Process Automation

In Salesforce there are several tools which automate the org's business processes.

Automating the business process is crucial so as identifying the tool from which it should be implemented.

There are several tools for automating the processes in Salesforce:

Workflows

Workflow is a force.com platform business logic engine that allows to define rules to automate certain actions when a particular criteria is met.

Workflow rules are considered as a container that consists of two components:

a. Criteria:
It consists of the condition which if found true then the actions should take place.
b. Actions:
It consists of the actions that should be performed when the criteria for workflow rule is met.

Every Workflow rule must be based on a single object because when a rule is defined this object influences the fields that will be available to set the criteria.

There are 3 types of evaluation criteria for workflows:

Evaluate the rule when a record is	Description
1. Created	Runs the rule if the rule criteria is met, only when a record is created. Using this option the rule runs single time only.
2. Created & Every time its edited	Runs the rule if the criteria is met every time a record is created and edited. With this option the rule criteria runs repeatedly as long as the rule criteria is met. **Note:**Time Dependent actions cannot be added in a workflow rule with this evaluation criteria.

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3. Created and Every time its edited to subsequently meet the criteria	Runs the rule if the criteria is met: • Always when a record is created and meets the criteria. • Only when a record not meeting the criteria is updated and now it meets the criteria. By default this criteria is selected.

Criteria for rules can be represented as a condition or a formula.

Actions in workflow rules are of 2 types based on when they are executed:

1. **Immediate Actions:**
   These actions are executed immediately when the criteria for a rule is met.
2. **Time Triggered Actions:**
   These actions execute at a specific time which is specified when creating this type of action.
   In these types of actions when the date or time comes on which the action needs to be executed, it again verifies that the record is still meeting the criteria or not. If yes then it executes the respective action otherwise not.

4 actions can be specified in a workflow rule:

1. **Email Alert:**
   It sends automated emails using an email template.

   Email Templates

   Salesforce provides functionality to create email templates which can be used to send emails.

   There are 4 types of Email templates:

   a. **Text:** All users can create or change text email templates.
   b. **HTML with letterhead:** Administrators and Users with "Edit HTML Templates" permission can create HTML email templates based on a letterhead.

c. **Custom HTML:** Administrators and users with "Edit HTML Templates" permission can create HTML email templates without using a letterhead.
d. **Visualforce:**Administrators & Developers can create templates using Visualforce. Visualforce email templates allow for advanced merging with a recipients data where the content of a template can contain information from multiple records.

Email templates are stored in folders. There are 2 folders already present in every Salesforce org:

- Unified public Email Templates- Email Templates in this folder are available to every user in the organization.
- My Personal Email Templates- This folder stores the email templates which are used personally by a particular user.

Note: If another object's field is added in an email template then it will be left blank as workflow only has access to object for which it is applied.

2. **Field Update:**

Field updates allows to automatically change a field value on the record that initially triggered the workflow rule.

If "Re-evaluate Workflow Rules after Field Change" is enabled for a field update action then Salesforce re-evaluates all workflow rules on the object if the field update results in a change to the value of the field.

Only workflow rules that didn't fire before will be retriggered.

Cross Object field updates are also available for changing the values of fields on a related master record. But it is not available when re-evaluation is checked.

3. **Tasks:**
It simply assigns a task to a single user, owner or a role.
We can also make sure that a notification email is sent to assignee when a task is automatically assigned.
Tasks should be assigned to roles if they have only one user assigned to that role. If there are more than one users assigned to that role then the task automatically gets assigned to owner of the workflow rule. (Users who triggered the workflow rule)
4. **Outbound Message:**
An outbound message sends a particular information to a designated end point such as an external service.

These type of messages can be listened using SOAP API.

All the above actions can be used as an immediate action as well as time trigger actions.

Time-triggered actions which are already triggered are visible in Time Based Workflow Queues.

Administrators can also set default workflow users. Default Workflow users are the users which will be visible when the user that triggered the rule is not active.

Note: Time trigger actions cannot be added to active workflows. To add a time trigger action first deactivate the workflow rule then add an action.

Note: Another time trigger cannot be added if there is already a time trigger action scheduled for that object and present in time based workflow queue.

Note: The action a workflow rule takes can also trigger the execution of another workflow rules.

Approval Process

Approval Processes is an automated process that an org uses to approve records in Salesforce.

Records submitted for approval are approved by the users in the organization. These users are called as Approvers.

Approval processes are bind to a single object because when a rule is defined this object influences the fields that will be available to set the criteria.

There are 2 options to set the criteria:

- As a condition (Criteria are met).
- As a formula which evaluates to true.

They can be left blank if all the records that are submitted for approval should enter the approval process.

Automated Approval routing routes the approval request automatically to user specified in Manager Field or any hierarchal relationship field in submitter's user record.

Note: If we do not select Manager Field or any hierarchal field of user record at the time of approval process definition then the automated approval routing for any approval step in this process will not be enabled.

If the “Use Approver field of [Object] owner” is checked then in Approval steps the Manager Field or any hierarchal field whichever may be selected will be of record owner instead of the submitter.

Records when submitted for approval automatically gets locked which means they cannot be edited. However administrators can edit the records during an approval process and also when defining the approval process administrators can select whether the approver is allowed to edit the record or not.

We can also assign a notification email template which will send an email notification to approvers whenever a record is submitted for approval request.

Similar to Action Layouts in Actions, approval processes also have Approval Page Layouts in which fields which will be visible to approver are specified.

Note: Standard Name field and Owner field cannot be removed from Approval Page layouts.

Approval History information can be displayed as a related list with on a record.

Users who can submit the records for approvals are called as submitters.

We can specify the submitters in approval process definition.

Also there is an option which gives additional functionality using which the submitters can recall the approval requests.

Actions in Approval Processes:

There are basically 4 actions present except the approval steps which completes an approval process, following are:

1. **Initial Submission Actions:**
   Initial submission actions are the actions that occur when a user first submits a record for approval. By default, an action to lock the record runs automatically on initial submission. Initial submission actions can include any approval actions such as email alerts, field updates, tasks, or outbound messages.
2. **Final Approval Actions:**
   Final Approval actions are the actions that occur when a record is approved from all the approval steps. It also locks or unlocks the record, as specified. It can include any approval actions such as email alerts, field updates, tasks, or outbound messages.
3. **Final Rejection Actions:**

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Final Rejection actions are the actions that occur when a record is rejected from any of the approval step. It also locks or unlocks the record, as specified. It can include any approval actions such as email alerts, field updates, tasks, or outbound messages.

4. **Recall Actions:**
   Recall actions are the actions which occur when a record is recalled after submission for an approval. It can include any approval actions such as email alerts, field updates, tasks, or outbound messages.
   Note: Initial submission default actions cannot be edited but final approval & rejection default actions can be edited.

Approval Steps:

Approval process consists of one or more than one approval steps.

Every approval step contain its own criteria and Approvers.

Approval Steps are given step numbers to identify the hierarchy in which the approval steps should execute.

Every step consists of a criteria which qualifies that the record needs to get into this step for approval or not.

If record does not fulfills the criteria for any step except first step thenthe record gets approved and executesFinal Approval actions after it.

In approval step 1 we can choose whether the record should get approved or rejected if does not fulfills the criteria.

Approvers of approval step can be:

- Manager Field of user record or any other hierarchal field.
- Submitter can also choose manually the approver of that step.
- Record can automatically be assigned to a queue for approval.
- Or we can set a particular user or a queue for a particular approval step.
  - In this option there are 2 options that decides how the approver/approvers will decide whether the record is approved or not.
    1. Approve or reject based on the **FIRST** response.
       Any of the approver if approves the record it is considered to be approved.
    2. Require **UNANIMOUS** approval from all selected approvers.
       If any of the approver rejects the record it is considered to be rejected.

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Delegated approvers can also approve the record if they are allowed to approve explicitly in approval step definition.

Approvers can also reassign the approval request to another user.

Every approval step contains its own approval and rejection actions. These actions can be any amongst Email Alert, Task, Field Update and outbound message.

In order to activate an approval process there should be at least one approval step.

Note: Once an approval process is activated no more steps can be added into it.