XPress Agent Scheduler

for Microsoft® SQL Server® Express Edition

Version 2.2

User Manual

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XPress Agent- User Manual

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2 Introduction

2.1 Intended Audience

The User Manual is intended for end-users who will be using the application's features.

The Installation Manual is intended for the installer, typically a database administrator (DBA) or system administrator, responsible for the initial setup.

Note: The Introduction chapter (Chapter ***2***) is identical in both the User and Installation Manuals for consistent context.

2.2 SQL Server free editions

There are two free editions of SQL Server: Developer Edition and Express Edition.

Developer Edition offers the full functionality of the Enterprise Edition, making it ideal for development and testing environments.

Express Edition is designed for smaller-scale applications and learning purposes. While it offers a subset of features, it's limited in terms of database size, memory usage, and CPU cores.

Key Differences:

- Production Use: A significant advantage of Express Edition is that it is legitimate to use SQL Server Express for production environments, unlike Developer Edition.
- SQL Agent: However, Express Edition's lack of SQL Agent can be a major limitation in production scenarios. SQL Agent is essential for automating tasks like backups, maintenance jobs, and integrations.

To establish a robust SQL Server production environment with SQL Agent capabilities, a substantial investment in a licensed edition of SQL Server is typically required.

Note: as from SQL Server 2025, Express Edition has a limit of 50 GB per database which is significantly more than earlier versions.

3 About XPress Agent

Specially designed as an add-on for Express Edition, *XPress Agent* offers a cost-effective solution for scheduling and running jobs. While *XPress Agent* might seem limited in comparison with SQL Agent, it offers scheduling options very similar to higher-tier Editions but for a fraction of the cost: daily, weekly and monthly schedules are possible, either once or every X seconds, minutes or hours during a time window.

✨ Key Features

- **Essential Job Scheduling:** provides core job scheduling capabilities without the complexity of advanced job step configurations.
- **Lightweight Architecture:** features a lean and efficient design; the Service executable is only 280 KB.
- **Threaded Job Execution:** supports the simultaneous execution of jobs for enhanced throughput.
- **Failure Notifications:** sends email notifications if a scheduled job fails.

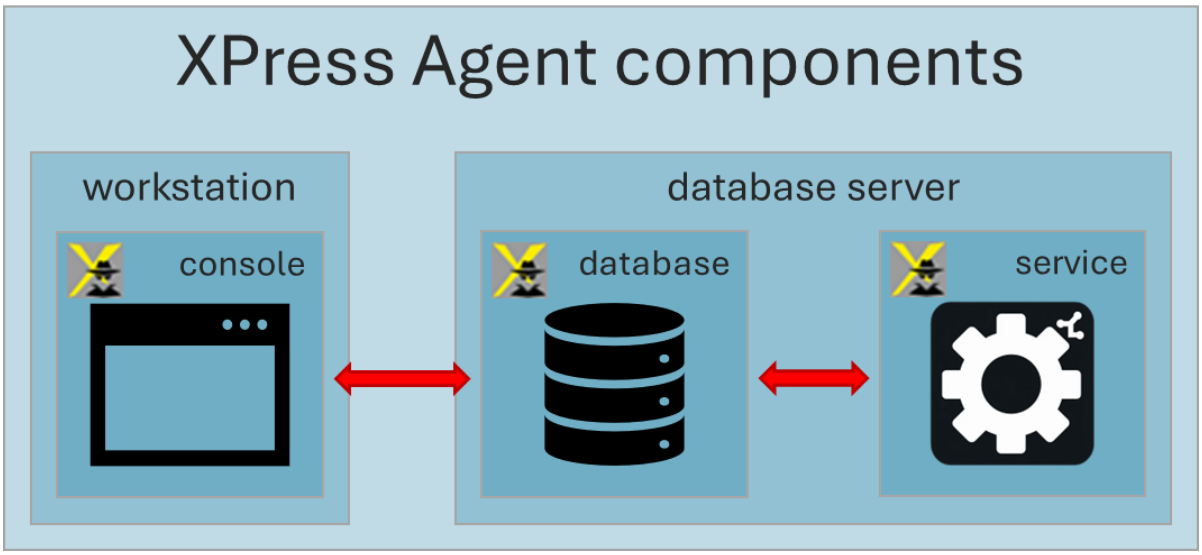
By streamlining its feature set, *XPress Agent* caters to the needs of small-scale business applications, delivering a reliable and affordable job scheduling solution.

3.1 License

XPress Agent is a licensed product. Each *XPress Agent* database requires an individual license, typically tied to a specific SQL Server Express instance.

While multiple *XPress Agent* databases can be managed by a single front-end application, you have the option to install multiple front-end instances for greater flexibility.

3.2 Components



3.2.1 Console

This is the front-end, your interface with *XPress Agent*. You configure Jobs and anything around that here, in this manual this program will be referred to as the **Console**.

3.2.2 Database

The administration of Jobs and Schedules is stored together with most application intelligence. In this manual this component will be referred to as the **Database**.

3.2.3 Service

This is the actual ‘workhorse’, it executes the Jobs as scheduled. In this manual this component will be referred to as the **Service**.

4 Usage

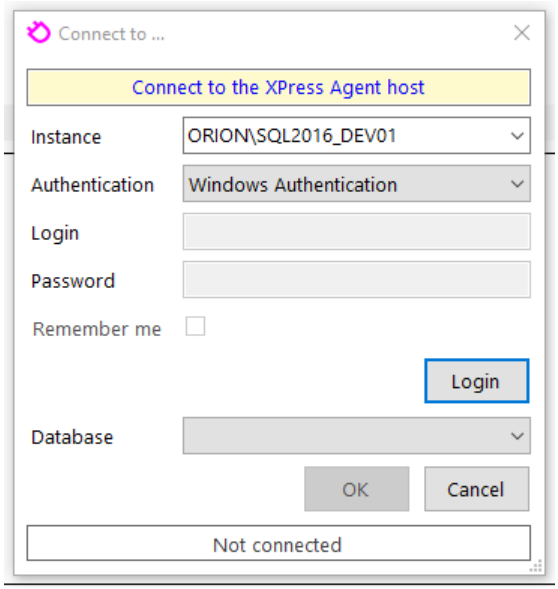
Start the Console and connect to the instance hosting the *XPress Agent* database.

4.1 Connect

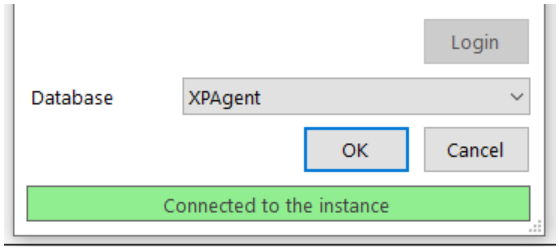
Connect allows you to connect to an *XPress Agent* host, since the database name can vary between installations, you need to login first.

4.1.1 Instance

Enter the Instance name or accept the presented one from last time:

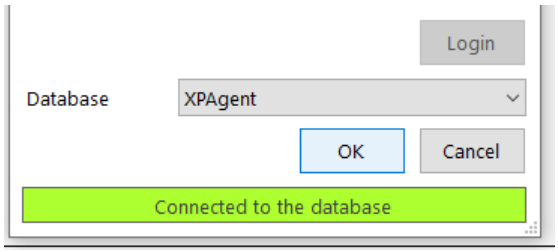


… and click Login.:



4.1.2 Database

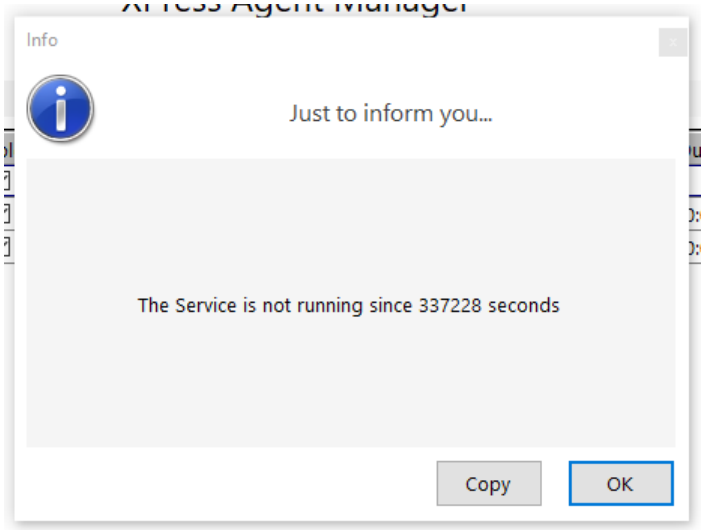
Then you select the correct database from the combo box, or you just accept the already presented database name from last time and click [OK], before it closes you'll see this briefly:



The connection will be saved for next time, if you use SQL Server authentication and check ***Remember me*** then your credentials will also be saved, passwords will be encrypted of course.

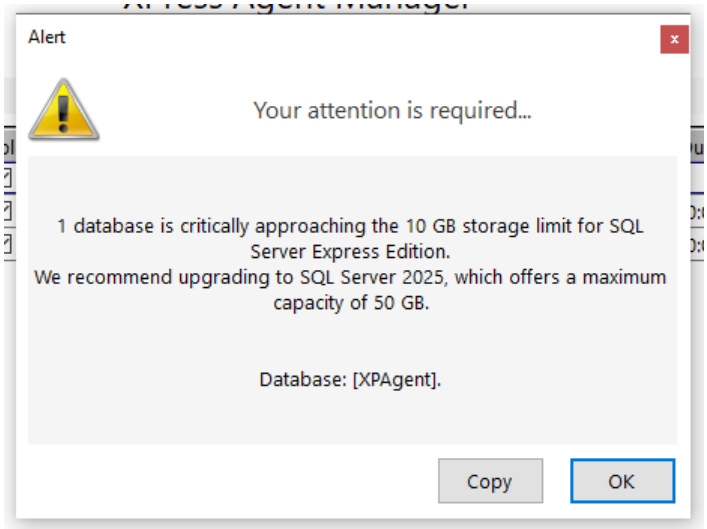
4.1.3 Service check

Then the Console checks if the Service is running, if not you'll see a message like this:

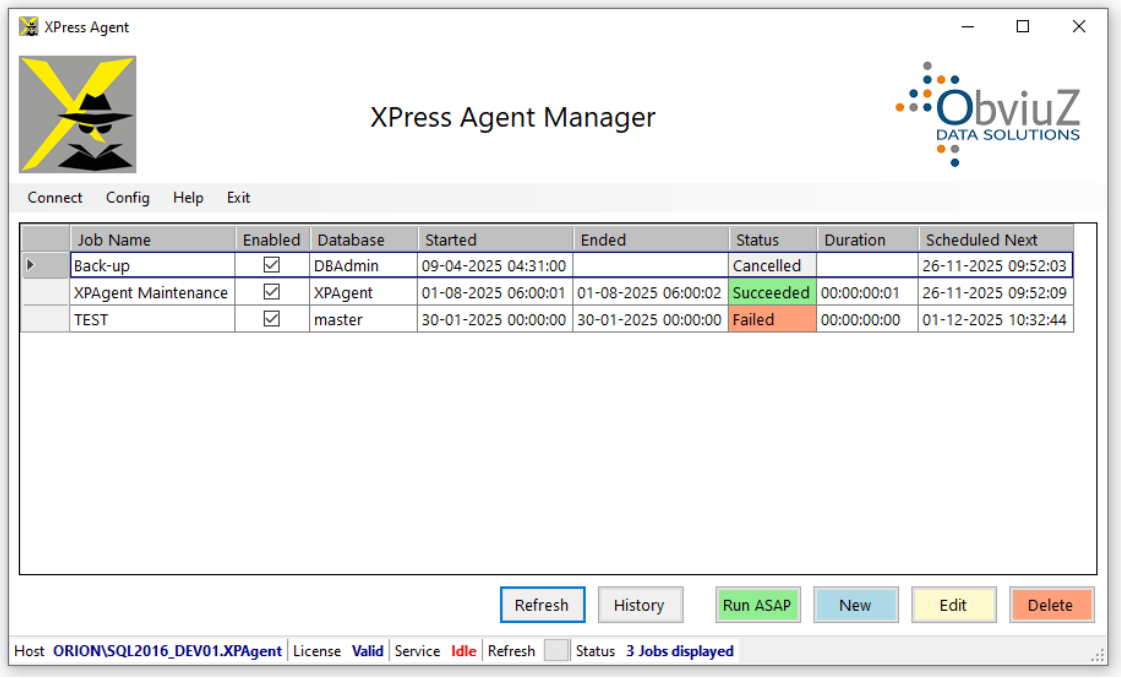


4.1.4 Database Size Check

Then, if you're running on Express Edition the size of the databases will be checked against the size limit for that version unless this is disabled in the Configuration (see ***4.2.2.1***). When appropriate an alert will be given:



4.1.5 Main interface



Two pre-defined jobs are included:

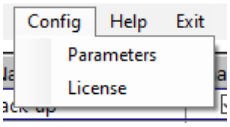
- Back-up Job: This job, initially disabled, can be configured to automatically back up your *XPress Agent* host. Configuring this job is highly recommended to protect your data.
- Clean-up Job: This job is designed to periodically clean up *XPress Agent*.

4.2 Menu

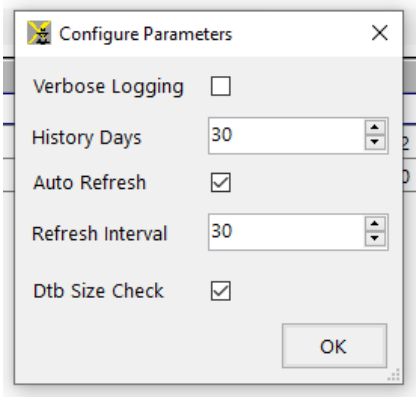
4.2.1 Connect

See ***4.1***.

4.2.2 Config



4.2.2.1 Parameters

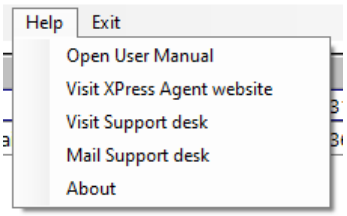


- **Verbose Logging:** when checked there will be entries in the ServiceLog for every time a Job was run. When unchecked only important stuff is logged.
- **History Days:** this setting is used by the maintenance Job, all history older than this will be cleaned up.
- **Auto Refresh:** to toggle this function.
- **Refresh Interval:** if Auto Refresh is activated, then this is the interval in seconds between refreshes.
  Note: when the Program detects any running Job, this interval is temporarily set to 5 seconds to ensure frequent status updates. Once all Jobs are completed, the interval reverts to the configured value.
- **Dtb Size check:** Check for databases approaching the 10 or 50 GB limit (depending on the version) for Express Edition.

4.2.2.2 License

This is covered in the Installation Manual.

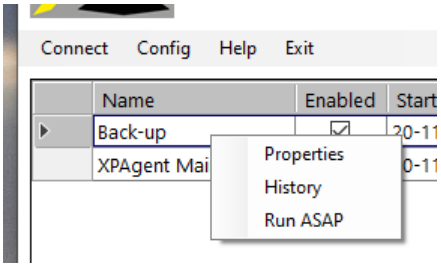
4.2.3 Help



Most speak for themselves, since nothing here can disrupt the functioning of the software, just try the various options.

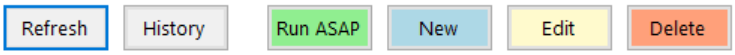
4.3 Contextmenu

Right-click on a Job opens a contextmenu:



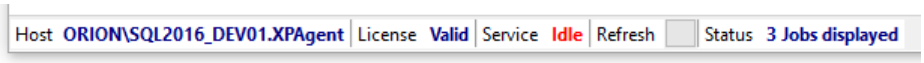
- Properties; shows the details of the Job, see ***5***
- History; show the history of the selected Job, see ***5.4***

4.4 Buttons



- **Refresh:** while the system performs a timed refresh every *X* seconds (as configured), this button allows the user to initiate an instant, manual refresh of the data.
- **History:** show the history for the selected Job, see ***5.4***.
- **Run ASAP:** reschedules the selected Job to NOW so the Service will run it ASAP.
  The refresh rate will immediately set to 5 seconds, see ***4.2.2.1*** under **Auto refresh** and Refresh Interval.
- **New:** add a new Job, see ***5***.
- **Edit:** edit the selected Job, see ***5***.
- **Delete:** delete the selected Job after confirmation.

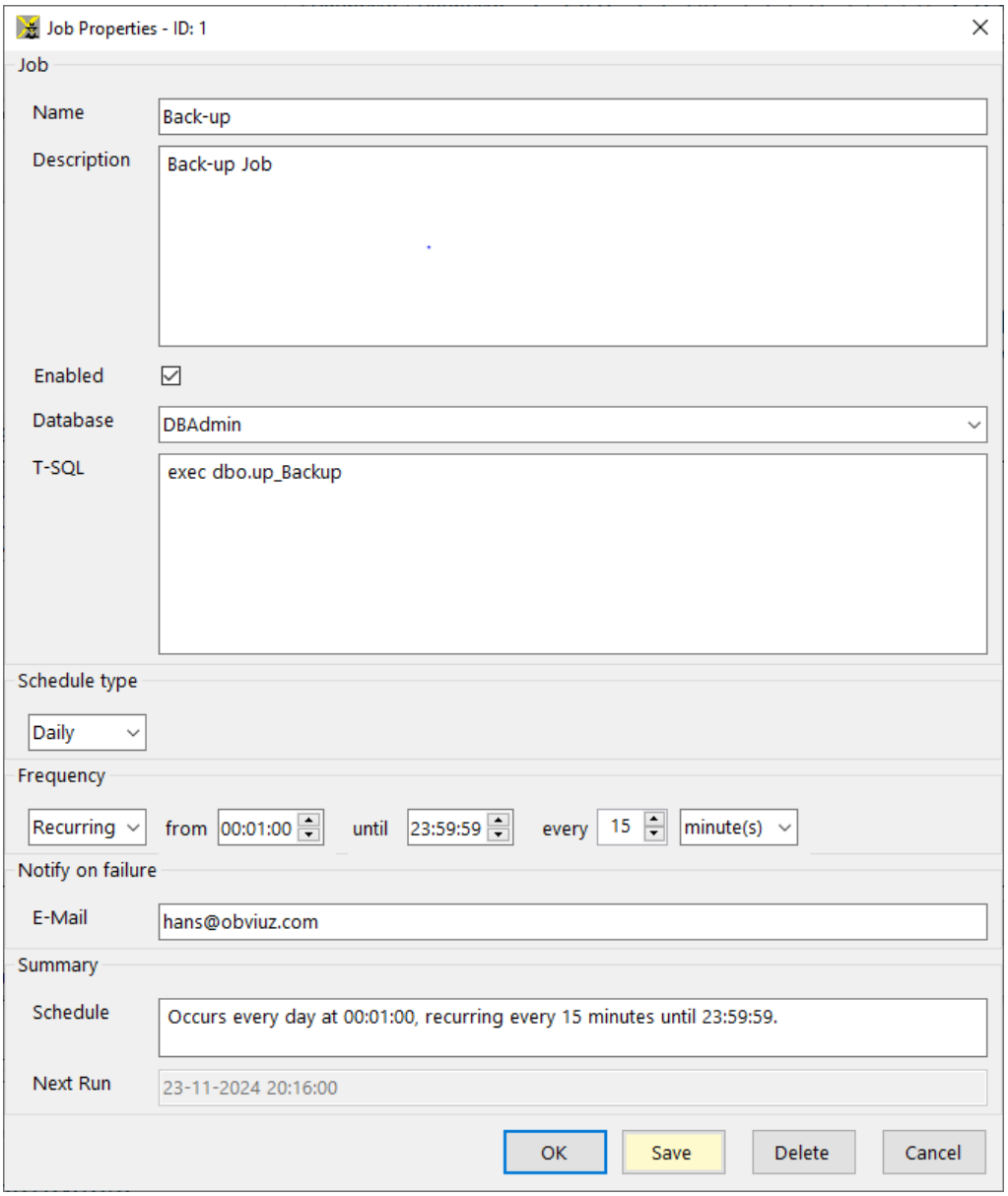
4.5 Statusbar



Shows the Host, including the database, the License Status, Service Status and the Current Display Status.

5 Job Properties

Details of the Job. You can enter, edit and save the Job , or delete it:

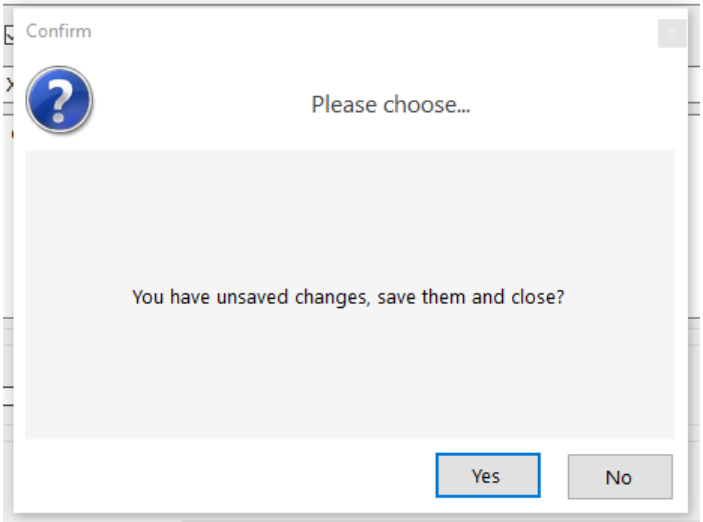


- **Job Name:** unique name to identify the Job.
- **Job Description:** A descriptive text for your reference, default is Job Name.
- **Enabled:** determines if the Job will be executed as scheduled.
- **Database:** select the database where the Job should execute its SQL.
- **T-SQL:** enter the SQL statement(s) to be executed.
  Note: ensure that you include the **EXEC** or **EXECUTE** keyword wherever needed, *XPress Agent* does not do that.
- **Schedule:** set all options, just like with SQL Agent, details are described in the next paragraphs.
- E-Mail: In case the Job fails, an alert is sent to this address (list).
- Schedule: a descriptive summary of the schedule
- Next Run: date and time the next run is scheduled based on the properties above.

5.1 Buttons

- [OK] closes the form, saving any changes.
- [Save] Highlighted when there's unsaved data but only enabled when all mandatory fields are filled; saves the current Job.
- [Delete] deletes the displayed Job after confirmation.
- [Cancel] closes the form, prompting to save any changes if possible.

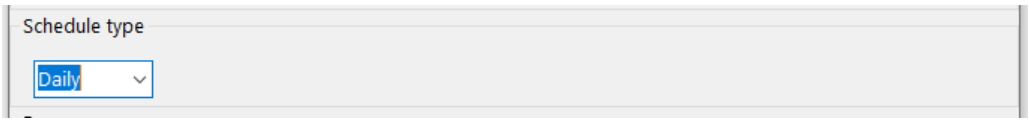
If a new or modified Job is unsaved, a confirmation prompt will appear before closing:



5.2 Schedule types

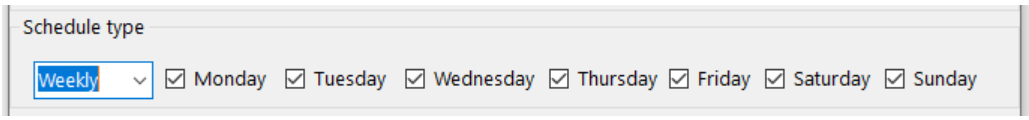
Schedule type determines if the Job runs Daily, Weekly or Monthly.

5.2.1 Schedule type "Daily"



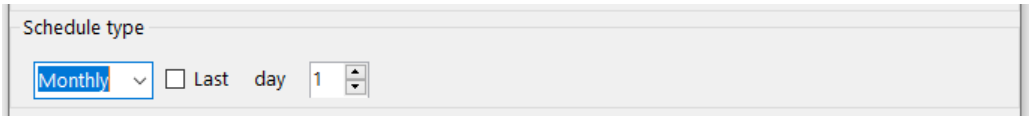
This option has no sub-options except for Frequency type, see there.

5.2.2 Schedule type "Weekly"



Select any combination of days.

5.2.3 Schedule type "Monthly"

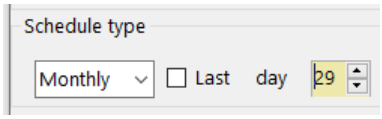


Select "Last" or any number between 1 and 31.

Selecting "Last" hides the day number field; unchecking it restores the field.

Important Notes:

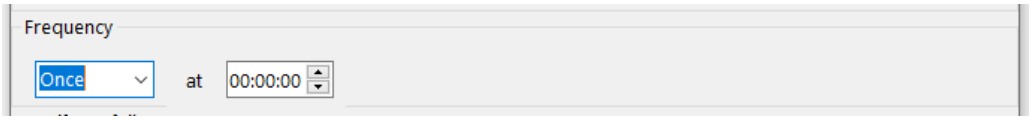
- If you select 31, the Job will only run during months that actually contain 31 days (e.g., it will skip February, April, June, etc.).
- Days greater than 28 are visually indicated with a light yellow (PaleGoldenrod) background for caution:



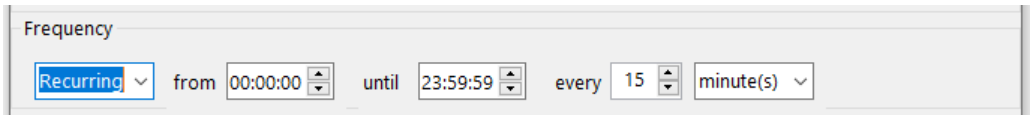
5.3 Frequency types

Those speak for themselves, added for completeness.

5.3.1 Frequency type “Once”

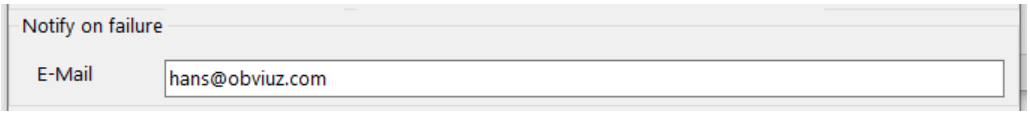


5.3.2 Frequency type “Recurring”



5.3.3 Notify on Failure

If you enter a valid email address, *XPress Agent* will send an email to that address in case the Job fails:



See ***6 Service*** **details**

Every second the Service checks for jobs to be executed, it loops until all Jobs that qualify are being executed in separate threads.

The Service logs events like starting, stopping and errors to a log file in a Log subdirectory, see the Installation manual for details.

Error mail

Every second the Service checks for jobs to be executed, it loops until all Jobs that qualify are being executed in separate threads.

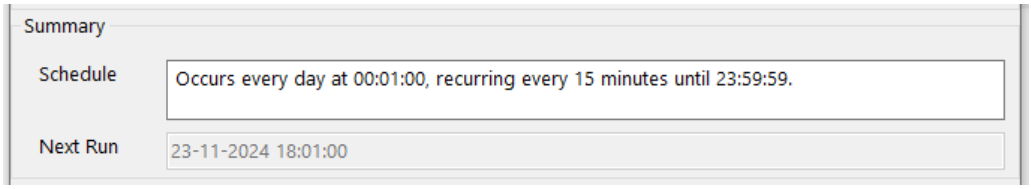
The Service logs events like starting, stopping and errors to a log file in a subdirectory Log under the

Error mailfor an example.

5.3.4 Summary

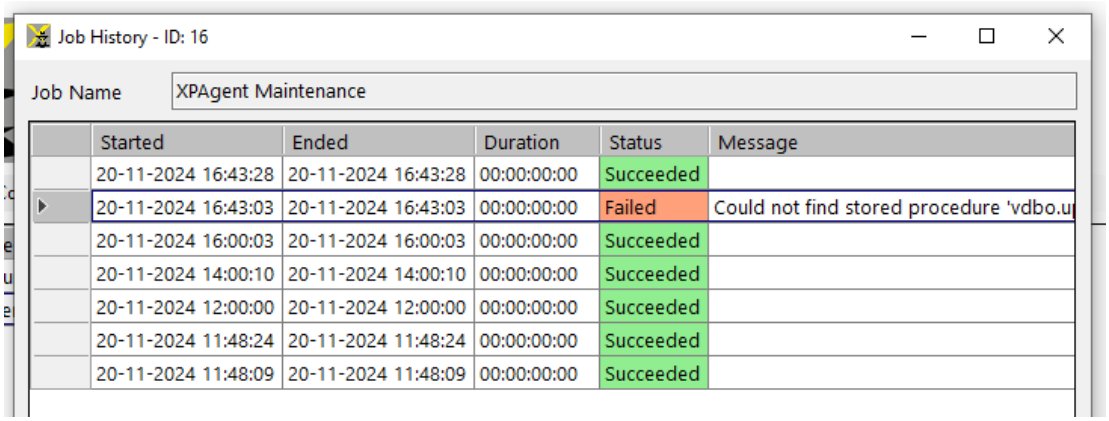
A summary of the schedule is displayed, whenever you save changes this value is updated.

It also shows Next Run to reflect any changes you saved.



5.4 History

Shows the Job History, including any saved Error messages in case the Job failed:



"Escape" or [OK] closes the form.

6 Service details

Every second the Service checks for jobs to be executed, it loops until all Jobs that qualify are being executed in separate threads.

The Service logs events like starting, stopping and errors to a log file in a Log subdirectory, see the Installation manual for details.

7 Error mail

Here's an example of an Error mail:

Error executing Job 'Back-up'

SO SQLServer-ORION_SQL2017_EXP01 <sql@obviuz.com>
Aan hans@obviuz.com

XPress Agent Error Report

An error occured while executing this job:

Job ID	: 1
Job Name	: Back-up
Target Database	: DBAdmin
T-SQL	: exec dbo.up_BackupZ
Started	: Nov 23 2024 5:39PM
Ended	: Nov 23 2024 5:39PM
Duration	: 00:00:00:00

Error specification:

Error Number	: 2812
Error Severity	: 16
Error Message	: Could not find stored procedure 'dbo.up_BackupZ'.

XPress Agent is an ObviuZ product

- XPress Agent website
- ObviuZ website
- ObviuZ Support portal

(end of automated message)