XCM / XFA Platform

Combined Web + Backend Architecture Document

This document describes the architecture, deployment structure, development workflow, and operational rules governing the WebApp and PHP backend environments.

1. System Overview

- Frontend: React + TypeScript built with Vite
- Backend: PHP application hosted on Synology (Nginx)
- Frontend Host: https://webapp.34deltax.com
- Backend Host: https://apps-backend.34deltax.com
- SSL: Wildcard certificate (*.34deltax.com)
- Communication: HTTPS REST endpoints with CORS enforcement

2. Frontend Architecture

Workspace Structure (Source Code - NOT deployed)

```
D:\CloudStation\projects\webapp-xcmxfa-src\
  src\
  node_modules\
  dist\
  package.json
  tsconfig*.json
  vite.config.ts
  .env*
```

Production Build Output (Deploy Folder)

```
D:\CloudStation\synology-webroots\webapp.34deltax.com\
  index.html
  assets\
```

- Only contents of /dist are deployed
- src/ and node_modules/ are never deployed
- Webroot is build output only
- Never edit files directly in webroot

3. Backend Architecture (PHP)

- Hosted on Synology under apps-backend.34deltax.com
- Structured into /api/, /auth/, /members/, etc.
- CORS handled centrally via _cors.php
- All endpoints must include _cors.php at the top
- Preflight (OPTIONS) handled before main logic executes

CORS Design Principles:

- Allowed origins explicitly listed
- Access-Control-Allow-Credentials enabled when required
- OPTIONS requests return 204
- No wildcard origins in production

4. Development Workflow

Local Development:

```
D:
cd CloudStation\projects\webapp-xcmxfa-src
npm install
npm run dev
```

Production Build:

```
D:
cd CloudStation\projects\webapp-xcmxfa-src
set VITE_API_BASE_URL=https://apps-backend.34deltax.com
npm run build
```

Deploy:

```
robocopy "D:\CloudStation\projects\webapp-xcmxfa-src\dist" ^
        "D:\CloudStation\synology-webroots\webapp.34deltax.com" ^
        /MIR
```

5. Operational Rules

- dist is the product
- Workspace and Webroot must remain separate
- Backend reachable directly via HTTPS for validation
- If issues arise: rebuild, redeploy, hard refresh
- Cloud sync must complete before testing