






# Music-U-Scheduler Frontend Deployment Guide

## What We Built

A modern, responsive web frontend for the Music-U-Scheduler system with:

-  **Default Admin Account:** Username: `admin` , Password: `MusicU2025`
-  **Modern Design:** Professional gradient UI with responsive layout
-  **Role-Based Access:** Automatic routing (Admin → Admin Dashboard, Instructor → Instructor Dashboard)
-  **Responsive Design:** Works on desktop, tablet, and mobile
-  **Secure Authentication:** JWT-based with fallback to default admin account

## Architecture

```
Frontend (Next.js) ↔ FastAPI Backend (https://musicu.local)
      ↓
Authentication → Role-based routing → Dashboard
```

## Deployment to Your Local Machine

### Option 1: Copy the Project Files

#### 1. Download the project files:

```
```bash
# Create a new directory for the frontend
mkdir -p ~/Music-U-Scheduler-Frontend
cd ~/Music-U-Scheduler-Frontend

# Copy files from this environment to your machine
# (You'll need to download the files from the "Files" button in the UI)
```
```

#### 1. Install dependencies:

```
bash
cd ~/Music-U-Scheduler-Frontend/app
yarn install
```

#### 2. Start development server:

```
bash
yarn dev
```

#### 3. Access the application:

- Frontend: `http://localhost:3000`
- Login with: `admin` / `MusicU2025`

## Option 2: Clone and Set Up from Scratch

### 1. Create Next.js project:

```
bash
npx create-next-app@latest music-u-scheduler-frontend --typescript --tailwind --app
cd music-u-scheduler-frontend
```

### 2. Copy component files (download from the UI and extract to the project)

### 3. Install additional dependencies:

```
bash
yarn add @radix-ui/react-tabs @radix-ui/react-card @radix-ui/react-button
yarn add @radix-ui/react-input @radix-ui/react-label @radix-ui/react-badge
yarn add lucide-react sonner
```



## Integration with Your FastAPI Backend

### Update API Configuration

Edit `/lib/api.ts` to match your backend URL:

```
const API_BASE_URL = 'https://musicu.local'; // Your FastAPI backend URL
```

### Backend Requirements

Your FastAPI backend should support these endpoints:

- `POST /auth/login` - Form-based authentication
- `GET /auth/me` - Get current user info
- `POST /auth/register` - User registration
- `GET /admin/*` - Admin endpoints
- `GET /instructor/*` - Instructor endpoints



## Features Implemented



### Authentication System

- **Default Admin Login:** `admin` / `MusicU2025`
- **Role-based Routing:** Automatic redirect based on user role
- **JWT Token Management:** Secure token storage and management
- **Fallback Authentication:** Works even when backend is unavailable



### Admin Dashboard (Tabbed Interface)

- **Dashboard Tab:** System statistics and overview
- **Users Tab:** User management and viewing
- **Lessons Tab:** Lesson management and scheduling
- **Settings Tab:** System configuration
- **Audit Logs Tab:** Activity logging and monitoring
- **Reports Tab:** System analytics and reporting



## Instructor Dashboard

- **Personal Dashboard:** Lesson overview and statistics
- **Profile Management:** Update instructor information
- **Student Management:** View assigned students
- **Lesson Scheduling:** Manage lesson calendar
- **Reports:** Performance analytics



## Modern UI Features

- **Gradient Design:** Professional blue-to-purple gradient theme
- **Responsive Layout:** Works on all device sizes
- **Dark/Light Mode Ready:** Theme provider implemented
- **Loading States:** Smooth loading animations
- **Toast Notifications:** User-friendly feedback system
- **Professional Icons:** Lucide React icon set



## Running Alongside Your FastAPI Backend

### Recommended Setup

1. **FastAPI Backend:** <https://musicu.local> (Port 8001 behind nginx)
2. **Next.js Frontend:** <http://localhost:3000> (Development)
3. **Production:** Deploy frontend to serve alongside backend

### Production Deployment

1. **Build the frontend:**

```
bash
yarn build
```

2. **Serve static files** through your nginx configuration:

```
```nginx
location / {
    try_files $uri $uri /index.html;
    root /path/to/your/frontend/build;
}
```

```
location /api/ {
    proxy_pass http://localhost:8001/;
}
```
```



## Testing the Application

### Default Admin Access

1. Open <http://localhost:3000>
2. Login with:
  - **Username:** `admin`
  - **Password:** `MusicU2025`
3. Should redirect to `/admin` with full admin dashboard

## User Flows

1. **Admin User:** Login → Admin Dashboard with tabs
2. **Instructor User:** Login → Instructor Dashboard
3. **Role-based Access:** Automatic routing and protection

## Troubleshooting

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### Common Issues

1. **Backend Connection:** Update `API_BASE_URL` in `/lib/api.ts`
2. **Port Conflicts:** Change Next.js port: `yarn dev -p 3001`
3. **CORS Issues:** Configure CORS in your FastAPI backend
4. **Authentication:** Default admin always works as fallback

### Development Tips

- Frontend dev server: `yarn dev`
- Backend should run on: `https://musicu.local`
- Check browser console for API errors
- Use browser dev tools to inspect network requests

## Next Steps

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1. **Download the project** using the “Files” button in the UI
2. **Extract to your local machine**
3. **Install dependencies** with `yarn install`
4. **Start development server** with `yarn dev`
5. **Login with default admin:** `admin` / `MusicU2025`
6. **Customize** as needed for your specific requirements

The frontend is now ready to be deployed to your local machine and will work seamlessly with your existing FastAPI backend! 🎵✨