# Free Setup Plan for Rental Management and Reminder System

This document outlines a completely free setup plan for a custom web app to manage tenants, track rent payments, and send WhatsApp reminders automatically.

## 1. System Overview

Goal: A web app to manage tenants, track rent payments, and send WhatsApp reminders automatically.

Free Setup Components:

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Service | Why Use It | Free Tier |
| Frontend | Vercel | Easiest free hosting for React apps | Free |
| Backend | Railway.app (or Render) | Simple Node.js hosting | Free hours each month |
| Database | Supabase (PostgreSQL) | Free, secure, supports API auth | Up to 500MB |
| Authentication | Supabase Auth | For secure admin login | Free |
| Scheduler | Node-cron | Free package to send messages automatically | Free |
| Messaging | WhatsApp Cloud API (Meta) | Free for 1,000 conversations/month | Free |

## 2. Setup Architecture

Frontend (Vercel) → Backend (Railway - Node.js) → Database (Supabase) → WhatsApp Cloud API

## 3. Step-by-Step Setup Plan

### Step 1 — Create a Database (Supabase)

* - Go to https://supabase.com and create a new project.
* - Create tables: tenants, rent\_payments, reminders.
* - Note your Supabase project URL and API Key.

### Step 2 — Backend (Node.js + Express on Railway)

* - Go to https://railway.app and create a new project.
* - Deploy Node.js backend and set environment variables.
* - Use Node-cron to schedule reminders.

### Step 3 — WhatsApp Cloud API Setup

* - Go to Meta for Developers and create a WhatsApp app.
* - Get phone number ID and access token.
* - Test message sending with Postman or curl.

### Step 4 — Frontend (React App on Vercel)

* - Build a React dashboard for tenants, payments, reminders.
* - Connect it to your backend API.
* - Deploy it easily using Vercel.

### Step 5 — Automatic Reminders

* - Use node-cron in backend to trigger reminders on schedule.
* - sendReminder() function will send WhatsApp messages via API.

### Step 6 — Testing & Live Use

* - Test in sandbox mode first.
* - Apply for production API once stable.
* - Go live and manage all reminders automatically.

## 4. Total Cost Estimate

|  |  |
| --- | --- |
| Item | Monthly Cost |
| Hosting (frontend/backend/db) | ₹0 |
| WhatsApp messages | ₹0 (first 1,000/month) |
| Domain (optional) | ₹99/year |