

## JSON EXPORT APPLICATION

### For GreenData Manager® Software

#### Export GDM Data to JSON Format

**JSON Export Application** is a licensed, .NET 10 web-based application that securely exports Items, Products, and Substance Inquiry data from **GreenData Manager (GDM)** into structured JSON format, including material composition and regulatory compliance data.

Designed for **enterprise automation**, the application is fully managed through a **browser-based interface** and runs as **Windows Services**, enabling reliable, scheduled, and hands off data synchronization with downstream systems such as **ERP, PLM, data lakes, and compliance platforms**.

#### Key Capabilities

##### Export Types:

- **Item Exports** – including compliance status, substances, and documentation
- **Product Exports** – full BOM structures with deep sub assemblies
- **Substance Inquiry Exports** – compliance based substance analysis and Where Used results

#### Key Capabilities (cont.)

##### Export Modes:

- **Full Exports** – complete dataset
- **Incremental Exports** – only data changed since the last run, tracked automatically

##### Core Features:

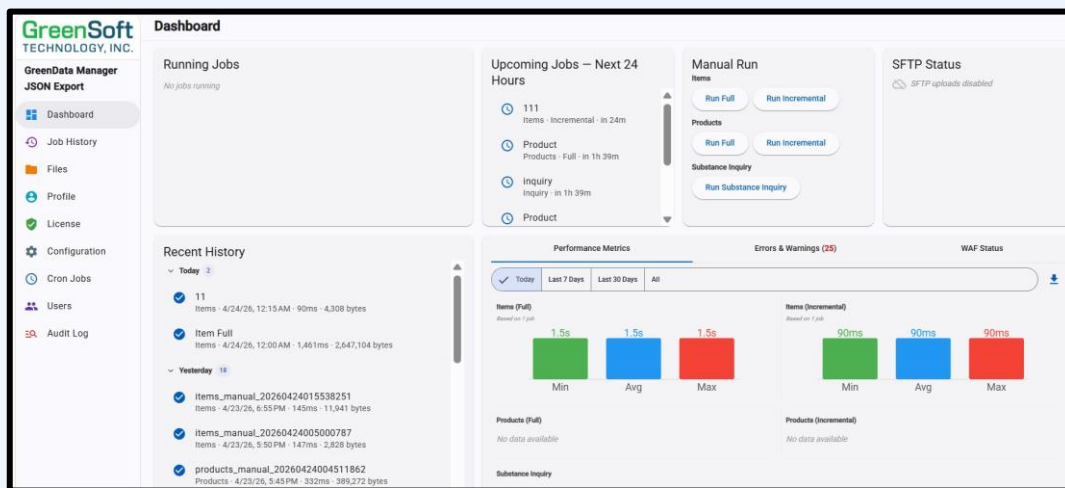
- **Full & Incremental Exports** with automatic timestamp tracking
- **Batch Processing with Merge** for memory efficient large dataset handling
- **Precision Handling**
  - Supports values up to **999,999,999** with **12 decimal places**
- **Deep Hierarchy Support**
  - Product and sub assembly nesting up to **256 levels**
- **Optional GZip Compression** for reduced file size
- **Structured JSON Logging** with configurable retention and corruption safe writes
- **Valid Empty Exports**
  - Produces valid JSON even when no data matches filters

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## SFTP/SSH Transfer Features

- **Multi-Server Support** – Primary and backup SFTP servers with Active-Active mode
- **Flexible Authentication** – Password, private key (OpenSSH/PEM/PPK), or both
- **Passphrase-Protected Keys** – Support for encrypted private keys
- **Automatic Upload** – Export files are queued for upload immediately after generation
- **Retry with Backoff** – Configurable retry attempts with exponential backoff
- **Upload Tracking** – SQLite-based tracking prevents duplicate uploads
- **Pending Uploads Queue** – View and manage pending, retrying, and failed uploads via API
- **Upload History** – Track completed uploads with file sizes, durations, and checksums
- **Real-Time Notifications** – SignalR events for upload progress (queued, started, completed, failed)
- **Host Key Verification** – Auto-accept on first connection with fingerprint storage
- **HTTP Proxy Support** – Optional proxy for corporate network environments
- **Manual Push** – Built-in admin can manually push files from the File Browser
- **Dedicated Logging** – Daily SFTP log files with masked credentials
- **Dashboard Integration** – Upload status, queue, and errors visible in Dashboard



*JSON Export Application Dashboard*

## CONTACT US

Learn More and Request a Demo

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## Item Export Features

- **Configurable Segments (1-8)** to control export scope
- **Compliance Rule Status**
  - Customer defined and system rules (EU RoHS, EU REACH, SVHC, custom rules)
- **User-Defined Fields (UDFs)** mapped from system parameters
- **MCV Data (Optional)**
  - RoHS and REACH SVHC maximum concentration values
- **Material Composition Declaration (MCD) (Optional)**
  - Subparts with nested substances
  - Item level substances
  - Complex article references
- **Document Metadata (Optional)**
  - Certificates, MSDS, test reports, declarations
  - Effective/expiration dates
  - Internal/external flags
  - Linked compliance rules and status
- **Smart Property Omission**
  - Disabled features are omitted (not null), reducing file size and clutter

## Product Export Features

- **Hierarchical BOM Structure**
  - Sub assemblies with near unlimited depth (256 levels)
- **Line Items**
  - Quantities, references, and mass rollups
- **Alternatives / Second Sources**
  - Configurable inclusion at sub assembly and line-item level
- **Location Filtering**
  - Optional export by product location
- **Empty Export Handling**
  - Always produces valid JSON

## Substance Inquiry Features

- **Compliance-Based Substance Analysis**
- **Multi-Rule Processing**
  - Handles all rules within a compliance rule set
- **FMD and MCV Data Sources**
- **Where-Used Analysis**
  - BOM hierarchy with optional location filtering
- **User-Defined Fields (Other1–Other30)**
- **Failed-Parts Filtering**
  - Option to export only non compliant items
- **Batch-Optimized Processing**
  - Designed for large regulatory datasets

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## Web-Based Management & Automation

- **Browser-Based UI** (Angular) — no command line required
- **Role-Based Access Control**
  - ❑ Admin, Regular, External API users
- **Dashboard**
  - ❑ Live job status (SignalR)
  - ❑ Manual export triggers
  - ❑ Export history and performance metrics
  - ❑ Error, warning, and WAF visibility
- **Visual Scheduler (Cron)**
  - ❑ Create and manage automated export jobs
  - ❑ Overlap detection and validation
- **Configuration UI**
  - ❑ All export settings managed via web forms
  - ❑ Changes take effect immediately (no restart required)
- **File Browser**
  - ❑ Download exports, logs, and config files
- **Public Exports REST API** — API key-authenticated endpoint for external systems to list and download export files

## Security & Enterprise Readiness

- **JWT Authentication** with access and refresh tokens
- **Optional Multi-Factor Authentication (TOTP)**
- **Single Sign-On (SSO)**
  - ❑ Microsoft Entra ID / Azure AD (OIDC PKCE)
  - ❑ Generic OIDC providers
- **Built-In Reverse Proxy & Web Application Firewall (WAF)**
  - ❑ Rate limiting
  - ❑ IP allow/block lists
  - ❑ SQL injection and path traversal protection
- **Audit Logging**
  - ❑ Tracks configuration changes, user actions, and authentication events

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## Architecture Overview

### ■ Two Windows Services

#### □ JSON Export Service

- Export engine, REST API, scheduler, and logging
- Bound to localhost only (not publicly exposed)

#### □ Reverse Proxy Service

- Serves the web UI
- Forwards secure traffic to backend service

### ■ SQL Server Integration

- Direct access to the GDM database

## Typical Use Cases

- Automated compliance data synchronization
- ERP / PLM integration
- Regulatory reporting (RoHS, REACH, SVHC)
- Digital thread enablement
- Supplier and customer data exchange

## Licensing & Support

- **License-based product**
- License managed directly through the web UI
- Contact **support@greensofttech.com** for licensing, demos, or assistance

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