

Phase 4: Process Automation (Library Book Borrowing System)

Goal

Automate library operations in Salesforce to minimize manual work. Implement validation rules and flows to control borrowing limits and update book statuses automatically.

Step 1: Validation Rule — Limit Borrowed Books to 3

Objective

Prevent students from borrowing more than 3 books at the same time.

Steps

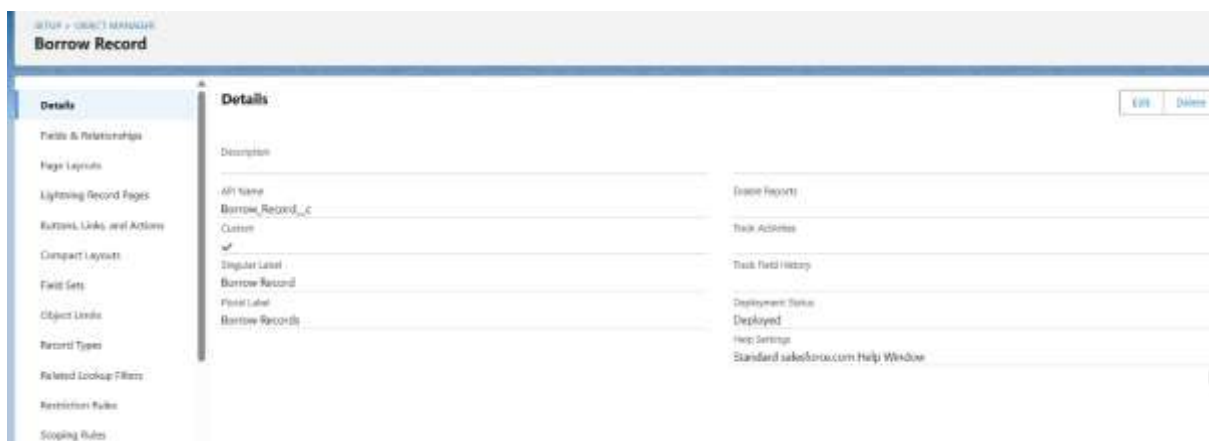
1. Navigate to **Setup** → **Object Manager** → **Borrow Record** → **Validation Rules** → **New Rule**.
2. **Rule Name:** BorrowLimit.
3. **Formula:**
4. AND(
5. ISPICKVAL(Status__c, "Borrowed"),
6. Student__r.Active_Borrows__c >= 3
7.)

(Ensure the fields Status__c and Active_Borrows__c exist before creating this rule.)

8. **Error Message:** A student cannot borrow more than 3 books.
9. **Error Location:** Top of Page.
10. Click **Save** → **Activate**.

Result: The system blocks creating a fourth borrow record for a student who already has 3 active borrowed books.

Screenshot: Validation Rule formula and setup page.



Borrow Record Validation Rule

Define a validation rule by specifying an error condition and a corresponding error message. The error condition is written as a Boolean formula expression. If the save will be aborted and the error message will be displayed. The user can correct the error and try again.

Validation Rule Edit Save Save & New Cancel

Rule Name:

Active: ☒

Description:

Error Condition Formula

Example: [More Examples...](#)

Display an error if Discount is more than 30%

If this formula expression is **true**, display the text defined in the Error Message area

Insert Field Insert Operator ▾

```
AND(
  ISPICKVAL(Status_c, "Borrowed"),
  Student_c.Active_Borrows_c >= 3
)
```

Functions

— All Function Categories — ▾

- ABS
- ACOS
- ADDMONTHS
- AND
- ASCII
- ASIN

Insert Selected Function

ABS(number)

Error Message

Example:

This message will appear when Error Condition formula is **true**

Error Message:

This error message can either appear at the top of the page or below a specific field on the page

Error Location: ☒ Top of Page ☐ Field [i](#)

Step 2: Flow 1 — Update Book Status When Borrowed

Objective

Automatically mark a book as **Borrowed** when a new Borrow Record is created.

Steps

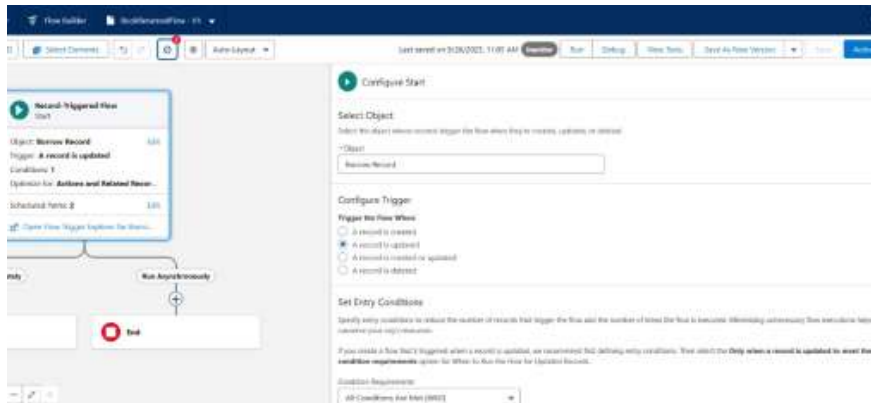
1. Go to **Setup → Flows → New Flow → Record-Triggered Flow**.
2. **Object:** Borrow Record.
3. **Trigger:** When a record is created.
4. **Run Flow:** After Save.
5. Add Element → **Update Records:**
 - **Label:** Update Book Status.

- **Condition:** Id = \$Record.Book__c.
- **Set Field:** Status__c = "Borrowed".

6. Save as BookBorrowedFlow → **Activate**.

Result: When a Borrow Record is created, the related Book's status automatically changes to *Borrowed*.

Screenshot: Flow canvas showing update element.



Step 3: Flow 2 — Update Book Status When Returned

Objective

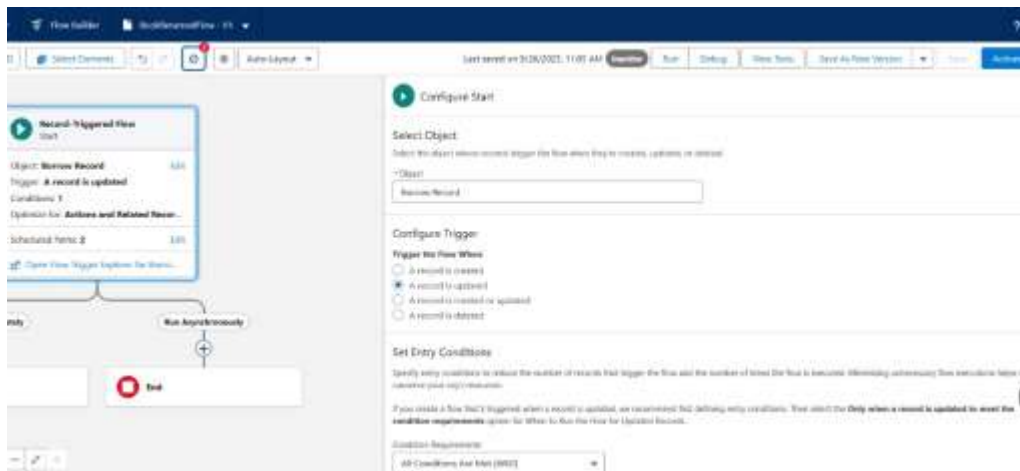
Automatically mark a book as **Available** when the Borrow Record is updated to Returned.

Steps

1. Setup → **Flows** → **New Flow** → **Record-Triggered Flow**.
2. **Object:** Borrow Record.
3. **Trigger:** When a record is updated.
4. **Condition:** Status__c Equals "Returned".
5. **Run Flow:** After Save.
6. Add Element → **Update Records:**
 - **Condition:** Id = \$Record.Book__c.
 - **Set Field:** Status__c = "Available".
7. Save as BookReturnedFlow → **Activate**.

Result: When a Borrow Record's status is updated to Returned, the corresponding Book's status automatically becomes Available again.

Screenshot: Flow builder showing condition and update action.



Step 4 (Optional): Email Reminder Before Return Date

Objective

Send a reminder email to the student 2 days before the book's Return Date.

Steps

1. Create an **Email Template** (Setup → Email Templates → New Template).
 - Subject: *Reminder: Book Return Due Soon.*
 - Body: *Hi {!Student__c.Name}, please return your borrowed book by {!Return_Date__c}.*
2. Create an **Email Alert** (Setup → Email Alerts → New):
 - Object: Borrow Record.
 - Recipient: Student Email.
3. Create a **Record-Triggered Flow**:
 - Object: Borrow Record.
 - Trigger: When record is created or updated.
 - Add **Scheduled Path**: 2 Days Before Return_Date__c.
 - Add **Action**: Send Email Alert.
4. Save → Activate.

Result: Students receive an automatic email reminder before the return date.

Screenshot: Flow with Scheduled Path configuration.

Classic Email Templates

Step 2: Text Email Template: New Template

Email Template Information

Folder

Unified Public Classic Email Templates

Available For Use

☐

Email Template Name

Email Reminder Before Ret

Template Unique Name

Email_Reminder_Before_Ret

Encoding

Unicode (UTF-8)

Description

Subject

Reminder: Book Return Due Soon

Email Body

Hi {{Student__c.name}}, please return your borrowed book by {{Return_Date__c}}.

SETUP

Classic Email Templates

Text Email Template

Email Reminder Before Return Date

Preview your email template below

Email Template Detail

Edit

Delete

Close

| | | | |
|---------------------------------|--|-------------------|---------------------------------------|
| Email Templates from Salesforce | Unified Public Classic Email Templates | Available For Use | <input type="checkbox"/> |
| Email Template Name | Email Reminder Before Return Date | Last Used Date | |
| Template Unique Name | Email_Reminder_Before_Return_Date | Times Used | |
| Encoding | Unicode (UTF-8) | | |
| Author | GUIDE Adithyaram (Change) | | |
| Description | | | |
| Created By | GUIDE Adithyaram, 9/26/2025, 12:13 AM | Modified By | GUIDE Adithyaram, 9/26/2025, 12:13 AM |

Edit

Delete

Close

SETUP

Email Alerts

Email Alerts

Edit View

Save

Save As

Backup

Cancel

Step 1: Enter View Name

View Name

Borrow Record

View Unique Name

Borrow_Record

Created By

GUIDE Adithyaram, 9/26/2025, 12:15 AM

Modified By

GUIDE Adithyaram, 9/26/2025, 12:15 AM

Step 2: Specify Filter Criteria

Filter By Additional Fields (Optional)

| Field | Operator | Value | |
|--------|----------|-------|-----|
| -None- | -None- | | AND |
| -None- | -None- | | AND |
| -None- | -None- | | AND |
| -None- | -None- | | AND |
| -None- | -None- | | AND |

SETUP

Email Template

SubRenewal_Reminder_T0

Save

Cancel

Preview

Details

Modified

Information

Email Template Name

SubRenewal_Reminder_T0

Account Entry Type

Subscription

Description

Owner

Public Email Templates

Share as Email Template

Message Content

Subject

Subject: Renewal: Subscription {{{Subscription__c.Name}}} expires on {{{Subscription__c.End_Date__c}}}

Body

Hi,
Your subscription {{{Subscription__c.Name}}} for {{{Subscription__c.Account__c}}} expires on {{{Subscription__c.End_Date__c}}}.
Please monitor and renew: {{{Subscription__c.Renew_Link__c}}}
Thanks,
Sales Team

Step 5: Test the Automations

Testing Procedure

1. Create a new **Borrow Record** (Status = Borrowed).
 - Check: The related Book's Status updates to *Borrowed*.
2. Update Borrow Record to **Returned**.
 - Check: The Book's Status updates to *Available*.
3. Try creating a 4th Borrow Record for the same student.
 - Check: The validation rule prevents saving.
4. (Optional) Verify Email Reminder Flow triggers before Return Date.

Summary of Automation Results

| Automation | Type | Trigger | Action | Outcome |
|--------------------|-----------------|---------------------------|-----------------------------------|--------------------------------|
| Borrow Limit | Validation Rule | On Save | Block creation of 4th borrow | Ensures fair usage |
| Book Borrowed Flow | Flow | Record Created | Update Book.Status__c = Borrowed | Marks book as borrowed |
| Book Returned Flow | Flow | Record Updated | Update Book.Status__c = Available | Marks book as available |
| Reminder Flow | Scheduled Flow | 2 days before Return Date | Send Email | Alerts student before due date |

Final Outcome

- Students cannot borrow more than 3 books simultaneously.
- Book statuses change automatically based on borrow/return.
- Optional reminders notify students about return dates.
- System achieves a fully automated library workflow with no manual updates required.