

Blackbaud CRM™ DEVELOPERS' CONFERENCE

➤ Allen Roth - Director of Business Applications



What do I do when I'm not enhancing Blackbaud products?

"Sensei Allen"



Allen Roth is currently a 9th degree black belt and of Tai Shin Doh and Tai Shin Jitsu. Despite being a by many titles, he prefers the simple "Sensei." For the titles or accolades, it's all about the students.

Allen started his study of the martial arts in 1974 Kwon Doh with Sa Bum Nim Ray Szuch, at age 10 years, he made the rounds of the regional tournament earned a spot to compete in the National AAU Martial Arts in Washington DC, for both Kata and Kunitae on the Bo creator Billy Blanks. After achieving this goal, Allen diversified his

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Allen Roth (III)

Actor | Stunts

Allen Roth is known for his work on [Dog Eat Dog](#) (2016) and [Little Evil](#) (2017).

Known For



Dog Eat Dog

Pakistani Chap



Little Evil

Uncle Scott

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Blackbaud CRM™ DEVELOPERS' CONFERENCE

Who is the Jewish Federation of Cleveland?

- We are one of over 150 Jewish Federations that make up the Jewish Federations of North America (JFNA)
- The Jewish Federations raise and distribute more than \$3 billion annually
- Each Federation is independent, but we collaborate
- Cleveland is one of the large Federations and a leader in the Federation “Collective” of over 35 Federations on BB CRM with many more coming
- All CRM enhancements are shared amongst the “Collective”
 - Federations can select which customizations and enhancements they want to install
 - Many customizations are configurable

Problem to Solve

As application users left our organization, we found that we could not delete those users due to their ownership of various system objects.

- Business processes
- Queries
- Selections
- Batches
- Interactions
- Prospect data
- Workflow
- WealthPoint

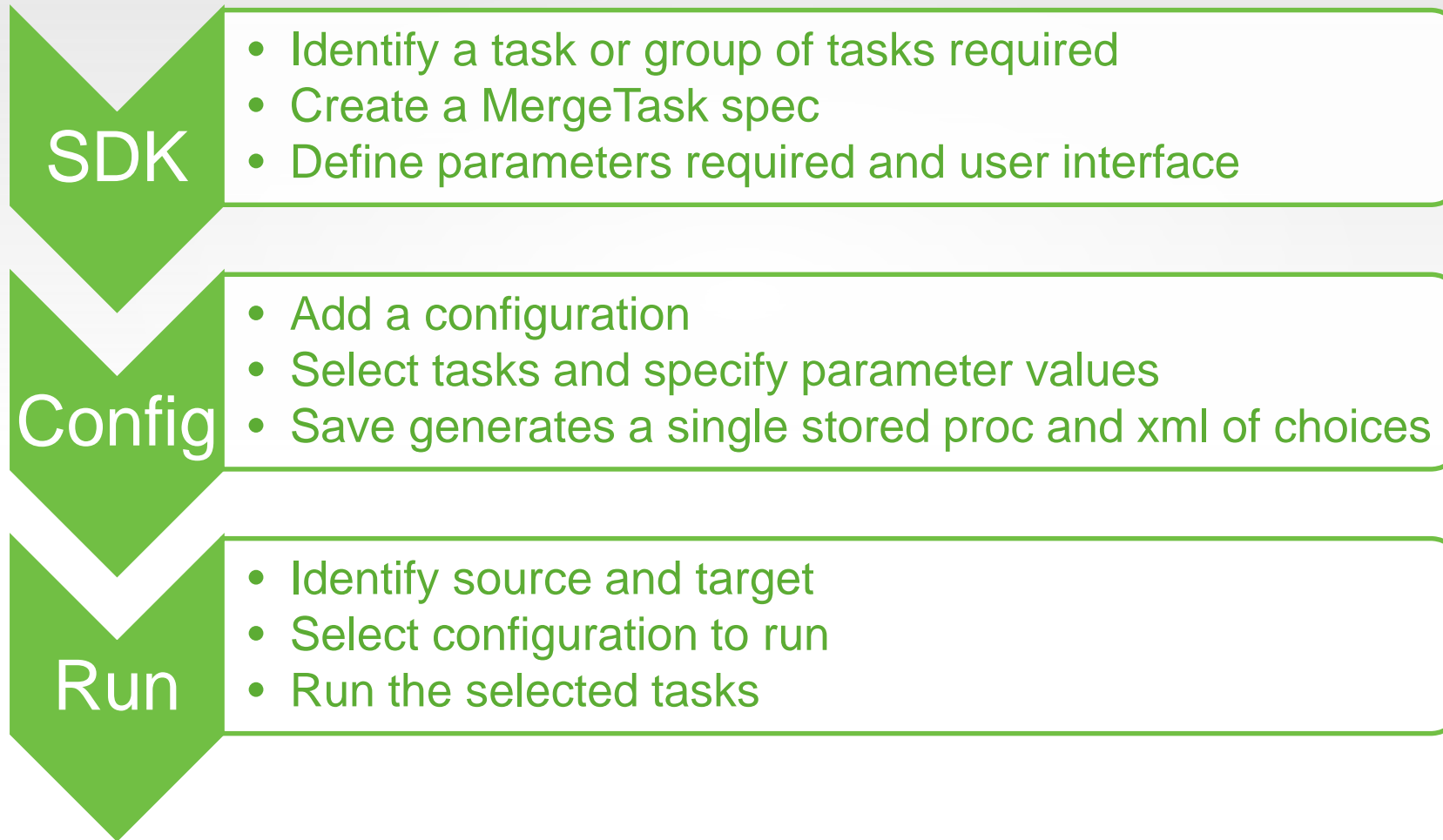



There are over 120 tables potentially preventing
the deletion of an Application User!

Solution Options

- Ignore and forever leave application users in system
 - Auditors don't like this option
- SQL Script
 - Too painful and one time use
- Global change
 - Code would need to accommodate the over 120 tables involved
 - Maintenance can be difficult
 - Not easily adaptable to what customizations are installed
- Constituent merge like functionality

Constituent Merge Framework





Constituent Merge Framework is very
extendable accommodating selectively installed
customizations and unique qualities of each
functional task

How We Adapted Constituent Merge for Application User Reassignment

- Grouped involved AppUser database tables by function
 - The over 120 tables resolved into 22 groupings
- Determined task parameters
 - Only three options possible
 - Reassign, delete or null (if allowed)
 - Several functional areas only allowed one or two options
- Executed design philosophy
 - Customizations should look like they are out of the box
 - Be simple and intuitive
 - Simple user actions should perform complex tasks

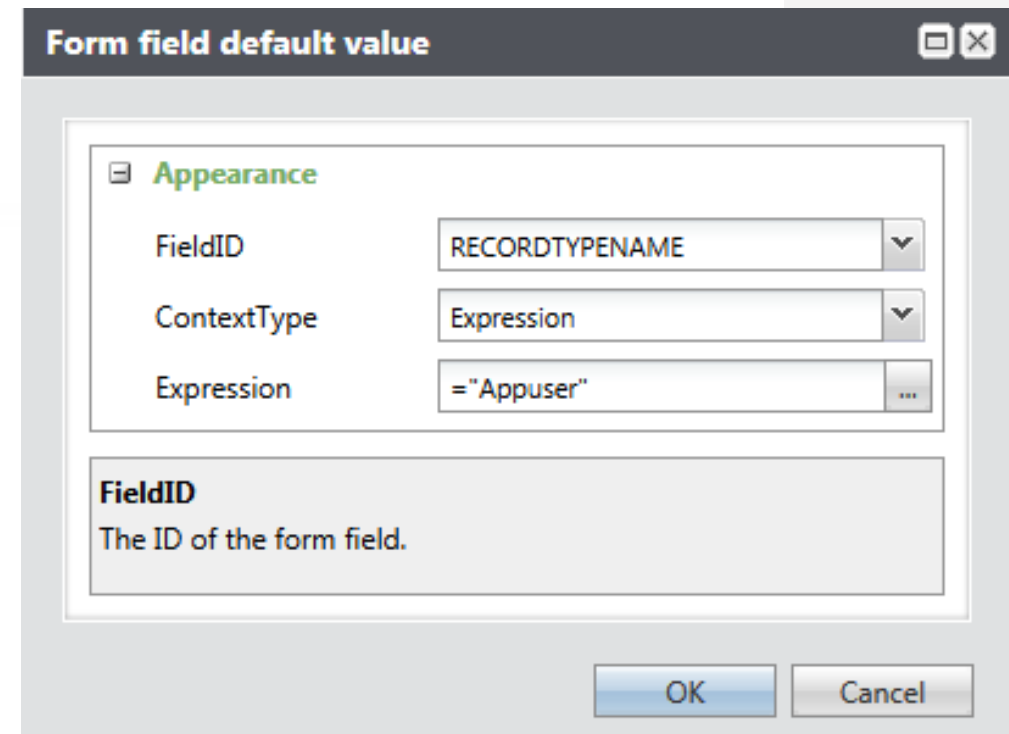
Demo

Difficulties With Using Constituent Merge Framework

- Merge configuration add form
 - This is a CLR form hard coded for constituent
 - We couldn't use it
 - We created a generic SP based add form easily used for other record types to replace it
- Constituent common user form class
 - Gets the metadata of each merge task
 - **Problem**: it's defined as a "Friend" class, it cannot be inherited!
 - This is a mostly generic class
 - The only thing that is constituent specific was related to getting the constituent ID
 - This could have been overridden or not even called for our purpose
 - **Solution**: we created a generic version
 - Can easily be used for other record types in the future

Pass in Record Type

```
<FormField FieldID="RECORDTYPE" Caption="Record type" Required="true" />
<FormField FieldID="MERGETASKS" Caption="Tasks" DataType="Guid">
  <SimpleDataList SimpleDataListID="4da1a01f-3011-4bf3-9983-f3bc07ae12c5">
    <Params>
      <Param ID="BASETABLENAME">
        <Value>Fields!RECORDTYPENAME</Value>
      </Param>
    </Params>
  </SimpleDataList>
</FormField>
```



The image shows a 'Form field default value' dialog box. It has a title bar with standard window controls. The main area is divided into two sections. The top section, titled 'Appearance', contains three fields: 'FieldID' with a dropdown menu showing 'RECORDTYPE', 'ContextType' with a dropdown menu showing 'Expression', and 'Expression' with a text box containing '="Appuser"' and a small '...' button to its right. The bottom section, titled 'FieldID', contains a text box with the text 'The ID of the form field.' At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Form field default value	
Appearance	
FieldID	RECORDTYPE
ContextType	Expression
Expression	= "Appuser" ...
FieldID The ID of the form field.	
OK Cancel	

Create Appuser Merge Configuration

Name:

Description:

Merge tasks

- ☒ Application user configuration reassign...
- ☒ Batch import process reassignment
- ☒ Batch reassignment
- ☒ Business process reassignment
- ☒ Business process status reassignment
- ☒ Data tune-up reassignment
- ☒ Generate eft file process reassignme...
- ☒ Generate revenue update batch pro...
- ☒ Generate transactions process reassi...
- ☒ Marketing segment reassignment
- ☒ Microsoft exchange reassignment
- ☒ Pledge approval configuration reassi...
- ☒ Pledge approval request reassignme...
- ☒ Prospect request reassignment
- ☒ Query reassignment

Batch import process reassignment

This reassigns or deletes batch import processes where the batch owner is configured to be the selected user

Task options

- ☒ Remove the selected users' association from these records
- ☐ Reassign these records to the target user
- ☐ Delete the records owned by the selected user

Save

Cancel

Configuration Merge Task Creation

- Exported list of tables
 - using “EXEC sp_fkeys 'APPUSER'”
- Used MS Word merge to generate stored procedures
- Copied and pasted into Merge Task spec template
- Generated unique GUID and removed any invalid parameter

An easy, scriptable,
repetitive task



Intern work!

A Single Merge Task UI Model

- Took advantage of all merge tasks having the same 1, 2 or 3 parameters
- Created only 5 HTML templates
 - To handle the 5 possible and valid combinations of available choices
 - UI Model code determines which HTML should be loaded
 - Based on the parameters specified in the MergeTask spec
- Created a JavaScript to load the correct parameter labels and values
 - For example, if only one parameter is valid for this task
 - The HTML template that shows a single radio button will be loaded
 - The JavaScript sets the label and value for that single valid parameter

Single UI Model

```
<!-- The following is a generic UI Model used for all Application User Reassignment merge tasks -->
<WebUIComponent>
  <UIModel AssemblyName="JF.CustomFx.Administration.UIModel.dll"
           ClassName="JF.CustomFx.Administration.UIModel.ModelReassignmentMergeTaskUIModel" />
  <WebUI>
    <ExternalResource Url="browser/htmlforms/custom/jf.customfx.administration/ModelReassignmentMergeTask.html" />
  </WebUI>
</WebUIComponent>
```

Single Stored Proc

Dynamically generated by configuration

```
create procedure dbo.[USP_MERGEPROC_0941f072_fc96_4b56_a757_8a4d88957106] (@TARGET uniqueidentifier, @SOURCE uniqueidentifier, @CHANGEAGENT uniqueidentifier, @MA
set nocount on;

begin try

    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_APPUSER_CONFIGURATION] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '2';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_BUSINESS_PROCESS_STATUS] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '2';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_MARKETING_SEGMENTS] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '0';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_MICROSOFT_EXCHANGE] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '2';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_PLEDGE_APPROVAL_REQUEST] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '0';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_PROSPECT_REQUEST] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '2';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_SOCIALMEDIA_ACCOUNT] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '0';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_WEALTHPOINT] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '0';
    exec dbo.[USP_USR_JF_MERGETASK_APPUSER_WEBDASHBOARD] @SOURCEID = @SOURCE, @TARGETID = @TARGET, @CHANGEAGENTID = @CHANGEAGENT, @REASSIGNACTION = '2';
end try

begin catch
    exec dbo.[USP_RAISE_ERROR];
    return 1;
end catch

return 0;
```

Future Thoughts

- Improve the configuration user interface
 - Provide “Select all” and “Unselect all” actions
- Improve the reassign application user screen
 - Make the target field required based on the configuration selected
- Create an SSRS report to display the objects a user is associated with
 - To be used for analysis prior to running the reassignment process
 - Will assist in selecting the correct configuration
- Extend the solution to other record types as needed
- Some ideas for Blackbaud...
 - Sites
 - Convert organization constituents to individuals



Questions?



Thank you!