

Phase 6: App Packaging and Deployment (Library Book Borrowing System)

Goal

To finalize and prepare the Library Book Borrowing System for deployment or sharing by creating an app package, testing accessibility, and validating its readiness for end users.

Step 1: Review and Finalize the App Structure

Objective

Ensure all objects, fields, relationships, and automation are correctly configured before packaging.

Steps

1. Go to **Setup** → **App Manager** → **Library Management (App)**.
2. Verify the **App Details**:
 - App Name: *Library Management System*.
 - App Logo: Optional (add a book/library icon for a professional look).
 - Description: "A Salesforce app to manage library book borrowing, student records, and circulation."
3. Under **Navigation Items**, confirm the following tabs are added:
 - Books
 - Students
 - Borrow Records
 - Reports
 - Dashboards

4. Click **Save and Finish**.

Screenshot: App Manager view showing all navigation items.

Step 2: Verify Data and Functionality

Objective

Make sure the application's data and automation are functioning correctly before packaging.

Steps

1. Open the **Library Management App** from the App Launcher.
2. Check each object:
 - **Book** – Ensure records display book titles and statuses correctly.
 - **Student** – Confirm student details and linked borrow records.

- **Borrow Record** – Ensure relationships link to Book and Student properly.
3. Test a sample borrowing workflow:
 - Create a new Borrow Record (Borrowed → Returned) and ensure updates reflect in related records.
 4. Run a few reports from Phase 5 and confirm data displays correctly in charts.

Screenshot: Borrow Record list and working report view.

Step 3: Create Permission Set (for Controlled Access)

Objective

Grant specific access to app features for designated roles (Library Manager, Librarian, Assistant Librarian).

Steps

1. Go to **Setup → Permission Sets → New**.
2. **Label:** Library Access.
3. **Description:** Grants access to all library-related objects.
4. **App License:** Salesforce → **Save**.
5. Under **Object Settings**, configure:
 - **Books:** Read, Create, Edit.
 - **Students:** Read, Create, Edit.
 - **Borrow Records:** Read, Create, Edit, Delete.
 - **Reports and Dashboards:** View and Run.
6. Click **Manage Assignments → Add Assignments → Select Users** (Library staff).

Screenshot: Permission Set detail page showing assigned objects and permissions.

Step 4: Create a Sandbox (Optional for Testing)

Objective

Test the app in a safe, isolated environment before deployment.

Steps

1. **Setup → Sandboxes → New Sandbox**.
2. **Name:** Library_Test.
3. **Description:** Testing instance for Library App.
4. **Type:** Developer Sandbox.

5. Click **Create** → wait for activation → log in.
6. Test key functionalities:
 - Creating Borrow Records.
 - Viewing Reports/Dashboards.
 - Running automation flows (if enabled).

Screenshot: Sandbox list page showing Library_Test sandbox.

Step 5: Package the Application

Objective

Bundle the Library Management App for easy sharing or deployment in another Salesforce org.

Steps

1. Go to **Setup** → **Package Manager** → **New Package**.
2. **Package Name:** Library Management System.
3. **Description:** App for managing library borrowing and circulation.
4. **Type:** Unlocked Package (recommended) or Managed Package (if ready for production release).
5. Click **Save**.
6. Add the following components to the package:
 - Custom Objects: Book, Student, Borrow Record.
 - Tabs, Profiles, Permission Sets.
 - Flows (if Phase 4 is completed).
 - Reports and Dashboards.
7. Click **Add to Package** → **Upload**.
8. Once uploaded, copy the **Package Installation URL** for sharing.

Screenshot: Package detail page with components added.

Step 6: Deployment to Another Org (Optional)

Objective

Install and test the package in a new Salesforce Developer Org or Sandbox.

Steps

1. Log into another Salesforce Developer Org.

2. Paste and open the **Package Installation URL**.
3. Choose **Install for All Users**.
4. After installation, go to App Launcher → search **Library Management**.
5. Verify:
 - App navigation works.
 - Data model and permissions are intact.
 - Reports and dashboards load correctly.

Screenshot: Installed Library Management App in new org.

Step 7: Final Testing and Verification

Objective

Perform one last test to confirm the app works as expected after packaging.

Checklist

- ☒ All tabs (Books, Students, Borrow Records) visible.
- ☒ Fields and relationships functioning.
- ☒ Reports & Dashboards load properly.
- ☒ Permission sets and profiles working correctly.
- ☒ (Optional) Flows trigger automatically if Phase 4 is implemented.

Screenshot: Final Library Management App workspace overview.

Step 8: Project Submission Package

Objective

Prepare deliverables for final submission.

Include:

1. **App Name:** Library Management System.
2. **Objects & Fields:** Books, Students, Borrow Records (with relationships).
3. **User Profiles & Permission Sets:** Library Manager, Librarian, Assistant Librarian.
4. **Reports & Dashboards:** Library Overview Dashboard.
5. **Screenshots:** App tabs, Reports, Dashboard, and Package upload.
6. **Package Link:** Installation URL (optional if exported manually).

Screenshot: Summary of project documentation with phase references.

Phase 6 Outcome

- App packaged and ready for deployment.
- Permission and data access securely managed.
- Fully testable Library Management System in Salesforce.
- Ready-to-share package for academic or production demonstration.