

Dynamics CRM - Audit Report in SSRS

One of our client has requirement that he wants to access CRM Audit-History outside CRM, & in SSRS. Since there is not a filtered view of the Audit table in CRM, one would need to create a query of the audit table and create a custom SSRS report in CRM.

Client wants report should be look like below way same as CRM Audit History.

	Changed Date	Changed By	Changed Field	Old Value	New Value
	12/28/2020 8:04 AM	Bhavin Patel	Est. Revenue USD	0.00	9,000,000.00
	12/28/2020 8:04 AM	Bhavin Patel	Probability %	60	60
	12/28/2020 8:04 AM	Bhavin Patel	Probability %	40	60
	12/28/2020 8:04 AM	Bhavin Patel	Probability %	20	40
✓	12/28/2020 8:04 AM	Bhavin Patel	Assign PM	No	Yes
			Complete Internal Review	mark complete	completed
			Develop Proposal	mark complete	completed
			Est. Close Date		1/31/2021
			Identify Competitors	mark complete	completed
			Identify Customer Contact	mark complete	completed
			Identify Sales Team	mark complete	completed
			Presentation Given	No	Yes

The audit table is a unique format, similar to CDC, the **AttributeMask** is also in numeric format, and it doesn't just list the column names in a comma separated string, making things even more fun to query. In my case below records show up in the audit log for Dec 2020 Month:

	UserName	AttributeMask	changedata	Objectid	CreatedOn	OpportunityName
1		.30,10001,10009,4,10078,50,89,8,12,197,10006,87,...		74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:50.107	
2		.10090,		74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:50.180	
3		.10092,		74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:50.320	
4		.17,		74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:56.000	
5		.10026,11,75,66,	~~~transactioncurrency,2045e650-e15e-e611-80b8-0...	74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:56.790	
6		.10026,11,75,66,	~~~transactioncurrency,2045e650-e15e-e611-80b8-0...	74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:57.370	
7		.10033,10034,	~	74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:57.860	
8		.10026,11,75,66,	0~0.0000~0.0000~transactioncurrency,2045e650-e15...	74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:58.403	
9		.10026,11,75,66,	~~~transactioncurrency,2045e650-e15e-e611-80b8-0...	74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:33:58.897	
10		.198,197,167,12,	~~~2-Develop	74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:34:01.010	
11		.10008,		74456818-B548-EB11-812B-00155D040E01	2020-12-28 02:34:03.993	

As you can see, it's not as simple as selecting out the 3 records and "plopping" the results into a table in the RDL layout. There's much more to it. For starters, the AttributeMask field is comma separated but has a leading and trailing comma. The ChangeData field is ~ separated and does not have any trailing delimiters. Further down in the stored procedure you will see the way I'm handling both of these fields.

Ideally we want to get our data into a format that is easy for an RDL to consume. So below stored procedure, leveraging a standard split function to create multiple rows out of the contents of the **AttributeMask** and **ChangeData** columns in the **Audit table**:

SQL script written separately from where you can get the Audit Log generation stored procedure.

The stored procedure will return the data in a tabular format. As I mentioned it uses the standard split table function found on the web, then based on the objectid (one of the fields in the audit view) looks up the **FilteredOpportunity** record and then unpivots to support a row like view of the data.

The operator UNPIVOT helps us format the **FilteredOpportunity** records similarly to how we've transformed the Audit records so the UNPIVOT in combination with the audit data split to rows, it's a simple join from the audit to the current record, here is one of the audit records returned in its final state:

Results		Messages					
	v_num_cursor	Modifiedbyname	new_solicitation	NewValue	OldValue	createdon	OpportunityId
1	4	John Cole	Get the Microsoft Windows 10 Professional	60		2020-12-28 02:33:56.000	7445681B-B548-EB11-812B-00155D040E01
2	16	John Cole	Get the Microsoft Windows 10 Professional	60	20	2020-12-28 02:34:34.360	7445681B-B548-EB11-812B-00155D040E01
3	17	John Cole	Get the Microsoft Windows 10 Professional	60	40	2020-12-28 02:34:35.060	7445681B-B548-EB11-812B-00155D040E01
4	18	John Cole	Get the Microsoft Windows 10 Professional	60	60	2020-12-28 02:34:35.750	7445681B-B548-EB11-812B-00155D040E01

Don't forget to grant the "NETWORK SERVICE" execute permissions to the stored procedure once you're done! Also remember that this report only looks at the day's audit and what's currently in the FilteredOpportunity view. If you need to do accurate historical reporting there will need to be a few modifications, and the query will become further complex.