Automate Complex Business Processes

Wednesday, October 14, 2015 3:14 PM

1. Evaluate the available automation tools.
2. Automate business processes using validation rules, formula fields, and workflow.
3. Identify the order of execution for automated processes.
4. Troubleshoot business process issues.
5. Understand when to use Apex and Visualforce for extending business process automation

Action	All Objects	Opportunities	Leads	Cases
Validate	Required field Unique field Validation rule			
Update	Default value Formula field Roll-Up Summary Field Field update Outbound message Flow Record update			
Assign	Field update		Assignment rule	Assignment rule Escalation rule
Notify	Email Alert Task	Big deal alert Update Reminder	Auto-response rule	Auto-response rule Escalation rule
Create	Flow Record Create		Web-to-lead	Web-to-case Email-to-case
Delete	Flow Record Delete			

- **Validate**
  - Required field: Ensures that users enter data for a field.
  - Unique field: Ensures that each record contains a unique value for a field.
  - Validation rule: Verifies that field data meets specified criteria.
- **Update**
  - Default value: Pre-populates the value of a field.
  - Formula field: Calculates the field value based on a specified equation.
  - Summarizes numerical data on detail records and displays it on the master record.
  - Field update (Workflow rules/approval processes): Changes the field to a specified value.
  - Outbound message: Updates data in an external system.
  - Flow Record Update (Visual Workflow): Updates fields in an existing Salesforce record.
- **Assign**
  - Field update (Workflow rules/approval processes): Assigns the record to a new owner by changing the value of the Owner field.
  - Assignment Rule: When working with leads or cases, assigns record owners based on specified criteria.
  - Escalation rule: When working with cases, re-assigns record owners for cases that are not resolved within a specified time period.
- **Notify**
  - Email alert (Workflow rules/approval processes): Sends an email notification to specified users.
  - Task (Workflow rules/approval processes): Assigns a task to a specified user.
  - Big deal alert: Sends an email notification when an opportunity reaches a specified amount and probability.
  - Updated Reminder: Allows managers to schedule weekly or monthly opportunity reports to their direct reports.
  - Auto-response rule: When using web-to-lead, web-to-case, or email-to-case, sends an automated email response to the record submitter.
  - Escalation rule: Sends an email notification that a case has been escalated.
- **Create**
  - Flow Record Create (Visual Workflow): Creates records in Salesforce.
  - Web-to-lead: Creates leads from a web-to-lead form
  - Web-to-case: Creates cases from a web-to-case form
  - Email-to-case: Creates cases from emails
- **Delete**
  - Flow Record Delete (Visual Workflow): Deletes records in Salesforce.

New B2B Opportunity Requirements

When a new B2B opportunity is created:	Tool
1. Stage must be Prospecting. Sales reps cannot advance stage manually, except when closing a lost opportunity.	Validation rule
2. Deal Status must be In Progress.	Default field value
3. Deal Status should be indicated by a green traffic light.	Image formula field
4. The number of Deals in Progress on account should be incremented.	Roll-up summary field on account
5. Close Date should be last day of month.	Workflow field update with formula
6. Reps must complete stage within 7 days – a task should be assigned for this.	Workflow task
7. Next Stage Due date should be 7 days after rule is triggered.	Workflow field update with formula

If opportunity still at Prospecting 2 days before Next Stage Due:	Tool
1. Deal Status changes to In Jeopardy.	Workflow field update
2. Deal Status should be indicated by a yellow traffic light.	Image formula field
3. The number of Deals in Jeopardy on account should be updated.	Roll-up summary field on account
4. Email sent to Opportunity owner to notify of In Jeopardy status.	Workflow email alert

If opportunity still at Prospecting 1 day after Next Stage Due:	Tool
1. Deal Status changes to Stalled.	Workflow field update
2. Deal Status should be indicated by a red traffic light.	Image formula field
3. The number of Deals Stalled on account should be incremented.	Roll-up summary field on account
4. The Stalled Counter on account should be incremented.	Cross-object workflow field update
5. Email sent to VP of Sales to notify of Stalled status.	Workflow email alert

Immediately	2 Days Before Next Stage Due	1 Day After Next Stage Due
On Save... Stage = Prospecting DFLT Deal Status = In Progress Deal Status Indicator = Green		
On Workflow Rule Execution... Close Date = Last day of month Next Stage Due = +7 days Owner: Update Stage in 7 Days	Deal Status = In Jeopardy Owner: Update Stage in 2 Days	Deal Status = Stalled Account Stalled Counter = +1 VP Sales: Deal Stalled
After Workflow Rule... Account: +1 Opportunities in Progress	Deal Status Indicator = Yellow Account: +1 Opportunities in Jeopardy	Deal Status Indicator = Red Account: +1 Opportunities Stalled

Using Validation Rule to Enforce a Business Process:

The ISNEW() function returns true if the opportunity record is new.

Return True	...if the opportunity is new, and not B2C, and the Stage is not Prospecting Or...
	`(ISNEW() && $RecordType.Name <> "B2C Sales" && NOT(ISPICKVAL(StageName,"Prospecting"))) ||`
Return True	... if the Stage changed, the opportunity is not B2C, and the Stage is not Closed Lost.

Return True	...if the opportunity is new, and not B2C, and the Stage is not Prospecting Or...
	`(ISNEW() && $RecordType.Name <> "B2C Sales" && NOT(ISPICKVAL(StageName,"Prospecting"))) ||`
Return True	... if the Stage changed, the opportunity is not B2C, and the Stage is not Closed Lost.
	`(ISCHANGED(StageName) && RecordType.Name <> "B2C Sales" && NOT(ISPICKVAL(StageName,"Closed Lost")))`

Using Image Formula Fields to Show Status

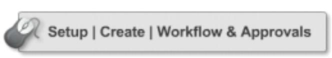
Use the IMAGE() function inside of a field to display images instead of data.

```
IMAGE( " /img/samples/flag_green.gif ")
        /img/samples/flag_red.gif
        /img/samples/flag_yellow.gif

        /img/samples/light_green.gif
        /img/samples/light_red.gif
        /img/samples/light_yellow.gif

        /img/samples/stars_000.gif
        /img/samples/stars_100.gif
        /img/samples/stars_200.gif
        /img/samples/stars_300.gif
        /img/samples/stars_400.gif
        /img/samples/stars_500.gif
```

Show	...an image based on the value in the Deal Status field.	
	IMAGE(CASE(	Deal_Status__c,
If		...value is In Progress, display green traffic light.
		"In Progress", "/img/samples/light_green.gif",
If		...value is In Jeopardy, display yellow traffic light
		"In Jeopardy", "/img/samples/light_yellow.gif",
If		...value is Stalled, display red traffic light.
		"Stalled", "/img/samples/light_red.gif",
Else		...display no image.
		"/s.gif"),
Alt Text	"status color")	

Using Roll-Up Summary Fields to Update Parent Records

Automatically update data on parent records when child record fields change.
These fields can be used to trigger workflow rules.



Workflow actions are triggered in a specific order.

When	Action	Field/User	Value/Subject/Template
1. Immediately		Close Date	Last day of month
2. Immediately		Next Stage Due	7 days after rule trigger
3. Immediately		Owner	"Opportunity Update Due"
4. 2 days before Next Stage Due		Deal Status	In Jeopardy
5. 2 days before Next Stage Due		Owner	"In Jeopardy" template
6. 1 day after Next Stage Due		Deal Status	Stalled
7. 1 day after Next Stage Due		Account Stalled Counter	+1
8. 1 day after Next Stage Due		VP Global Sales	"Stalled" template

Use formulas in field updates to calculate new values from existing data.
Example: Set the Next Stage Due date seven days from today.

```
Today() +7
```

Example: Change the Close Date to the last day of the month.

IF	...Close Date is in December...
	IF(Month(CloseDate)=12,
THEN	...set the date to 12/31 of the Close Date year...
	DATE(YEAR(CloseDate), MONTH(CloseDate), 31),
ELSE	...set the date to the first day of the next month and then take the previous day.
	DATE(YEAR(CloseDate), MONTH(CloseDate)+1, 1) $\boxed{- 1)}$

For master-detail relationships, cross-object field updates work with:

- All custom objects that are the children of custom objects.
- Custom objects that are the children of certain standard objects.
- Certain standard objects that are the children of certain standard objects.

Example: Increment the Stalled Counter on the related account.

Object	Opportunity
Field to Update	Account • Stalled Counter

IF	...Stalled Counter on Account is zero...
	IF(ISBLANK(Account.Stalled_Counter__c),
THEN	...set the Stalled Counter to 1...
	1,
ELSE	...add 1 to the Stalled Counter's current value.
	Account.Stalled_Counter__c +1)

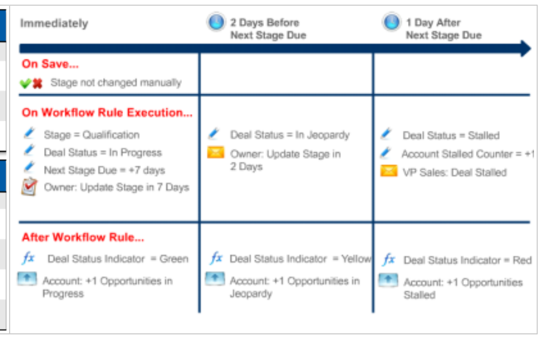
> ⚠ A roll-up summary field calculates the real-time number of records.
> A cross-object workflow update calculates the cumulative number of records.

B2B Opportunity Qualification Requirements

When prospecting tasks are marked as complete:	Tool	Reuse?
1. Stage should change to Qualification.	Workflow field update	No
2. Prospecting task checkboxes should become read only, and Qualification task checkboxes should appear.	Workflow field update to change the record type	No
3. Deal Status must be In Progress.	Workflow field update	No
4. Deal Status should be indicated by a green traffic light.	Image formula field based on Deal Status value	Yes
5. The number of Deals in Progress on account should be incremented.	Roll-up summary field on account	Yes
6. Reps must complete stage within 7 days – a task should be assigned for this.	Workflow task	Yes
7. Next Stage Due date should be 7 days after rule is triggered.	Workflow field update with formula	Yes

If opportunity still at Qualification 2 days before Next Stage Due:	Tool	Reuse?
1. Deal Status changes to In Jeopardy.	Workflow field update	Yes
2. Deal Status should be indicated by a yellow traffic light.	Image formula field based on Deal Status value	Yes
3. The number of Deals in Jeopardy on account should be incremented.	Roll-up summary field on account	Yes
4. Email sent to Opportunity owner to notify of In Jeopardy status.	Workflow email alert	Yes

If opportunity still at Qualification 1 day after Next Stage Due:	Tool	Reuse?
1. Deal Status changes to Stalled.	Workflow field update	Yes
2. Deal Status should be indicated by a red traffic light.	Image formula field based on Deal Status value	Yes
3. The number of Deals Stalled on account should be incremented.	Roll-up summary field on account	Yes
4. The Stalled Counter on account should be incremented.	Cross-object workflow field update	Yes
5. Email sent to VP of Sales to notify of Stalled status.	Workflow email alert	Yes



Use the "Formula Evaluates to True" Option to specify more complex trigger criteria using functions and additional operators.

Rule Criteria

Run this rule if the following formula evaluates to true

Example: OwnerId <> LastModifiedById evaluates to true when the person who last modified the record is not the record owner. More Examples ...

Insert Field | Insert Operator

```
ISPICKVAL( StageName , "Prospecting") &&
Prospect_First_Contact_Made__c &&
Prospect_Initial_Meeting_Scheduled__c &&
Prospect_Opportunity_Identified__c &&
Prospect_Requirements_Documented__c
```

Functions

-- All Function Categories --

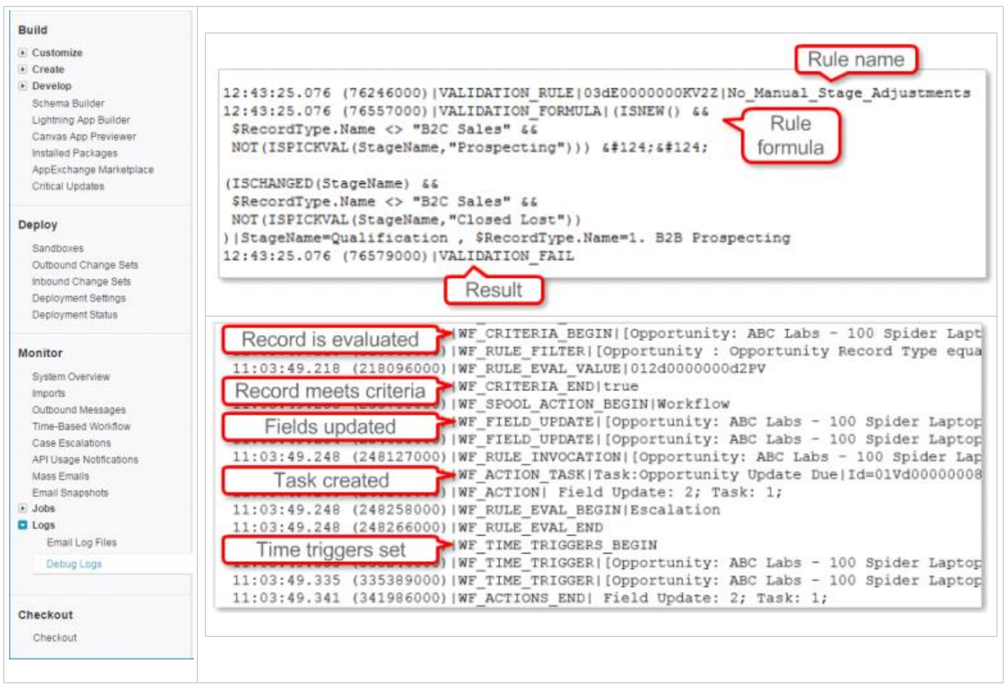
ABS
AND
BEGINS
BLANKVALUE
BR
CASE

Insert Selected Function

Use a field update to change the record type to display a page layout specific to a stage in a business process. In this way Tonya can:

- Make more fields appear, or remove ones no longer relevant.
- Make sections appear or disappear.
- Make fields required or read-only.

Example: Make the Prospecting fields read-only and display the Qualification fields when an opportunity reaches the Qualification stage.



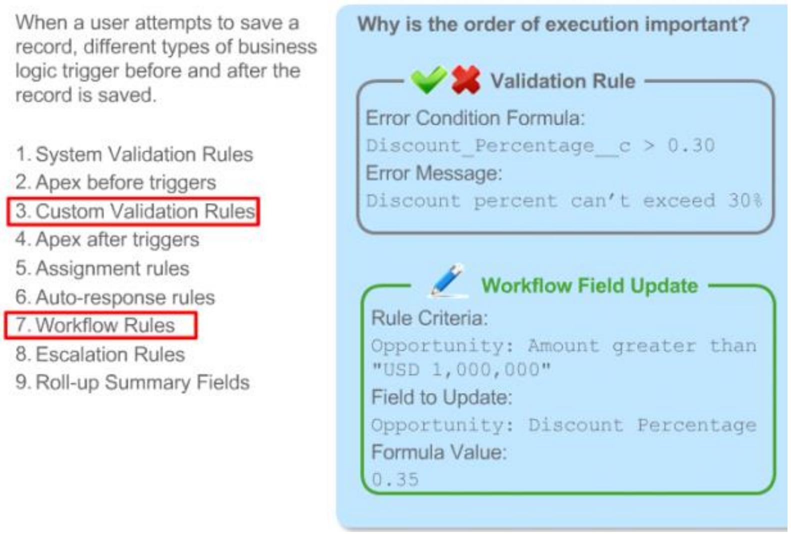
Using the Debug Log to Monitor and Troubleshoot

Records database operations, system processes, and errors for a specified user every time that user executes a transaction.

Setup -> Logs -> Debug Logs

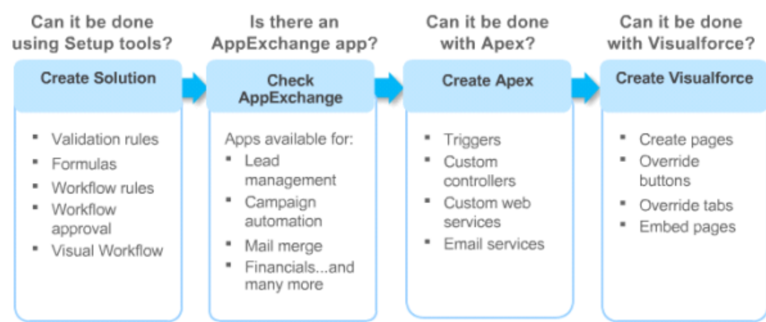
1. Specify which users to monitor
2. Set event filters, which determine the level of detail recorded for each category.

Order of Execution:



Note: System Validation Rules include the validation of universally required fields and unique fields.

When dealing with more complex automation Requests, ask yourself:



Apex: OOP Language that allows developers to add bus. Logic to system events.
Visualforce allows developers to create new custom pages to replace standard page layouts within the Salesforce UI

Vforce pages can be incorporated by
- Creating a custom button or link
- Overriding a standard button
- Overriding a tab overview page
- Creating a custom tab
- Embedding the page into a page layout.