

Admin Tools Documentation

Overview

The Admin Tools page at `/admin/tools` provides a clean, purposeful MVP admin control panel for CareLinkAI administrators. This page is restricted to users with the `ADMIN` role and provides access to essential administrative functions.

Access Control

- **Route:** `/admin/tools`
- **RBAC:** Admin role only (`UserRole.ADMIN`)
- **Unauthorized Behavior:** Redirects to `/dashboard`
- **Unauthenticated Behavior:** Redirects to `/auth/login`
- **Sidebar Visibility:** "Admin Tools" link only appears for users with ADMIN role

Available Tools

1. Admin Metrics & Analytics

Purpose: Access comprehensive platform metrics and analytics.

Features:

- Prominent card with visual distinction (gradient background, larger icon)
- Direct link to `/admin/metrics` page
- Displays:
 - User growth by role
 - Lead metrics (total, by status, by target type)
 - Marketplace activity (active aides, verified providers)
 - Engagement metrics (messages, response times)
 - Key ratios (verified provider rate, leads per provider, etc.)

Navigation: Click anywhere on the card to navigate to the full metrics dashboard.

2. Demo Data (Mock Mode)

Purpose: Enable/disable demo data across the application for product walkthroughs and testing.

Features:

- **Enable/Disable Toggle:** Sets a secure HttpOnly cookie (`carelink_mock_mode`) valid for 7 days
- **Generate Demo Data:** Triggers `/api/admin/seed-demo` to create demo residents and homes
- **Status Display:** Shows current mock mode state (Enabled/Disabled)
- **URL Parameter:** Can also be toggled by appending `?mock=1` to any page URL

API Endpoints:

- GET `/api/mock-mode?on={0|1}` - Toggle mock mode
- POST `/api/admin/seed-demo` - Generate demo data

Use Cases:

- Product demos and walkthroughs
- Testing marketplace features with realistic data
- Development and QA environments

Limitations:

- Demo data seeding may be disabled in production environments
 - Mock mode affects marketplace listings and search results
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3. Email & Notifications

Purpose: Test email delivery system and verify email configuration.

Features:

- **Send Test Email:** Simple form to send a test email to any address
- **System Emails:** Automatic handling of transactional emails (password reset, verification, appointment confirmations)
- **Status Feedback:** Success/error messages for email delivery

API Endpoint:

- `POST /api/email/send` - Send test email

Email Types Handled Automatically:

- User registration and verification
- Password reset
- Appointment confirmations
- Document sharing notifications
- System notifications

Note: The simplified email tool replaced the previous complex EmailDemo component with 6 tabs. For advanced email testing, developers can use the email API directly.

4. System & Access Management

Purpose: Overview of system configuration and access control.

Current Status: Coming Soon

Planned Features (not yet implemented):

- UI-based user role management
- Permission assignment interface
- Feature flag toggles
- System settings configuration

Current Implementation:

- **User Roles & RBAC:** Configured via code and database
- **Feature Flags:** Managed through environment variables
- **Access Control:** Enforced at API and page level through middleware

Where to Configure:


- User roles: Database (`User.role` field)

- RBAC: Code-based authorization checks in API routes and pages
- Feature flags: Environment variables (`.env`)

Implementation Details

Page Structure

The Admin Tools page uses a clean card-based layout:

```
<DashboardLayout title="Admin Tools">
  { /* Header with access restriction badge */ }
  <div className="mb-8">
    <h1>Admin Tools</h1>
    <p>Essential administrative tools and utilities</p>
    <Badge>Restricted Area  Administrators Only</Badge>
  </div>

  { /* Cards */ }
  <div className="grid grid-cols-1 gap-6">
    { /* 1. Prominent Metrics Card (Link) */ }
    <Link href="/admin/metrics">...</Link>

    { /* 2. Demo Data Card */ }
    <div>...</div>

    { /* 3. Email Card */ }
    <div>...</div>

    { /* 4. System Management Card */ }
    <div>...</div>
  </div>
</DashboardLayout>
```

RBAC Implementation

Page-Level Protection:

```
useEffect(() => {
  if (status === "unauthenticated") {
    router.push("/auth/login");
    return;
  }
  const hasAccess = session?.user?.role === UserRole.ADMIN;
  if (!hasAccess) {
    router.push("/dashboard");
  }
}, [session, status, router]);
```

Sidebar Visibility:

```
{
  name: "Admin Tools",
  href: "/admin/tools",
  roleRestriction: ["ADMIN"]
}
```

State Management

The page uses React hooks for state management:

- `mockEnabled` : Demo mode status (boolean | null)
 - `mockLoading` : Loading state for mock mode operations
 - `seedLoading` : Loading state for demo data generation
 - `emailLoading` : Loading state for email operations
 - Error states: `mockError` , `seedError` , `emailError`
 - Result states: `seedResult` , `emailResult`
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Testing

As Admin User

1. Navigate to Admin Tools:

- Login as admin user (email: `admin@carelinkai.com`)
- Click "Admin Tools" in sidebar
- Verify page loads with all 4 cards

2. Test Admin Metrics Link:

- Click on "Admin Metrics & Analytics" card
- Should navigate to `/admin/metrics`
- Verify metrics page displays data

3. Test Demo Data Controls:

- Click "Enable" to enable mock mode
- Verify status changes to "Enabled"
- Click "Generate Demo Data"
- Verify success message appears
- Navigate to marketplace and verify demo data appears
- Click "Disable" to turn off mock mode

4. Test Email System:

- Enter a test email address
- Click "Send Test Email"
- Verify success message
- Check email inbox for test email

As Non-Admin User

1. Verify Access Restriction:

- Login as non-admin user (e.g., `family@carelinkai.com`)
- Verify "Admin Tools" link does NOT appear in sidebar
- Try to navigate directly to `/admin/tools`
- Should be redirected to `/dashboard`

As Unauthenticated User

1. Verify Login Required:

- Logout completely
- Navigate to `/admin/tools`
- Should be redirected to `/auth/login`

Troubleshooting

Mock Mode Not Working

Problem: Mock mode toggle doesn't change status.

Solutions:

1. Check browser cookies - clear `carelink_mock_mode` cookie
2. Verify `/api/mock-mode` endpoint is accessible
3. Check admin role permissions
4. Verify database connection

Demo Data Generation Fails

Problem: "Generate Demo Data" button shows error.

Solutions:

1. Check if endpoint is disabled in production (`NODE_ENV=production`)
2. Verify database connection and permissions
3. Check Prisma schema for required models (Home, Resident, etc.)
4. Review server logs for detailed error messages

Email Test Fails

Problem: Test email fails to send.

Solutions:

1. Verify email service configuration (SendGrid, SMTP)
2. Check environment variables:
 - `SENDGRID_API_KEY` (if using SendGrid)
 - `SMTP_HOST` , `SMTP_PORT` , `SMTP_USER` , `SMTP_PASS` (if using SMTP)
3. Check rate limits on email service
4. Verify email API endpoint `/api/email/send` is accessible

Admin Tools Link Not Visible

Problem: Admin user doesn't see "Admin Tools" in sidebar.

Solutions:

1. Verify user role is exactly `ADMIN` (case-sensitive)
2. Check `DashboardLayout.tsx` role restriction configuration
3. Clear session and re-login
4. Verify JWT token includes correct role claim

Future Enhancements

Planned Features

1. **User Management UI:**
 - List all users with pagination
 - Edit user roles and permissions

- Bulk user operations
- User activity logs

2. Feature Flag Management:

- Toggle feature flags via UI
- Schedule feature rollouts
- A/B testing controls

3. System Health Dashboard:

- Real-time system metrics
- Database performance stats
- API response times
- Error rate monitoring

4. Advanced Email Tools:

- Email template editor
- Bulk email campaigns
- Email delivery tracking
- Bounce/complaint handling

5. Backup & Restore:

- Database backup controls
- Automated backup scheduling
- One-click restore functionality

6. Audit Logs:

- View all admin actions
- Filter by user, date, action type
- Export audit reports

Related Documentation

- [Admin Metrics Dashboard](#) (./admin_metrics.md)
- [Mock Data System](#) (./MOCK_DATA_SYSTEM.md)
- [Email System](#) (./email_system.md)
- [RBAC Implementation](#) (./rbac.md)
- [Persona Dashboards](#) (./DASHBOARDS_OVERVIEW.md)

Changelog

December 8, 2024 - MVP Cleanup

- **Refactored Admin Tools page** to 4 focused, purposeful cards
- **Added prominent Admin Metrics & Analytics card** with direct link to `/admin/metrics`
- **Simplified Email & Notifications** from 6-tab complex UI to single test form
- **Removed misleading “Coming Soon” cards** (User Management, System Settings, Data Management, Security Controls, Administration Documentation)
- **Consolidated system info** into single “System & Access Management” card

- **Updated RBAC** to restrict to ADMIN role only (removed STAFF)
- **Improved UI/UX** with gradient backgrounds, better visual hierarchy, and clearer calls-to-action

Previous Versions

- Original implementation with 6 admin tool cards (many non-functional)
- Complex EmailDemo component with 6 tabs
- Mixed admin/staff access permissions