

Simplifying development with XrmToolBox

Jonas Rapp, Innofactor AB

INNOFACTOR®

Jonas Rapp

var jonas = (WhoAmIResponse)service.Execute(new WhoAmIRequest());

- Head of Development, Innofactor Sweden
 - Cinteros
- Software Developer
 - Since 1994
- 100% MS Dynamics CRM/365
 - Since 2009
- XrmToolBox contributor
 - Since 2014
- Speaker
 - CRM Saturday 2017

- Twitter: <u>@rappen</u>
- Email: jonas.rapp@innofactor.com
- Blog: jonasrapp.innofactor.se

XrmToolBox – MVP Tanguy Touzard

- Twitter: <u>@TanguyTOUZARD</u>
- Web: <u>www.xrmtoolbox.com</u>

INNOFACTOR

INNOFACTOR[®]



If you are not working with XrmToolBox...

...you are just working too hard.

authentic quote – Jonas Rapp 2016

Why XrmToolBox?

User perspective

- I really don't like working too hard
- CRM admin UI is limited
- Bulk actions
- Data investigation
- Advanced editors
- Expose SDK-only features
- Stunnware Tools R.I.P.
- 50+ tools

Developer perspective

- Internal tools and gadgets
 - Specialized one-off apps
- The toolbox is there to be filled
 - Common interface, connectivity
 - Common "marketing"
- Open Source

4

- Learn from each other
- Community collaboration
 - Contribute where you can
- INNOFACTOR®

My favorite XTB tools	XrmToolBox for Microsoft Dynamics CRM 201	XrmToolBox for Microsoft Dynamics CRM 2011 to 2016 (v1.2016.11.4) - □ × M Connect to CRM Manage connections □ Tabs • ∰ ♠ Plugins store Search Home
	Home View Layout Replicator (Rappen 365)	Easy Translator by MscrmTools - 1.2016.8.23
Web Resources Manager by MscrmTools - 1.2016.12.6	X Carl Load Entities Save views Public Entities Search:	FetchXML Builder by Jonas Rapp, Innofactor AB - 1.2016.12.115
Solution History by RajYRaman - 2.2.0.0	Display name Logical name Account account Account Project Price List msdyn_account	Metadata Browser by MsCrmTools - 1.2016.6.1
	Activity activitypointer Activity activitypointer Actual msdyn_actual Actual Data Export (Dep msdyn_dataexp	Plugin Registration by Microsoft Corporation and contributors - 3.1.1.
SiteMap Editor by MscrmTools - 1.2016.12.3	Address Advanced Similarity Rule Agreement Advanced Similarity Rule	Plugin Trace Viewer by Jonas Rapp, Innofactor AB - 1.2016.12.20
	Agreement Booking Date msdyn_agreem Agreement Booking Inc msdyn_agreem Agreement Booking Pro msdyn_agreem	Ribbon Workbench 2016 by Scott Durow - 3.0.24.0
Plugin Registration by Microsoft Corporation and contributor	Agreement Booking Ser msdyn agreem	SiteMap Editor by MscrmTools - 1.2016.12.3
	Agreement Business Pr msdyn_bpf_ba Agreement Invoice Date msdyn_agreem Agreement Invoice Prod msdyn_agreem	Solution History by RajYRaman - 2.2.0.0
View Layout Replicator by MscrmTools - 1.2016.9.2	Agreement Invoice Setup msdyn_agreem Agreement Sub-Status msdyn_agreem Appointment appointment	Web Resources Manager by MscrmTools - 1.2016.12.6
Fatch VML Builder	Approval msdyn_approval Article kbarticle Article Template kbarticletempla	View Designer by Innofactor AB - 1.2016.8.7
FetchXML Builder by Jonas Rapp, Innofactor AB - 1.2016.1	Attachment activitymimeatt Batch Job msdyn_batchjob Bookable Resource bookableresou	View Layout Replicator by MscrmTools - 1.2016.9.2
Diugin Trace Viewer L. B. J. C. B. 1 2010	Bookable Resource Boo bookableresou	Sonnected to 'crm-2016-dev.cintutv.se (CEM)' +
Plugin Trace Viewer by Jonas Rapp, Innofactor AB - 1.2016	0.12.20	http://tiny.cc/XTBstat

http://tiny.cc/XTBstat

INNOFACTOR°

FetchXML Builder

- Why?
 - FetchXML is the query language for Dynamics CRM
 - Advanced Find is the only "editor"
- How?
 - Represent query in hierarchical UI
 - Generate corresponding FetchXML
- Dynamics 365 UI Limitations
 - Not-in queries
 - Aggregate queries
 - System/internal entities
 - Attributes from linked entities
 - ...and so on...



- FXB Features
 - Solution for OOB limitations
 - Join on other fields than relationships
 - Generate C# QueryExpression code
 - Generate OData query string
 - Easy to use UI to compose queries for reports in CRM
 - Easy integration with other tools
- <u>http://fxb.xrmtoolbox.com</u>

Plugin Trace Viewer

- Why?
 - Monitor plugin behavior
 - Development "debugging"
- How?
 - Initialize Tracing Service
 - Write to trace
 - Throw exceptions
- Dynamics 365 UI Limitations
 - Filtering
 - Columnset
 - Form design

- PTV Features
 - Filter by almost anything
 - Retrieve 250+ records
 - Quick view message/exception
 - Group/filter by correlation id
 - Show related Plugin Statistics
 - Update log setting

<u>http://ptv.xrmtoolbox.com</u>

FetchXML Builder - Demo

- 1. Create a view in CRM showing accounts without decision makers
- 2. Create aggregate query showing number of contacts by role

FX	3)

K 📔 New 関 Open 👻 🔛 S	ave 🝷 📄 Edit XML 🛛 😭 🆄	🐌 Execute 🗞 View 🝷 🎲 Options				
tchXML outline		Quick Actions				
- fetch aggregate		Add value				
- attribute Role (role) Gi - attribute Count=coun - filter		FetchXML node attributes	ttributes			
- condition parente	FetchXML				×	
	<attribute name="co
<filter></th><th></th><th></th><th>ountid}</th><th>"></attribute>					
	<pre><entity name="contact</th><th>"> le" alias="Role" groupby="true" /> ontactid" alias="Count" aggregate="count</entity></pre>		ountid}	" />		



2

FetchXML Builder - Demo

Account view with "not-in" query

- 1. CRM: Create new personal Account view "Accounts without decision makers".
- 2. XTB: Use **View Layout Replicator** to copy column layout from "Active Accounts".
- XTB: Use FetchXML Builder to open the view from CRM and edit the query according to tree to the right (<u>download xml</u>). Test and save the view.
- 4. CRM: Refresh CRM and verify results now showing accounts with contacts but none of them is married.
- 5. CRM: Open an account, open a contact from the account, happily marry the contact. Verify account is no longer visible in the view.
- 6. XTB: Use **View Designer** to change name of the view to "*Accounts without married people*". Uncheck "Snap to grid" and drag columns to desired widths. Save view.
- 7. CRM: Refresh browser to verify view changes.
- 8. CRM: Open **Advanced Find** with the new view. Notice it is not possible to even select it, as CRM cannot render the query.



□- fetch distinct

- entity account

- attribute name
- attribute primarycontactid
- attribute telephone1
- attribute accountid
- --- attribute address1_city
- --- attribute description
- 🖻 filter
 - condition outercontact.contactid null
- order name
- Ink-entity contact (accountprimarycontactidcontactcontactid)
- ink-entity contact (outercontact)
 - in filter
 - condition familystatuscode eq 2
- link-entity contact (innercontact)



FetchXML Builder - Demo

Aggregate query

- 1. Use FetchXML Builder to create a new query
- 2. Design the query according to query tree to the right (download xml).
- 3. Test the query. Notice "unfriendly" results where the marital status is displayed as a number.
- 4. Update Options to select Result view *Raw fetch result*. Test the query and notice that "friendly" status information is available.



Fetch aggregate
 Entity Contact
 Attribute Account (Company Name) GRP
 Attribute Status (Marital Status) GRP
 Attribute Count=count(Contact)
 Filter
 Condition Status eq 0

- Condition Marital Status not-null

Condition Company Name not-null



Plugin Trace Viewer - Demo

- 1. Plugin verifying that fax is not used on account
- 2. Plugin updating account description field with contacts by role

Before starting the demo, open the **Plugin Trace Viewer** in XrmToolBox and verify that the logging is set to **All**.

🏂 Xrn	ToolBox for Microsoft Dynamics CRM 2011 to 2016 (v1.2017. 11)		
세 Co	nnect to CRM 🜆 Manage connections 🛄 Tabs 👻 🏥 Pluyins Sto	ore Search	
Home	Plugin Trace Viewer (Rappen3 365)		
×	📁 Open 👻 🚽 Save 👻 🃰 View 👻 խ Retrieve Logs 🛛 Trace Log Setting	All	-



- Custom PluginBase class
 - Initialize Tracing Service
 - Custom IOrganizationService
 - Log all service requests to trace
 - Other dev assisting features

https://github.com/rappen/JonasPluginBase



Plugin Trace Viewer - Demo

Verify Fax is not used

- 1. VS: Clone repository from https://github.com/rappen/JonasPluginBase.git
- 2. VS: Check the code in **AccountVerification.cs** in project SamplePlugin. Compile the solution.
- 3. XTB: Use Plugin Registration to register the resulting assembly **SamplePlugin.Merged.dll**.
 - 1. (PlugReg may crash when <u>registering an assembly first time</u>. If so, use SDK version of PlugReg for first registration.)
 - 2. Add steps for Create and Update of account, triggering Pre-validation for all attributes.
- 4. CRM: Open an account and enter fax number, save the account.
 - 1. An error like the one top right should be displayed.
 - 2. Try changing some other field.
 - 3. Open an account that has fax number and remove it and save.
- 5. XTB: Use Plugin Trace Viewer to investigate the logs for the different save actions.
 - 1. Notice timing...
 - 2. Exception call stack...
 - 3. Context information... etc.



Business Process Error

Fax?? Get outta here! If you contact support, please provide the technical details. Show technical details

Download Log File OK

Trace Log

11:38:08	.987 *** Enter	
Step:	SamplePlugin.AccountVerification: Update of account	
Msg:	Update	
Stage:	10	
Mode:	0	
Depth:	1	
Type:	account	
Id:	ac2e6d3f-5de0-e611-80ed-5065f38b56e1	
User:	618b0a9b-1f6a-4f13-8d4a-c1074d6dff16	
11:38:08	.987 Incoming account:	
account	tid = ac2e6d3f-5de0-e611-80ed-5065f38b56e1 (Guid)	
fax	= 0123456 (String)	
11:38:08	.987 *** Exception ***	
Microsof	t.Xrm.Sdk.InvalidPluginExecutionException: Fax?? Get outta here!	
at Sa	mplePlugin.AccountVerification.VerifyFaxNotUsed(JonasPluginBag bag)	
at Sa	mplePlugin.AccountVerification.Execute(JonasPluginBag bag)	
	nasPluginBase.JonasPluginBase.Execute(IServiceProvider serviceProvider)	
	.987 Internal execution time: 0 ms	
11:38:08	.987 *** Exit	

INNOFACTOR°

Plugin Trace Viewer - Demo

Aggregate marital status to account

- 1. VS: Check the code in **AggregateContactStatusToAccount.cs** in project SamplePlugin. Compile the solution.
- 2. XTB: Add steps for Create and Update of contact, triggering Postoperation for attributes *familystatuscode* and *parentcustomerid*.
- 3. CRM: Open a contact. Verify or set Company Name, and set a Marital Status. Save the contact.
- 4. XTB: Use Plugin Trace Viewer to investigate the logs for the save action.
 - 1. Notice logged information, both from the service calls and explicitly logged information from the plugin.
 - 2. Select to *View Correlation Grouping* and retrieve the logs again. Notice the grouping of trace logs related to the same save action gets the same correlation id. This is very valuable when investigating plugin chains and nested triggering.
 - 3. Double click a record to show it in CRM. Notice the poor UI, if you need any more arguments to use PTV instead of CRM ;)

Trace Log *** Enter 11:51:17.997 Step: SamplePlugin.AggregateContactStatusToAccount: Update of contact Msg: Update Stage: 40 Mode: 0 Depth: 1 Type: contact 5da2e5b9-88df-e311-b8e5-6c3be5a8b200 Id: User: 618b0a9b-1f6a-4f13-8d4a-c1074d6dff16 11:51:17.997 Incoming contact: contactid = 5da2e5b9-88df-e311-b8e5-6c3be5a8b200 (Guid) familystatuscode = 3 (OptionSetValue) 11:51:17.997 Accountid from target: 0000000-0000-0000-0000-00000000000 11:51:17.997 Accountid from postimage: 0000000-0000-0000-0000-0000000000 11:51:17.997 Accountid from preimage: b6a19cdd-88df-e311-b8e5-6c3be5a8b200 11:51:17.997 RetrieveMultiple(fetchxml) Retrieved 2 records in: 8 ms 11:51:18.012 11:51:18.012 Getting metadata for contact familystatuscode 11:51:18.012 Execute (RetrieveAttribute) 11:51:18.028 Executed in: 17 ms 11:51:18.028 Returning label for value 1: Ogift 11:51:18.028 Getting metadata for contact.familystatuscode 11:51:18.028 Execute (RetrieveAttribute) 11:51:18.044 Executed in: 16 ms 11:51:18.044 Returning label for value 3: Skild 11:51:18.044 Description: 2 Ogift 1 Skild 11:51:18.044 Update(account) b6a19cdd-88df-e311-b8e5-6c3be5a8b200 (1 attributes) 11:51:18.262 Updated in: 216 ms 11:51:18.262 Internal execution time: 259 ms 11:51:18.262 *** Exit

Corr	Start Time	Duration	Plugin		Depth	Message	Entity
			SamplePl	ugin.AccountVerification		Update	
			SamplePl	SamplePlugin.AggregateContactStatusToAccount		Update	
в	2017-01-30 11-51-01	31	SampleP	ugin.AccountVerification	2	Update	account
в	2017-01-30 1	Correlation	•	ld: 0b8146d8-3efe-44ca-b769-b20ed	2b6a1d7		contact
c	2017-01-30 1	Delete		Add correlation id to filter			account
с	2017-01-30 11:49:12	4546	Sampl	Select all logs with this correlation id	Ctrl+	C	contact

INNOFACTOR[®]

Bulk Data Updater – Demo

Bulk touch contacts to trigger plugin

- 1. XTB: Use **Bulk Data Updater** to get relevant contacts and then touch the marital status of the these to trigger the plugin updating accounts using plugin from previous demo.
 - 1. Select Use FetchXML Builder to get records to update.
- 2. Compose query to select all contacts with Company Name and Marital Status (download xml).
- 3. Click Return FetchXML to load the contacts in Bulk Data Updater.
- 4. Select options in Bulk Data Updater
 - 1. Attribute to update: Marital Status.
 - 2. Update Method: **Touch**. This will "set the same value again" on marital status for all returned contacts.
- 5. Click **Update records** to start touching all returned contacts.
- 6. CRM: Verify that all accounts with contacts with marital status now have Description with number of contacts by marital status.
- 7. XTB: Use **Plugin Trace Viewer** to investigate the trace log records from the bulk touch action.

							ŊÌ
Home Bulk Data Updater (F	Rappen3 36	55)					
🗙 🔯 Options 🗸							
1. Select records to update							
Use FetchXML Builder	~	Get records	Fetch				
Records not loaded			, , ,	Attribu Attribu Attribu Order Filter (ute Full Name ute Company Nar ute Marital Status Full Name and)		
_					ndition Status ed	and the second se	
tchXML Builder (Rappen3 365)		1		- Co	ndition Marital S	tatus not-null	
Qu		FetchXML to Bulk		1.2017.1.11)			- 0
Qu	Return		mics CRM 2011 to 2016 (v1 connections 🛄 Tabs •	🕸 🏦 Plu		😧 Help + <table-cell> Feedback •</table-cell>	🖓 Donate 🔹 🎑
Qu	Return Maxm Mc Co Home	nToolBox for Microsoft Dyna innect to CRM 🚰 Manage Bulk Data Updater (Rappen	mics CRM 2011 to 2016 (v1 connections 🛄 Tabs •	🕸 🏦 Plu	5)	Help • 🖉 Feedback •	🖓 Donate 🔹 🎑
Qu	Return Ma Xir Ma Co Home	nToolBox for Microsoft Dyna Innect to CRM Bulk Data Updater (Rappen Options + lect records to update	mics CRM 2011 to 2016 (v1 connections I Tabs + 13 365) FetchXML Builder (🔅 🐴 Plu Rappen3 36	55) S # Full Name 4	Company Name	Narital Status
Qu	Return X4 Xrr M Co Home X 1. Se	mToolBox for Microsoft Dyna innect to CRM I Manage Bulk Data Updater (Rappen @ Options + lect records to update se FetchXML Builder V	mics CRM 2011 to 2016 (v1 connections 🛄 Tabs •	🔅 🐴 Plu Rappen3 36	s5) * Full Name - Cari-Johan Larsson (exemped	Company Name) Contoso Pharmaceuticals (exempel)	Al Marital Status
Qu	Return X4 Xrr M Co Home X 1. Se	nToolBox for Microsoft Dyna Innect to CRM Bulk Data Updater (Rappen Options + lect records to update	mics CRM 2011 to 2016 (v1 connections I Tabs + 13 365) FetchXML Builder (🔅 🐴 Plu Rappen3 36	s Full Name Carl-Johan Larsson (exempel Carl-Johan Olofsson	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee	B Donate A
Qu	Return	mToolBox for Microsoft Dyna innect to CRM I Manage Bulk Data Updater (Rappen @ Options + lect records to update se FetchXML Builder V	mics CRM 2011 to 2016 (v1 connections I Tabs + 13 365) FetchXML Builder (🔅 🐴 Plu Rappen3 36	s5) * Full Name - Cari-Johan Larsson (exemped	Company Name) Contoso Pharmaceuticals (exempel)	A Marital Status Divorce Sing Marrie
Qu	Return	nToolBox for Microsoft Dyna nnect to CRM [@ Manage Bulk Data Updater (Rappen @ Options + lect records to update se FetchXML Builder ~ records of entity contact	mics CRM 2011 to 2016 (v1 connections I Tabs + 13 365) FetchXML Builder (🔅 🐴 Plu Rappen3 36	55) Full Name Cati-Johan Larsson (exempel Cati-Johan Olofsson Erna Mattisson (exempel)	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee Fabrikam, Inc. (exempel)	A Marital Status Marital Status Sing Marrita Sing
Qu	Return ************************************	nToolBox for Microsoft Dyna mnect to CRM () Manage Bulk Data Updater (Rappen @ Options + lect records to update se FetchXML Builder records of entity contact lect attribute to update	mics CRM 2011 to 2016 (v/ connections Tabs - a3 365) FetchXML Builder (Get records	🔅 🐴 Plu Rappen3 36	55 Full Name 2 Carl-Johan Larsson (exempel) 2 Carl-Johan Clofsson 3 Erna Matsson (exempel) 4 Greta Johansson (exempel)	Company Name Contos Pharmaceuticals (exempel) Fourth Coffee Fabrikam, inc. (exempel) A. Datum Corporation (exempel)	Marital Status Marital Status Marital Status Marital Status Marrii Sing Marrii Sing Marrii
Qu	Return ************************************	nToolBox for Microsoft Dyna nmect to CRM (Memage Built Data Updater (Rappen © Options - lect records to update se FetchXML Builder verords of entity contact lect attribute to update bude	mics CRM 2011 to 2016 (v/ connections Tabs - a3 365) FetchXML Builder (Get records	🔅 🐴 Plu Rappen3 36	5) Full Name Carl-Johan Larson (exempel) Carl-Johan Oldsson Erna Mattson (exempel) Greta Johanson (exempel) Grunnar Jonsson (exempel) Grunnar Jonsson (exempel) Hanal Grixton (exempel)	Company Name Contoso Pharmaceuticais (exempel) Fourth Coffee Fabrikam, inc. (exempel) A Datum Coprotation (exempel) Coho Winery (exempel) Fourth Coffee Apine SSI House (exempel)	Bonate A
Qu	Return	nToolBox for Microsoft Dyna nmect to CRM (Memage Built Data Updater (Rappen © Options - lect records to update se FetchXML Builder verords of entity contact lect attribute to update bude	mics CRM 2011 to 2016 (v/ connections Tabs - a3 365) FetchXML Builder (Get records	🔅 🐴 Plu Rappen3 36	5) Full Name and Carlohan Lanson (ecompe) 2 Carl-Johan Lanson (ecompe) 2 Carl-Johan Clofsson 2 Erna Matisson (ecompe) 4 Greta Johansson (ecompe) 5 Cunnar Jonesson (ecompe) 5 Cunnar Jonesson (ecompe) 6 Cunnar Svensson 7 Hanald Eriktson (ecompe) 1 Lan Céransson (ecompe) 1 Lan Céransson (ecompe)	Company Name Contoso Pharmaceuticais (exempel) Fourth Cortee A. Datum Corporation (exempel) Coho Winey (exempel) Fourth Cortee Alpine Ssi House (exempel) Alpine Ssi House	Donate A
Qu	Return	mToolBox for Microsoft Dyna mncet to CBM (m) Manage Bulk Data (Mapater (Rappen g) Options - lect records to update se FetdoxML Builder - records of entity contact lect attribule to update base mtal Status (familystatuscode) oose update method	mics CRM 2011 to 2016 (v/ connections) to be - a 3 365) Fetch3dt, Builder (Get records	🔅 🐴 Plu Rappen3 36	Full Name Carl-Johan Larson (ecempel) Carl-Johan Oldsson Carl-Johan Oldsson Carl-Johan Oldsson Carla Johansson (ecempel) Gunara Yonsson (ecempel) Gunara Yonsson Hand Eriksson (ecempel) lan Göransson Ingana Yeensson	Company Name Contoso Pharmaccuticals (exempel) Fourth Coffee Fabrikam, inc. (exempel) A. Datum Corporation (exempel) Coho Winery (exempel) Fourth Coffee Fourth Coffee Sti House (exempel) Alpine Ski House (City Pover & Light	Marital Status Marital Status Marital Status Marital Status Sing Marital Sing Sing Marital Sing Divorce Sing Marital Sing Narital Sing
Qu	Return	mToolBox for Microsoft Dyna mncet to CBM (m) Manage Bulk Data (Mapater (Rappen g) Options - lect records to update se FetdoxML Builder - records of entity contact lect attribule to update base mtal Status (familystatuscode) oose update method	mics CRM 2011 to 2016 (v/ connections Tabs - a3 365) FetchXML Builder (Get records	🔅 🐴 Plu Rappen3 36	Full Name Full Name Carl-Johan Larson (ecempe) Carl-Johan Johan Larson (ecempe) Grand Johans Sensson Comar Johans (ecempe) Gunnar Jonasson (ecempe) Gunnar Sensson Taraid Efits (ecempe) Ingmar Sensson	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee Fabrikam, inc. (exempel) Coho Winey (exempel) Fourth Coffee Alpine Sti House (exempel) Alpine Sti House (atomotical City Fower & Light Coho Winey (exempel)	Marital Status Marital Status Marital Status Marital Status Marital Sing Marrita Sing Divorce Sing Marrital Sing Sing Marrital Sing Marrital Sing Sing Sing Marrital Sing Sing Sing Sing Sing Sing Sing Sing
Qu	Return	nToolBax for Microsoft Dyna marcet to CMA (m) Annage Dulk Data Updater (Rappen © Options - Exert Control (Rappen) Exert Control (Rappen) records of entity contact lect attribute to update bade bade text attribute to update bade Oose update method Oose update method Oose update (Rappen) (Rappen) Oose update method Oose update method Oose update method	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Full Name Full Name Full Name Card-Johan Clariston Card-Johan Clariston Card-Johan Clariston Card-Johan Clariston Card-Johan Sol (seempel) Granta Svensson Gunnar Svensson Ingura Svensson Ingura Svensson Ingura Svensson Insak Hedlund (seempel) Ingura Svensson	Company Name Contoso Pharmaccuticals (exempel) Fourth Coffee Fabrikam, Inc. (exempel) A. Datum Corporation (exempel) Fourth Coffee Apjine S3 House (exempel) Apjine S3 House Coly Power & Light Coho Winey (exempel) Apjine S3 House	Donate A
Qu	Return	mToolBox for Microsoft Dyna mncet to CBM () () Manage Bulk Data () Manage Bulk Data () Mapater () Mappen) Options - tect records to update are fectoxist. Builder records of entity contact ited attribute to update base mtal Status (family)tatuscode) oose update method Value () Touch () Only when change is meedid	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Pull Name Pull Name Carl-Johan Larsson (ecrepe) Carl-Johan Corson Carl-Johan Corson Coreta Johansson (eccempel) Gunar Jonasson Coreta Johansson (eccempel) Land Cornasson Ingana Svensson Itaki Hedlund (eccempel) La Cornasson Laki Hedlund (eccempel) La Cornasson Laki Larsson Laki Larsson	Company Name Contoso Pharmaceuticais (exempel) Fourth Coffee Fabrikam, inc. (exempel) Coho Winny (exempel) Coho Winny (exempel) Apine Si House (exempel)	Donate A
Qu	Return	nToolBax for Microsoft Dyna marcet to CMA (m) Annage Dulk Data Updater (Rappen © Options - Exert Control (Rappen) Exert Control (Rappen) records of entity contact lect attribute to update bade bade text attribute to update bade Oose update method Oose update method Oose update (Rappen) (Rappen) Oose update method Oose update method Oose update method	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Full Name Full Name Full Name Full Name Carl-Johan Lansson (ecempel) Grad-Johans Sensson Comar Jonesson Gounar Sensson Carlaviana Sensson Ingama Sensson Ingama Sensson Isak Hedlama Lansson Lana Bengtson (ecempel)	Company Name Contoso Pharmaceuticais (exempel) Fourth Cortee Fabrikam, inc. (exempel) A. Datum Corporation (exempel) Colob Winey (exempel) Fourth Cortee Alpine Sai House Crity Power & Lipht Colob Winey (exempel) Alpine Sai House Colob Winey (exempel)	Donate A
Qu	Return	nToolBax for Microsoft Dyna nancet is CMA () hange Buik DAb Update (Rappen C) Options = Like DAb Update (Rappen C) Options = test records to update base nancet is Skuur (amilystatuscodd oose update method Value () Touch () Only when change is needed Ignore errors	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Pull Name Pull Name Carl-Johan Larsson (ecrepe) Carl-Johan Corson Carl-Johan Corson Coreta Johansson (eccempel) Gunar Jonasson Coreta Johansson (eccempel) Land Cornasson Ingana Svensson Itaki Hedlund (eccempel) La Cornasson Laki Hedlund (eccempel) La Cornasson Laki Larsson Laki Larsson	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee Pabrikam, inc. (exempel) A Datum Corporation (exempel) Coho Winery (exempel) Fourth Coffee Apjine S3 House (exempel) Apjine S3 House (exempel) Apjine S3 House (exempel) Coho Winery (exempel) Apjine S3 House Coho Winery Coho Winery A. Datum Corporation (exempel) Coho Winery	Bonste Conste C
Qu	Return	mToolBox for Microsoft Dyna mncet to CBM () () Manage Bulk Data () Manage Bulk Data () Mapater () Mappen) Options - tect records to update are fectoxist. Builder records of entity contact ited attribute to update base mtal Status (family)tatuscode) oose update method Value () Touch () Only when change is meedid	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Full Name Full Name Full Name Card-Johan Larsson (exempel) Grand-Johans Larsson (exempel) Grand Johansson (exempel) Grand Johansson (exempel) Gunnar Jonesson Ingama Svensson Ingama Svensson Ingama Svensson Ingama Svensson Ingama Svensson Ingama Svensson Isak Hedlund (exempel) Johanha Larsson Jane Bregtsson (exempel) Lars Hernksson Lars Hernksson (exempel)	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee Fabrikam, inc. (exempel) Coho Winny (exempel) Fourth Coffee Alpine Stil House (exempel) Alpine Stil House (exempel) Alpine Stil House (exempel) Alpine Stil House (conto Winney) A Datum Corporation (exempel) Coho Winney.	Donste A
Qu	Return	nToolBax for Microsoft Dyna nancet is CMA () hange Buik DAb Update (Rappen C) Options = Like DAb Update (Rappen C) Options = test records to update base nancet is Skuur (amilystatuscodd oose update method Value () Touch () Only when change is needed Ignore errors	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Full Name Carl-Johan Larscon (cempel) Carl-Johan Constance) Carl-Johan Constance Carlar Johan Constance Carlar Johan Constance Jana Constance Jana Constance Jana Constance Jana Constance Lana Consta	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee Pabrikam, inc. (exempel) A Datum Corporation (exempel) Coho Winery (exempel) Fourth Coffee Apjine S3 House (exempel) Apjine S3 House (exempel) Apjine S3 House (exempel) Coho Winery (exempel) Apjine S3 House Coho Winery Coho Winery A. Datum Corporation (exempel) Coho Winery	Denate Constant Co
Qu	Return	nToolBax for Microsoft Dyna nancet to CMA () hange Buik Dak Update (Rappen © Options - Euk Dak Update (Rappen © Options - tet records to update tet records to update builder records of entity contact let attribute to update bude method Only when change is needed lipnore errors	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Full Name Full Name Full Name Full Name Card-Johan Larston (ecompel) Card-Johan Ofsrson Card-Johan Ofsrson Card-Johan Son (ecompel) Grand Johanson (ecompel) Grand Johanson Ingama Svensson Ingama Svensson Ingama Svensson Isak Herulksson Lanseen	Company Name Contoso Pharmaceuticals (exempel) Fourth Coffee Fabrikam, inc. (exempel) A. Datum Corporation (exempel) Coho Winey (exempel) Fourth Coffee Alpine Sti House Crity Pouver & Light Coho Winey (exempel) Alpine Sti House Coho Winey (exempel) Coho Winey (exempel) Fourth Coffee (exempel) Fourth Coffee (exempel)	- 🖗 Donate - 🗞 Al
Qu	Return	nToolBax for Microsoft Dyna nneet to CMR () whange Duk Data Update (Rappen Duk Data Update (Rappen) options - teer teeroris of entity contact ieet attribute to update bate treecords of entity contact ieet attribute to update bate Only when chunge is needed ignore errors excite update update records	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetriVAIL Bulder (Get records Set null	🔅 🐴 Plu Rappen3 36	Full Name Carl-Johan Larson (ecmpel) Carl-Johan Corson Carl-Johan Carl-Johan Corson Carl-Johan Carl-Joh	Company Name Company Name Contoo Pharmaceuticals (exempel) Fourth Coffee Fabrican, Inc. (exempel) Coho Winery (exempel) Coho Winery (exempel) Apjine S31 House (exempel) Apjine S31 House (exempel) Apjine S31 House (exempel) Apjine S31 House (exempel) Coho Winery A. Datum Corporation (exempel) Coho Winery Coho Winery Coho Winery Coho Winery Coho Winery (Exempel) Fourth Coffee (exempel) Adventure Works (exempel)	Donste Conste
Qu	Return	nToolBax for Microsoft Dyna nneet to CMR () whange Duk Data Update (Rappen Duk Data Update (Rappen) options - teer teeroris of entity contact ieet attribute to update bate treecords of entity contact ieet attribute to update bate Only when chunge is needed ignore errors excite update update records	mics CRM 2011 to 2016 (v1 connections) to be - 13 365) FetdWalk Bulder (Get records Set null	Control Contro Control Control Control Control Control Control Control Control Co	Full Name Full Name Full Name Full Name Full Name Carl-Johan Lansson (ecempel) Gravit-Johans Lansson (ecempel) Gravit-Johans Sensson Full Name Svensson Ingame Svensson Ingame Svensson Ingame Svensson Ingame Svensson Ingame Svensson Ingame Svensson Isak Hediun (ecempel) Isak Hediun (ecempel) Isak Hedius (ecempel) Isak Hedius (ecempel) Isak Svensson Icens Svensson Icens Svensson Isak Svensson Isak Svensson Isak Svensson Isak Hedius (ecempel) Isak Svensson	Company Name Company Name Contoo Pharmaceuticals (exempel) Fourth Coffee Fabrican, Inc. (exempel) Coho Winery (exempel) Coho Winery (exempel) Apjine S31 House (exempel) Apjine S31 House (exempel) Apjine S31 House (exempel) Apjine S31 House (exempel) Coho Winery A. Datum Corporation (exempel) Coho Winery Coho Winery Coho Winery Coho Winery Coho Winery (Exempel) Fourth Coffee (exempel) Adventure Works (exempel)	Donste Al Al Al A

Plugin Auto Deployer – Demo

Automatically update plugin in CRM

- 1. XTB: Open tool **Plugin Auto Deployer** to have XTB automatically update the plugin assembly in CRM when recompiled.
 - 1. Select the resulting merged assembly with the plugin.
 - 2. Change something in the plugins from previous demos.
 - 3. Compile the project and verify that the Plugin Auto Deployer has updated the assembly.
- 2. CRM: Change some information that will trigger the updated plugin
- 3. XTB: Use **Plugin Trace Viewer** to verify that the changed plugin is now triggering.



Plugin Auto Deployer Version: 1.2016.6.45 Author: Innofactor AB Tool to automatically upload plugin assemblies if they are changed during build process

XrmToolBox for Microsoft Dynamics CRM 2011 to 2016 (v1.2017.1.11) − M Connect to CRM Manage connections Tabs - ∰ Plugins Store Search	o ×
Home Plugin Auto Deployer (Rappen3 365) Close Plugin to watch Select C:\Dev\Git\JonasPluginBase\SamplePlugin\bin\Debug\SamplePlugin.Merged.d	
2017-01-30 13:58:38: Assembly 'SamplePlugin.Merged.dll' was changed. 2017-01-30 13:58:39: Assembly 'SamplePlugin.Merged.dll' was updated on the server. 2017-01-30 13:59:14: Assembly 'SamplePlugin.Merged.dll' was updated on the server. 2017-01-30 13:59:14: Assembly 'SamplePlugin.Merged.dll' was updated on the server.	
🭓 Connected to 'rappen3.crm4.dynamics.com (Rappen 3)' →	



INNOFACTOR®



If you are not working with XrmToolBox...

...you are just working too hard.