

# Building XrmToolBox Tools

JIM NOVAK – FUTUREZ CONSULTING





# XrmToolBox

WHAT IS THIS MAGICAL TOOLBOX I HEAR SO MUCH ABOUT?

# What is XrmToolBox?

- *"XrmToolBox is a Windows application that connects to Microsoft Dynamics CRM, providing tools to ease customization, configuration and operation tasks. It is shipped with more than 30 plugins to make administration, customization or configuration tasks easier and less time consuming."* – <https://www.xrmtoolbox.com/>
- "If you are not working with XrmToolBox, you are just working too hard." - Jonas Rapp, 2018
- Variety of Tool uses: Security, User Administration, or assisting in Developer tasks
- Open Source – Anyone can download and contribute their own Tool

# Who uses XrmToolBox?

- Wide variety of tools == wide user audience
- Business Analyst – Tools for reviewing and documenting CRM schema information
- Developers – Tools for creating and configuring system components or generating code to extend the platform
- System Administrators – Tools for Dynamics data management and performing system diagnostics



# Business Analyst Tool

## Metadata Document Generator

- Export system schema information to Excel or Word
- Filter on only selected Publishers, Entities, and/or Attributes
- Additional options for extended Entity metadata

The screenshot shows the 'Metadata Document Generator' application window. The interface includes a top navigation bar with tabs for 'Start page', 'Plugins', and 'Metadata Document Generat...'. Below the navigation bar, there are three main sections: 'Output', 'Attributes Selection', and 'Options'.

**Output Section:**

- Document format:** A dropdown menu set to 'Excel Workbook'.
- File path:** A text input field with a browse button ('...').
- Language:** A dropdown menu set to 'English (United States)'.

**Attributes Selection Section:**

- Generate for:** A dropdown menu set to 'All attributes'.
- Filter custom attributes by prefix:** A checkbox that is unchecked, followed by a text input field and a search icon.
- Entities:** A table with two columns: 'Display name' and 'Schema name'. A 'Select/Unselect all' checkbox is located above the table.

Display name	Schema name
<input type="checkbox"/> 24 Hour Report	gnext_24hourreport
<input type="checkbox"/> Account	account
<input type="checkbox"/> ACH Form Receipt	gnext_achformreceipt
<input type="checkbox"/> Action Card	actioncard
<input type="checkbox"/> Action Card Type	cardtype
<input type="checkbox"/> Action Card User Settings	actioncardusersettings
<input type="checkbox"/> ActionCardUserState	actioncarduserstate
<input type="checkbox"/> Activity	activitypointer
<input type="checkbox"/> Activity Party	activityparty
<input type="checkbox"/> Ad	adx_ad
<input type="checkbox"/> Ad Placement	adx_adplacement
<input type="checkbox"/> Address	customeraddress
<input type="checkbox"/> Advanced Similarity Rule	advancedsimilarityrule

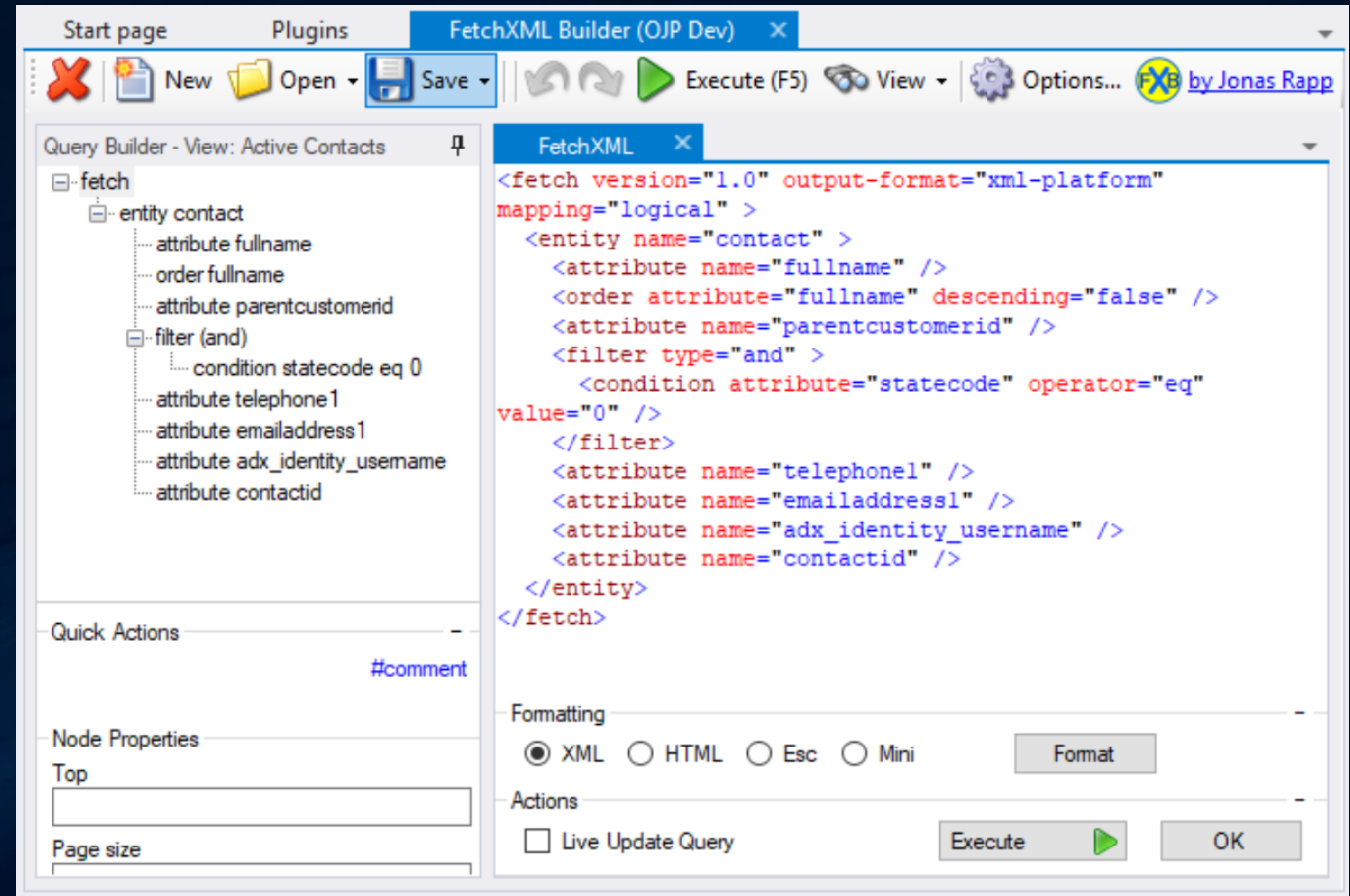
**Options Section:**

- ☐ Include Audit information
- ☐ Include Field Level Security information
- ☐ Include Requirement level information
- ☐ Include Valid for Advanced Find information
- ☐ Include Attribute location in Forms
- ☐ Gather entities list in a summary (Excel only)

# Developer Tool

## FetchXml Builder

- Visual tool to build and test FetchXml
- Open saved Xml, system and user views
- View Fetch results as a grid, JSON, or raw Xml
- Generate C# or JavaScript code from FetchXml



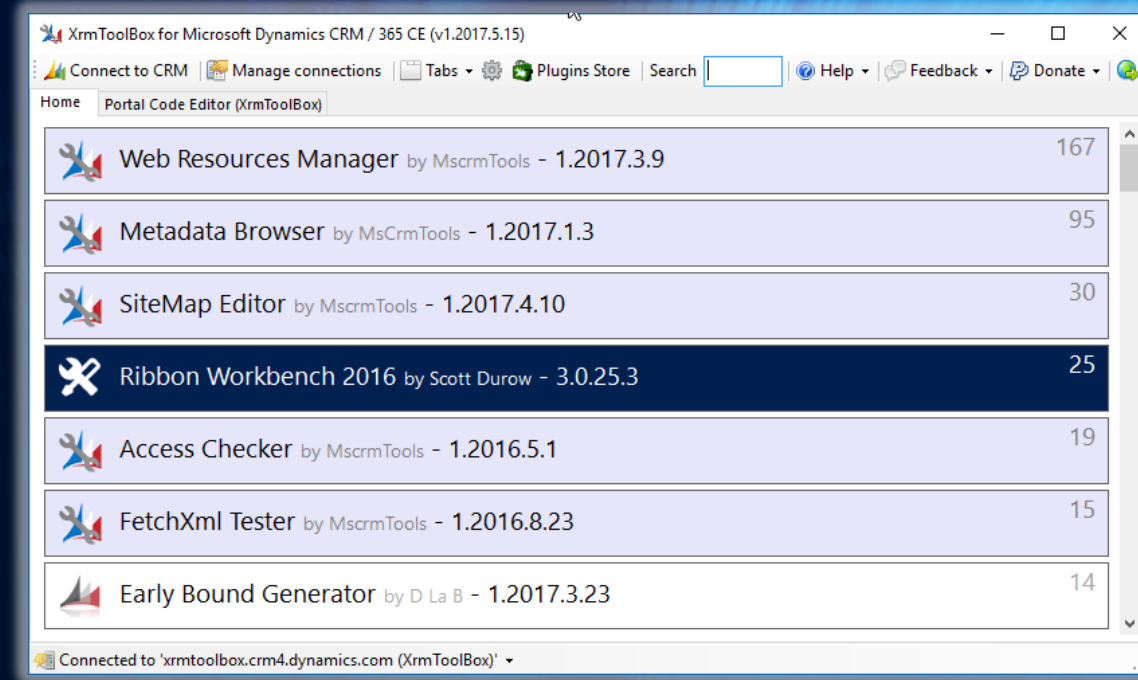
# System Admin Tool

## Attribute Audit Explorer

- Review Entities with Audit Enabled
- View logged Audit data for one or more Entity Attributes for a given
- Export results to Excel for logging

The screenshot shows the 'Attribute Audit Explorer (OJP)' application window. The interface includes a top menu bar with 'Start page', 'Plugins', and the application title. Below the menu is a toolbar with buttons for 'Close', 'Load Entities', 'Preview Data', 'Export to Excel', and 'Show Options'. The main area is divided into two panes. The left pane, titled 'Auditable Entities', shows a tree view with 'Task (task)' selected. Under 'Task (task)', several attributes are listed with checkboxes: 'Activity Status (statecode)', 'Activity Type (activitytypecode)', 'Actual End (gnext\_actualend)' (checked), 'Actual End (actualend)', 'Actual Start (actualstart)', 'Assigned Task Unique Id (cmt)', 'Assigned To (ownerid)', 'Category (category)', and 'Classification (next\_classification)'. Below the tree are links for 'Check All' and 'Uncheck All', a 'Filter' section with a dropdown set to 'Author', and date/time filters for 'Before' (2018-11-05 00:00) and 'After' (2018-10-28 00:00). A 'Preview records count' is set to 100. The right pane, titled 'Audit Records', displays a table of audit data.

Created On	Author	Operation	Action
11/1/2018 5:31 ...	Todd Uhl	Delete	Delete
11/1/2018 5:30 ...	Todd Uhl	Delete	Delete
11/1/2018 5:14 ...	Todd Uhl	Delete	Delete
11/1/2018 5:14 ...	Todd Uhl	Delete	Delete
11/1/2018 5:14 ...	Todd Uhl	Delete	Delete
11/1/2018 5:14 ...	Todd Uhl	Delete	Delete
11/1/2018 5:14 ...	Todd Uhl	Delete	Delete
11/1/2018 5:13 ...	Todd Uhl	Delete	Delete
11/1/2018 5:12 ...	Todd Uhl	Delete	Delete
11/1/2018 5:11 ...	Todd Uhl	Delete	Delete
11/1/2018 5:11 ...	Todd Uhl	Delete	Delete
11/1/2018 5:11 ...	Todd Uhl	Delete	Delete
11/1/2018 5:11 ...	Todd Uhl	Delete	Delete
11/1/2018 5:06 ...	Todd Uhl	Delete	Delete
11/1/2018 5:01 ...	Todd Uhl	Delete	Delete



# Building Your Own Tool

JUST HOW DO I GET STARTED ROLLING OUT MY OWN COOL TOOLS?!



# What makes up an XrmToolBox Tool?

- .NET component hosted by the XrmToolBox application that implements a programmatic contract
- Plugin Class
  - .NET class extending the PluginBase class
  - Contains the public details behind an XrmToolBox Tool
  - XrmToolBox uses this to load the Tool into the application
- PluginControl Class
  - .NET class extending PluginControlBase class
  - Visual / UI elements and core logic for an XrmToolBox Tool
  - This is the developer's area for providing a visual interface for their Tool

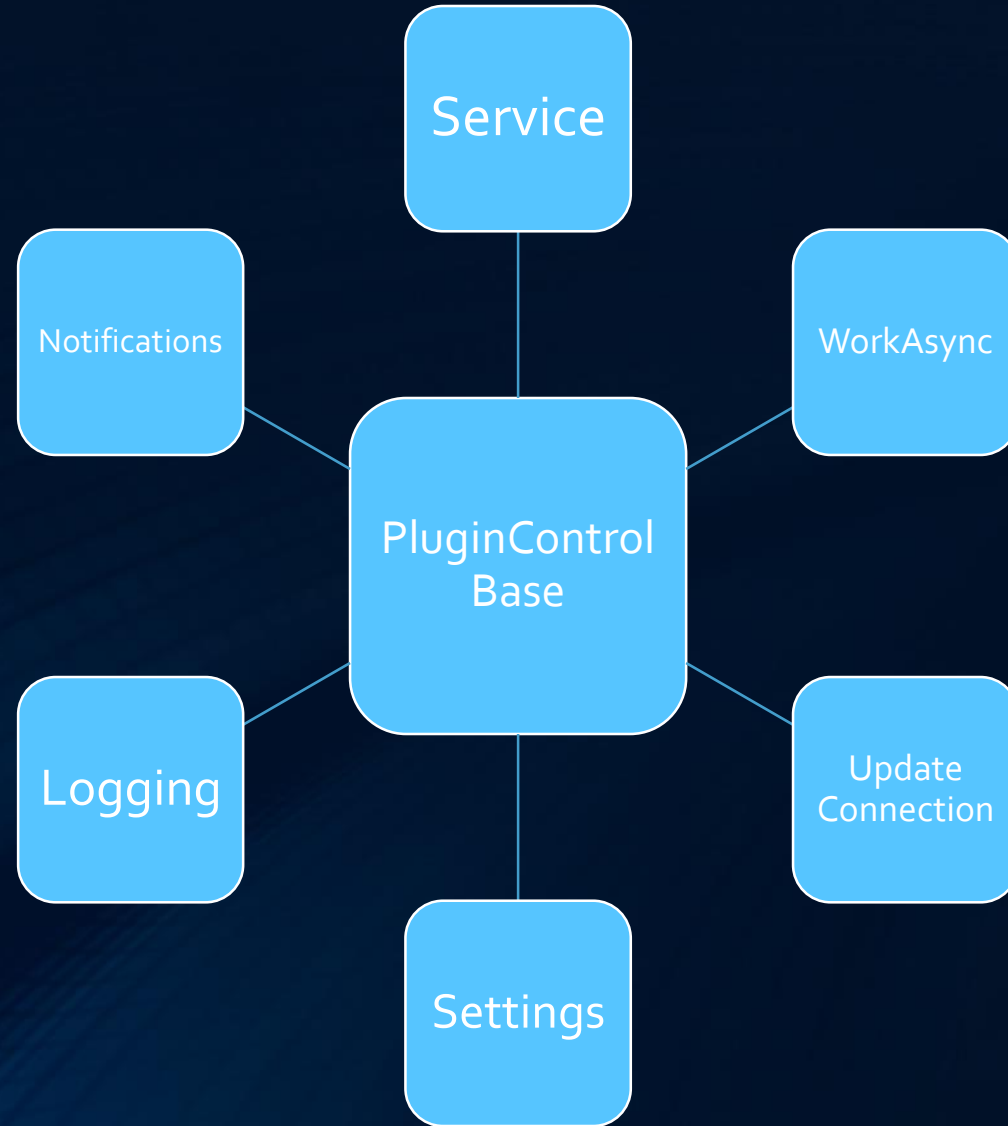
# Plugin Class

- Provide the public details for your XrmToolBox tool
  - Tool Name
  - Description
  - Large and Small Icons
  - Copyright information
- Allows the XrmToolBox application to instantiate and present your Tool as a registered plugin

# PluginControlBase Class

Existing Properties and Methods  
provide both utility and a standard  
model for building Tools

Tools that require multiple  
connections – derive from  
*MultipleConnectionsPluginControlBase*



# Getting Started

- Some tools of the trade
- Visual Studio – Express or higher
- XrmToolBox Plugin Project Template for Visual Studio
  - <https://marketplace.visualstudio.com/items?itemName=TanguyTMVPCRM.XrmToolBoxPluginProjectTemplate-19499>
- Depending on your Tool
  - Third party components such as UI controls
  - Additional NuGet packages for tool operation or packaging and deployment





# Demo

ENOUGH WITH THE SLIDES, LET'S SEE SOME CODE

# More reading!

- XrmToolBox developer documentation:
  - <https://www.xrmtoolbox.com/documentation/for-developers/>
- Jonas Rapp
  - <https://jonasrapp.net/>
- Daryl LaBar
  - <http://dotnetdust.blogspot.com/>
- FutureZ Blog
  - <https://www.futurezconsulting.com>