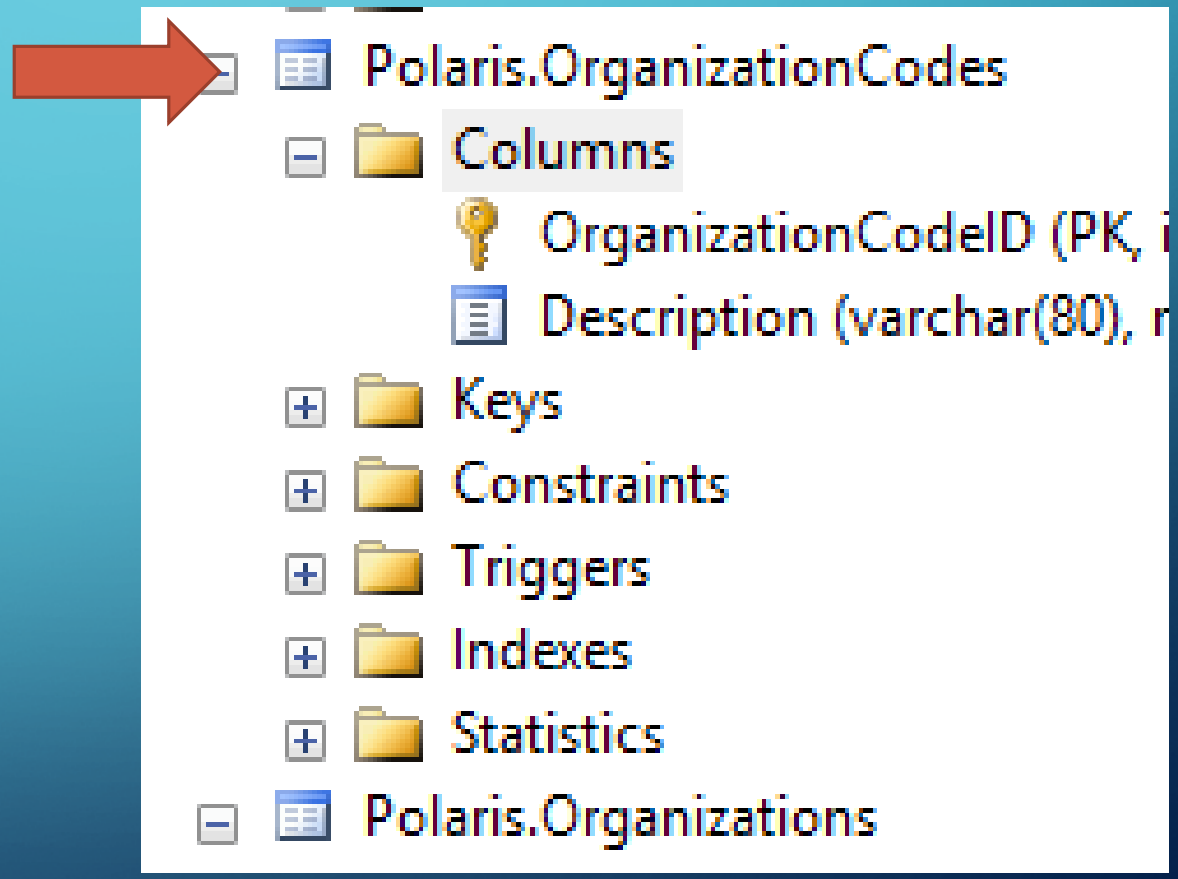


MOST COMMONLY USED TABLES

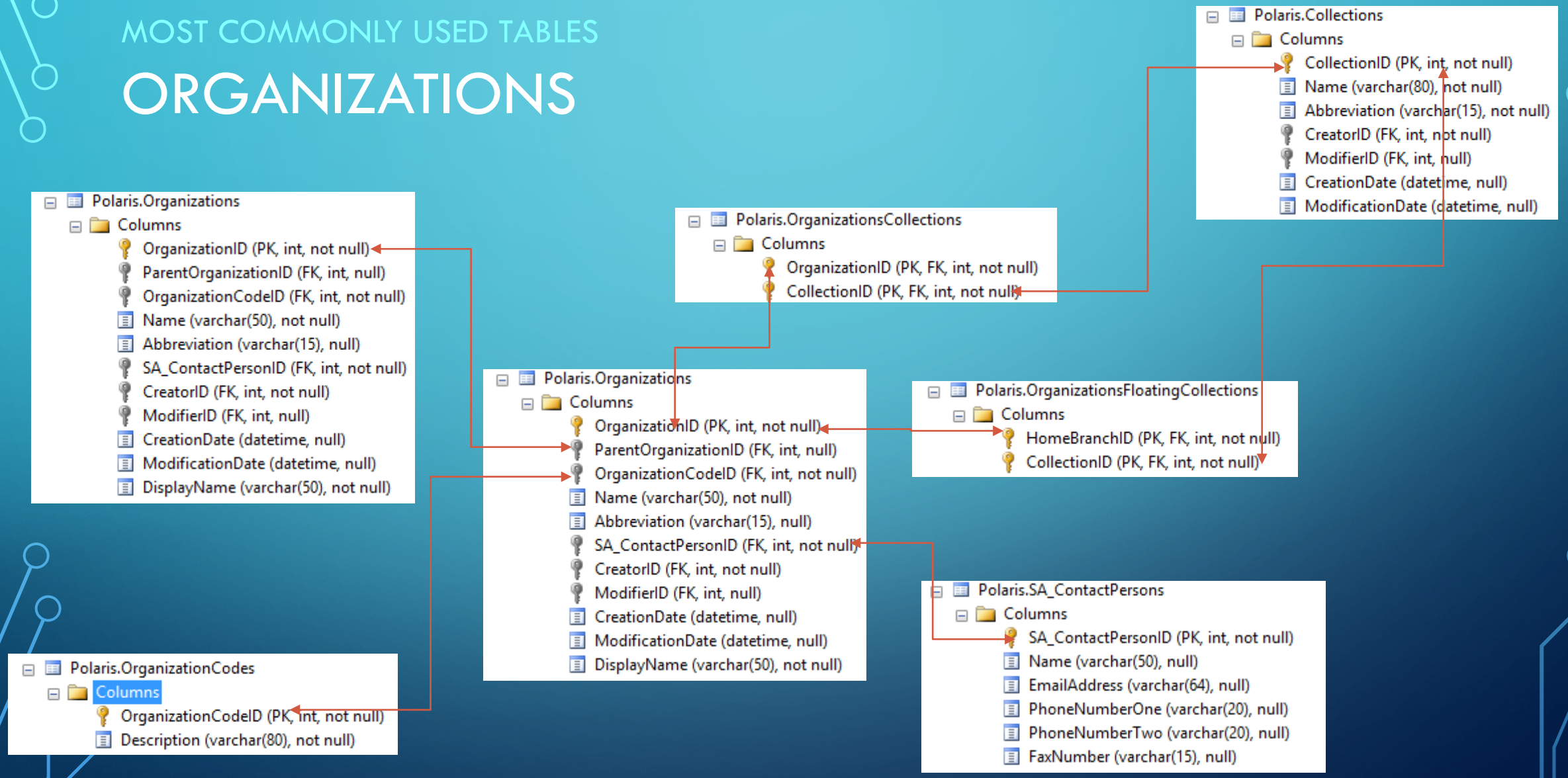
ORGANIZATIONS

- Code Snippet for joining tables

```
SELECT *
FROM Polaris.Organizations PO
JOIN Polaris.OrganizationCodes POC ON
POC.OrganizationCodeID = PO.OrganizationCodeID
```

MOST COMMONLY USED TABLES

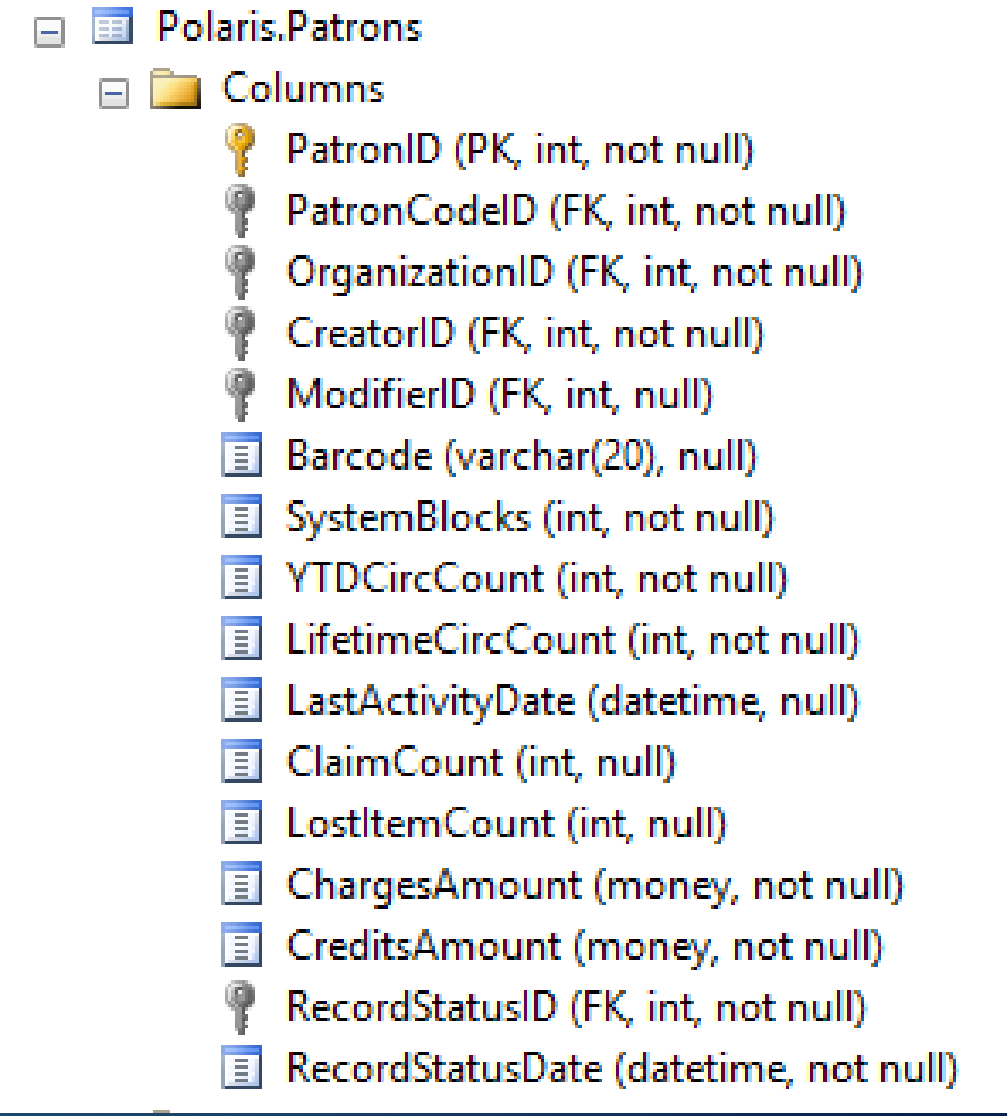
ORGANIZATIONS



MOST COMMONLY USED TABLES

PATRONS

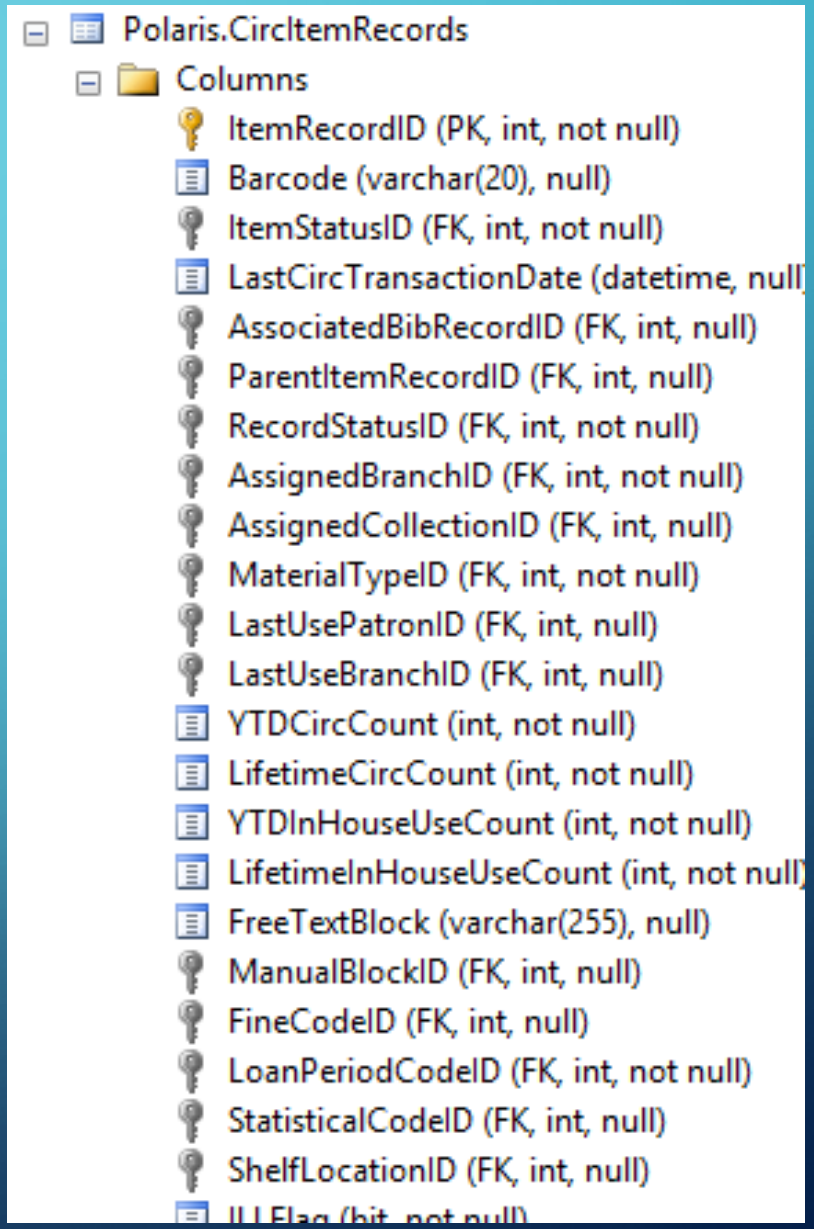
- Polaris.Patrons
- Polaris.PatronRegistration
- Polaris.PatronAccount
- Polaris.PatronCodes
- So many …



MOST COMMONLY USED TABLES

ITEMS

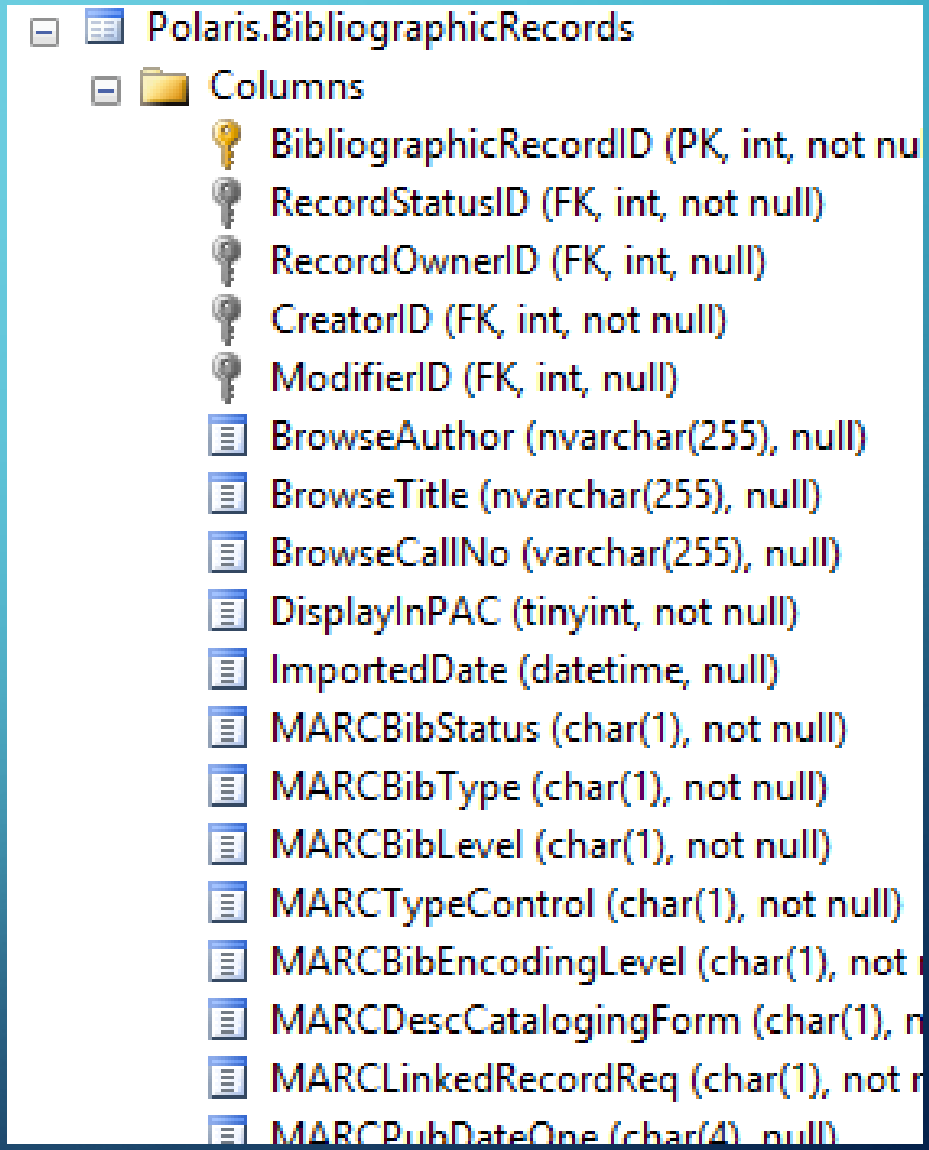
- Polaris.CircItemRecords
- Polaris.ItemRecordDetails
- Polaris.ItemRecordHistory
- Polaris.ItemStatuses
- Polaris.MaterialTypes
- Polaris.Collections



MOST COMMONLY USED TABLES

BIBLIOGRAPHIC DATA

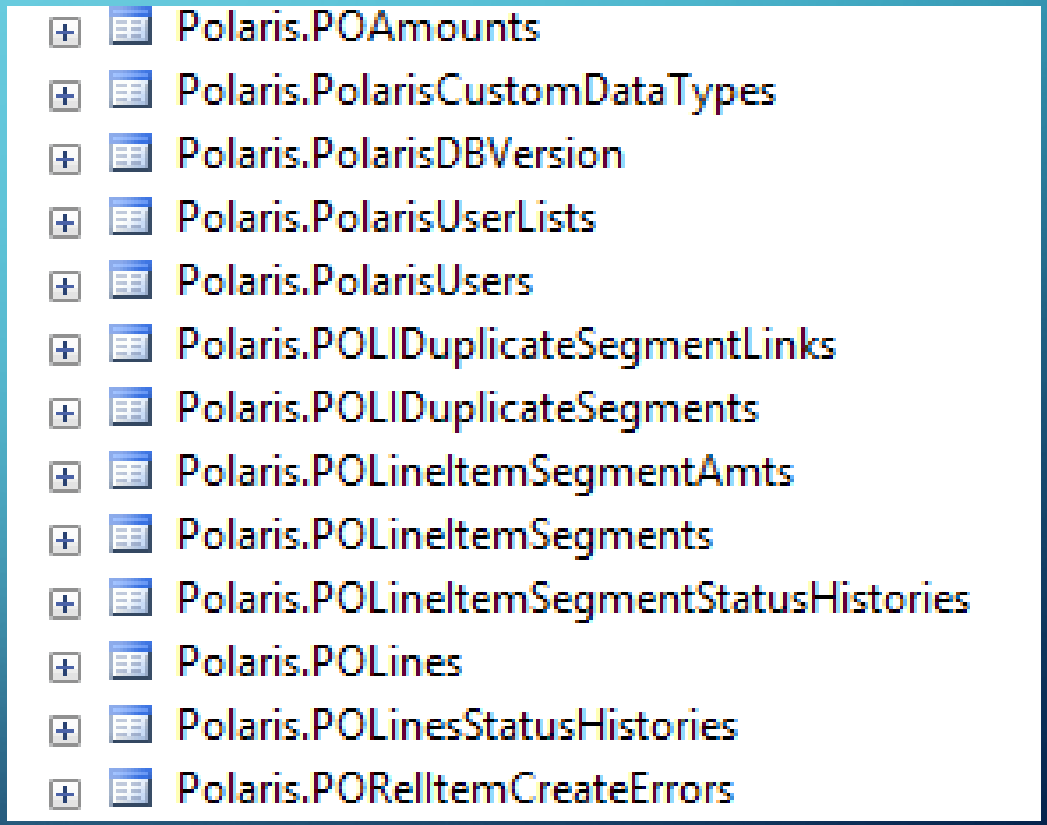
- Polaris.BibliographicRecords
- Polaris.BibliographicTags
  - Polaris.BibliographicTagXXXIndex



MOST COMMONLY USED TABLES

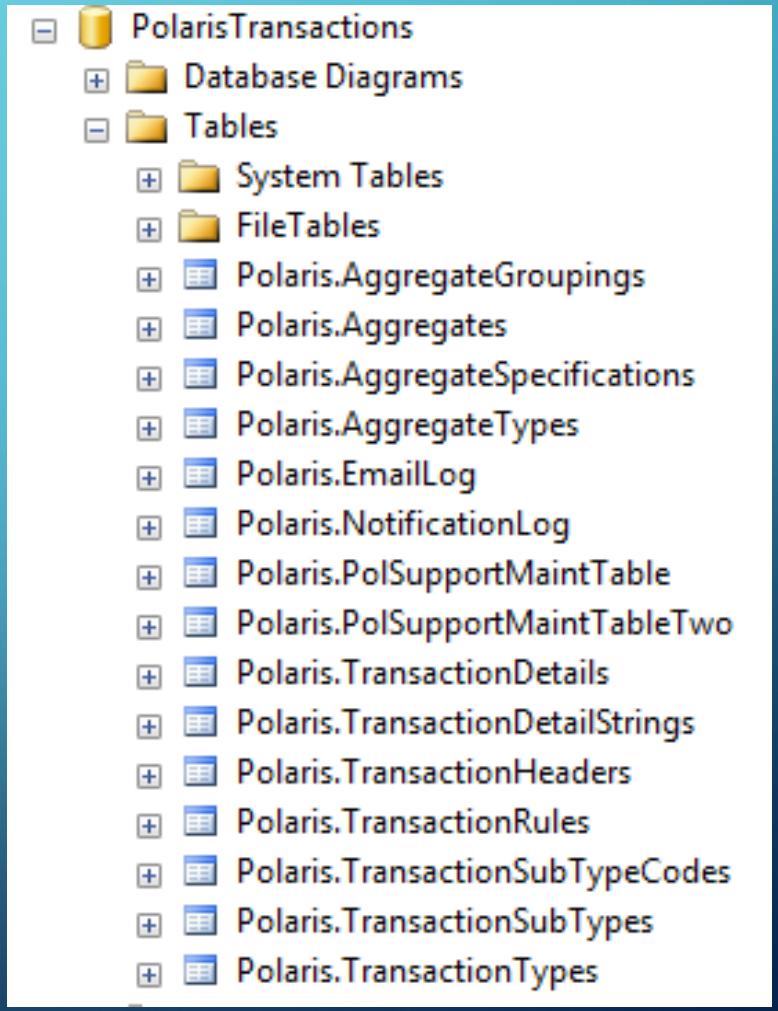
FINANCIALS

- Polaris.PurchaseOrders
  - Polaris.POLines
  - Polaris.POLineItemSegments
- Polaris.Invoices
  - Polaris.InvLines
- Polaris.Funds
  - Polaris.FundTransactionTypes
- Polaris.RWRITERAcqLinesToItemsView



TRANSACTION DATABASE

- Transactional Information
- Preserves Statistics
- Header Table ->
  - Details Table ->
    - Sub Types Table



TRANSACTION DATABASE

HEADER TABLES

- PolarisTransactions.Polaris.TransactionHeaders
- PolarisTransactions.Polaris.TransactionTypes
- PolarisTransactions.Polaris.TransactionSubTypes

Results | Messages

	TransactionID	OrganizationID	WorkstationID	PolarisUserID	TransactionDate	TransactionTypeID	TranClientDate
1	1	1	1	1	2008-12-09 23:12:04.080	1006	2008-12-09 23:11:59.000
2	2	1	1	1	2008-12-17 14:12:11.700	1006	2008-12-17 14:12:05.000
3	3	1	1	1	2008-12-17 14:12:15.960	1006	2008-12-17 14:12:16.000
4	4	1	1	1	2008-12-17 14:12:22.480	1006	2008-12-17 14:12:22.000

TRANSACTION DATABASE

HEADER TABLES

- PolarisTransactions.Polaris.TransactionHeaders
- PolarisTransactions.Polaris.TransactionTypes
- PolarisTransactions.Polaris.TransactionSubTypes

Results | Messages

	TransactionTypeID	TransactionTypeDescription	Mnemonic	SysAdminuseTransaction	IsImplemented
1	1000	PAC Test Logon	TR_PAC_TEST_LOGON	0	0
2	1001	Search browse author	TR_PAC_SEARCH_BROWSE_AUTHOR	1	1
3	1002	Search browse subject	TR_PAC_SEARCH_BROWSE_SUBJECT	1	1
4	1003	Search browse series	TR_PAC_SEARCH_BROWSE_SERIES	1	1
5	1004	Search browse title	TR_PAC_SEARCH_BROWSE_TITLE	1	1

TRANSACTION DATABASE

HEADER TABLES

- PolarisTransactions.Polaris.TransactionHeaders
- PolarisTransactions.Polaris.TransactionTypes
- PolarisTransactions.Polaris.TransactionSubTypes

Results | Messages

	TransactionTypeID	TransactionTypeDescription	Mnemonic	SysAdminuseTransaction	IsImplemented
1	2011	OBSOLETE: Renewal Overdue Block	TR_PATSERV_RENEWALOVERDUEBLOCK	0	0
2	2012	OBSOLETE: Renewal Overdue Block Override	TR_PATSERV_RENEWALOVERDUEBLOCKOV	0	0
3	2080	OBSOLETE: Charge	TR_PATSERV_CHARGE	0	0
4	2081	OBSOLETE: Alter Charge	TR_PATSERV_CHARGE_ALTERED	0	0
5	2090	OBSOLETE: Add hold request	TR_PATSERV_ADDHOLDREQUEST	0	0

TRANSACTION DATABASE

HEADER TABLES

- PolarisTransactions.Polaris.TransactionHeaders
- PolarisTransactions.Polaris.TransactionTypes
- PolarisTransactions.Polaris.TransactionSubTypes

Results | Messages

	TransactionSubTypeID	TransactionSubTypeDescription	DataType	Mnemonic	IsImplemented
1	1	OBSOLETE: ItemDBID	K	ITEM_DB_ID	0
2	2	OBSOLETE: ItemID	K	ITEM_ID	0
3	3	OBSOLETE: FineCode	K	FINE_CODE	0
4	4	MaterialType	K	MATERIAL_TYPE	1
5	5	OBSOLETE: PatronDBID	K	PARTRON_DB_ID	0

TRANSACTION DATABASE

TRANSACTION RULES

- PolarisTransactions.Polaris.TransactionRules

TRANSACTION DATABASE

TRANSACTION RULES

- PolarisTransactions.Polaris.TransactionRules

```
SELECT *
FROM Polaris.TransactionRules
WHERE TransactionTypeID = 6001 -- checkouts
```

TRANSACTION DATABASE

TRANSACTION RULES

- PolarisTransactions.Polaris.TransactionRules

Results | Messages

	TransactionTypeID	TransactionSubTypeID
1	6001	4
2	6001	6
3	6001	7
4	6001	33
5	6001	38

TRANSACTION DATABASE

TRANSACTION RULES

- PolarisTransactions.Polaris.TransactionRules

```
SELECT TR.TransactionTypeID, TST.TransactionSubTypeID, TST.TransactionSubTypeDescription
FROM Polaris.TransactionRules TR
JOIN Polaris.TransactionSubTypes TST ON
TST.TransactionSubTypeID = TR.TransactionSubTypeID
WHERE TR.TransactionTypeID = 6001 -- checkouts
```

TRANSACTION DATABASE

TRANSACTION RULES

Results | Messages

	TransactionTypeID	TransactionSubTypeID	TransactionSubTypeDescription
1	6001	4	MaterialType
2	6001	6	PatronID
3	6001	7	PatronCode
4	6001	33	PatronStatClassCode
5	6001	38	ItemRecordID
6	6001	60	Item Statistical Code
7	6001	61	Assigned Collection Code
8	6001	123	Patrons Assigned Branch ID
9	6001	124	Renewal
10	6001	125	Items Assigned Branch ID
11	6001	145	Checkout Type
12	6001	186	Checkout Date
13	6001	220	CourseReserveID
14	6001	224	TermID
15	6001	233	HoldRequestID
16	6001	264	NextHoldRequestID
17	6001	268	Item Home BranchID
18	6001	300	Vendor Account ID
19	6001	301	Electronic Item

TRANSACTION DATABASE

TRANSACTION DETAILS

- PolarisTransactions.Polaris.TransactionDetails

Results | Messages

	TransactionID	TransactionSubTypeID	numValue	dateValue
1	1	23	1	NULL
2	2	23	2	NULL
3	3	23	3	NULL
4	4	23	3	NULL
5	5	23	4	NULL
6	6	23	5	NULL

TRANSACTION DATABASE

TRANSACTION DETAILS

- PolarisTransactions.Polaris.TransactionDetails

```
SELECT TH.TransactionID, TH.TranClientDate,
TD.TransactionSubTypeID, TD.numValue
FROM Polaris.TransactionHeaders TH
JOIN Polaris.TransactionDetails TD ON
TH.TransactionID = TD.TransactionID
WHERE TH.TransactionID = 436187 -- limiting to as single transaction
```

TRANSACTION DATABASE

TRANSACTION DETAILS

- PolarisTransactions.Polaris.TransactionDetails

Results | Messages

	TransactionID	TranClientDate	TransactionSubTypeID	numValue
1	436187	2009-01-15 12:41:06.000	4	1
2	436187	2009-01-15 12:41:06.000	6	48096
3	436187	2009-01-15 12:41:06.000	7	6
4	436187	2009-01-15 12:41:06.000	33	90097
5	436187	2009-01-15 12:41:06.000	38	2576505
6	436187	2009-01-15 12:41:06.000	60	NULL
7	436187	2009-01-15 12:41:06.000	61	140
8	436187	2009-01-15 12:41:06.000	123	177
9	436187	2009-01-15 12:41:06.000	124	1
10	436187	2009-01-15 12:41:06.000	125	177
11	436187	2009-01-15 12:41:06.000	145	15
12	436187	2009-01-15 12:41:06.000	186	NULL

TRANSACTION DATABASE

TRANSACTION DETAILS

```sql
SELECT TH.TransactionID, TH.TranClientDate,
TD.TransactionSubTypeID, TD.numValue,
TST.TransactionSubTypeDescription
FROM Polaris.TransactionHeaders TH
JOIN Polaris.TransactionDetails TD ON
TH.TransactionID = TD.TransactionID
JOIN Polaris.TransactionSubTypes TST ON
TST.TransactionSubTypeID = TD.TransactionSubTypeID
WHERE TH.TransactionID = 436187 -- limiting to as single transaction
```

TRANSACTION DATABASE

TRANSACTION DETAILS

Results | Messages

	TransactionID	TranClientDate	TransactionSubTypeID	numValue	TransactionSubTypeDescription
1	436187	2009-01-15 12:41:06.000	4	1	MaterialType
2	436187	2009-01-15 12:41:06.000	6	48096	PatronID
3	436187	2009-01-15 12:41:06.000	7	6	PatronCode
4	436187	2009-01-15 12:41:06.000	33	90097	PatronStatClassCode
5	436187	2009-01-15 12:41:06.000	38	2576505	ItemRecordID
6	436187	2009-01-15 12:41:06.000	60	NULL	Item Statistical Code
7	436187	2009-01-15 12:41:06.000	61	140	Assigned Collection Code
8	436187	2009-01-15 12:41:06.000	123	177	Patrons Assigned Branch ID
9	436187	2009-01-15 12:41:06.000	124	1	Renewal
10	436187	2009-01-15 12:41:06.000	125	177	Items Assigned Branch ID
11	436187	2009-01-15 12:41:06.000	145	15	Checkout Type
12	436187	2009-01-15 12:41:06.000	186	NULL	Checkout Date

TRANSACTION DATABASE

TRANSACTION SUB TYPE CODES

- PolarisTransactions.Polaris.TransactionSubTypeCodes

Results | Messages

	TransactionSubTypeID	TransactionSubTypeCode	TransactionSubTypeCodeDesc
1	105	2	check
2	105	3	voucher
3	124	1	Renewal
4	128	1	Normal
5	128	2	Bulk Check in
6	128	3	Inventory
7	128	4	Renewal stopped, item Held Checkin
8	128	5	Quick Check in
9	128	6	In house check in
10	128	7	Offline Check in

TRANSACTION DATABASE

TRANSACTION DETAILS

```sql
SELECT TH.TransactionID, TH.TranClientDate,
TD.TransactionSubTypeID, TD.numValue,
TST.TransactionSubTypeDescription,
TSTC.TransactionSubTypeCodeDesc
FROM Polaris.TransactionHeaders TH
JOIN Polaris.TransactionDetails TD ON
TH.TransactionID = TD.TransactionID
JOIN Polaris.TransactionSubTypes TST ON
TST.TransactionSubTypeID = TD.TransactionSubTypeID
LEFT JOIN Polaris.TransactionSubTypeCodes TSTC ON
TD.TransactionSubTypeID = TSTC.TransactionSubTypeID
AND TD.numValue = TSTC.TransactionSubTypeCode
WHERE TH.TransactionID = 436187 -- limiting to as single transaction
```

TRANSACTION DATABASE

TRANSACTION DETAILS

7	436187	2009-01-15 12:41:06.000	61	140	Assigned Collection Code	NULL
8	436187	2009-01-15 12:41:06.000	123	177	Patrons Assigned Branch ID	NULL
9	436187	2009-01-15 12:41:06.000	124	1	Renewal	Renewal
10	436187	2009-01-15 12:41:06.000	125	177	Items Assigned Branch ID	NULL
11	436187	2009-01-15 12:41:06.000	145	15	Checkout Type	Circ Checkout and Renewal
12	436187	2009-01-15 12:41:06.000	186	NULL	Checkout Date	NULL
13	436187	2009-01-15 12:41:06.000	220	NULL	CourseReserveID	NULL

TRANSACTION DATABASE

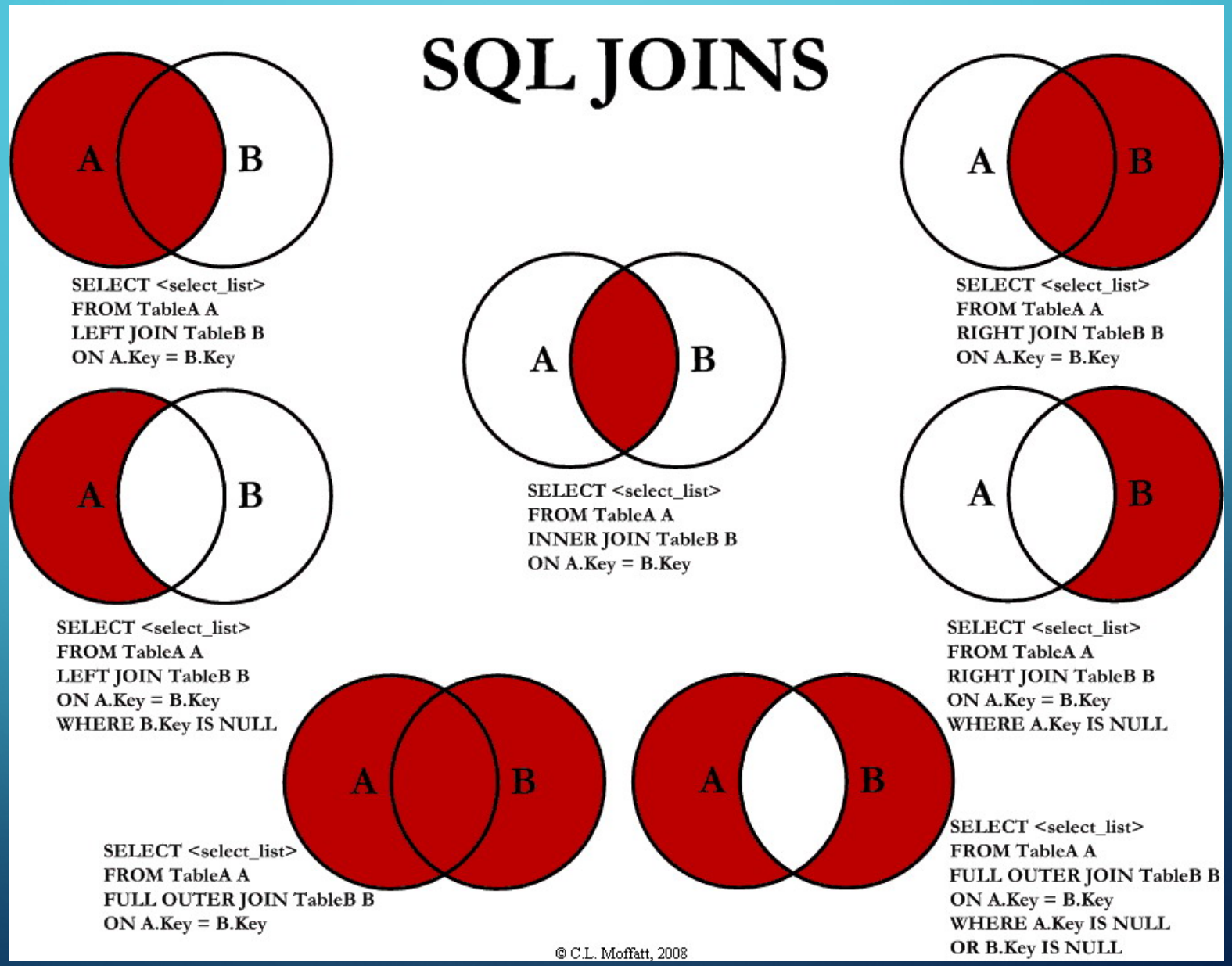
JOINING THE CORE DATABASE

- Polaris.Polaris.Collections
- Polaris.Polaris.CircItemRecords
- Polaris.Polaris.Organizations

```
LEFT JOIN Polaris.Polaris.Collections PC ON
TD.TransactionSubTypeID = 61 -- collection code transactionsubtype
AND TD.numValue = PC.CollectionID
LEFT JOIN Polaris.Polaris.CircItemRecords CIR ON
TD.TransactionSubTypeID = 38 -- itemrecordID subtype
AND TD.numValue = CIR.ItemRecordID
LEFT JOIN Polaris.Polaris.Organizations PO ON
TD.TransactionSubTypeID = 177 -- patrons assigned branch subtype
AND TD.numValue = PO.OrganizationID
```

SQL BASICS

JOINS



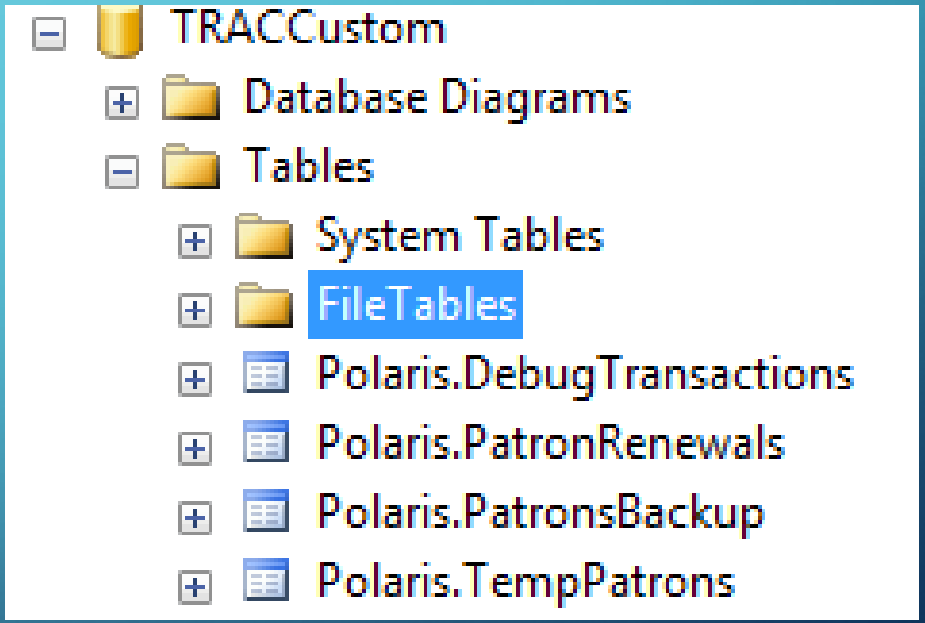
USING YOUR OWN DATABASE

- More customization
- Not lost in product upgrades
- No danger of corrupting or losing data
- Easy updates and customization

USING YOUR OWN DATABASE

DATABASE DESIGN

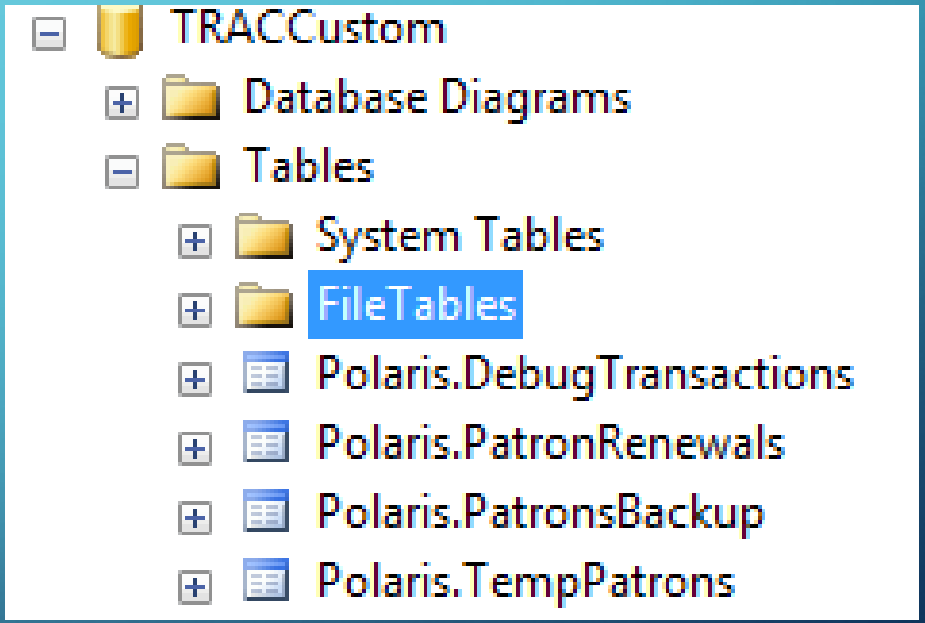
- Somewhere to track renewals
- Somewhere that stores renewal data



USING YOUR OWN DATABASE

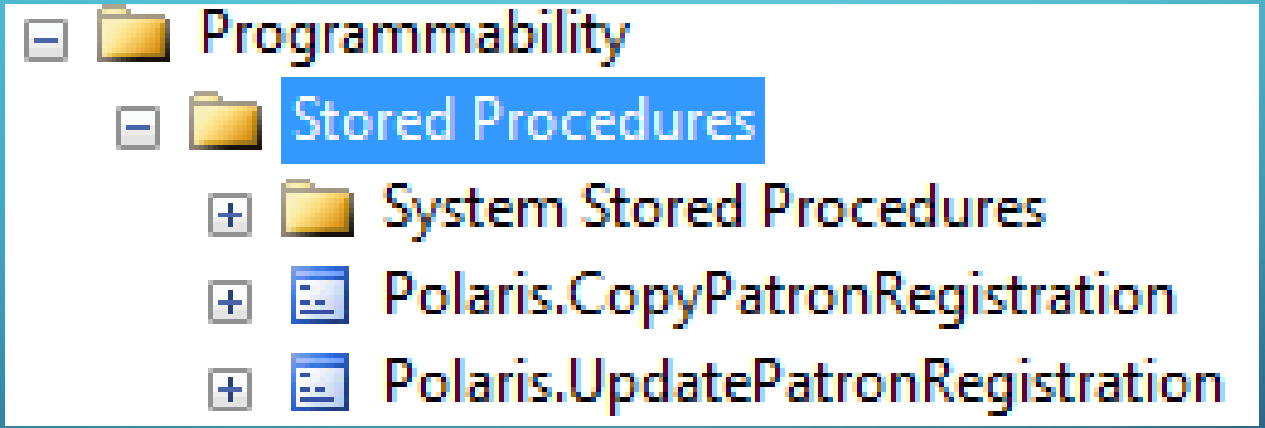
DATABASE DESIGN

- Somewhere to track renewals
- Somewhere that stores renewal data
- TRACCustom.Polaris.TempPatrons
- TRACCustom.Polaris.PatronRenewals



USING YOUR OWN DATABASE

THE RENEWAL CALCULATION



USING YOUR OWN DATABASE

THE RENEWAL CALCULATION

Job step list:

St...	Name	Type	On Success	On Failure
1	Calculated Renewals	Transact-...	Go to the...	Quit the job...
2	Copy New Information	Transact-...	Quit the j...	Quit the job...

USING YOUR OWN DATABASE

THE RENEWAL CALCULATION

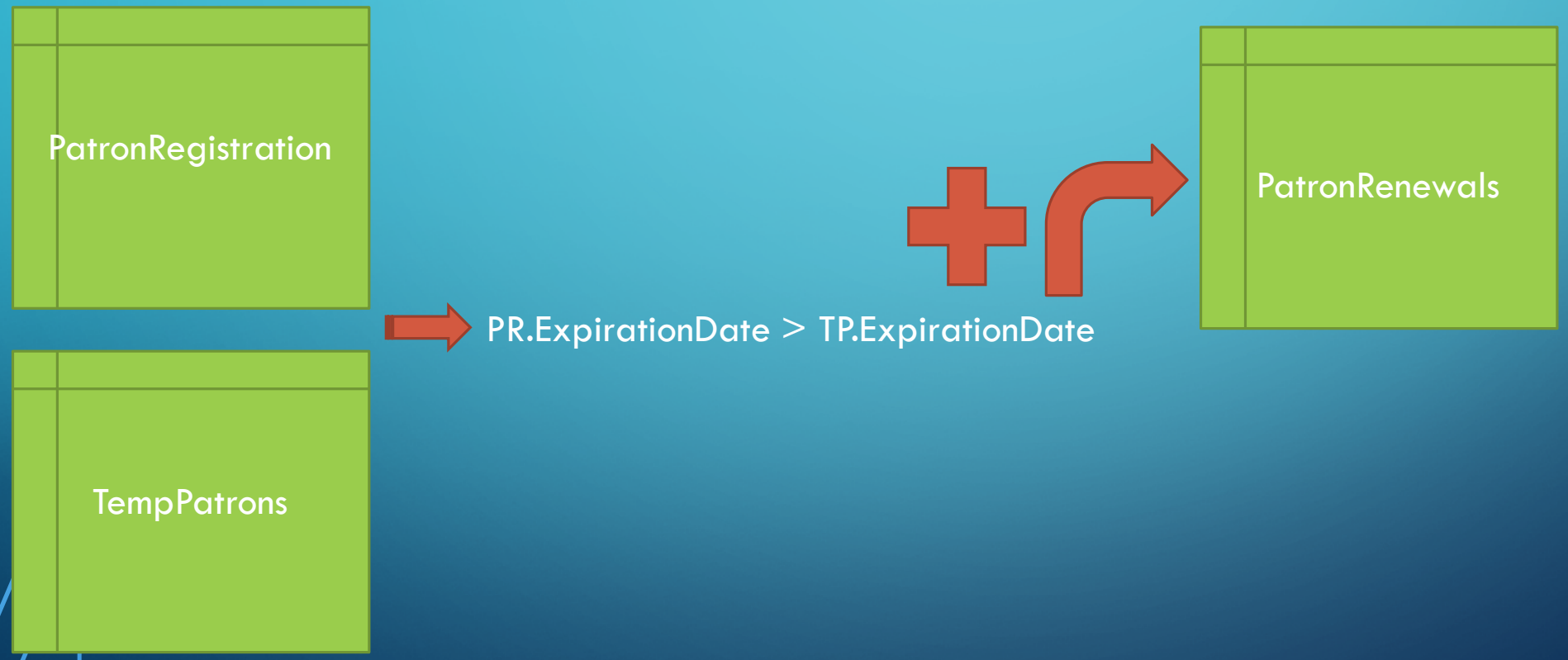
USING YOUR OWN DATABASE

THE RENEWAL CALCULATION

PR.ExpirationDate > TP.ExpirationDate

USING YOUR OWN DATABASE

THE RENEWAL CALCULATION



USING YOUR OWN DATABASE

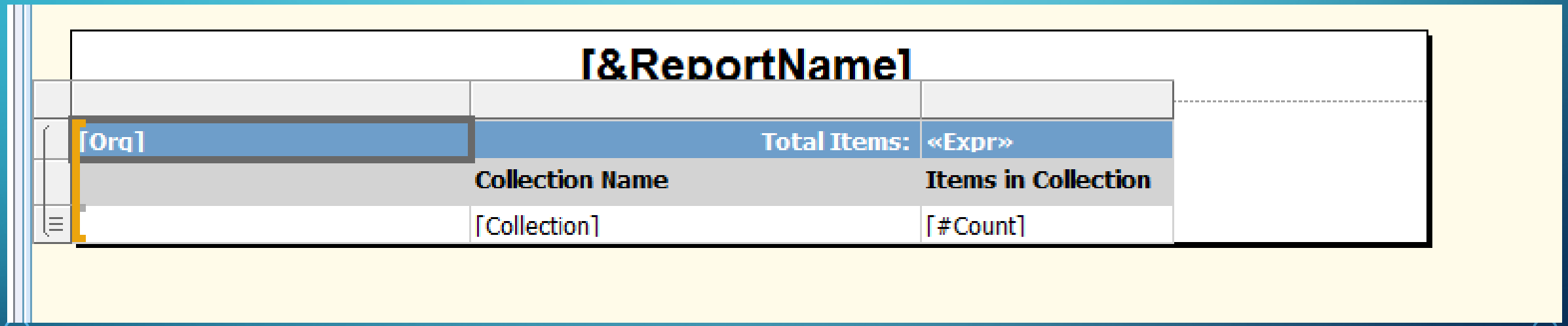
THE RENEWAL CALCULATION

BUILDING REPORTS

- How Data is displayed
  - Working with tables
    - Multiple tables in a report
  - Header Rows
  - Report Headers
- Temporary Tables

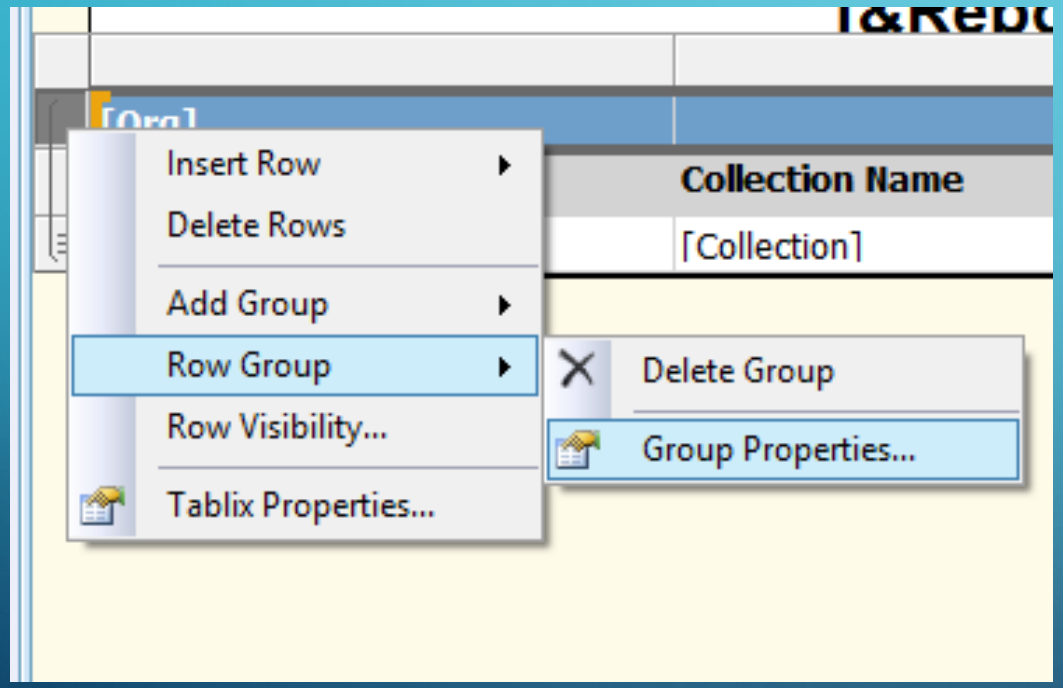
BUILDING REPORTS

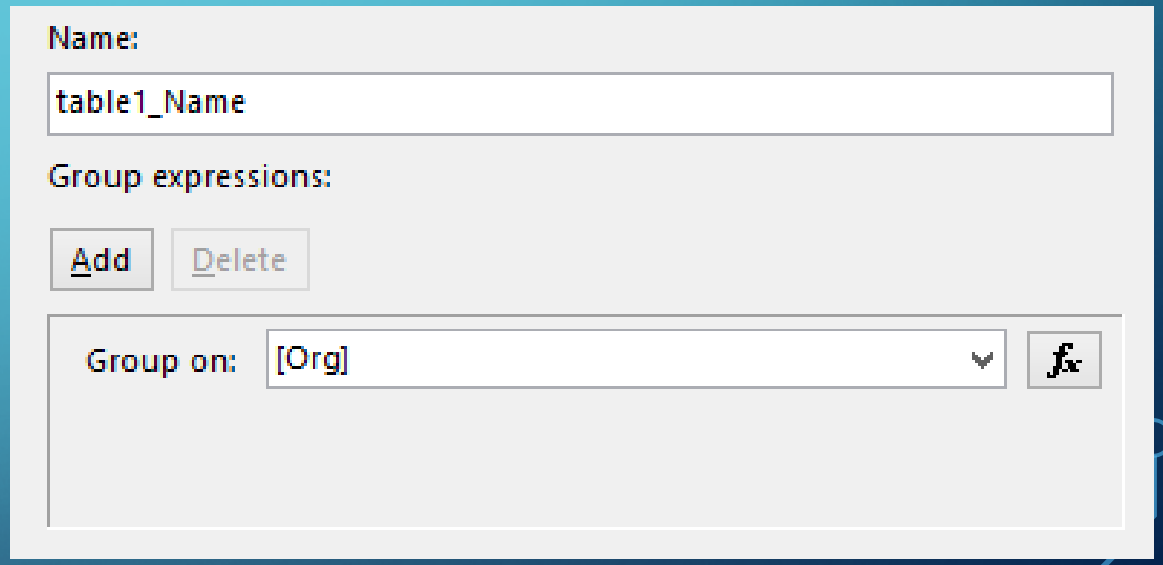
USING TABLES



BUILDING REPORTS

USING TABLES





REPORT EXAMPLES

USING TABLES

Collection Count By Code - MLS

Acadia Municipal Library	Total Items:	683902
	Collection Name	**Items in Collection**
	(none)	11
	Audiobook - MP3 - Adult	17
	Audiobook - MP3 - Young Adult	1
	Young Adult	11
Berry Creek Community Library	**Total Items:**	**683902**
	Collection Name	**Items in Collection**
	(none)	10
	Audiobook - MP3 - Adult	3
	Audiobook Cassette	5

BUILDING REPORTS

CODE BEHIND THE TABLE

```
IF @Branch = 0
BEGIN
SELECT PO.Name as 'Org',
CASE
WHEN PC.Name IS NULL THEN '(none)'
ELSE PC.Name
END as 'Collection', Count(IR.ItemRecordID) as 'Count'
FROM Polaris.ItemRecords IR
JOIN Polaris.Organizations PO
ON PO.OrganizationID = IR.OwningBranchID
LEFT JOIN Polaris.Collections PC ON
PC.CollectionID = IR.AssignedCollectionID
WHERE IR.RecordStatusID = 1 --not deleted
AND PO.ParentOrganizationID = @Parent
AND IR.MaterialTypeID NOT IN (26)
GROUP BY PO.Name, PC.Name
ORDER BY PO.Name, PC.Name
END
ELSE
BEGIN
SELECT PO.Name as 'Org',
```

BUILDING REPORTS

CODE BEHIND THE TABLE

```sql
SELECT '(All)' as 'Name', '0' AS OrganizationID
UNION
SELECT Name, OrganizationID
FROM Polaris.Organizations
WHERE ParentOrganizationID = @Parent
```

BUILDING REPORTS

CODE BEHIND THE TABLE

```
IF @Branch = 0
BEGIN
SELECT PO.Name as 'Org',
CASE
WHEN PC.Name IS NULL THEN '(none)'
ELSE PC.Name
END as 'Collection', Count(IR.ItemRecordID) as 'Count'
FROM Polaris.ItemRecords IR
JOIN Polaris.Organizations PO
ON PO.OrganizationID = IR.OwningBranchID
LEFT JOIN Polaris.Collections PC ON
PC.CollectionID = IR.AssignedCollectionID
WHERE IR.RecordStatusID = 1 --not deleted
AND PO.ParentOrganizationID = @Parent
AND IR.MaterialTypeID NOT IN (26)
GROUP BY PO.Name, PC.Name
ORDER BY PO.Name, PC.Name
END
ELSE
BEGIN
SELECT PO.Name as 'Org',
```

BUILDING REPORTS

MULTIPLE TABLES

[&ReportName]

«Expr»

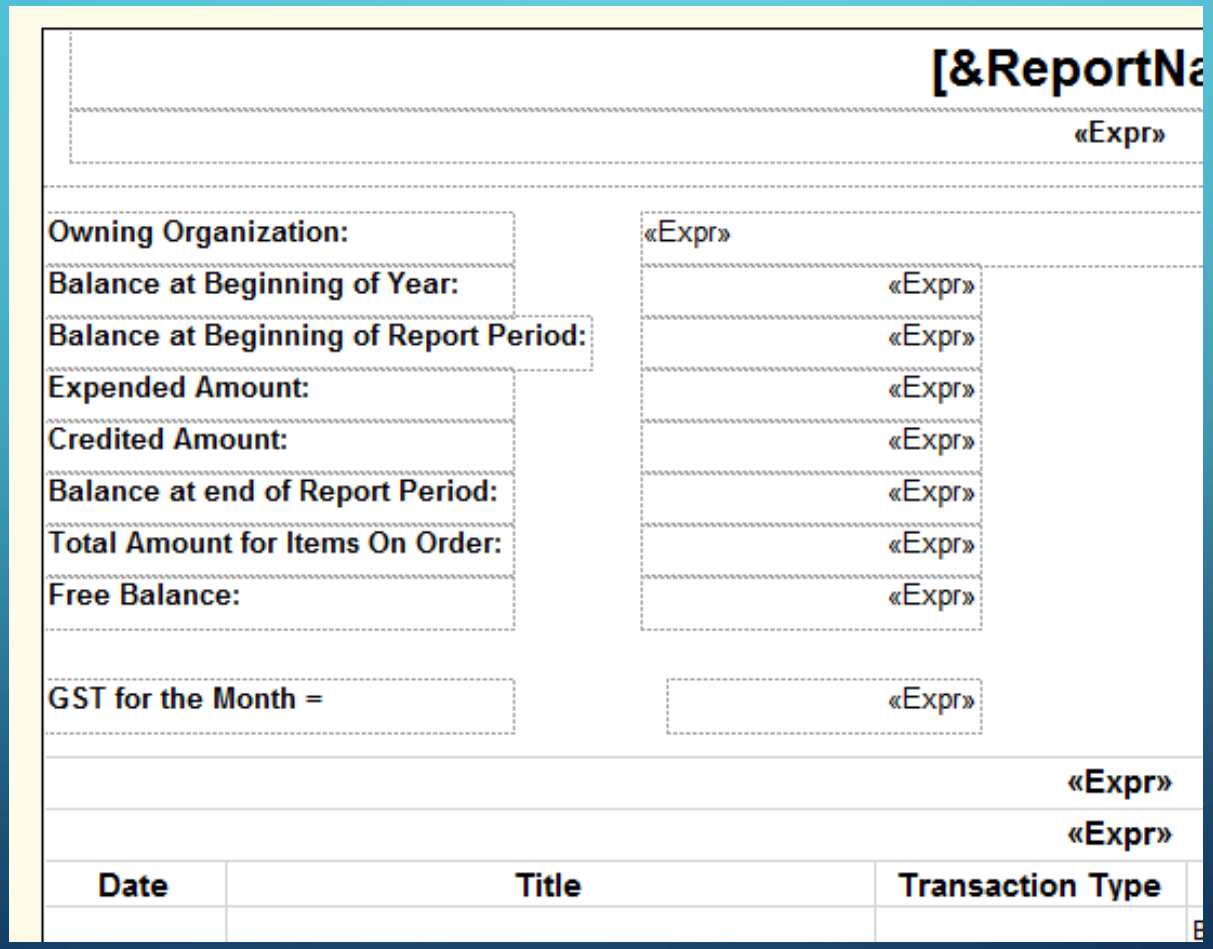
Barcode	Name	Renewal Date
[Barcode]	[PatronFullName]	[RenewDate]
	Total Renewals:	[Count(Barcode)]

Library	Renewals
[Branch_Name]	[Renewals]
Total Renewals:	[Sum(Renewals)]

«Expr»

BUILDING REPORTS

REPORT HEADERS



BUILDING REPORTS

USING VARIABLES

```
/******** Header information */
DECLARE @Fname varchar(50)
SET @Fname = (SELECT F.Name FROM Polaris.Funds F WHERE FundID = @FundID)
DECLARE @FALTname varchar(50)
SET @FALTname = (SELECT F.AlternativeName FROM Polaris.Funds F WHERE FundID = @FundID)
/* Beginning Allocation */
DECLARE @Balloc money
SET @Balloc = (SELECT FundTransAmt FROM Polaris.FundTransactionHistories
               WHERE FundID = @FundID
               AND FundTransactionTypeID = 1
               )
```

BUILDING REPORTS

USING VARIABLES

```
SELECT
/* **** Header Information */
@Fname as 'Fund Name',
@FALTname as 'Alt Name',
@Balloc as 'Beginning Alloc',
@Bbalance as 'Prev Balance',
@EBalance as 'Encum Balance',
'GST' = (@GST * 0.05),
CONVERT(VARCHAR(10), @BDATE, 103) AS 'StartDate',
CONVERT(VARCHAR(10), @EDATE, 103) AS 'EndDate',
'PName' = (SELECT Name FROM Polaris.Organizations WHERE OrganizationID = @Parent),
/* **** */
PF.ID,
PF.Date,
substring(PF.Title,1,35) as 'Title',
'TType' =
CASE
    WHEN (PF.MyTYPE IS NULL) AND (PF.PaymentID IN (7)) THEN 'Paid'
```

BUILDING REPORTS

TABLE VARIABLES

- Can store multiple columns and rows
- Are temporarily allocated
  - No permanent storage
- Tables vanish at the end of the script
- Ad-hoc easily customizable

BUILDING REPORTS

TABLE VARIABLES

```sql
DECLARE @FinancesTEMP TABLE
(
    Date datetime,
    Title varchar(500),
    Price money,
    MyType int,
    Notes varchar(500),
PaymentID int
)
```

```sql
CREATE TABLE #FinancesTEMP
(
    Date datetime,
    Title varchar(500),
    Price money,
    MyType int,
    Notes varchar(500),
    PaymentID int
)
```

BUILDING REPORTS

TABLE VARIABLES

```
INSERT INTO @FinancesTEMP (Date, Title, Price, MyType, Notes, PaymentID)
SELECT
PILS.PaymentStatusDate as 'Date',
PIL.Title as 'Title',
--PILSA.Amount as 'Price',
'Price' = (PILSA.Amount * I.ExchangeRate),
NULL as 'Type',
NULL as 'Notes',
PILS.PaymentStatusID as 'PaymentID'
FROM Polaris.Funds PF WITH (NOLOCK)
```

LETS MAKE ONE!

- Time check?

LETS MAKE ONE!

DESIGN PROCESS

LETS MAKE ONE!

DESIGN PROCESS – THE DATA

- By library, what are the most popular circulated materials, and for the most popular materials, which collections are most often circulated

LETS MAKE ONE!

DESIGN PROCESS – THE LAYOUT

Library Name	**(Group 1)**			
(Group 2)	Material Type		Circ volume	Percentage of Circ
(Repeat for Each)	Collection Name	Circ Volume	Percentage of Circ	

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
SELECT *
FROM PolarisTransactions.Polaris.TransactionTypes
WHERE IsImplemented = 1
ORDER BY TransactionTypeID
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
SELECT *
FROM PolarisTransactions.Polaris.TransactionRules TR
JOIN PolarisTransactions.Polaris.TransactionSubTypes TST
ON TST.TransactionSubTypeID = TR.TransactionSubTypeID
WHERE TransactionTypeID = 6001
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
/*
Material type - 4
PatronID - 6
ItemRecordId - 38
Assigned Collectio Code - 61
Checkout type 145
Renewal 124
*/
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
DECLARE @BDATE datetime
DECLARE @EDATE datetime
SET @BDATE = '2015-01-01'
SET @EDATE = '2016-01-31'

SELECT *
FROM PolarisTransactions.Polaris.TransactionHeaders TH
WHERE TH.TransactionTypeID = 6001 -- checkouts only
AND TH.TranClientDate BETWEEN @BDATE AND @EDATE
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
DECLARE @BDATE datetime
DECLARE @EDATE datetime
SET @BDATE = '2015-01-01'
SET @EDATE = '2016-01-31'

SELECT *
FROM PolarisTransactions.Polaris.TransactionHeaders TH
WHERE TH.TransactionTypeID = 6001 -- checkouts only
AND TH.TranClientDate BETWEEN @BDATE AND @EDATE
```

Polaris | 00:00:06 | 410788 rows

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
DECLARE @BDATE datetime
DECLARE @EDATE datetime
SET @BDATE = '2015-01-01'
SET @EDATE = '2015-01-31'

CREATE TABLE #TEMPTrans (
    TransactionID int
    )

INSERT INTO #TEMPTrans
SELECT TH.TransactionID
FROM PolarisTransactions.Polaris.TransactionHeaders TH
WHERE TH.TransactionTypeID = 6001 -- checkouts only
AND TH.TranClientDate BETWEEN @BDATE AND @EDATE

SELECT *
FROM #TEMPTrans

DROP TABLE #TEMPTrans
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
SELECT *
FROM #TEMPTrans
WHERE TransactionID NOT IN ( SELECT TT.TransactionID FROM #TEMPTrans TT
            JOIN PolarisTransactions.Polaris.TransactionDetails TD
            ON TD.TransactionID = TT.TransactionID
            WHERE TD.TransactionSubTypeID = 124
            )
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
SELECT TMP.TransactionID,
( SELECT Col.Numvalue FROM PolarisTransactions.Polaris.TransactionDetails Col
    WHERE Col.TransactionSubTypeID = 61
    AND Col.TransactionID = TMP.TransactionID
    ) as 'CollectionCode',
( SELECT Mat.Numvalue FROM PolarisTransactions.Polaris.TransactionDetails Mat
    WHERE Mat.TransactionSubTypeID = 4
    AND Mat.TransactionID = TMP.TransactionID
    ) as 'MaterialTypeCode'
FROM #TEMPTrans TMP
WHERE TMP.TransactionID NOT IN ( SELECT TT.TransactionID FROM #TEMPTrans TT
            JOIN PolarisTransactions.Polaris.TransactionDetails TD2
            ON TD2.TransactionID = TT.TransactionID
            WHERE TD2.TransactionSubTypeID = 124
            )
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

Results | Messages

	TransactionID	CollectionCode	MaterialTypeCode
1	177753702	113	3
2	177753704	173	1
3	177753717	113	3
4	177753738	58	1
5	177753836	113	3

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
SELECT *
FROM Polaris.Polaris.Collections

SELECT *
FROM Polaris.Polaris.MaterialTypes
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
( SELECT PC.Name FROM PolarisTransactions.Polaris.Tra
    JOIN Polaris.Polaris.Collections PC ON
    PC.CollectionID = Col.numValue
    WHERE Col.TransactionSubTypeID = 61
    AND Col.TransactionID = TMP.TransactionID
    ) as 'Collection',
( SELECT MT.Description FROM PolarisTransactions.Pola
    JOIN Polaris.Polaris.MaterialTypes MT ON
    MT.MaterialTypeID = Mat.numValue
    WHERE Mat.TransactionSubTypeID = 4
    AND Mat.TransactionID = TMP.TransactionID
    ) as 'MaterialType'
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

Results | Messages

	TransactionID	Collection	MaterialType
1	177515857	Fiction - Adult	Book
2	177515877	Fiction - Adult	Book
3	177515878	Periodical	Magazine
4	177515885	Fiction - Juvenile	Book
5	177515917	Non-fiction	Book

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
CREATE TABLE #TEMPTrans (
    TransactionID int,
    OrganizationID int
    )

INSERT INTO #TEMPTrans
SELECT TH.TransactionID, TH.OrganizationID
FROM PolarisTransactions.Polaris.TransactionHeaders TH
WHERE TH.TransactionTypeID = 6001 -- checkouts only
AND TH.TranClientDate BETWEEN @BDATE AND @EDATE

SELECT TMP.TransactionID, TMP.OrganizationID,
( SELECT PC.Name FROM PolarisTransactions.Polaris.TransactionD
    JOIN Polaris.Polaris.Collections PC ON
    PC.CollectionID = Col.numValue
    WHERE Col.TransactionSubTypeID = 61
    AND Col.TransactionID = TMP.TransactionID
    ) as 'Collection',
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
CREATE TABLE #TransStats (
    TransactionID int,
    OrganizaitonID int,
    CollectionName varchar(50),
    MatType varchar(50)
    )

INSERT INTO #TransStats
SELECT TMP.TransactionID, TMP.OrganizationID,
( SELECT PC.Name FROM PolarisTransactions.Polar
    JOIN Polaris.Polaris.Collections PC ON
    PC.CollectionID = Col.numValue
```

```
        WHERE TD2.TransactionSubTypeID = 124 -- Renewal Subtype
        )
ORDER BY OrganizationID, 'MaterialType', 'Collection'
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

Org Name	Org Circs #	Mat Type	Mat Circs	Collection	Coll Circs

LETS MAKE ONE!

DESIGN PROCESS – CODING

Org Name	Org Circs #	Mat Type	Mat Circs	Collection	Coll Circs

```
DECLARE @Results TABLE (
    Orgname varchar(50),
    OrgID int,
    OrgCount int,
    MatType varchar(50),
    MatCount int,
    CollName varchar(50),
    CollCount int
)
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
INSERT INTO @Results
SELECT PO.Name,
TS.OrganizationID,
NULL,
MatType,
NULL,
CollectionName,
'CollCount' = Count(*)
FROM #TransStats TS
JOIN Polaris.Polaris.Organizations PO ON
PO.OrganizationID = TS.OrganizationID
GROUP BY PO.Name, TS.OrganizationID, MatType, CollectionName
Order By PO.Name, MatType, 'CollCount' DESC
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
UPDATE Res
SET MatCount = ( SELECT 'MatCount' = COUNT(*)
FROM #TransStats TS
WHERE Res.MatType = TS.MatType
AND Res.OrgID = TS.OrganizationID
)
FROM @Results Res
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```
UPDATE Res
SET OrgCount = ( SELECT 'OrgCount' = COUNT(*)
FROM #TransStats TS
WHERE Res.OrgID = TS.OrganizationID
)
FROM @Results Res
```

LETS MAKE ONE!

DESIGN PROCESS – CODING

```sql
SELECT * FROM @Results
ORDER BY OrgName, MatCount DESC, CollCount DESC

DROP TABLE #TEMPTrans
DROP TABLE #TransStats
```

LETS MAKE ONE!

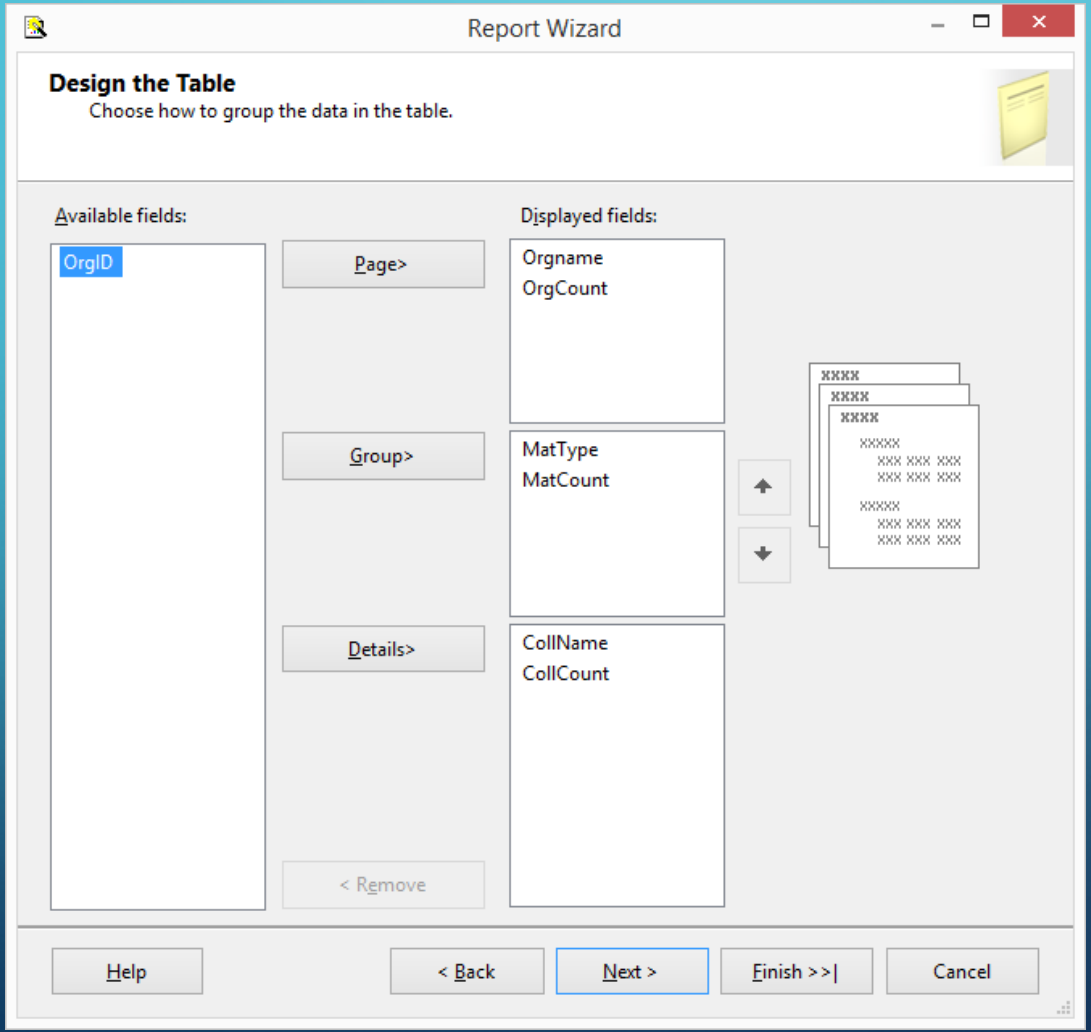
DESIGN PROCESS – CODING

Results | Messages

	Orgname	OrgID	OrgCount	MatType	MatCount	CollName	CollCount
1	Acadia Municipal Library	3	117	Book	81	Picture Book	23
2	Acadia Municipal Library	3	117	Book	81	Fiction - Adult	17
3	Acadia Municipal Library	3	117	Book	81	Fiction - Juvenile	13
4	Acadia Municipal Library	3	117	Book	81	Non-fiction - Juvenile	9
5	Acadia Municipal Library	3	117	Book	81	Non-fiction	7
6	Acadia Municipal Library	3	117	Book	81	Board Book	4
7	Acadia Municipal Library	3	117	Book	81	Fiction - Young Adult	2
8	Acadia Municipal Library	3	117	Book	81	Fantasy	2
9	Acadia Municipal Library	3	117	Book	81	New Books - Fiction	1
10	Acadia Municipal Library	3	117	Book	81	International Collection	1
11	Acadia Municipal Library	3	117	Book	81	Romance Floating	1
12	Acadia Municipal Library	3	117	Book	81	Graphic Novels - Juvenile	1
13	Acadia Municipal Library	3	117	Book - Paperback	28	Paperback	27
14	Acadia Municipal Library	3	117	Book - Paperback	28	Fiction - Adult	1
15	Acadia Municipal Library	3	117	Book - Large Print	7	Large Print	6
16	Acadia Municipal Library	3	117	Book - Large Print	7	Large Print - Adult	1
17	Acadia Municipal Library	3	117	Video - DVD	1	DVD	1

LETS MAKE ONE!

DESIGN PROCESS – REPORT LAYOUT



LETS MAKE ONE!

DESIGN PROCESS – REPORT LAYOUT

IUG Report

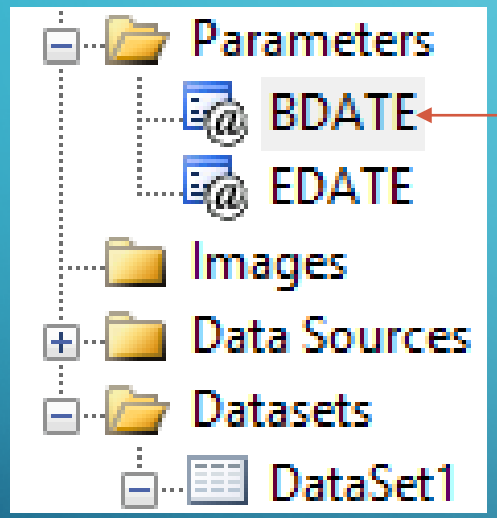
[Orgname]

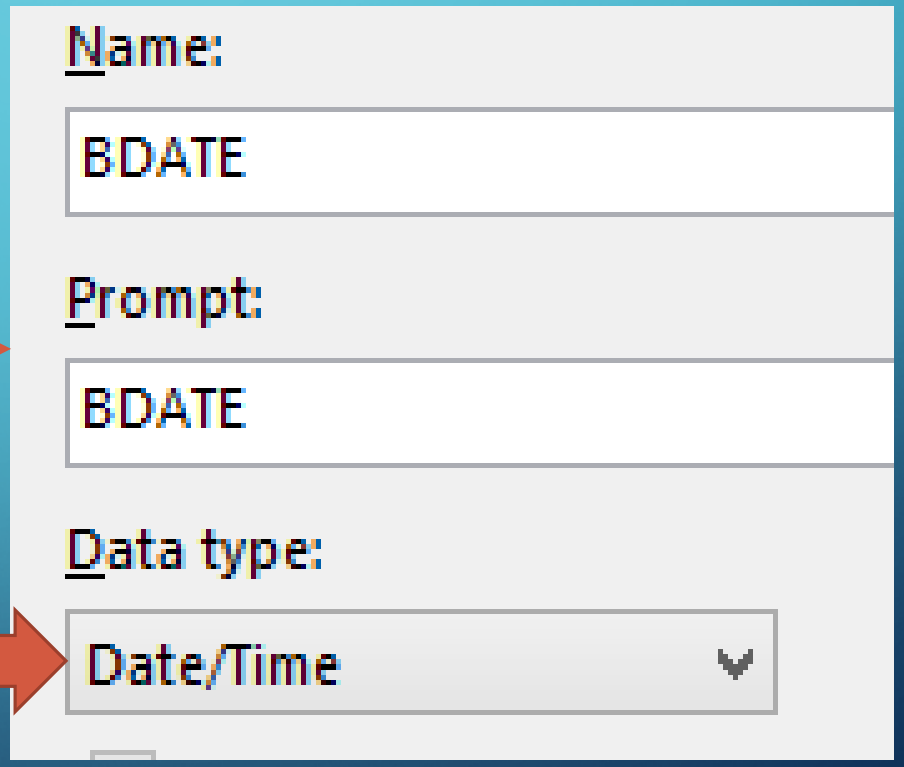
[OrgCount]

Mat Type	Mat Count	Coll Name	Coll Count
[MatType]			
	[MatCount]		
		[CollName]	[CollCount]

LETS MAKE ONE!

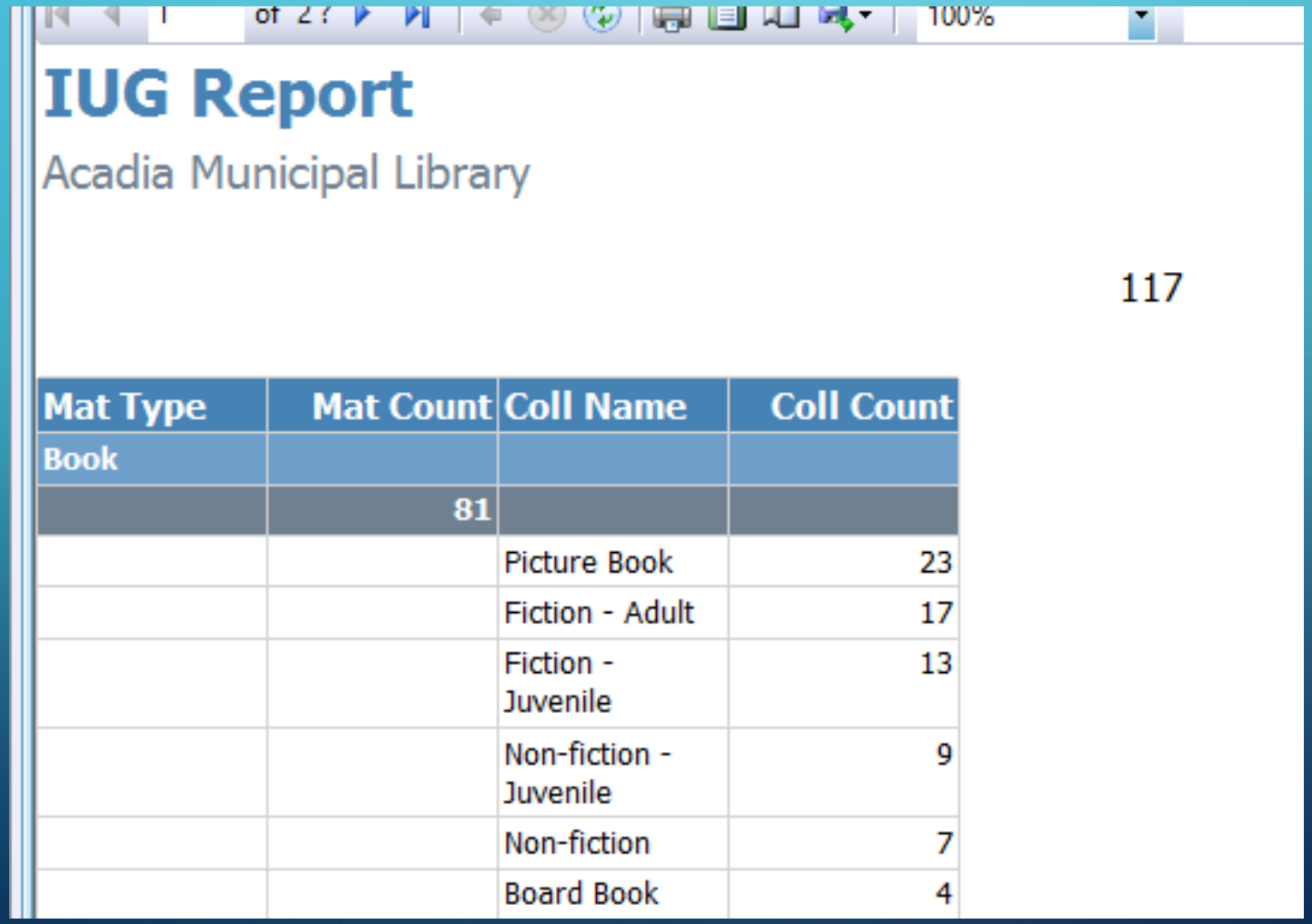
DESIGN PROCESS – REPORT LAYOUT





LETS MAKE ONE!

DESIGN PROCESS – REPORT LAYOUT



1 of 2? 100%

IUG Report

Acadia Municipal Library

117

Mat Type	Mat Count	Coll Name	Coll Count
Book			
	81		
		Picture Book	23
		Fiction - Adult	17
		Fiction - Juvenile	13
		Non-fiction - Juvenile	9
		Non-fiction	7
		Board Book	4

ALL THE ANSWERS WITH ADVANCED POLARIS SQL - THE END

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Questions ?