# Eventra Authentication System

## Overview

Eventra implements a \*\*two-tier authentication system\*\* that distinguishes between public users and authority roles for enhanced security and realistic user management.

## Two-Tier System

### 1. Public Registration (Signup + Login)

\*\*Roles:\*\* Student, Faculty

- Users can self-register through the public registration form

- These are the "end users" of the system

- Can create accounts independently

### 2. Authority Roles (Login Only)

\*\*Roles:\*\* Admin, Super Admin, Service Provider, Vice Chancellor, Administration, Student Union, Warden

- Accounts are created by administrators only

- No public registration available

- These are "authority roles" with administrative or approval powers

## Implementation Details

### Frontend Changes Made

1. \*\*Registration Form (`Register.tsx`)\*\*

   - Removed authority roles from signup dropdown

   - Only shows: Student, Faculty

   - Added informational alert explaining the system

   - Added helper text under role selection

2. \*\*Login Form (`Login.tsx`)\*\*

   - All 8 roles available for login

   - Visual grouping with `<optgroup>` labels

   - Authority role alert when authority role is selected

   - Demo credentials information panel

3. \*\*AuthContext (`AuthContext.tsx`)\*\*

   - Role-based registration restrictions

   - Improved mock data with pre-created authority accounts

   - Consistent demo credentials (`password123`)

   - Better error handling for unauthorized registration attempts

4. \*\*Admin Tools (`AdminTools.tsx`)\*\*

   - Updated role selection with proper grouping

   - Enhanced role filtering with categories

   - Improved role display with color coding

   - Support for all 8 user roles

### Mock Data Structure

#### Authority Accounts (Pre-created)

```

admin@university.edu (Admin)

superadmin@university.edu (Super Admin)

serviceprovider@university.edu (Service Provider - Sound)

mediaprovider@university.edu (Service Provider - Media)

vc@university.edu (Vice Chancellor)

administration@university.edu (Administration)

studentunion@university.edu (Student Union)

warden@university.edu (Warden)

```

#### Public Accounts (Can be created)

```

student@university.edu (Student)

faculty@university.edu (Faculty)

```

\*\*Password for all accounts:\*\* `password123`

## User Experience

### For Students/Faculty

1. Visit registration page

2. Fill out form with personal details

3. Select role (Student or Faculty only)

4. Create account

5. Login with credentials

### For Authority Roles

1. Contact administrator for account creation

2. Receive credentials from admin

3. Login directly (no registration needed)

4. Access authority dashboard

### For Administrators

1. Login with admin credentials

2. Access Admin Tools

3. Create new authority accounts

4. Manage existing users

## Security Benefits

✅ \*\*Prevents unauthorized admin account creation\*\*

✅ \*\*Clear separation of public vs authority access\*\*

✅ \*\*Realistic workflow for enterprise systems\*\*

✅ \*\*Better user experience with clear messaging\*\*

✅ \*\*Scalable for future backend integration\*\*

## Testing

### Public Registration Test

1. Go to `/register`

2. Try to register as Student/Faculty ✅

3. Try to register as Admin ❌ (should be prevented)

### Authority Login Test

1. Go to `/login`

2. Select any authority role

3. Use `role@university.edu` with `password123`

4. Should login successfully ✅

### Admin Tools Test

1. Login as admin

2. Go to Admin Tools

3. Create new authority accounts

4. Manage existing users ✅

## Future Backend Integration

When implementing the backend:

1. Add role-based registration endpoints

2. Implement proper user creation APIs

3. Add email verification for public registrations

4. Implement proper password hashing

5. Add session management

6. Add role-based access control middleware

The current frontend implementation provides a solid foundation that can easily integrate with these backend features.