Student Management System

Phase 8: Data Management & Deployment

Overview

Phase 8 is the quality assurance and validation phase. Before deploying your Student Management CRM to production, everything must be tested thoroughly

8.1 Comprehensive Testing Strategy

Test Categories

1. Functional Testing - Does each feature work as designed? **2. Integration Testing** - Do components work together? **3. User Acceptance Testing (UAT)** - Can users accomplish their jobs? **4. Security Testing** - Are access controls working? **5. Performance Testing** - How fast are operations? **6. Data Integrity Testing** - Are calculations accurate?

8.2 Functional Testing Scenarios

Test 1: Student Registration Flow

Scenario: New student registers for a course

Test Steps:

1. Go to Students list
2. Click "New"
3. Enter: Name, Email, Phone, Date of Birth
4. Set Status: Active
5. Click Save

Expected Results:

- ✓ Student record created
- ✓ Email confirmation sent
- ✓ No validation errors
- ✓ Record appears in list

Actual Results: [PASS / FAIL]

Test 2: Enrollment & Course Fee Auto-Population

Scenario: Enroll student in course, verify fee auto-populates

Test Steps:

1. Open student record

2. Go to Enrollments related list

3. Click "New Enrollment"

4. Select Course: "Java Programming" (Fee: 100,000 INR)

5. Click Save

Result: [PASS / FAIL]

8.3 Role-Based Access Control Testing

Test : Counselor Profile Access

Login as Counselor User:

1. Can see: Students, Courses, Enrollments ✓

2. Cannot see: Payment amounts (field hidden) ✓

3. Can only view assigned students ✓

4. Cannot delete records ✓

Test : Accountant Profile Access

Login as Accountant User:

1. Can see: All Payment records ✓

2. Can see: Payment amounts (field visible) ✓

3. Can see: Student total fees paid ✓

4. Cannot edit Student enrollment status ✓

Result: [PASS / FAIL]

Report Performance

Test: Reports load quickly

Expected Results:

Load time: < 5 seconds

Data accurate: ✓

Export to Excel: works ✓

Status: [PASS / FAIL]

Dashboard Performance

Test: Dashboard loads and refreshes quickly

Expected Results:

Initial load: < 10 seconds

Components render: ✓

Refresh time: < 5 seconds

All charts display: ✓

Status: [PASS / FAIL]

- Backup strategy in place
- Disaster recovery tested

8.4 Deployment Strategy

1. **Deploy to Production Org** (if migrating from dev)
2. **Run Final Tests**: Verify in production environment
3. **Enable for Users**: Activate for all profiles
4. **Monitor for Issues**: Watch for errors first 24 hours