Triggers on Opportunity/Account Contact Role objects – Using Change Data Capture

23RD JUL 2019 / FORCEPANDA

Howdy! I got some good news for ya! 😀

We all know Contact Role objects have been a pain in the …! Why? Because they are not first class objects, which implies you cannot create workflow rules, process builder or triggers on these objects. There are ideas posted, to vote for, on community for the same.

But then came the Change Data Capture Events! And guess what? You can subscribe to data changes on Opportunity/Account Contact Role objects in CDC!!! And now with Summer'19, we have the ability to create triggers on ChangeEvents!

Now, are you thinking what I am thinking? If yes, give yourself a high five!

So this basically implies that we can execute some logic(code) when there are any updates on Contact Roles object records, and for new insertion record too by subscribing to data changes via a ChangeEvent trigger.
So let's discuss a simple use case.

Use Case

> When a contact is added/updated as a Primary Contact to an Opportunity in Contact Roles related list, it should update a custom Contact Lookup field on Opportunity object with that Contact.

Solution:

The idea is to create a trigger on OpportunityContactRoleChangeEvent object which passes a collection of OpportunityContactRole record IDs in context, to an Apex class where we handle rest of the logic to update the Primary Contact on Opportunity.

Code:

Trigger: **UpdateOpptyPrimaryContact**.apxt

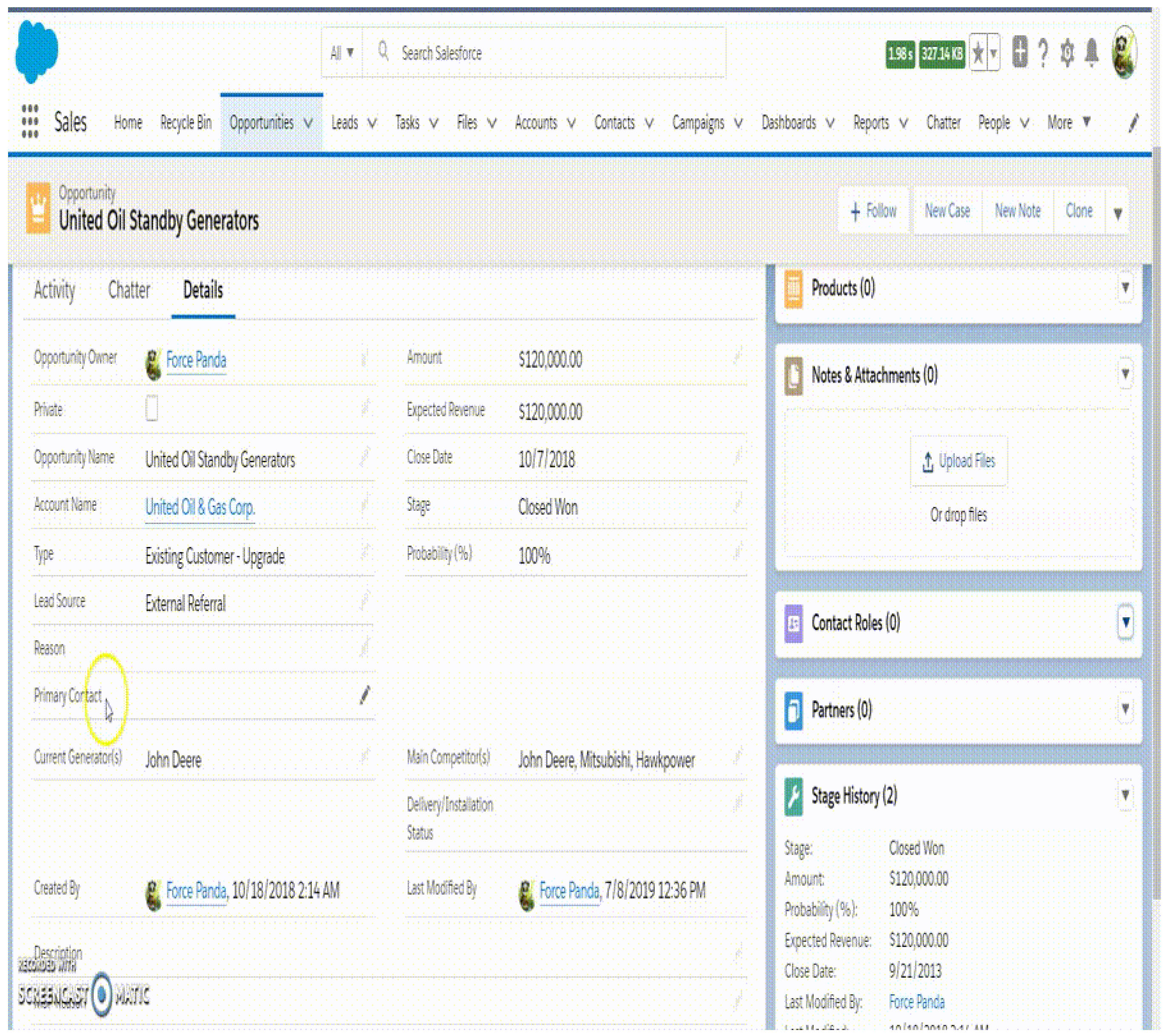
```
trigger UpdateOpptyPrimaryContact on OpportunityContactRoleChangeEvent (after insert) {
    set<id> ocrIDs = new set<id>();

    for(OpportunityContactRoleChangeEvent e : trigger.new){
        EventBus.ChangeEventHeader changeEventHeader = e.ChangeEventHeader;
        //Checking if the if the record is created or updated
        if(changeEventHeader.changetype == 'CREATE' || changeEventHeader.changetype == 'UPDATE'){
            if(changeEventHeader.getRecordIds().size()==1)
                ocrIDs.add(changeEventHeader.getRecordIds()[0]);
        }

    }

    if(ocrIDs.size()>0) //Call the Handler class method and pass the OpportunityContactRole IDs
        UpdateOpptyPrimaryContactHandler.setPrimaryContact(ocrIDs);
}
```

Handler Class: **UpdateOpptyPrimaryContactHandlerHandler**.apxc

```
public class UpdateOpptyPrimaryContactHandler {

    public static void setPrimaryContact(set<id> ocrIDs){
        Opportunity[] oppsToUpdate = new Opportunity[]{};
        list<OpportunityContactRole> ocRoles = new list<OpportunityContactRole>([select id,contactId,OpportunityId,IsPrimary
                                                                                 from OpportunityContactRole
                                                                                 where Id in :ocrIDs ORDER BY IsPrimary DESC
                                                                                ]);
        /*
         * Logic to check if the Opportunity has a primary contact role record or not, and
         * accordingly set the Primary_Contact__c field to Contact's Id or as NULL.
         */

        set<id> oppIDs = new set<id>();
        for(OpportunityContactRole ocr: ocRoles){
            if(ocr.IsPrimary){
                oppsToUpdate.add(new opportunity(id = ocr.OpportunityId, Primary_Contact__c=ocr.ContactId));
                oppIDs.add(ocr.OpportunityId);
            }
            else if(!oppIDs.contains(ocr.OpportunityId)){
                oppsToUpdate.add(new opportunity(id = ocr.OpportunityId, Primary_Contact__c=NULL));
                oppIDs.add(ocr.OpportunityId);
            }
        }

        if(oppsToUpdate.size()>0)
            update oppsToUpdate;
    }
}
```

So there's the code..

Time to play the reel!



Opportunity
United Oil Standby Generators

Opportunity Owner	Force Panda	Amount	$120,000.00
Private	☐	Expected Revenue	$120,000.00
Opportunity Name	United Oil Standby Generators	Close Date	10/7/2018
Account Name	United Oil & Gas Corp.	Stage	Closed Won
Type	Existing Customer - Upgrade	Probability (%)	100%
Lead Source	External Referral		
Reason			
Primary Contact			
Current Generator(s)	John Deere	Main Competitor(s)	John Deere, Mitsubishi, Hawkpower
		Delivery/Installation Status	
Created By	Force Panda, 10/18/2018 2:14 AM	Last Modified By	Force Panda, 7/8/2019 12:36 PM
Description			

Products (0)

Notes & Attachments (0)

Contact Roles (0)

Partners (0)

Stage History (2)

Stage:	Closed Won
Amount:	$120,000.00
Probability (%):	100%
Expected Revenue:	$120,000.00
Close Date:	9/21/2013
Last Modified By:	Force Panda

My findings(Important stuff!)

- IsPrimary field is not a part of the Change Event Message Structure for OCR object, which makes it the code a bit lengthy! I posted an Idea on community for the same. Kindly upvote!

- There can be a situation when a primary OCR record gets deleted. The above code doesn’t account for that. And that’s because, we cannot query a deleted OCR record using ALL Rows clause, since it doesn’t get stored in Recycle Bin. So that’s a limitation too in this approach.