CDE TRANSFORMER

The CDE Transformer is a Node.js microservice built with TypeScript and Express. It aggregates file metadata from various Common Data Environments (CDEs) — such as BIM 360, Procore, Viewpoint, Trimble Connect, and Accnoex — and returns a unified, deduplicated, and sorted file list for a given project.

## File Structure

This is a single-file microservice named:

cde-transformer.ts

## Types & Interfaces

### Source

type Source = 'bim360' | 'procore' | 'viewpoint' | 'trimble' | 'accnoex';

### ProviderFile

interface ProviderFile {

source: Source;

projectId: string;

fileId: string;

name: string;

version: string;

size: number;

downloadUrl: string;

updatedAt: string; // ISO 8601

}

### ICDEProvider

interface ICDEProvider {

fetchFiles(projectId: string): Promise<ProviderFile[]>;

}

### Bim360Provider

class Bim360Provider implements ICDEProvider

Returns mocked BIM 360 files with retry support.

### ProcoreProvider

class ProcoreProvider implements ICDEProvider

Returns mocked Procore files with retry support.

### StubProvider

class StubProvider implements ICDEProvider

Returns static stub files. Used for viewpoint, trimble, and accnoex.

## Design Decisions

* Uses TypeScript for strong typing
* Retry utility improves resilience of API calls
* Flattened and deduplicated file model makes integration easier
* Stub providers allow local testing without API keys
* Pure functional aggregation logic allows easy unit testing