Flatdata SQL 1.9.1.0

SQL Database Conversion Software

User's Manual

(Revision 1.22)

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1. Overview

The Flatdata SQL version 1.90 is primary means for performing data conversion from CSV data to SQL database. The Flatdata SQL engine has a comprehensive set of features to allow you to export, monitor and process the CSV data.

The Flatdata SQL engine has a complex data filtering to prevent the illegal and invalid CSV data to be processed or exported into SQL database accidentally. It will quaratine any illegal and invalid CSV files found during the data processing

Additionally, Flatdata SQL engine provides CSV data backup after exporting the data into the database.

For more information about Fladata SQL software, refer to the references that came with this user manual or visit our website : <u>http://www.flatwareshock.tripod.com</u>

2. System Requirements

Flatdata SQL version 1.90 software will run on Windows XP or higher operating systems.

Minimum Hardware Requirements:

- > Intel Pentium-class processor; Pentium 3 or higher processor recommended.
- > 1 GB of RAM.
- >.NET Framework 3.5 or higher version to be installed at your computer.
- > 800MB of harddisk space or above.
- > VGA or higher resolution monitor. SVGA recommended.

3. Operation

To start configure Flatdata SQL engine, right-click on Flatdata SQL icon.

	Start Stop	Click on "Configuration" menu.
8	Configuration	
	SQL Tools	
r	Flatdata Info 🔹 🕨	
	Exit	

3.1 SQL Server & Database Configuration

3.1.1 Assign SQL database and SQL table.

We need enter the SQL database, table name and columns before importing the CSV data.

🚱 Flatdata SQL - Configuration	
Database & table SQL server CSV setting	
SQL database : PLCLog	
SQL Table : PLC1	
Table columns : Tagname,Value,Qualities,T	Timestamp
Add Column	
Create database and table if not available.	
Apply Cancel	

If user enables "*Create database and table if not available*" option, SQL database and SQL table are created automatically when it is not available.

3.1.2 Assign SQL server.

🤷 Flatdata SQL - C	onfiguration	
Database & table	SQL server CSV setting	
Server : N	laterial_Pc\SQLEXPRESS	
User : C	perator1	
Password : 🛩	alakolak	
SQL server type - O MYSQL O MS SQL	SQL Express	Test connection
Арру	Cancel	

Enter SQL server name and user login information for Flatdata SQL engine to write data into SQL database. User can use "**Test connection**" to verify the SQL server connection.

3.2 CSV Source Path Configuration

Flatdata SQL engine will look into the CSV file path (as configured in "CSV file path" field). When CSV files are arrived at CSV file folder, then Flatdata SQL engine will read CSV file, then retrieve & validate the CSV data before writing into SQL database.

🙆 Flatdata SQL - (Configuration	
Database & table	SQL server CSV setting	
After exporting	CSV file to database :	
⊙ Move	CSV file to backup folder.	
O Deleti	e CSV file.	
CSV file path : Backup folder :	C:\bckCSV	
	Cancel	

After writing CSV data in SQL database, Flatdata SQL engine will move CSV file into "**Backup folder**" if user choose "**Move CSV file to backup folder**" option.

CSVfile will be deleted if user choose "Delete CSV file" option.

3.3 CSV File Format

The CSV file must follow the data format requirements, otherwise Flatdata SQL engine will prompt an error message.

- Table Column format.

Each table column must be separated by comma (,).

Example: Name, Home address, Job, Telephone

- CSV data format.

Each CSV data must be separated by single quote (') and comma (,).

Example: 'Allen Koelisch', '23 Dortmuth Strase 2', 'Marketing Supervisor', '+49-294-88712'

🖺 LogOPC213820.csv - WordPad
File Edit View Insert Format Help
D 🖆 🖬 🎒 🖾 🛤 🐰 🗈 🛍 🖘 🗣
DB table columns Tagname, Values, Qualities, Timestamp 'Numeric12','56','192','7/7/2008 1:38:20 PM'
'Numeric.Ramp','0.0139999389648438','192','7/7/2008 1:38:20 PM' 'Numeric.Sine','0.0878504243469441','192','7/7/2008 1:38:20 PM' 'Numeric.ReadCount','39154','192','7/7/2008 1:38:20 PM' 'Numeric.Step','0','192','7/7/2008 1:38:20 PM' 'Numeric. I4','97','192','7/7/2008 1:38:20 PM'
'NumericI2','17','192','7/7/2008 1:38:20 PM' 'Numeric.Ramp','0.0358999252319336','192','7/7/2008 1:38:20 PM' 'Numeric.Sine','0.223657739667901','192','7/7/2008 1:38:20 PM' 'Numeric.ReadCount','39169','192','7/7/2008 1:38:20 PM'
<pre>'NumericI4','47','192','7/7/2008 1:38:20 PM' 'NumericI2','45','192','7/7/2008 1:38:20 PM' 'Numeric.Ramp','0.0514999389648437','192','7/7/2008 1:38:20 PM' 'Numeric.Sine','0.317965989846135','192','7/7/2008 1:38:20 PM' 'Numeric.ReadCount','39181','192','7/7/2008 1:38:20 PM' 'NumericI4','25','192','7/7/2008 1:38:20 PM' 'NumericI2','46','192','7/7/2008 1:38:20 PM'</pre>

3.4 <u>CSV Files Handling</u>

During CSV data backup, Flatdata SQL engine always detect any duplicate CSV file in the backup folder, if CSV file detected, then it will be moved to duplicate folder.

Folders	x	Name 🔺
🖃 😼 My Computer	^	LogOPC213839.csv
🗉 🦣 3½ Floppy (A:)		🛃 LogOPC213845.csv
🖃 🥯 Local Disk (C:)		🛃 LogOPC213853.csv
🗉 🧰 bekCSV		
🔎 duplicate		
🗄 🧰 CSV		
🗄 🚞 Documents and Setti	n	

3.5 <u>Create SQL table column</u>

When user change SQL table name, "Add Column" button will be enabled. Click on "Add Column" button to add new SQL table columns.

🥨 Flatdata SQL - Co	onfiguration	
Database & table	SQL server CSV setting	
SQL database :	PLCLog	
SQL Table :	SugarTank	
Table columns :	Tagname,Value,Qualities,Timestamp	
	Add Column	
Create databa	se and table if not available.	
	<u>C</u> ancel	

To create new SQL columns, click on "No" button.

Flatdat	a SQL 1.9.0.1
2	Do you want to use the current SQL table's columns for your new SQL table ?
	Yes No

🔞 SQL table colu	mn (_ 🗆 🔀
Column Name	Volume	
Data type	float 🔽 Allow Nulls	
		Up
		Down
		Cancel

Enter column name, data type & allow null. Click on "Add" button to create column.

Click on "**Ok**" button to continue.

🖸 SQL table colu	mn	
Column Name	Volume	
Data type	float 🔽	Allow Nulls
1. Volume >> flo	at 🏼 Allow Null	
		Up
		Down
<		>
Add D	elete Edi <u>t</u> (Ok Cancel

Click on "**Apply**" button to update the SQL table columns.

🤨 Flatdata SQL - Configuration 📃 🗖 🔀
Database & table SQL server CSV setting
SQL database : PLCLog
SQL Table : SugarTank
Table columns : Filling_start, Filling_Stop, Tank_Status, Volume_wat
Add Column
Create database and table if not available.
<u>Apply</u>

To accept the changes, click on "Yes".

Flatdata SQL 1.9.0.1
Do you want to update the parameter configuration now ?
Yes No

Flatdata SQL engine must be restarted after SQL table column changes. Click on "Yes" button.

New dat	tabase configuration activation
?	The database configurations have been changed by user. To activate this new database configurations now, the Flatdata must be restarted. Do you to stop the current job ?
	Yes No

3.6 Edit SQL table column

Highlight SQL column to be edited. User can change SQL column name, data type or allow null. Click "**Edit**" button to make the changes.

🥨 SQL table colu	nn	(🛛
Column Name	Volume_water		
Data type	float 💌	🗹 Allow Nulls	
1. Volume >> flo	at >> Allow Null		
			Up
			Down
<		>	
Add D	elete Edi <u>t</u>	Ok	Cancel

3.7 <u>Delete SQL table column</u>

Highlight SQL column to be deleted. Click "Delete" button to delete SQL column.

🖸 SQL table colu	mn	(
Column Name	Volume_water		
Data type	float 💌	🗹 Allow Nulls	
1. Volume_water	>> float >> Allow Null		
			Up
			Down
<		>	
Add D	elete Edi <u>t</u>	Ok [Cancel

3.8 <u>Move SQL table column position</u>

Highlight SQL column to be moved. Click on "**Up**" button to move column up. Click on "**Down**" button to move column down.

🙋 SQL table colu	nn	(
Column Name	Volume_water		
Data type	float 🗸	🗹 Allow Nulls	
1. Volume_water 2. Filling_start ≯ 3. Filling_Stop ≯ 4. Tank_Status :	>> Toat >> Allow Nul • timestamp >> No Null > timestamp >> No Null >> varchar(50) >> No Null		Up Down
<		>	
Add D	elete Edi <u>t</u>	Ok [Cancel

4. <u>Start / Stop Flatdata SQL Engine</u>

4.1 <u>Start Engine</u>

In some circumstances, the Flatdata SQL engine can be stopped by user or internal process errors, such as SQL database access failure, incorrect SQL table, etc.

Flatdata SQL engine can be started only when the process errors are cleared.

To start the Flatdata engine, right-click Flatdata SQL icon at Windows taskbar, then click on "**Start**" menu.

	Start		
	Stop Start data	conversion	Flatdata version 1.56D
	Configuration		Start the CSV data conversion now ?
	SQL Tools 🔹 🕨		~
i.	Flatdata Info 🛛 🕨		Yes No
	Exit		
ge.bm	19 EN 🏹	9 id 😪 🎢	

4.2 Stop Engine

To stop the Flatdata SQL engine, right-click the Flatdata SQL icon at Windows taskbar, then click on "**Stop**" menu.

	Start		Flatdata	version 1.56D	X
	Stop				
	Config <mark>Stop data con</mark>	version	2	Stop the CSV data conv	version now ?
	SQL Tools				
i	Flatdata Info 🔹 🕨		ιι	Yes No	
	Exit				
rtea.c	omp EN 🔨	9 🔂 💟 ,			

5. Errors

Flatdata SQL engine starts the routine check on the SQL database, SQL table & columns when there is any incorrect information, it will prompt error message automatically.



Flatdata SQL engine fails to establish the SQL database connection.

User must configure the correct SQL database information and shut-down Flatdata SQL engine and restart it.

During SQL database query, Flatdata Flatdata SQL engine will validate SQL table and its data colums.

Any database error or incorrect column data, Flatadata SQL engine will stop the SQL databse queries.



Flatdata SQL under LITE edition, it will support up to 80,000 SQL queries before stopping Flatdata SQL engine.

User can restart Flatdata SQL engine. Refer chapter 4 on *Start / Stop Flatdata SQL engine*.



The SQL query usage warning will be shown whenever it is more 59% of total query usage. This is applicable on Flatdata SQL - LITE edition.

Flatdata SQL - PRO edition is free of usage warning.



Flatdata SQL engine will compare CSV column tag with SQL table column. If it is different, then CSV file will be moved to "Error" folder.

The error message will show CSV file name.

6. **Operation Status**

Below is the Flatdata SQL operation status:



Flatdata SQL engine is reading and initializing the system configuration.

E.C.
ΠIJ

Flatdata SQL engine is ready and it can start data conversion anytime.



Flatdata SQL engine is stopped by user or internal process error.



Flatdata SQL engine is shutting down and to refresh the system configuration.



Data conversion is in progress.



Flatdata SQL engine is initializing the system configuration and validate SQL database connection, SQL table availablity.

7. <u>References</u>

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