# TSI® FMS 5 SOFTWARE HOW TO CONFIGURE DAILY BACKUP WITH EMAIL NOTIFICATION FOR POSTGRESQL<sup>™</sup> DATABASE

TECHNICAL BULLETIN TCC-150 (9/28/2023) Rev C

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## Description

Data collected from the FMS System are critical and need to be backed up at all times. It is not enough in highly regulated industries such as Pharmaceuticals to only mirror the FMS database to a second server, the raw data must be backed up on regular basis, and have an email notification to reassure your customer that the backup has been successfully executed.

When a backup strategy is in place it is also important to test how the raw data can be quickly and efficiently restored. The restore procedure is also part of this technical note.



## Prerequisites

- Before starting this procedure, you have downloaded the software "*SQLBackupAndFTPSetup*" version 12.7.18 from <u>Free PostgreSQL Backup Tool (sqlbackupandftp.com</u>).
- This program is a full working version for 14 days. Once installed, it starts the 14-days Professional edition trial. After that it automatically converts to the Free edition. You can upgrade it any time to Lite, Standard or Professional. Free version allows to Backup and restore a maximum of 2 Databases. However, you may want to buy the full version which allows you to back up on additional storage places (i.e., Windows<sup>®</sup> Azure<sup>®</sup> or Microsoft<sup>®</sup> OneDrive<sup>®</sup> cloud storage service and others) which will also give you the ability to back up more than 2 databases.
- The following file must be available: **psql\_fms01.sql** This file can be found on the FMS5 Installation CD
- **SQLBackupAndFTPSetup** Version 12.7.1 works only to backup PostgreSQL Database 9 and 10, version 12.7.18 allow to backup PostgreSQL Database version 11 and above.

#### Note

SQLBackupAndFTPSetup version 12.7.18 is part of the TCC-150\_supporting\_files that can also be downloaded from the TSI Channel Partner Portal.

### Requirements

- FMS 5.1.0 or above must be installed and running.
- PostgreSQL 9.3 database or above must be installed and running.
- .NET Framework 4.7.2 must be installed. If not, you can download the updated .Net package from Microsoft at the following location:

https://dotnet.microsoft.com/en-us/download/dotnet-framework/thank-you/net472-offlineinstaller

## Assumptions

This document assumes the following:

- Main Computer:
  - TCP/IP Address : 192.168.1.36
- Database Server Address:
  - TCP/IP Address : 192.168.1.36
- PostgreSQL 9.3 program has been installed in the default folder, which is: *C:\Program Files (x86)\PostgreSQL\9.3\*
- PostgreSQL 10 program has been installed in the default folder, which is: *C:\Program Files\PostgreSQL\10\*
- PostgreSQL 14 program has been installed in the default folder, which is: *C:\Program Files\PostgreSQL\14\*

- PostgreSQL 14 program has been installed in the default folder, which is: *C:\Program Files\PostgreSQL\15\*
- PostgreSQL Database will be backup in the following folder:
  - C:\FMS\_DATA\_BCK\

#### Note

You may want the backup to be placed in a different folder on a different drive or even on a Server drive. Therefore, you will have to map a network drive.

- PostgreSQL Server:
  - o Database Name : fms01
  - PostgreSQL User Name : postgres
  - PostgreSQL Password : fms
  - PostgreSQL Port : 5435
  - Node User Name : monitor
  - Node Password : fms
  - Client User Name : client
  - Client Password : fms

## SQLBackupAndFTPSetup Installation Instructions

1. Start SQLBackupAndFTPSetup.exe.	SQLBackupAndFTP 12.7.18 Setup – X	
2. Click <b>Next</b> .	12.7.18 Setup         Setup will guide you through the installation of SQLBackupAndFTP 12.7.18.         It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant	
	system files without having to reboot your computer. Click Next to continue. Next > Cancel	
3. Accept the License Agreement by clicking <b>I Agree</b> .	SQLBackupAndFTP 12.7.18 Setup       —       X         License Agreement       Please review the license terms before installing       X         SQLBackupAndFTP 12.7.18.       X         Press Page Down to see the rest of the agreement.       F         FND USER LICENSE AGREEMENT Pranas.NET SQLBackupAndFTP          Thank you for using our products and services ("Services"). The Services are provided by Pranas.NET Corp dba SBF located 18-23 Greenwood Dr, Fair Lawn, NJ 07410, United States.       •         By using our Services, you are agreeing to these terms. Please read them carefully.       •         Using our Services       •         You must follow any policies made available to you within the Services.       •         If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install SQLBackupAndFTP 12.7.18.       •         Pranas.NET           Yeans.NET           SQLBACKUPANDFTP 12.7.18.	
4. Select a folder where you want the program to be installed or you can leave the default location.	SQLBackupAndFTP       12.7.1 Setup       —       X         Choose Install Location       Choose the folder in which to install SQLBackupAndFTP       12.7.1.	
5. Click <b>Install</b> .	Setup will install SQLBackupAndFTP       12.7.1 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.         Destination Folder       C:\Program Files (x86)\SQLBackupAndFTP         Browse       Browse         Space required: 110.2MB       Space available: 25.3GB         Pranas.NET               Back         Install       Cancel	

6. Click Install.	SQLBackupAndFTP 12.7.18 Setup – 🗆 X		
7. When installation is completed, click <b>Next.</b>	Choose Install Location Choose the folder in which to install SQLBackupAndFTP 12.7.18. Setup will install SQLBackupAndFTP 12.7.18 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.		
	Destination Folder         C.\Program Files (x86)\SQLBackupAndFTP         Browse         Space required: 112.2MB         Space available: 296.3GB         Pranas.NET         < Back       Install         Cancel		
8. Select both Launch PostgreSQL Backup and Create a desktop icon.	SQLBackupAndFTP 12.7.18 Setup – – × Completing SQLBackupAndFTP 12.7.18 Setup		
9. Click <b>Finish</b> .	✓ Launch SQLBackupAndFTP ✓ Create a desktop icon		
	< Back Finish Cancel		

## Create a Daily Backup Schedule

<ol> <li>Open the Services window and verify that the SQLBackupAndFTP (Database backup) Service is set to Automatic and Started.</li> <li>Click OK.</li> <li>Close the Windows Services.</li> </ol>	SQLBackupAndFTP (Database backup) Properties (Local Computer)       X         General       Log On       Recovery       Dependencies         Service name:       SOLBackupAndFTP Client Service       Display name:       SQLBackupAndFTP Client Service         Display name:       SQLBackupAndFTP (Database backup)       Description:       Backups, monitors and restores databases       V         Path to executable:       "C:\Program Files (k86)\SQLBackupAndFTP\SqlBak.Service.exe"       Startup type:       Automatic         Service status:       Running       Service status:       Running         Start       Stop       Pause       Resume         You can specify the start parameters that apply when you start the service from here.       Start parameters:       OK       Cancel       Apply
4. Click on button <b>Connect to Database</b> Server	Send service down
5. From the drop down, list select <b>PostgreSQL Server (TCP/IP)</b>	Connect to Server       ×         Connect to Database Server       ×         Server type       ×         Image: Server type       ×         Select Database Server type first       ×         Test Connection       Save & Close       Cancel

<ol> <li>Enter the Server Name IP Address where the PostgreSQL database is located.</li> <li>Enter the Port number.</li> <li>Enter the User Name and Password to login to PostgreSQL server.</li> </ol>	Connect to Server X PostgreSQL Server (TCP/IP) Server type PostgreSQL Server (TCP/IP) Server name 192.168.1.148 User Name postgres Password ••• Advanced settings
	Test Connection (i) Save & Close Cancel
<ul> <li>9. Click button Advanced settings.</li> <li>10. From the drop down list SSL Mode select Disabled.</li> <li>11. Enter the Path to PostgreSQL bin folder by click on the navigate button</li> </ul>	Connect to Server X   PostgreSQL Server (TCP/IP)   Server type   PostgreSQL Server (TCP/IP)   Server name   192.168.1.148   Port   5435   Password ••• ••• Advanced settings Default database name postgres SSL Mode Disable ••• Path to PostgreSQL bin folder C:\Program Files\PostgreSQL\15\bin Pass the password • In Environment Variable Connect using SSH tunnel



19. Click button <b>Store backups in</b>	SQLSackupAndFTP - 12.7.18 Professional Tital Expires in 14 days – 🗆 X		
selected destinations.	Jobs + Backup Job - 1		
20. Select Local Network Folder/NAS	Backup Job - 1		
	Test sheaded Committee of Postgreaded Service (CP/JP)		
	Salart Database		
	fmu01		
	Store backuns in se Click this button to select destinations		
	to store the backups		
	Schedule backups 2 P Street		
	Send confirmation		
	Concline Concline		
	Send service down		
	b Backblaze B2 Drade Disk 0		
21. Enter the Path to the folder where you	Local/Network Folder/NAS Settings		
want the Daily backup to be stored	Local/Network Folder/NAS		
	Local/Network folder/NAS Open folder		
	C:\FMS_DATA_BCK		
	Configure where to store the backups. To backup to network folder, specify UNC path like \ \mvserver\backup		
	Auto delete old backups after Months 6 Days 0		
	Advanced backup settings		
	Advanced Local/Network Folder/NAS settings		
	Test Tutorial Save & Close Cancel		
22. Click button <b>Advanced backup</b>	Local/Network Folder/NAS Settings		
settings and click Advanced	Local/Network Folder/NAS		
Local/Network Folder/NAS			
settings.	Local/Network folder/NAS Open folder		
23. Verify these settings are checked:	C:\FMS_DATA_BCK		
24. Full	Configure where to store the backups. To backup to network folder, specify UNC path like \		
25. <b>Folder</b>			
26. Verify backup files on the	Auto delete old backups after Months 6 Days 0		
destination after uploading	▼ Advanced backup settings		
27. Click button <b>Advanced</b>	Send backup types 🗹 Full 🗹 Folder		
Local/Network	Verify backup files on the destination after uploading		
	Emergency destination - use only if others have failed		
	Advanced Local/Network Folder/NAS settings		

28. If Permissions rights are required to access the destination folder then enter <b>User Name &amp; Password</b>	Local/Network Folder/NAS Settings × Local/Network Folder/NAS	
	Local/Network folder/NAS Open folder	
	C:\FMS_DATA_BCK	
	Configure where to store the backups. To backup to network folder, specify UNC path like $\ \$ myserver backup	
	Auto delete old backups after Months 6 Days 0	
	▼ Advanced backup settings	
	Send backup types 🗹 Full 🗹 Folder	
	<ul> <li>Verify backup files on the destination after uploading</li> <li>Emergency destination - use only if others have failed</li> </ul>	
	Advanced Local/Network Folder/NAS settings	
	Some network shares (like NAS drives) may require different from your Windows account username and passwords. You can specify them here if you need to.	
	User Name	
	Password	
	Test Tutorial Save & Close Cancel	
29. Click <b>Test</b>	Local/Network Folder/NAS Settings	
30. If test is successful, click <b>OK</b> 31. Click <b>Save &amp; Close</b>	Local/Network Folder/NAS	
	Local/Network folder/NAS	
	C:\FMS_DATA_BCK	
	Configure where to store the backups. To backup to network folder, specify UNC path like \	
	Auto delete old back Local/Network Folder/NAS Settings	
	Advanced backup :	
	Send backup types	
	Send backup types	
	Emergency destin	
	Advanced Local/Ne	
	Some network shares (like NAS drives) may require different from your Windows account username and passwords. You can specify them here if you need to	
	User Name	
	Password	
	Test Tutorial Save & Close Cancel	
32. Turn <b>ON</b> backup scheduler by sliding	♥ 101.SactopAddTD - 12.3 18 Perferaional Trial Equipm in 14 days - □ × kin Strait, Helio	
button to the right	Jobs + Backup Job - 1 / 🕞 Kun Now History & restore	
33. Click button <b>Schedule backups</b> .	Backup Job - 1 : Ned Gat any 2006/0  Connect to PostgreSQL Server (TCP/IP)	
	Select Databases	
	fmp01	
	Store backups in selected destinations  (+)  Local/Network Folder/NAS CNFMS_DATA_BCK	
	Start full backup daily at 0630 🕏	
	Fulk every 24h Next start 26 septembre 06.30	
	Send service down alerts  Send history to Web Log	

34. Configured the required schedule then	Searced Backup Schedule X	
click Save & Close	Advanced Backup Schedule	
	✓ Full every 24 → hr 0 → min First full backup start: 30-09-22 11:01 ▼	
	Run between 00:00 - Estimated backup plan	
	Run on:         01-10-22 11:01         Full         ^           02-10-22 11:01         Full         Full         ^	
	Image: Sum (initial control of the month only)         Image: Sum (initial control of the montho of the montho of the montho of the month only)	
	Save & Close Cancel	
35. Enter Start time you want the backup	SQLBackupAndTP - 12.7.18 Professional Trial Expires in 14 days X Internet Helin	
to be started.	Jobs + Backup Job - 1 🖍 🕞 Run Now	
36. Click <b>Run Now</b> to test your setup.	Backup Job - 1 E Connect to PostgreSQL Server (TCP/IP)	
	Select Databases	
	Store backups in selected destinations	
	Local/Network Folder/NAS_CATA_BCK	
	Schedule backups 🔅 🛑	
	Full: every 24h Next start 26 september 00.00	
	Send service down alerts  Send confirmation Send confirmation Send service down alerts  Send history to Web Log	
27 Varify Backup finished without error		
messages.	Log of Backup Job - 1 Export Restore from Backup Download Backup	
C C	General information	
	Job Status: ✓ Success Ins01 Database (Full) on Local/Network Folder/NAS ( Start time: 25-09-23 06:62:8 Duration: 00:00:00:2 Size: 99,79 KB Archive size: 0 B	
	Job finished (Success)	
	✓ 06:45:29 Backing up "fms01" with "Full" backup type.	
	<ul> <li>         06:46:30 Database "fms01" successfully backed up to "C:\windows\TEMP\SYSTEM\Pranas.NET\SBF \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</li></ul>	
	\backup\(ms01202309250646.sq)" file with Internal archiver. Encryption: "Off". ✓ 06:46:30 Backup of "fms01" successfully compressed to "(fms01202309250646.zip : 12.103KB)".	
	✓ 06:46:30 Connecting to "Folder" destination "C\FMS_DATA_BCK".     ✓ 06:46:30 Reading folder information by path: "C\FMS_DATA_BCK".	
	✓ 06:46:30 The current destination folder is "C\FMS_DATA_BCK". ✓ 06:46:30 Sending backup of "fmc01" to "Endlar" destination "C\FMS_DATA_BCK".	
	<ul> <li>✓ 06:46:30 Uploading local "fms01202309250646.zip" to remote "fms01202309250646.zip" in folder "C: \FMS_DATA_BCK".</li> </ul>	
	<ul> <li>✓ 06:46:30 Uploaded 100.00 % (average speed = 5.91 MB/s).</li> <li>✓ 06:46:30 Verifying remote file "fms01202309250646.zip" with local one "fms01202309250646.zip".</li> </ul>	
	<ul> <li>✓ 064630 Cleaning up backups of "Backup Solution productions" instructions of the instruction of the solution of</li></ul>	
	<ul> <li>✓ 06:46:30 Cleaning up backups of "fms01" database at "Folder" destination "CAFMS_DATA_BCK".</li> <li>✓ 06:46:30 Cleanup of "fms01" completed.</li> </ul>	
	✓ 06:46:30 Cleanup of "fms01" completed.	
	✓ 06:46:30 Cleanup of "fms01" completed.     ✓ 06:46:30 Disconnecting from "Folder" destination "C:\FMS_DATA_BCK".     ✓ 06:46:30 Deleting temporary files.	
	✓ 06:46:30 Cleanup of "fms01" completed.     ✓ 06:46:30 Disconnecting from "Folder" destination "C:\FMS_DATA_BCK".     ✓ 06:46:30 Deleting temporary files.     ✓ 06:46:30 Job "Backup Job - 1 " finished.     ✓	

### Note

The backup file will be saved as DatabaseNameYYYYMMDDHHmm.zip Example: fms01202209301132.zip

## Restoring Data from a Daily Backup

1.	From the menu <b>Job</b> select <b>Add</b>	SQLBackupAndFTP - 12.7.18 Professional Trial Expires in 14 days –  X 20b Tools Help
		Jobs Backup Job - 1 Backup Job - 1 Met start 26 500 Beckup Job Add Restore Job Select Databases frrs01 Store backups in selected destinations Local/Network Folder/NAS_CNFMS_DATA_BCK Store backups Start full backups S
2.	Click green arrow <b>Take backups</b> from and select <b>Local/Network</b> folder/NAS.	Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Send service down alers       Important       Sold colorized files       Sold biology files       Sold biology files         Sold colorized files       Important       Sold colorized files       Sold biology files       Sold biology f
3.	Enter the Patch where the backup files to be restored are located.	Local/Network Folder/NAS Settings
4.	When the Path where the backup files to be restored requires authentication then enter <b>User</b> <b>Name</b> and <b>Password</b> .	Local/Network Folder/NAS           Local/Network folder/NAS         Open folder           C:\FMS_DATA_BCK\         T           Configure where to store the backups. To backup to network folder, specify UNC path like \
5.	Click Save & Close	<ul> <li>Advanced Local/Network Folder/NAS settings</li> </ul>
		Some network shares (like NAS drives) may require different from your Windows account username and passwords. You can specify them here if you need to.         User Name         Password         Test       Tutorial         Save & Close       Cancel



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16. Verify backup operation succeed.	ØJob Log − □ ×		
17. Close the window	Log of Restore Job - 2		
	General information     Restore from Local/Network Folder/N		
	Job Status: ✓ Success         5 fms01 on 25-09-23 06:46:00           Start time: 25-09-23 07:08:09         Duration: 00:00:02		
	Job finished (Success) Log records All ×		
	<ul> <li>07:08:09 Connecting to "PostgreSQL Server": "192.168.1.148".</li> <li>07:08:10 Connected to "PostgreSQL 15.3, compiled by Visual C++ build 1914, 64-bit".</li> <li>07:08:10 Connecting to "Folder" destination "C:\FMS_DATA_BCK".</li> <li>07:08:10 Searching files by mask "fms01*.*".</li> <li>07:08:10 Found "1" files.</li> </ul>		
	<ul> <li>✓ 07:08:10 Getting "fms01202309250646.zip" file metadata on "C:\FMS_DATA_BCK" folder.</li> <li>✓ 07:08:10 Downloading file "fms01202309250646.zip" to "C:\windows\TEMP\SYSTEM\Pranas.NET \SPE\backup\2fa82553df3d4r0ea2d5116e221ca2c9\fms01\9 25 2023 6 46 00 AM"</li> </ul>		
	✓ 07:08:10 Uncompressing "C:\windows\TEMP\SYSTEM\Pranas.NET\SBF\backup \2fa82553df3d4Coe2d5116e221ca2c9\fms01\9_25_2023 6_46_00 AM \fms01202309250646.zip" file with Internal archiver.		
	7 07:08:10 Restoring "fms01" database from files: "fms01202309250646.sql".		
	<ul> <li>Or:08:11 Disconnecting from "Folder" destination "C:\FMS_DATA_BCK".</li> <li>O7:08:11 Deleting temporary files.</li> <li>O7:08:11 Job "Restore Job - 2" finished.</li> </ul>		
18. Database <b>fms01</b> is now restored			

## **Revision History**

Revision	Released	Description
А	20 September 2022	Initial Release
В	05 October 2022	Revised for new Software <b>SQLBackupAndFTPSetup</b> version 12.7.1
С	1 October 2023	Revised for new Software <b>SQLBackupAndFTPSetup</b> version 12.7.18 which allow to Backup PostgreSQL Version 11 and higher.

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USA	Tel: +1 800 874 2811	India	Tel: +91 80 67877200
UK	Tel: +44 149 4 459200	China	Tel: +86 10 8219 7688
France	Tel: +33 1 41 19 21 99	Singapore	Tel: +65 6595 6388
Germany	Tel: +49 241 523030		

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