**Phase 9: Testing & Validation**

**1. Objective**

The main objective of this phase is to:

* Verify that all **business requirements** are met.
* Ensure **data consistency** between Orders, Loyalty Members, and Contacts.
* Validate that **flows, approval processes, triggers, and dashboards** function as expected.
* Catch and fix errors before deployment.

**2. Testing Strategy**

We used a **step-by-step testing approach** across all modules:

1. **Unit Testing (Flows & Apex)**
   * Debug flows in Flow Builder.
   * Run Apex tests for triggers.
2. **Functional Testing**
   * Validate business processes: Orders → Points → History → Approvals.
3. **Integration Testing**
   * Ensure synchronization between Loyalty Member and Contact.
   * Approval requests route correctly to Support Manager.
4. **UI Testing**
   * Verify Agent Console → Orders, Loyalty Members, Cases, and Reports show correctly.
5. **User Acceptance Testing (UAT)**
   * Test scenarios from a Support Agent and Support Manager perspective.

**3. Test Scenarios Executed**

**3.1 Order to Loyalty Points Flow**

* **Steps:**
  1. Create Order for Contact (Ramesh).
  2. Add Order Products (TotalAmount = ₹2350).
  3. Activate Order.
* **Expected Result:**
  1. Loyalty\_Member\_\_c balance increases by **FLOOR(TotalAmount/100)** → 23 points.
  2. Loyalty\_Points\_History\_\_c record created with Reason = “Order Activated”.
* **Status:** Passed

**3.2 Sync Loyalty Tier to Contact**

* **Steps:**
  1. Update Loyalty\_Member\_\_c → Tier = Silver.
  2. Save record.
* **Expected Result:**
  1. Contact.Primary\_Loyalty\_Tier\_\_c = Silver.
* **Status:** Passed

**3.3 Claim Reward Portal Flow**

* **Steps:**
  1. Login as customer.
  2. Try redeeming voucher for 100 points.
* **Expected Result:**
  1. If points >= 100 → Reward\_Redemption\_\_c record created with Status = Submitted.
  2. If points < 100 → Message shown “Not enough points”.
* **Status:** Passed

**3.4 Reward Redemption Approval Process**

* **Steps:**
  1. Customer submits Reward Redemption = ₹6000.
  2. Approval routed to Support Manager.
  3. Manager approves.
* **Expected Result:**
  1. Status = Approved.
  2. Email sent to customer.
* **Status:** Passed

**3.5 Contact Approval Process**

* **Steps:**
  1. Mark Contact as VIP.
  2. Submit for approval.
* **Expected Result:**
  1. Approval request sent to Support Manager.
  2. On approval → Approved\_\_c = True.
* **Status:** Passed

**3.6 Inactive Customer Re-engagement Flow**

* **Steps:**
  1. Contact with Last\_Order\_Date\_\_c older than 90 days.
  2. Run scheduled flow.
* **Expected Result:**
  1. Email sent to inactive customer.
  2. Follow-up Task assigned to agent.
* **Status:** Passed

**3.7 Validation Rules**

* **Steps:**
  1. Try activating Order without Products.
  2. Try saving Loyalty\_Member\_\_c with negative points.
* **Expected Result:**
  1. System prevents save with error message.
* **Status:** Passed

**3.8 Reports & Dashboards**

* **Steps:**
  1. Open “Loyalty Members by Tier” report.
  2. Open “Loyalty Program Dashboard”.
* **Expected Result:**
  1. Reports show correct data.
  2. Dashboard visualizes loyalty distribution.
* **Status:** Passed

**4. Common Errors & Fixes**

* **Error:** “No applicable approval process found.”
  + Fixed entry criteria.
* **Error:** $User.ContactId invalid in flow.
  + Replaced with proper lookup.
* **Error:** Default Workflow User email not verified.
  + Verified admin email.
* **Error:** Loop in re-engagement flow not executing.
  + Corrected criteria (Email != null and Reengagement\_Email\_Sent\_\_c = false).

**5. Test Summary**

| **Module** | **Status** |
| --- | --- |
| Add Loyalty Points on Order | Passed |
| Sync Tier to Contact | Passed |
| Claim Reward Portal | Passed |
| Reward Redemption Approval | Passed |
| Contact Approval | Passed |
| Inactive Customer Re-engagement | Passed |
| Validation Rules | Passed |
| Reports & Dashboards | Passed |

**6. Business Value of Testing**

* Guarantees **system reliability**.
* Prevents **fraudulent redemptions**.
* Ensures **data integrity** across Orders, Members, and Contacts.
* Boosts **user confidence** in system before go-live.



