## **Phase 4: Process Automation (Admin)**

#### Introduction

In this phase, we implemented **automation features in Salesforce** to streamline the workflow of our Skill Development & Employment Portal. The goal was to minimize manual tasks, improve accuracy, and ensure timely notifications for users (Students, Employers, Trainers, and Admins).

Salesforce provides multiple tools for process automation, and we applied them to enforce business rules, trigger actions, and guide the overall process.

# Step 1 — Preparing org and create test data (required before automation)

Purpose: enable email delivery & notifications and create sample records you'll use to test all automations (Job, Training, Student, Employer, Application).

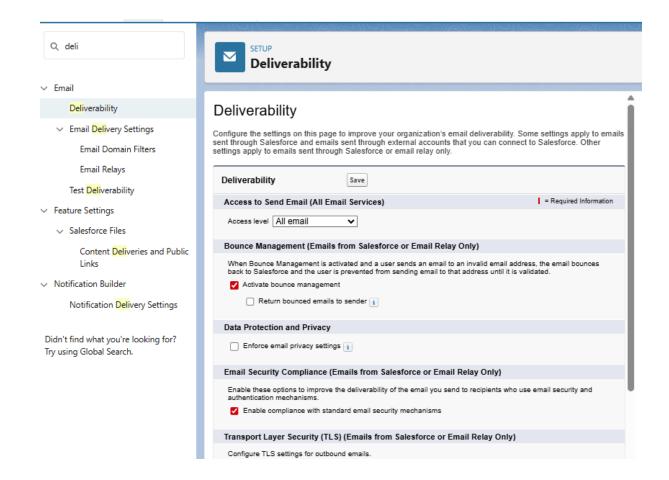
#### in my Trailhead Playground (Lightning Experience):

#### 1. Launch Playground / Dev Org

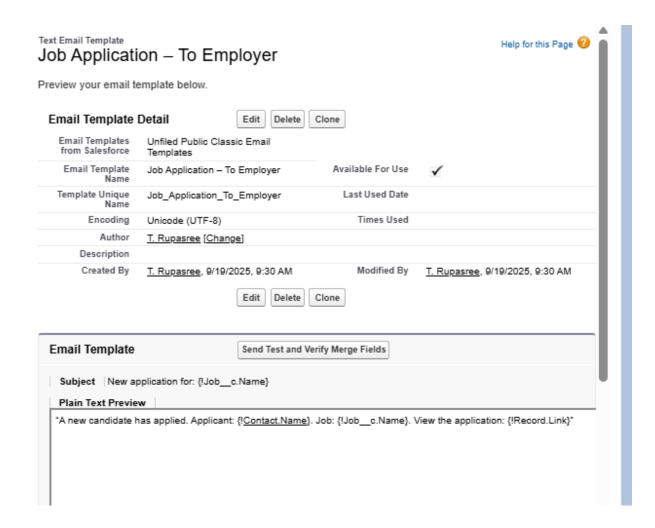
- Go to Trailhead → click your avatar → **Hands-on Orgs** / **Launch** your Trailhead Playground (or open your Developer Edition org).
- Confirm you're in the right org (org name shown in the top-right).
- (Why): all configuration and screenshots must be done inside the org where you'll build automations.

#### 2. Open Setup

- Click the **Gear (۞)** icon → **Setup**.
- 3. Enable Email Deliverability (so email alerts actually send)
- In Setup Quick Find, type **Deliverability** → open **Deliverability**.
- Set Access Level (or Access to Send Email) to All Email → Save.

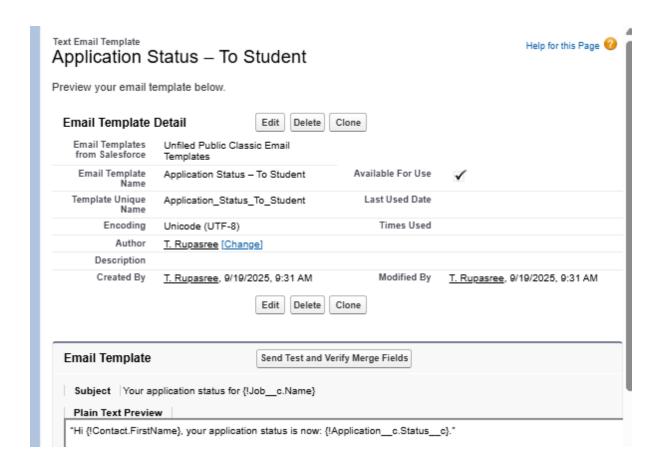


- Why: Email Alerts use your org's deliverability setting Trailhead orgs default to "System email only" which blocks test emails.
- 4. **Create 2 simple Lightning Email Templates** (you'll wire these to Email Alerts later)
- In Setup Quick Find, type Email Templates → Email Templates.
- Click New Email Template (Lightning). Create:
- Template 1
- Name: Job Application To Employer
- Subject: New application for: {!Job\_c.Name} (replace merge field with your Job field if different)
- Body: short message: "A new candidate has applied. Applicant: {!Contact.Name}. Job: {!Job\_c.Name}. View the application: {!Record.Link}"

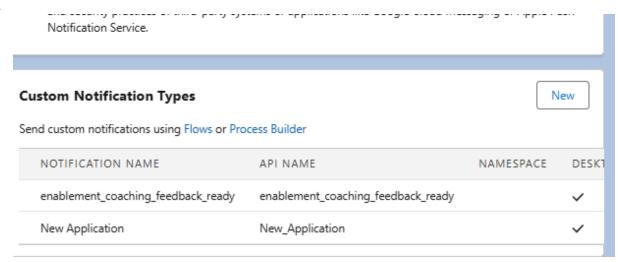


#### Template 2

- Name: Application Status To Student
- Subject: Your application status for {!Job c.Name}
- Body: "Hi {!Contact.FirstName}, your application status is now: {!Application\_c.Status\_c}."
- Save templates. (You don't need perfect merge fields now placeholders are fine; we'll fix exact merge fields when wiring alerts.)



- 5. **Create Custom Notification Types** (for in-app notifications)
- In Setup Quick Find, type **Notification Builder** → open **Custom Notifications**.
- Click **New** and create two types:
- New Application (API name New\_Application) Channels: Desktop & Mobile (select available channels).
- Application Status Changed (API name Application\_Status\_Changed) —
   Channels: Desktop & Mobile.
- Save.



- 6. Create sample test records (so automations can be tested)
- Use App Launcher (grid icon) → search for your custom objects (e.g., Jobs, Trainings, Applications, Contacts).
- Create:
- Employer Account (Accounts) e.g., Acme Hiring
- **Contact / Student** e.g., Rupa Sree (email a working email you control for testing)
- **Job Posting** Title: Frontend Developer Test, Location: Hyderabad, Salary Range: 20,000-40,000, Closing Date: (choose a future date)
- Training Program Name: Full-Stack Bootcamp Test, Start Date: choose date
- Job Application Link Applicant (Contact) to Job Posting, Status = Pending
- Save each record.

## **Automation Components**

## **♣** Validation Rules

- Purpose: Ensure data integrity by restricting incorrect or incomplete data entry.
- o Examples in Project:
- Prevent students from registering without entering a valid email and phone number.
- o Ensure that job postings must include **Salary Range** and **Job Location**.
- o Block duplicate skill names in the Skills object.
- o Validation Rules ensure users enter correct data before saving records.

In our **Skill Development & Employment Portal**, we'll create rules like:

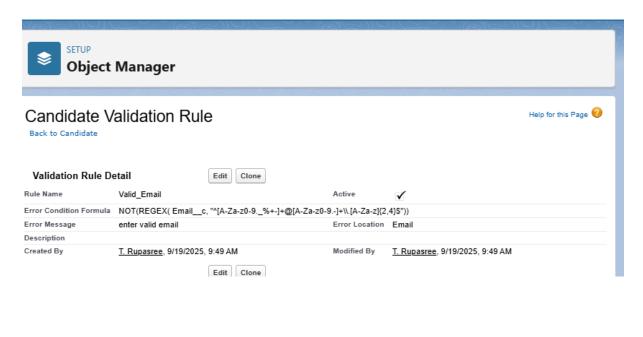
- Students must enter a valid Email address
- Job Posting must include Salary Range

## **♦** Procedure (do this in my Trailhead Playground):

#### **Rule 1: Candidate Email Validation**

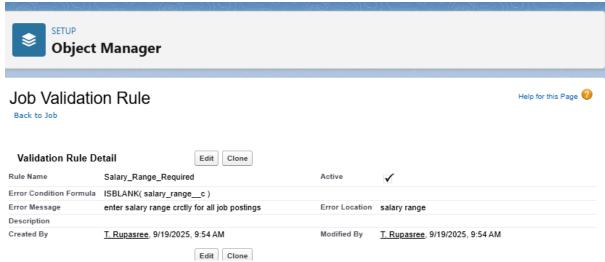
- 1. Go to **Setup** → Quick Find: **Object Manager**.
- 2. Select your **Candidate(Contact)** object (if you're using Contact for students).
- 3. In the left panel, click **Validation Rules** → **New**.
- 4. Enter:
- Rule Name: Valid Email
- Error Condition Formula:
- NOT(REGEX( Email , "^[A-Za-z0-9. %+-]+@[A-Za-z0-9.-]+\\.[A-Za-z]{2,4}\$"))
- **Error Message**: Enter valid email
- Error Location: Field → Email.

#### 5. Save.



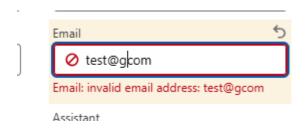
#### **Rule 2: Job Posting Salary Range Required**

- 1. In **Object Manager**, open your **Job** (custom object).
- 2. Go to Validation Rules → New.
- 3. Enter:
- Rule Name: Salary Range Required
- Error Condition Formula:
- ISBLANK ( Salary\_Range\_\_c )
- Error Message: Salary Range must be provided for all job postings.
- Error Location: Field → Salary Range.
- 4. Save.



#### **◆** Testing the Rules

- 1. Go to App Launcher → open Students (Contacts).
- Try creating a new student record with an invalid email (e.g., test@abc).
- Confirm Salesforce blocks the save and shows your error message.



- 2. Go to **Job Postings** → create a new job posting **without entering Salary Range**.
- Confirm Salesforce blocks save and shows your error message.

## **Workflow Rules**

- o **Purpose**: Automate simple "if-then" actions based on record changes.
- o Examples in Project:
- When a **Job Application** is submitted, send an **email alert** to the employer.
- o If a training session is updated with a new schedule, notify registered students.
- Workflow Rules help you send alerts, update fields, or create tasks automatically when conditions are met.
- > For our **Skill Development & Employment Portal**, let's build one:

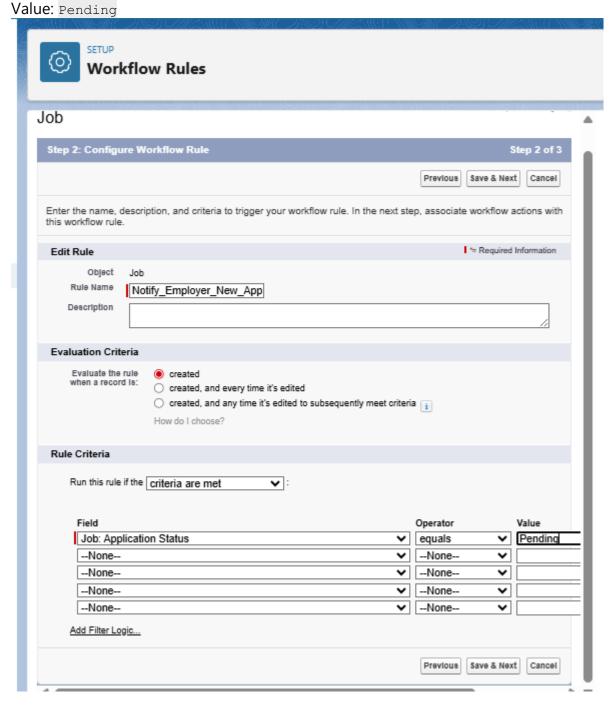
## ◆ Use Case Example: Notify Employer when a Job Application is Submitted

When a student submits a new **Job Application**, the employer should immediately get an **Email Alert**.

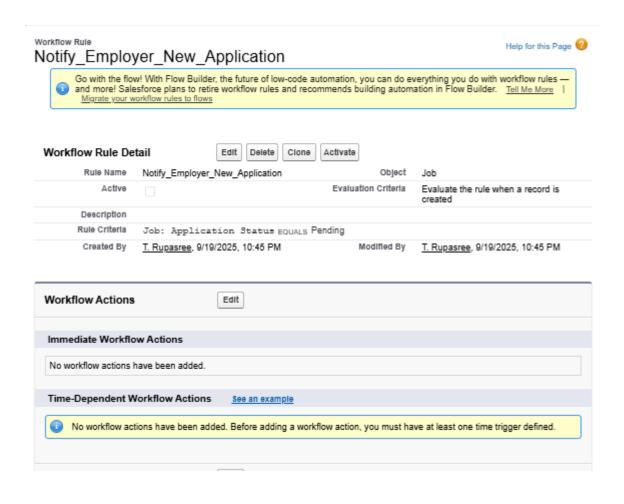
#### **Procedure**

1. Go to **Setup** → Quick Find: **Workflow Rules**.

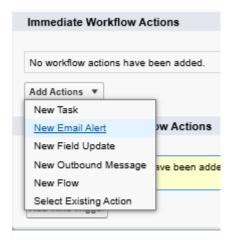
- 2. Click New Rule.
- 3. Select **Object**: Job (your custom object).
- 4. Click Next.
- 5. Enter:
- Rule Name: Notify\_Employer\_New\_Application
- **Evaluation Criteria**: created (Evaluate the rule when a record is created).
- Rule Criteria:
- Field: Application Status
- Operator: equals



Click Save & Next.



1. In Workflow Actions, click **Add Workflow Action** → **New Email Alert**.

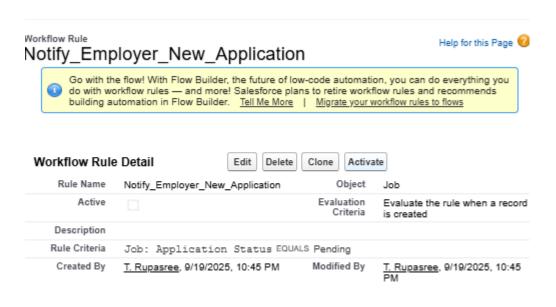


- 2. Enter:
- Description: New Job Application Alert to Employer

- Email Template: Select Job Application To Employer (we created in Step 1).
- Recipients: Add Employer Email (lookup field on Job Posting → Employer →
  Contact Email).
- Save.

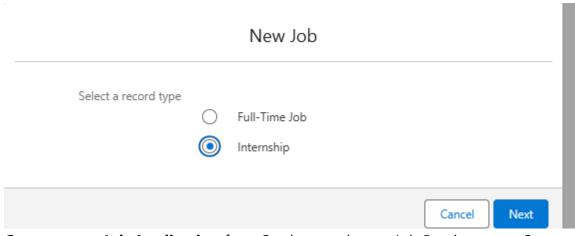


- 1. Click Done.
- 2. On Workflow Rules list → select your new rule.
- 3. Click **Activate**.

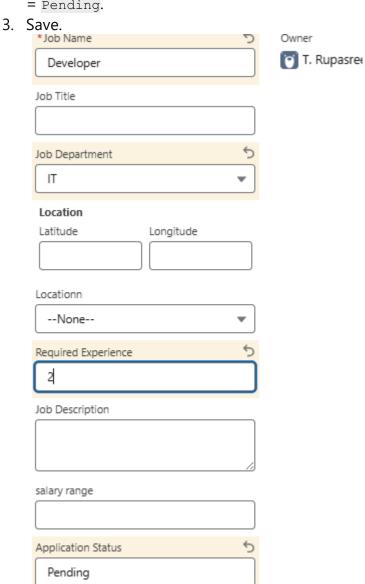


#### **Testing the Workflow Rule**

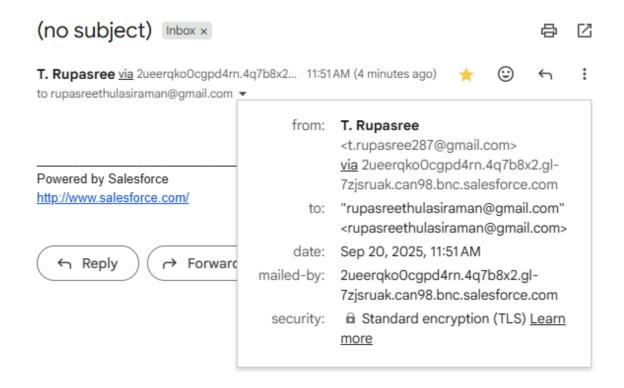
1. Go to **App Launcher** → Open **Job Applications** 



2. Create a **new Job Application** for a Student → choose Job Posting → set Status = Pending.



4. Check the Employer's email inbox (or if testing with your email, check your inbox)



- Workflow Rule detail page (showing criteria + email action).
- Email received in inbox.

## Process Builder

- **Purpose**: Build more advanced automation with multiple conditions and actions.
- Examples in Project:
- Automatically assign a status = "Pending Review" when a new Job Application is submitted.
- Create a Task for Admin when a new Training Program is added.
- Send a **Custom Notification** to students when their application status changes.

#### Why Process Builder?

Workflow Rules are limited (one action at a time). Process Builder allows **multiple conditions + multiple actions** in a single automation.

For our **Skill Development & Employment Portal**, we'll build a process that:

- 1. When a **Job Application** is created or updated,
- Automatically set its Status = "Pending Review".
- Create a Task for Admin to review the application.
- Send a **Custom Notification** to the student.

#### **♦** Procedure

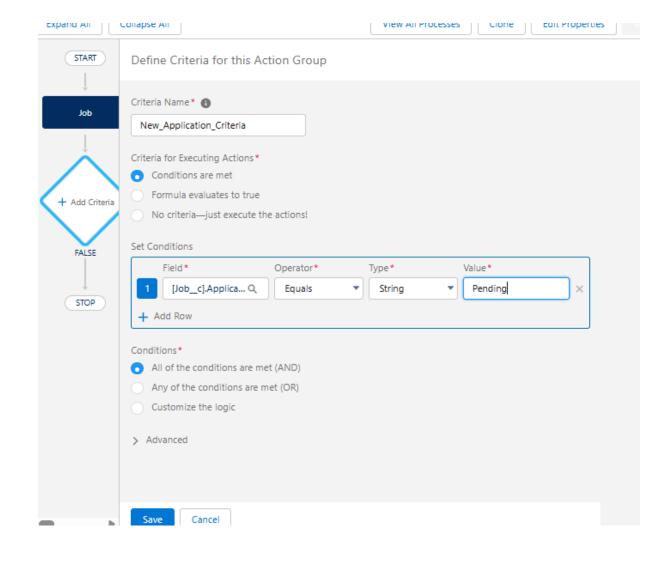
#### **Create New Process**

- 1. Go to **Setup** → Quick Find: **Process Builder**.
- 2. Click **New**.
- Process Name: Application Submission Process
- **API Name**: auto-filled
- **Description**: Automates actions when a job application is submitted.
- The process starts when: A record changes.
- Click **Save**.

Process Name*	API Name* 1
Application_Submission_Process	Application_Subr
Description	
Automates actions when a job application is submitted.	

#### **Select Object & Criteria**

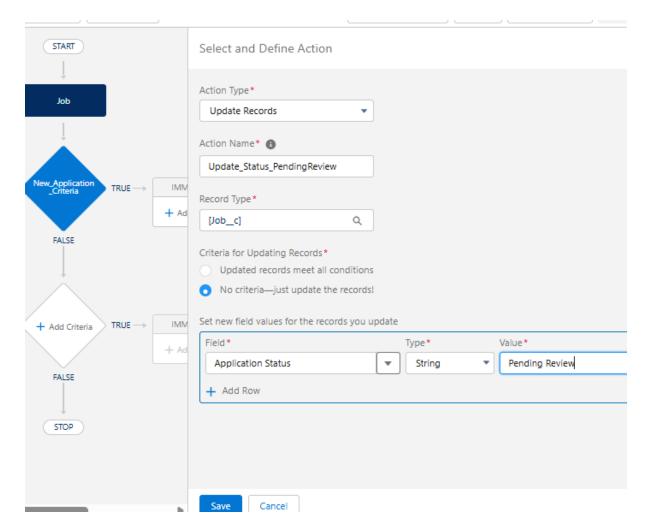
- 1. Click + Add Object.
- Choose **Job Application** object.
- Start the process: when a record is created or edited.
- Save.
- 2. Under Criteria → Click + Add Criteria.
- Criteria Name: New Application Criteria
- Criteria for Executing Actions: Conditions are met
- Field: Application Status
- Operator: equals
- Value: Pending
- Save.



#### **Add Immediate Actions**

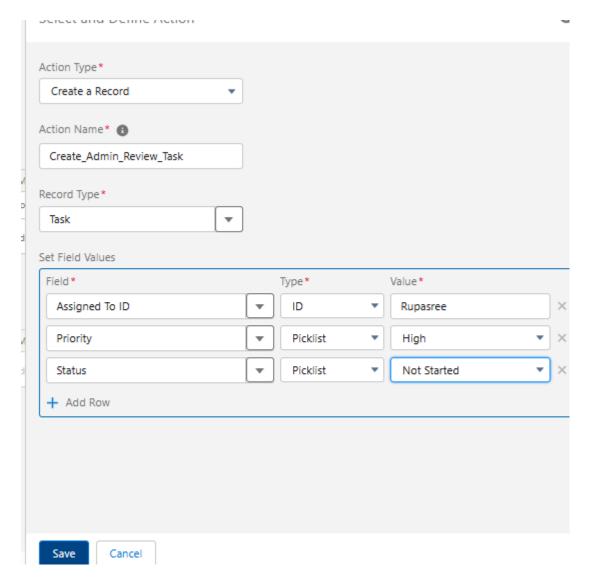
(A) Field Update  $\rightarrow$  Status

- Action Type: **Update Records**.
- Name: Update\_Status\_PendingReview.
- Record Type: Select the Job Application record that started the process.
- Field: Status → Value = Pending Review.
- Save.



(B) Create a Task for Admin

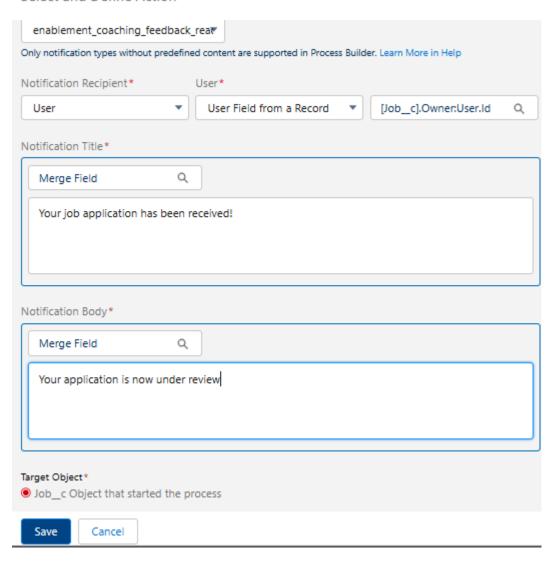
- Action Type: Create a Record.
- Name: Create\_Admin\_Review\_Task.
- Record Type: Task.
- Set Fields:
- Subject = Review New Job Application
- Assigned To = Admin User (lookup your username if you're Admin).
- Status = Not Started
- Priority = High.
- Save.



(C) Send Custom Notification to Student

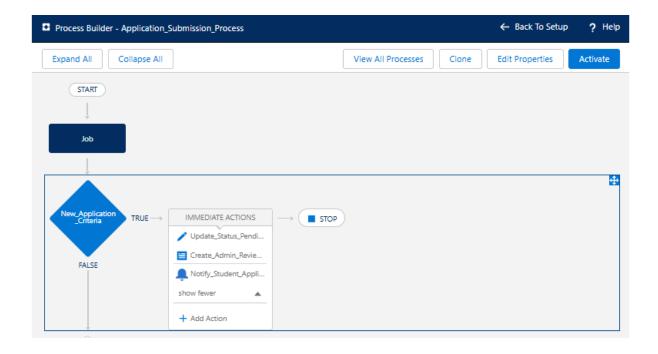
- Action Type: **Send Custom Notification**.
- Name: Notify Student Application.
- Notification Type = Application Status Changed (from Step 1).
- Recipient: **Student (Contact)** related to the application.
- Title = Your job application has been received!
- Body = Your application is now under review.
- Save.

#### Select and Define Action



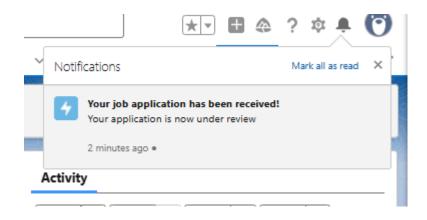
#### **Activate the Process**

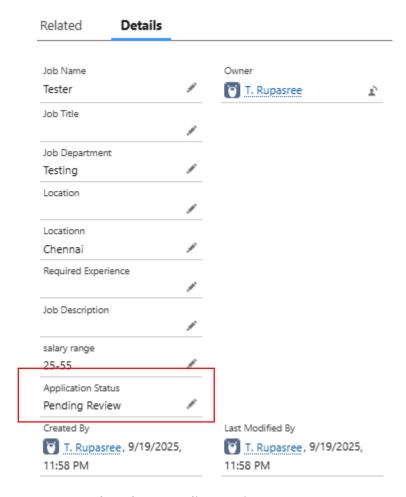
• Click **Activate** at the top.



## **◆** Testing the Process

- 1. Go to **Job Applications**  $\rightarrow$  create a new record.
- Student = (pick your test Contact).
- Job Posting = (pick your test Job).
- Status = Pending.
- Save.
- 2. Verify Results:
- The Status auto-updates to Pending Review.
- A **Task** is created and assigned to Admin.
- The **Student** receives a custom notification (check bell icon in Salesforce).





Auto updated as pending review

## Approval Process

- Purpose: Automate record approval workflows.
- Examples in Project:
- Employers' job postings go through an **Admin approval process** before being visible to students.
- o Training programs created by trainers require approval before publishing.

#### O Why Approval Process?

It ensures that important records (like Job Postings or Training Programs) go through proper review before becoming active.

For our **Skill Development & Employment Portal**, let's create one for **Job Postings**:

Employer submits a Job Posting.

- Admin reviews & approves.
- If approved → Status = "Approved".
- If rejected → Status = "Rejected".
- Employer gets email notification.

#### **♦** Procedure

#### **Create Approval Process**

- 1. Go to **Setup** → Quick Find: **Approval Processes**.
- 2. Click **Approval Process Wizard** → **Jump Start Wizard** (simpler for demo).
- 3. Select Object: Job Posting.
- 4. Enter:
- Name: Job Posting Approval
- Unique Name: auto-filled.
- Entry Criteria: Status equals Submitted
- **Approver**: Automatically assign to user → Select Admin (your user).
- **Email Template**: Use a Job Approval template (you can reuse Job Application To Employer template, or create a new one like Job Posting Approval Notification).
- Save.

#### **Add Field Updates**

We'll set **Status** field to change based on outcome.

- 1. In Approval Process → Click Final Approval Actions → Add New → Field Update.
- Name: Set Status Approved.
- Object: Job Posting.
- Field: Status.
- Value: Approved.
- Save
- 2. In Final Rejection Actions → Add Field Update.
- Name: Set Status Rejected.
- Field: Status.
- Value: Rejected.

Save.

#### **Activate Approval Process**

1. Click **Activate**.

## **♦ Testing the Approval Process**

- 1. Go to App Launcher → Job Postings.
- 2. Create a new Job Posting:
- Title = Backend Developer Test.
- Salary Range = 20,000-40,000.
- Status = Submitted.
- Save.
- 3. On the record detail page → click **Submit for Approval**.
- 4. Login as Admin (your user should already be approver).
- Open the Approval Request.
- Click **Approve**.
- Confirm Status field = Approved.

## **♣** Flow Builder

Salesforce **Flows** allowed us to create more advanced automations, including screens, record-triggered actions, and scheduled tasks.

- **Screen Flow**: Guided student registration with conditional questions (e.g., education background).
- **Record-Triggered Flow**: When a job is closed, automatically update related applications to "**Not Selected**".
- **Scheduled Flow**: Send reminders to students about upcoming training sessions.
- Auto-Launched Flow: Auto-assign default skills to new students upon registration.

**Step 6: Flow Builder** — the most powerful automation tool in Salesforce.

We'll do this step-by-step with four types of Flows:

- 1. **Record-Triggered Flow** → auto actions when a record changes.
- 2. **Screen Flow** → guided wizard for users.
- 3. **Scheduled Flow**  $\rightarrow$  runs on a schedule.
- 4. **Auto-launched Flow** → called by other automation (Process Builder, Apex).

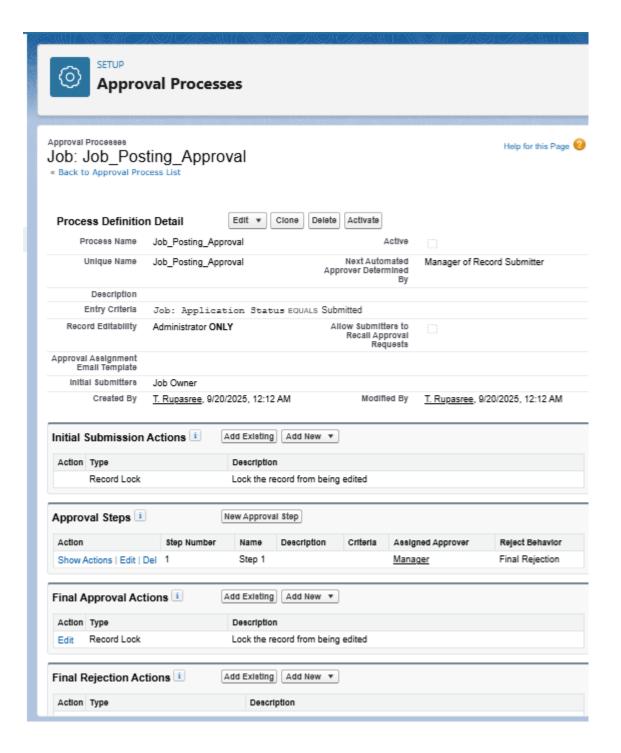
#### Use Case:

When a Job Application is **Approved**, automatically:

- Enroll the Student into a default Training Program.
- Send them a notification.

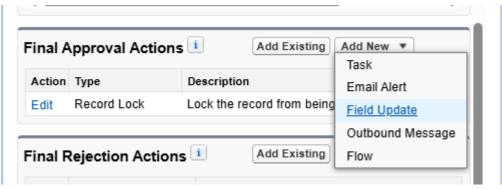
#### **♦** Procedure

- 1. Go to Flow Builder
- Setup → Quick Find: **Flows** → Click **New Flow**.
- Select **Record-Triggered Flow**.
- Object = Job Application.
- Trigger = When a record is updated.
- Condition = Status equals Approved.
- Optimize for = Actions and Related Records.
- Click **Done**.

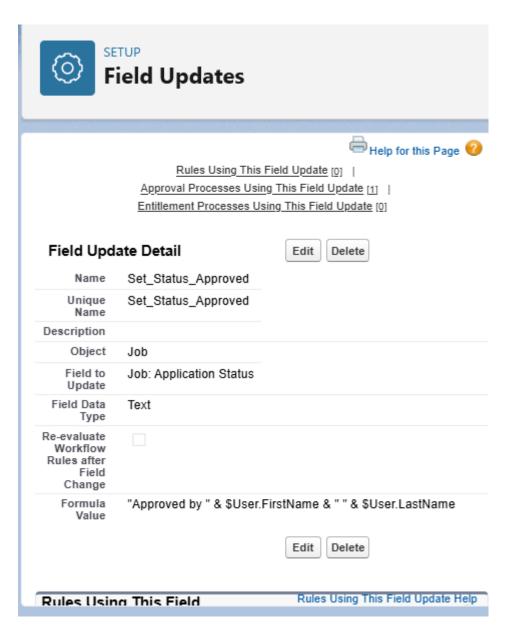


#### 2. Add Action: Create Record (Training Enrollment)

- In canvas, click + → Create Records.
- Label = Enroll Student in Training.
- Record Type = Training Enrollment (or junction object between Student & Training, depending on your schema).

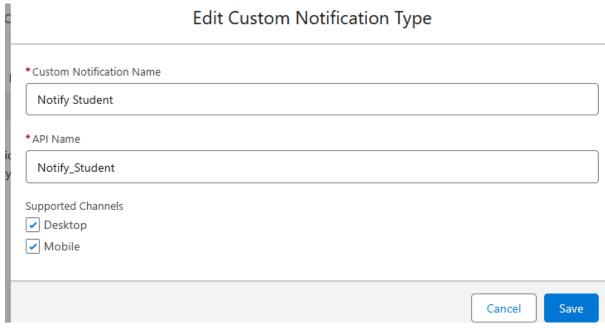


- Set Field Values:
- Student c = {!\$Record.Student c}
- Training c = "Full-Stack Bootcamp Test" (pick your default Training record).
- Save.



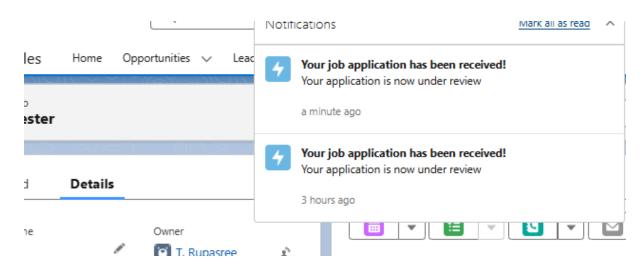
#### 3. Add Action: Send Notification

- Click + → Action.
- Action Type = **Send Custom Notification**.
- Label = Notify Student.
- Notification Type = Application Status Changed.
- Recipient = {!\$Record.Student\_c}.
- Title = Congrats!
- Body = You have been enrolled in the training program.
- Save.



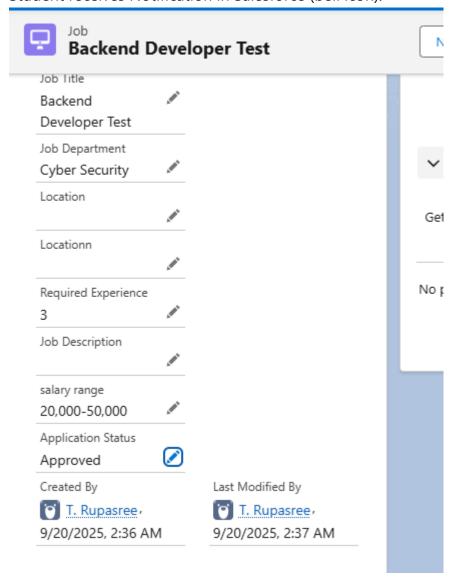
#### 4. Save & Activate Flow

- Flow Label: Auto Enroll Student On Approval.
- Save → **Activate**.



## **♦** Testing

- 1. Go to **Job Applications** → Pick one with Status = Pending Review.
- 2. Update Status = **Approved**  $\rightarrow$  Save.
- 3. Check:
- Student auto-enrolled in Training (new Training Enrollment record created).
- Student receives Notification in Salesforce (bell icon).



## **Email Alerts**

- Used to send automated emails for different actions:
- Job Application submitted → Employer notified.
- Training Program approved → Trainer notified.
- Application accepted → Student notified.

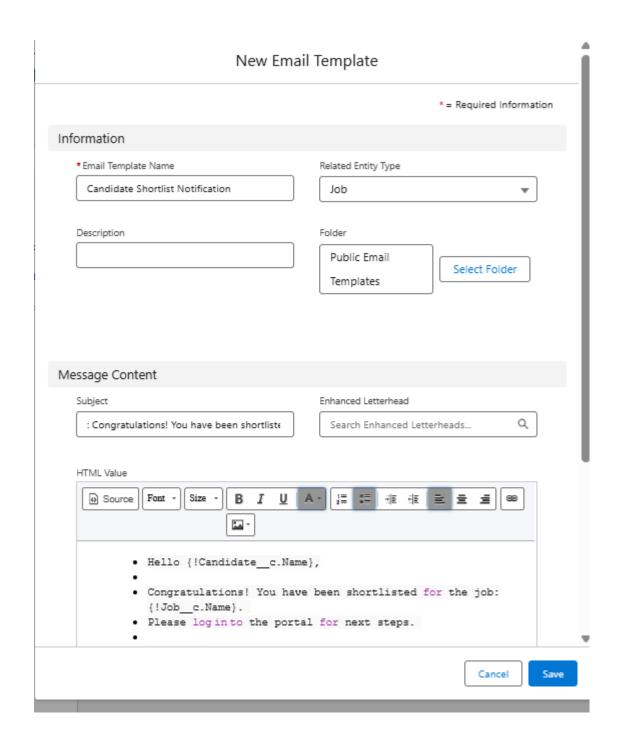
#### **Objective**

- To send automatic email notifications to users when specific conditions are met.
- o In our project use case (Skill Development Employment Portal):
- When a **Candidate is shortlisted for a Job**, send them an automated email.
- When a Job Application is Rejected, send a rejection email.
- When a **Training Enrollment is Approved**, send confirmation to the Candidate.

#### **♦** Procedure

#### **Step 1: Create an Email Template**

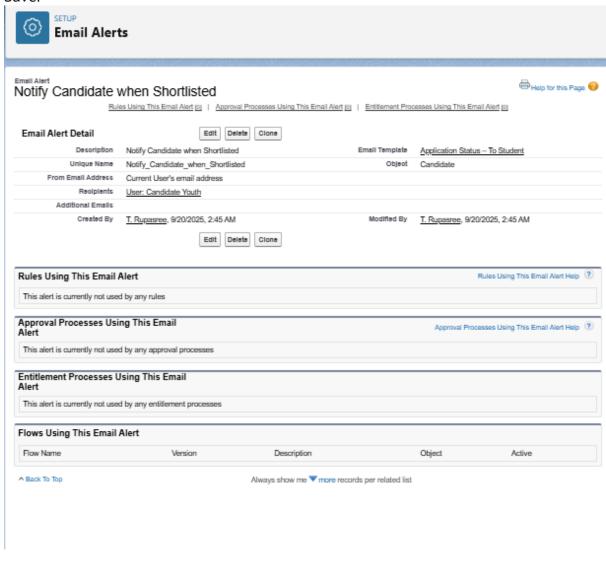
- 1. In Salesforce Setup, go to **App Launcher** → **Search "Email Templates"** → **New Email Template**.
- 2. Enter details:
- **Email Template Name**: Candidate Shortlist Notification
- **Subject**: Congratulations! You have been shortlisted
- Email Body:
- Hello {!Candidate c.Name},
- •
- Congratulations! You have been shortlisted for the job: {!Job c.Name}.
- Please log in to the portal for next steps.
- Regards,
- Skill Development Employment Portal Team
- Save.



## **Step 2: Create an Email Alert**

- 1. In Setup, search **Email Alerts** → **New Email Alert**.
- 2. Fill details:
- **Description**: Notify Candidate when Shortlisted
- Email Template: Candidate Shortlist Notificat
- ion

- Recipient Type: Select Related User → Candidate Email field
- Save.



## **Step 3: Add Email Alert to Automation**

You can attach this **Email Alert** to:

- Workflow Rule (when Job Application Status = Shortlisted)
- **Process Builder** (if we want more conditions, e.g., Skill Match ≥ 80%)
- Flow Builder (for advanced logic, e.g., send both Candidate & Recruiter emails).

#### **Use Case**

When a **Job Application's Status = Shortlisted**, the candidate automatically receives the **shortlist notification email**.

## **♦** Step-by-Step Procedure

#### **Step 1: Go to Workflow Rules**

- 1. In **Setup**, search for **Workflow Rules**.
- 2. Click New Rule.

#### **Step 2: Choose Object**

- 1. Select **Job Application (Custom Object)** (assuming you created this in earlier phases).
- 2. Click Next.

## **Step 3: Define Rule Criteria**

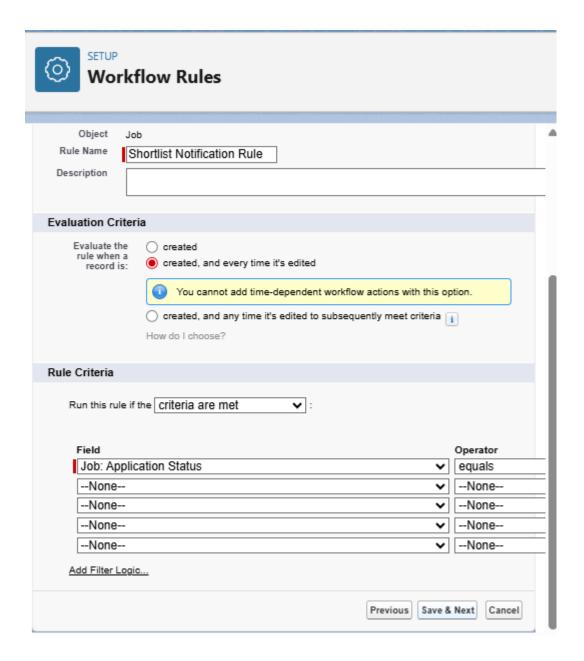
1. Rule Name: Shortlist Notification Rule

2. Evaluation Criteria: created, and every time it's edited

3. Rule Criteria:Field: **Status** 

Operator: equalsValue: Shortlisted

4. Save & Next.



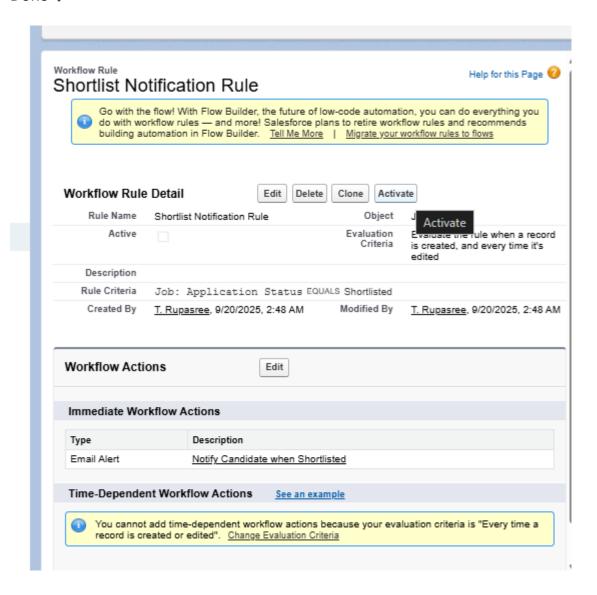
#### **Step 4: Add Workflow Action** → **Email Alert**

- Under Immediate Workflow Actions, click Add Workflow Action → New Email Alert.
- 2. Choose the previously created **Candidate Shortlist Notification Email Alert**.
- 3. Save.

#### **Step 5: Activate the Workflow**

- 1. Click **Activate**.
- 2. Done 

  ✓



## **♦ Workflow Flow Diagram**

```
Job Application Status = Shortlisted

↓
Workflow Rule Triggers

↓
Email Alert → Sends "You are shortlisted" email to Candidate
```

Now, whenever a recruiter updates a candidate's application to **Shortlisted**, the system will send an **automated email** 

## **♣** Field Updates

- Automated field updates to reduce manual work:
- Application Status auto-updates from "Pending" → "Under Review" → "Accepted/Rejected".
- Job Posting status auto-updates to "Expired" after the closing date.

## **Objective**

Field Updates allow us to **automatically update a field's value** when certain conditions are met.

This reduces manual work and ensures data consistency.

## **♦** Use Case in Project

In the **Skill Development Employment Portal**, let's implement:

• When a **Job Application Status** = **Selected**, automatically update the **Placement Status** field on the Candidate record to **Placed**.

This way, admins and recruiters don't need to manually mark a candidate as "Placed."

#### **♦** Step-by-Step Procedure

**Step 1: Go to Workflow Rules** 

1. In **Setup**, search for **Workflow Rules**.

- 2. Click New Rule.
- 3. Select Job Application (Custom Object).
- 4. Click **Next**.

#### **Step 2: Define Rule Criteria**

- 1. Rule Name: Placement Update Rule
- 2. Evaluation Criteria: created, and every time it's edited
- 3. Rule Criteria:Field: StatusOperator: equalsValue: Selected

4. Save & Next.

#### **Step 3: Add Workflow Action** → **Field Update**

- Under Immediate Workflow Actions, click Add Workflow Action → New Field Update.
- 2. Action Name: Update Candidate Placement Status
- 3. Field to Update: Candidate → Placement Status
- 4. New Value: Placed
- 5. Save.

## **Step 4: Activate the Workflow**

- 1. Click **Activate**.
- 2. Done ≪

## **♦ Workflow Flow Diagram**

```
Job Application Status = Selected

↓
Workflow Rule Triggers

↓
Field Update → Candidate.Placement_Status = "Placed"
```

This ensures **automatic synchronization** between job application status and candidate placement status.

We already saw this field updates in our earlier steps while creating workflow rules



- Automated Task creation for Admins and Trainers:
- Admin gets a task to review new Job Postings.
- Trainer gets a task to prepare study materials when a new Training Session is created.

## **Objective**

Tasks allow Salesforce to **automatically create to-do items** for users (Recruiters, Admins, Trainers, etc.) when specific conditions are met.

This ensures no important step is missed.

#### **◆** Use Case in Project

In the **Skill Development Employment Portal**, let's implement:

 When a Candidate applies for a Job, automatically create a Task for the Recruiter to review the application.

This helps recruiters stay on top of new applications.

## **♦ Step-by-Step Procedure**

#### **Step 1: Go to Workflow Rules**

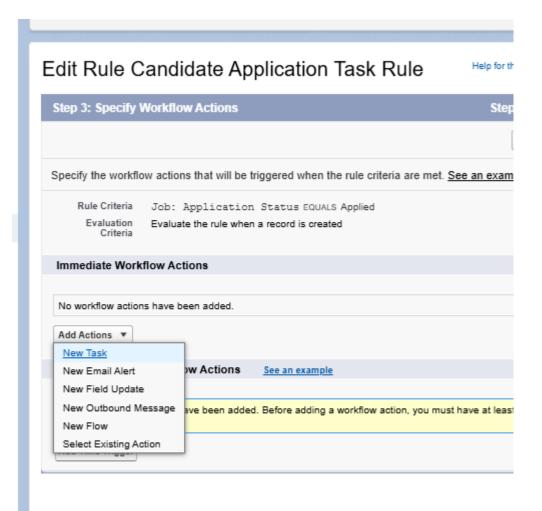
- 1. In **Setup**, search **Workflow Rules**.
- 2. Click **New Rule**.
- 3. Select Job Application (Custom Object).
- 4. Click **Next**.

## **Step 2: Define Rule Criteria**

- 1. Rule Name: Candidate Application Task Rule
- 2. Evaluation Criteria: created
- 3. Rule Criteria:Field: **Status**
- Operator: equalsValue: Applied
- 4. Save & Next.

## **Step 3: Add Workflow Action** → **New Task**

1. Under Immediate Workflow Actions, click Add Workflow Action → New Task.



#### 2. Fill details:

Assigned To: Recruiter (Related User or specific role)

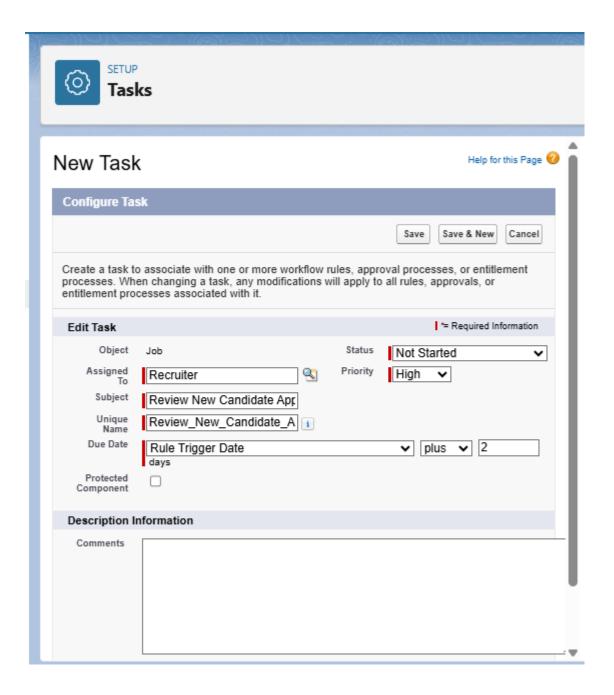
• Subject: Review New Candidate Application

Due Date: Rule Trigger Date + 2 Days

• Priority: High

Status: Not Started

3. Save.



## **Step 4: Activate the Workflow**

- 1. Click **Activate**.
- 2. Done 

  ✓

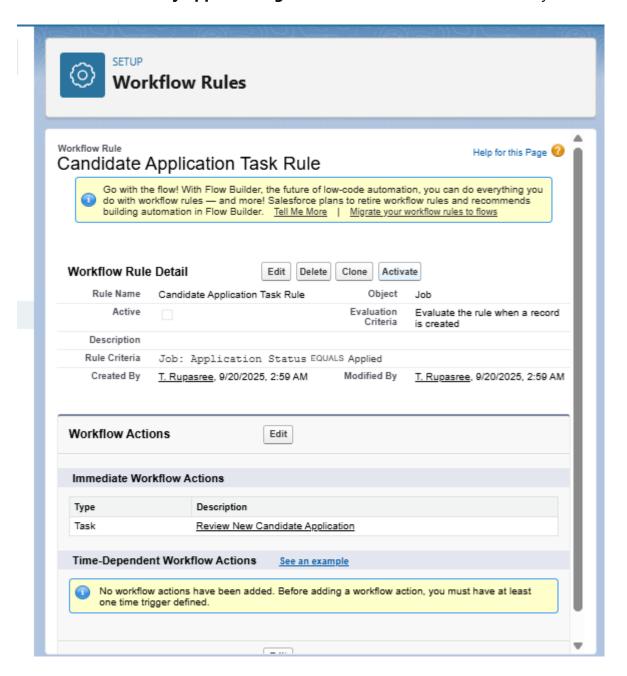
## **♦** Workflow Flow Diagram

```
Job Application Created (Status = Applied)

Workflow Rule Triggers

Task Created for Recruiter: "Review Candidate Application"
```

This ensures that every application gets recruiter attention without delay.



## Custom Notifications

- **In-App Notifications** were configured for real-time alerts:
- Student receives a notification when their application is shortlisted.
- Employer gets a notification when a new candidate applies.

#### **Objective**

Custom Notifications allow Salesforce to **send real-time alerts** directly inside the Salesforce app (web or mobile), instead of only through email.

This keeps users (Recruiters, Admins, Trainers, Candidates) informed immediately.

#### **♦** Use Case in Project

In the **Skill Development Employment Portal**, let's implement:

 When a Candidate is Placed in a Job, send a Custom Notification to the Recruiter and Admin saying:

"Candidate [Name] has been successfully placed in [Job Title]."

This makes the platform more interactive and responsive.

## **♦** Step-by-Step Procedure

## **Step 1: Enable Custom Notifications**

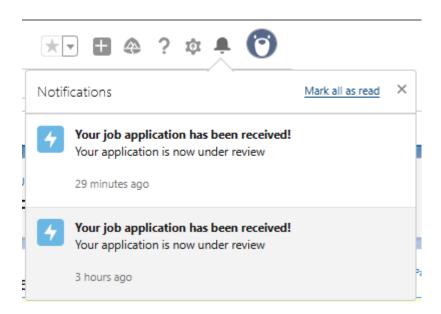
- 1. Go to **Setup** → Search **Notification Builder** → Click **Notification Types**.
- 2. Click **New**.
- Label: Placement Success Notification
- API Name: Placement\_Success\_Notification
- Supported Channels: Desktop + Mobile
- 3. Save.

#### Step 2: Create Process/Flow to Trigger Notification

- Go to Setup → Flow Builder (recommended instead of Workflow for Custom Notifications).
- 2. Create a Record-Triggered Flow on Job Application (Custom Object).
- 3. Entry Criteria:
- Field: Status
- Operator: **equals**
- Value: **Selected**
- 4. Add an **Action** → **Send Custom Notification**.
- Notification Type: Placement Success Notification
- Recipient: Recruiter (Related User) + Admin Role
- Notification Title: Candidate Placement Update
- Notification Body: Candidate {!Candidate\_c.Name} has been placed in Job {!Job\_c.Name}.
- 5. Save & Activate.

#### Step 3: Test It

- 1. Change a **Job Application Status** → **Selected**.
- 2. Recruiter & Admin should instantly see a **Salesforce Notification (bell icon top-right)**.



#### Already did in previous steps to test

#### **♦ Workflow Flow Diagram**

```
Job Application Status = Selected

↓
Record-Triggered Flow

↓
Custom Notification → Recruiter + Admin
```

#### Process Automation Phase (Admin) is complete:

- Validation Rules
- Workflow Rules
- Process Builder
- Approval Process
- Flow Builder
- Email Alerts
- Field Updates
- Tasks
- Custom Notifications

## **Benefits of Process Automation in the Project**

- Reduced manual effort for Admins and Trainers.
- Faster response times for students and employers.
- Ensured data accuracy through validation rules.
- Improved **user experience** with timely notifications.
- Standardized approval flows to maintain quality.