

# The Plugin Steps Viewer

When working in environments consisting of many solutions with many plugins, it's often difficult to get a fair understanding about registered plugin assemblies, types and steps. You can display this information in the Plugin Registration Viewer, but the tool is slow, and you cannot filter on any criteria. As I had a need to do exactly this, I created a standalone tool to display the registered plugin steps in a flat list with some filtering options. I then decided to turn it into a plugin for the XrmToolBox. This first release v0.6.0 does not include everything you might expect. But it does give you a very fast overview about the registered steps in your environment.

The tool consists of three panes:

- The list of plugin steps (green area)
- The filters (orange)
- The properties (blue)

The screenshot shows the XrmToolBox interface with the "Plugin Steps Viewer" tab selected. The main area displays a list of registered plugin steps, categorized by assembly and type. A sidebar on the right contains filtering options for assembly, type, name, mode, stage, message, primary entity, and secondary entity. Below the list, a note indicates 14 assemblies, 260 types, and 388 steps. The bottom status bar shows the user is connected to a specific Dynamics 365 test environment.

## The plugin steps

Obviously, this is the list of registered plugin steps. Assemblies from Microsoft are excluded by default. You can include them if required, but the initial loading time will be much higher if you do so.

Name	Type	Assembly	Mode	Stage	Message	Rank	Primary Entity	Secondary Entity
account Action Set Matchcode	ContactMasterDataPlugins.ActionContactDeleteCompanyName	ContactMasterDataPlugins	Synchronous	PostOperation	ink_AccountDeleteCompanyName	1		
account deactivate Ad Contact Agency	VMIntegrationPlugin.ActionAccountSetMatchcode	VMIntegrationPlugin	Synchronous	PostOperation	ink_AccountSetMatchcodeAction	2	account	none
Account PostCreate Create Address	AdMasterDataPlugins.PostUpdateDeactivateAdContactAgencies	AdMasterDataPlugins	Synchronous	PostOperation	ink_AccountDeactivateAgencies	3	account	none
account PostCreate CreateCustomerContact	ContactMasterDataPlugins.PostCreateAccountContactCreateAddress	ContactMasterDataPlugins	Synchronous	PostOperation	ink_AccountCreateAddress	4	account	none
account PostUpdate CreateUpdateCustomerContact	ContactMasterDataPlugins.PostCreatePostUpdateCreateCustomerContact	ContactMasterDataPlugins	Synchronous	PostOperation	ink_AccountCreateCustomerContact	5	account	none
account PostUpdate Deactivate Contacts	ContactMasterDataPlugins.PostUpdateAccountDeactivateContacts	ContactMasterDataPlugins	Synchronous	PostOperation	ink_AccountDeactivateContacts	6	account	none
account PostUpdate Set Old Address Fields Sync	ContactMasterDataPlugins.PostUpdateAccountContactSetOldAddressFieldsSync	ContactMasterDataPlugins	Synchronous	PostOperation	ink_AccountSetOldAddressFieldsSync	7	account	none
account PostUpdate Update Customer Communication	ContactMasterDataPlugins.PostUpdateAccountUpdateCustomerCommunication	ContactMasterDataPlugins	Synchronous	PostOperation	ink_AccountUpdateCustomerCommunication	8	account	none
Account PreCreate Set MS Country Field	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetMSCountry	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetMSCountry	9	account	none
Account PreCreate Set Name	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetName	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetName	10	account	none
Account PreCreate Status	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetStatus	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetStatus	11	account	none
Account PreCreate Set Street1 Field	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetStreet1	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetStreet1	12	account	none
Account PreCreate Update Address with Account Names	ContactMasterDataPlugins.PreCreatePreUpdateAccountUpdateAddresswithAccountName	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountUpdateAddresswithAccountName	13	account	none
account PreUpdate Delete wrong Account Status	ContactMasterDataPlugins.PreUpdateDeleteWrongAccountContactStatus	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountDeleteWrongAccountContactStatus	14	account	none
Account PreUpdate Set Key	VMIntegrationPlugin.PreUpdateSetAccountKey	VMIntegrationPlugin	Synchronous	PreOperation	ink_AccountSetKey	15	account	none
Account PreUpdate Set Key	VMIntegrationPlugin.PreCreatePreUpdateSetMatchCode	VMIntegrationPlugin	Synchronous	PreOperation	ink_AccountSetMatchcode	16	account	none
Account PreUpdate Set MS Country Field	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetMSCountry	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetMSCountry	17	account	none
Account PreUpdate Set Name	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetName	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetName	18	account	none
account PreUpdate Set Old Address Fields	ContactMasterDataPlugins.PreCreatePreUpdateAccountContactSetOldAddressFields	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetOldAddressFields	19	account	none
Account PreUpdate Set Status	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetStatus	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetStatus	20	account	none
Account PreUpdate Set Street1 Field	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetStreet1	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetStreet1	21	account	none
Account PreUpdate Update Address with Account Names	ContactMasterDataPlugins.PreCreatePreUpdateAccountUpdateAddresswithAccountNames	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountUpdateAddresswithAccountNames	22	account	none
account PreUpdate Delete wrong Account Status	ContactMasterDataPlugins.PreUpdateDeleteWrongAccountContactStatus	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountDeleteWrongAccountContactStatus	23	account	none
Account PreUpdate Set Key	VMIntegrationPlugin.PreUpdateSetAccountKey	VMIntegrationPlugin	Synchronous	PreOperation	ink_AccountSetKey	24	account	none
Account PreUpdate Set Key	VMIntegrationPlugin.PreCreatePreUpdateSetMatchCode	VMIntegrationPlugin	Synchronous	PreOperation	ink_AccountSetMatchcode	25	account	none
Account PreUpdate Set MS Country Field	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetMSCountry	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetMSCountry	26	account	none
Account PreUpdate Set Name	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetName	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetName	27	account	none
account PreUpdate Set Old Address Fields	ContactMasterDataPlugins.PreCreatePreUpdateAccountContactSetOldAddressFields	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetOldAddressFields	28	account	none
Account PreUpdate Set Status	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetStatus	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetStatus	29	account	none
Account PreUpdate Set Street1 Field	ContactMasterDataPlugins.PreCreatePreUpdateAccountSetStreet1	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountSetStreet1	30	account	none
Account PreUpdate Update Address with Account Names	ContactMasterDataPlugins.PreCreatePreUpdateAccountUpdateAddresswithAccountNames	ContactMasterDataPlugins	Synchronous	PreOperation	ink_AccountUpdateAddresswithAccountNames	31	account	none
Account Product PreCreate Set Name	ContactMasterDataPlugins.PreCreatePreUpdateProductSetName	ContactMasterDataPlugins	Synchronous	PreOperation	ink_ProductSetName	32	product	none
Account Product PreUpdate Set Name	ContactMasterDataPlugins.PreCreatePreUpdateProductSetName	ContactMasterDataPlugins	Synchronous	PreOperation	ink_ProductSetName	33	product	none
Account set Key	VMIntegrationPlugin.PreUpdateSetAccountKey	VMIntegrationPlugin	Synchronous	PreOperation	ink_SetKey	34	account	none

The list contains 9 columns:

1. The plugin step name (Name)
2. The plugin type name, including its namespace (Type)

3. The assembly's name, without the dll extension (Assembly)
4. The execution mode (Mode)
5. The execution stage (Stage)
6. The message, either predefined or custom (Message)
7. The execution rank (Rank)
8. The primary entity logical name (Primary Entity)
9. The secondary entity logical name (Secondary Entity)

After the list is built, the columns are automatically resized to fit the contents. You will need a wide screen monitor to see everything, but you can reorder and resize columns if the initial layout doesn't fit your needs.

### The filters

The filters let you filter the plugin steps. Each filter has an operator where you can select "contains", "begins with" or "is". The following will display only plugin steps registered for the account entity and running asynchronously:

	Filter	Settings
Assembly	contains	<input type="text"/>
Type	contains	<input type="text"/>
Name	contains	<input type="text"/>
Mode	is	Asynchronous
Stage	contains	<input type="text"/>
Message	contains	<input type="text"/>
Primary Entity	is	account
Secondary Entity	contains	<input type="text"/>

It should be very clear what these filters are doing. These filters are saved and will be used as the default when you connect to this environment again.

The Settings tab contains the list of excluded assemblies. Any assembly starting with one of these names will not be included in the displayed steps. And most importantly, its types and steps won't be retrieved.

	Filter	Settings
Assemblies to exclude (prefixes)		
Microsoft ActivityAnalysisPlugins. ActivityFeeds. CRM. PluginProfiler.Plugins PreferredSolutionPlugins		

You can change it to whatever you want and hit the button to reload the plugin steps. If you clear the entire list, this will take some time. Be sure to try it once and then revert it to the prior stage 😊.

The  button reloads the last saved exclusion list and  will save it. This is a system-wide setting and affects all connections. To restore the default list at any time, simply click .

### The properties

For performance reasons and to give you the most important information, the list only contains the above-mentioned properties. To get all information, simply select a step. It will populate the property grid so that you can see any data not displayed in the list.

### Comments welcome

This is my first plugin for the XrmToolBox and I hope to have done the most important parts correctly. The entire code is hosted on GitHub, where you can create issues and comments. There is plenty of room for improvements, but this first release should be good enough to assist in its current state.