

Hostel Management Application - Manual Testing Guide

This guide provides step-by-step instructions to manually validate the functionality of the Hostel Management System. It covers all user roles and key workflows.

Prerequisites

- **URL:** Access the application (e.g., `http://localhost:3000` or your deployment URL).
- **Database:** Ensure `db.json` is populated with initial mock data.
- **API Server:** Run `npm run dev:api` to start json-server on port 3001.

Test Credentials

Role	Email	Password
Student	student@example.com	password123
Superintendent (Boys)	superintendent@jain.org	password123
Superintendent (Girls)	superintendent-girls@jain.org	password123
Trustee	trustee@jain.org	password123
Accounts	accounts@jain.org	password123
Parent	Mobile: 9876543210	OTP: 123456

Test Application Tracking Numbers

Tracking Number	Mobile Number	Status	Vertical
BH-2025-00001	9988776655	SUBMITTED	Boys Hostel
BH-2025-00002	9988776660	SUBMITTED	Boys Hostel
BH-2025-00003	9988776670	REVIEW	Boys Hostel
BH-2025-00004	9988776680	APPROVED	Boys Hostel
BH-2025-00005	9988776685	REJECTED	Boys Hostel
GA-2025-00001	9988776665	SUBMITTED	Girls Ashram
GA-2025-00002	9988776675	INTERVIEW_SCHEDULED	Girls Ashram
DH-2025-00001	9988776690	DRAFT	Dharamshala

Additional Test Students

Name	Email	Vertical	Room
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Name	Email	Vertical	Room
Amit Kumar Jain	amit.kumar@email.com	Boys Hostel	A-101
Priya Sharma	priya.sharma@email.com	Girls Ashram	B-101
Rahul Verma	rahul.verma@email.com	Boys Hostel	A-102
Neha Gupta	neha.gupta@email.com	Girls Ashram	B-102

1. Public & Guest Workflows

1.1 Landing Page

- ☐ **TC-PUB-001** Open the home page.
- ☐ **TC-PUB-002** Verify the "Hirachand Gumanji Family Charitable Trust" branding is visible.
- ☐ **TC-PUB-003** Check that "Boys Hostel", "Girls Ashram", and "Dharamshala" cards are displayed.
- ☐ **TC-PUB-004** Click "Apply Now" on any vertical.

1.2 Application Process (New Admission)

- ☐ **TC-PUB-005 Step 1:** Select "Boys Hostel" > "Apply Now".
- ☐ **TC-PUB-006 Step 2 (OTP):** Enter a mobile number (e.g., 9988776655). Click "Send OTP".
- ☐ **TC-PUB-007 Step 3:** Enter mock OTP 123456. Verify redirection to the application form.
- ☐ **TC-PUB-008 Step 4 (Form):** Fill in Personal Details, Guardian Info, and Academic details.
- ☐ **TC-PUB-009 Step 5 (Uploads):** Upload dummy files for Aadhar/Photo.
- ☐ **TC-PUB-010 Step 6:** Submit the application.
- ☐ **TC-PUB-011 Result:** You should see a "Success" screen with a **Tracking Number** (e.g., BH-2025-00001). Note this number.

1.3 Track Application

- ☐ **TC-PUB-012** Go to /track.
- ☐ **TC-PUB-013** Enter the Tracking Number from the previous step.
- ☐ **TC-PUB-014** Click "Track".
- ☐ **TC-PUB-015 Result:** You should see the application status (e.g., "SUBMITTED").

2. End-to-End Application Workflow (Admissions)

This section validates the complete admission cycle from application to approval.

2.1 Applicant - Submission

- ☐ **TC-APP-001** Go to Landing Page (/).
- ☐ **TC-APP-002** Submit a new application for "Boys Hostel".
- ☐ **TC-APP-003** Note down the **Tracking Number**.
- ☐ **TC-APP-004 State:** Application is now in SUBMITTED state.

2.2 Superintendent - Review & Forward

- ☐ **TC-APP-005** Login as **Superintendent** (`superintendent@jain.org`).
- ☐ **TC-APP-006** Go to **Applications**.
- ☐ **TC-APP-007** Find the new application (filter by 'Submitted').
- ☐ **TC-APP-008** Open details. Verify information.
- ☐ **TC-APP-009 Action:** Change status to **Approved** (this effectively forwards to Trustee).
- ☐ **TC-APP-010** Add remark: "Documents verified. Recommended for interview."
- ☐ **TC-APP-011 State:** Application moves to **APPROVED** (or **FORWARDED_TO_TRUSTEE**).

2.3 Trustee - Final Approval

- ☐ **TC-APP-012** Login as **Trustee** (`trustee@jain.org`).
- ☐ **TC-APP-013** Go to **Dashboard** (Applications tab).
- ☐ **TC-APP-014** Find the forwarded application.
- ☐ **TC-APP-015 Action:** Click "Schedule Interview" (Optional test).
- ☐ **TC-APP-016 Action:** Click "Approve" (Final Admission).
- ☐ **TC-APP-017** Confirm room allocation preference if asked.
- ☐ **TC-APP-018 State:** Application moves to **ADMITTED** (or **FINAL_APPROVED**).

2.4 System - User Creation

- ☐ **TC-APP-019** Upon final approval, the system should generate a **Student User Account**.
- ☐ **TC-APP-020** (Manual Verification): Check `db.json` -> `users` for a new entry with the applicant's email/mobile.

2.5 Student - First Login

- ☐ **TC-APP-021** Login as the new **Student** using their email/mobile.
- ☐ **TC-APP-022** Use default password (or OTP flow if implemented).
- ☐ **TC-APP-023 Action:** Complete "First Time Setup" (Password Change).
- ☐ **TC-APP-024** Verify access to **Student Dashboard**.

3. Student Dashboard

Login: Use `student@example.com` / `password123`.

3.1 Overview

- ☐ **TC-STU-001** Verify "Student Dashboard" title and "Boys Hostel" badge.
- ☐ **TC-STU-002** Check Quick Stats (Fee Status, Attendance, Room Number).
- ☐ **TC-STU-003** Verify "Quick Actions" buttons work (Pay Fees, Apply Leave, etc.).

3.2 Room Details

- ☐ **TC-STU-004** Navigate to **Room**.
- ☐ **TC-STU-005** Verify Room Number (e.g., "101") and details are loaded.
- ☐ **TC-STU-006** Check Roommate list (should show roommate names).
- ☐ **TC-STU-007 Action:** Click "Check In" (if not checked in). Confirm inventory items.

3.3 Fee Payments

- ☐ **TC-STU-008** Navigate to **Fees**.
- ☐ **TC-STU-009** View list of pending and paid fees.
- ☐ **TC-STU-010 Action:** Click "Pay Now" on a pending fee.
- ☐ **TC-STU-011 Flow:** Select Payment Mode -> Click Pay -> Verify "Payment Successful" receipt.
- ☐ **TC-STU-012** Check that the fee status changes to "PAID".

3.4 Leave Management

- ☐ **TC-STU-013** Navigate to **Leave**.
- ☐ **TC-STU-014 Action:** Click "Apply Leave".
- ☐ **TC-STU-015** Select "Short Leave". Enter dates/reason. Submit.
- ☐ **TC-STU-016 Result:** New leave request appears in "Leave History" with status "PENDING".
- ☐ **TC-STU-017** Repeat for "Night Out" and "Multi-Day" (Multi-day should ask for destination).

3.5 Documents

- ☐ **TC-STU-018** Navigate to **Documents**.
- ☐ **TC-STU-019** Verify categories: Identity, Admission, Receipts.
- ☐ **TC-STU-020** Check that list is populated.

3.6 Renewal

- ☐ **TC-STU-021** Navigate to **Renewal**.
- ☐ **TC-STU-022 Action:** Start Renewal process.
- ☐ **TC-STU-023** Steps: Review Info -> Documents -> Pay Fee -> Consent.
- ☐ **TC-STU-024 Result:** Renewal status updates to "Submitted".

3.7 Exit

- ☐ **TC-STU-025** Navigate to **Exit**.
- ☐ **TC-STU-026 Action:** Click "Request Exit".
- ☐ **TC-STU-027** Enter reason (e.g., "Course Completion"). Submit.
- ☐ **TC-STU-028 Result:** Status changes to "Clearance Pending".

4. Superintendent Dashboard

Login: Use **superintendent@jain.org** / **password123**.

4.1 Dashboard Overview

- ☐ **TC-SUP-001** Verify stats: Total Occupancy, Pending Applications, Leave Requests.

4.2 Applications Management

- ☐ **TC-SUP-002** Navigate to **Applications**.
- ☐ **TC-SUP-003** Find the application submitted in Step 1.2.
- ☐ **TC-SUP-004 Action:** Click "Review".
- ☐ **TC-SUP-005 Action:** Change status to "Approved" (Forward to Trustee) or "Rejected".
- ☐ **TC-SUP-006** Add remarks and confirm.

4.3 Leave Approvals

- ☐ **TC-SUP-007** Navigate to **Leaves**.
- ☐ **TC-SUP-008** Find the leave request from Step 3.4.
- ☐ **TC-SUP-009 Action:** Click "Approve" or "Reject".
- ☐ **TC-SUP-010** Verify the status change is reflected.

4.4 Exit Clearance

- ☐ **TC-SUP-011** Navigate to **Clearance**.
- ☐ **TC-SUP-012** Find the exit request from Step 3.7.
- ☐ **TC-SUP-013 Action:** Review Clearance Checklist (Room Inventory, Keys).
- ☐ **TC-SUP-014** Mark items as "Verified".
- ☐ **TC-SUP-015 Action:** Finalize Clearance.

4.5 Configuration

- ☐ **TC-SUP-016** Navigate to **Configuration**.
 - ☐ **TC-SUP-017** Verify Leave Rules and Notification templates are visible.
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5. Parent Dashboard

Login: Go to `/login/parent`.

5.1 Login

- ☐ **TC-PAR-001** Enter Mobile Number `9876543210`.
- ☐ **TC-PAR-002** Enter OTP `123456`.

5.2 Dashboard View

- ☐ **TC-PAR-003** Verify Student Name and Photo.
 - ☐ **TC-PAR-004 Fees:** Check that Fee Status matches the student's payment history.
 - ☐ **TC-PAR-005 Leaves:** Check that recent leave requests are visible.
 - ☐ **TC-PAR-006 Banner:** Confirm "View-Only Access" banner is displayed.
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6. Trustee Dashboard

Login: Use `trustee@jain.org / password123`.

6.1 Approvals

- ☐ **TC-TRU-001** Check "Pending Approvals" list.
 - ☐ **TC-TRU-002** Find applications forwarded by Superintendent.
 - ☐ **TC-TRU-003 Action:** Schedule Interview or Final Approve.
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7. Edge Cases & Validation

- ☐ **TC-EDG-001 Invalid Login:** Try incorrect password. Expect error message.
- ☐ **TC-EDG-002 Session Expiry:** Clear cookies/storage and refresh. Expect redirection to login.
- ☐ **TC-EDG-003 Permission Check:** Try accessing `/dashboard/superintendent` while logged in as Student. Expect "Access Denied" or redirect.
- ☐ **TC-EDG-004 Mobile View:** Resize browser to mobile width. Verify Hamburger menu and responsive layout.

Troubleshooting

Common Issues

Issue	Solution
Login Fails	Ensure <code>db.json</code> has <code>password_hash: "password123"</code> for the user
Empty Data	Verify json-server is running: <code>npm run dev:api</code>
API Errors (404)	Check that API routes exist in <code>db.json</code> (collections should be at root level)
API Errors (500)	Check browser console Network tab for details
Components show "Loading..."	Ensure json-server is running on port 3001
Data not updating	Refresh the page or restart json-server

Starting the Development Environment

```
# Terminal 1: Start Next.js frontend
cd frontend
npm run dev

# Terminal 2: Start json-server API
npm run dev:api

# Or run both concurrently
npm run dev:all
```

Resetting Test Data

If test data becomes corrupted, you can reset by:

1. Stop the json-server
2. Replace `db.json` with a fresh copy from version control
3. Restart json-server