



GeoMate

2026 · Exploration Data Platform

INTEGRATION

MODULE 16

Automation Builder

A no-code workflow engine: blocks wired on a canvas, fired by a clock or by a database event, with an execution log and a rollback.

- Group: Integration
- Workflow validation before activation
- 5 block families
- Scheduled and event-driven triggers

Save

Test / Schedule

Clear

Remove Node

Executive summary

Automation Builder removes the recurring chore: blocks wired on a canvas, triggered by a clock or by a database event, with an execution log and a rollback — without a line of code.

01 What it replaces

The calendar reminder, the home-made script on one person's workstation, and the Friday-evening export forgotten one week in three.

02 How it works

A trigger — scheduled, event-driven or manual — opens the flow; action blocks chain together with flow control; the log records every run and makes rollback possible.

03 Who it is for

The database owner who wants the export, the check and the notification to happen even when nobody thinks about it.

3

trigger modes

0

lines of code to write

SMTP

outbound notifications



rollback after failure

Contents

01 What the module removes

The repetitive actions of Monday morning and delivery evening.

02 The visual canvas

Block palette, central canvas, properties panel.

03 Five block families

Triggers, data, import/export, control flow, notifications.

04 Two trigger modes

Scheduled at an interval or a fixed time, or fired by an event.

05 Validation before activation

The workflow is diagnosed before it is made active.

06 Execution log

Timestamp, trigger, status, duration and per-block output.

07 Notifications

SMTP email, desktop alert, logged message, file write.

08 Business value

The routine runs even when nobody is thinking about it.



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SECTION I

The module

The problem addressed, the capabilities delivered, the processing chain and the module's place in the platform.

-
- 01 Context
 - 02 Key capabilities
 - 03 Processing chain
 - 04 Place in the platform
-

Context

After every assay import, someone has to re-run validation, recompute the intercepts and regenerate the report. That someone eventually forgets, or goes on leave.

The Automation Builder turns that sequence into a workflow: blocks wired on a canvas, fired by a clock or by the event itself.

No code

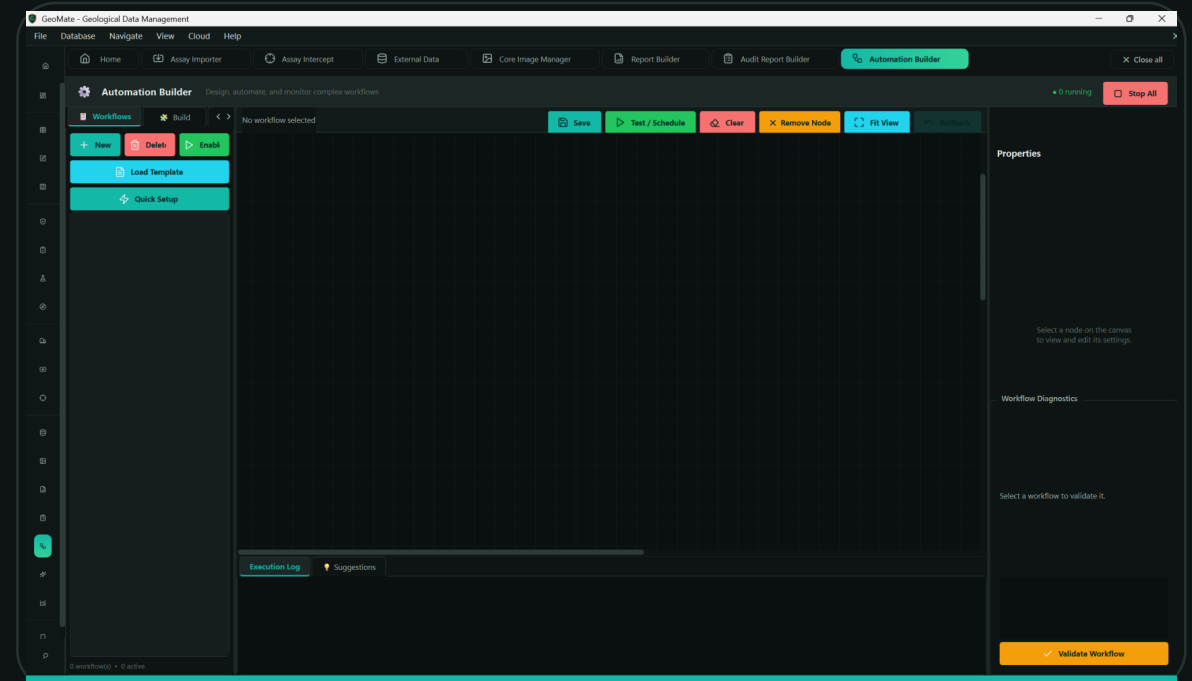
Blocks are dropped, wired through their connectors and configured in the properties panel.

The workflow is validated before it goes live

Diagnostics flag misconfigured blocks, missing connections and cycles before activation.

Rights follow the creator

A workflow runs under the credentials of whoever created it: writing blocks require at least an Admin role.



The email block requires SMTP configuration. Office 365 (smtp.office365.com) and Gmail (smtp.gmail.com) use port 587 with STARTTLS; Gmail requires an app password when two-factor authentication is on.

Key capabilities



01

Triggers

On schedule, on application start, on import complete, on project open, or manually.



02

Data blocks

Run validation, run QAQC, recalculate intercepts, compact the database, run a SQL query.



03

Import and export

Import an assay CSV, export a table to CSV, generate a PDF or Excel report.



04

Control flow

Loop over holes or over batches, branch on a condition, wait, stop.



05

Notifications

SMTP email, desktop alert, logged message or a write into a tracking file.



06

Diagnostics and rollback

Workflow validation before activation, dry run, and rollback on a run.

Processing chain

From trigger to effect, with a log and a rollback.

A Trigger

Three ways to open a flow

- Scheduled: clock, periodicity, execution window
- Event-driven: a write or a condition in the database
- Manual: run on demand, for testing
- Concurrency handling between runs
- The rights the flow runs under



B Chaining

Blocks wired on the canvas

- Data blocks: read, query, transform
- File import and export
- Flow control: conditions, branches, stop
- Report generation or quality checking
- Notification via SMTP, Office 365 or Gmail



C Run & trace

Log and diagnostics

- Timestamped execution log, block by block
- Diagnostics on failure, naming the failing block
- Rollback of a run's writes
- Success or failure notification to the recipients
- Run history, for review

AUTOMATING DOES NOT EXEMPT YOU FROM WATCHING

A flow that fails silently is worse than a forgotten manual task: nobody notices. The failure notification, not only the success one, is part of the flow — and the log has to be read periodically.

Place in the platform

FED BY

— Project procedure

What has to happen every week, every delivery or on every import.

12 External Data

Recurring exports and imports are the first tasks to automate.

05 Data Validation

A systematic check after import is a textbook flow.



Automation Builder

The conductor: it does nothing itself, it makes the other modules do what is needed, when it is needed.

FEEDS

14 Report Builder

Periodic report generation becomes a scheduled action.

06 QAQC Manager

Quality control can trigger on the arrival of a certificate.

— Team and management

The notifications carry the result to whoever needs to know.



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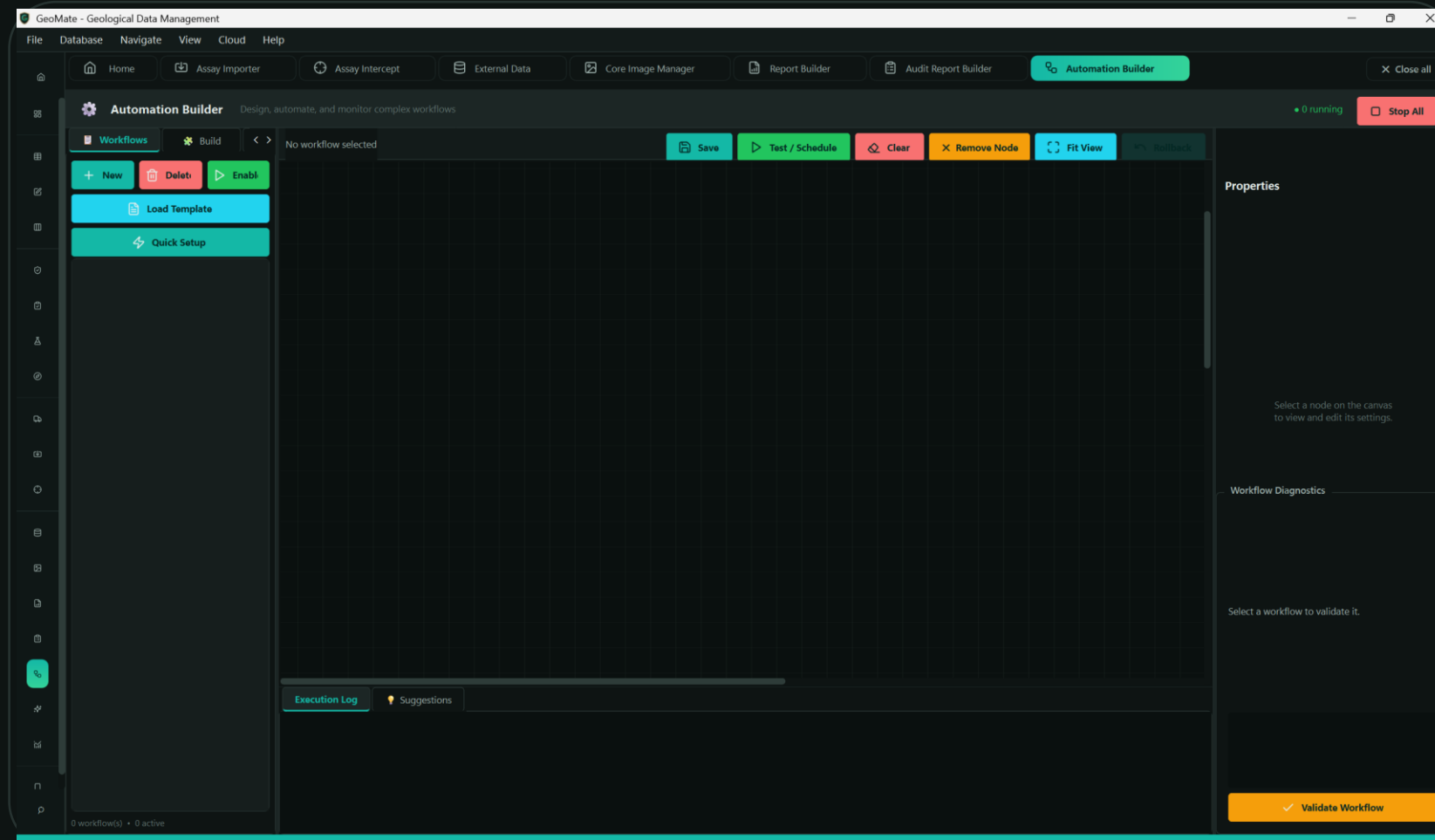
SECTION II

In practice

The real interface, the operating workflow, the reference settings, good practice and the questions that come up.

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- 01 The interface
 - 02 Operating workflow
 - 03 In depth
 - 04 Good practice
 - 05 Frequently asked
-

The interface



1 Workflow list

Create, delete, enable; load a template or launch the quick setup.

2 Action bar

Save, test and schedule, clear, remove a node, fit the view, roll back.

3 Workflow canvas

Blocks are dropped and wired through their connectors to define execution order.

4 Properties panel

Configuration of the selected block, and workflow diagnostics before activation.

5 Log and suggestions

Timestamped execution log, and suggestions for improving the workflow.

Actual GeoMate 2026 v2026.3.1.5 screen capture — Midnight theme.

Operating workflow

Six steps to turn a routine into an automatic workflow.

1

Create the workflow

Name, description, and mode: scheduled, event-driven or manual.

2

Place the trigger

The trigger block is the entry point: clock, start-up, import completion.

3

Add the actions

Action blocks are configured one by one in the properties panel.

4

Wire

Drag from one block's output connector to the next block's input.

5

Test

Run immediately against the database and follow progress in the log.

6

Validate and activate

Diagnostics check the workflow, then the Active switch makes it live.

The five block families

FAMILY

AVAILABLE BLOCKS

Triggers

On Schedule · On App Start · On Import Complete · On Project Open · Manual Run

Data

Run Validation · Run QAQC · Recalculate Intercepts · Compact Database · Run SQL Query

Import / Export

Import Assay CSV · Export Table to CSV · Generate Report (PDF/Excel)

Control Flow

Loop Over Holes · Loop Over Batches · If Condition · Wait · Stop

Notifications

Send Email · Desktop Alert · Log Message · Write to File

The execution log

COLUMN	CONTENT
Timestamp	Date and time the run started, in local time and UTC
Workflow	Name of the workflow that fired
Trigger	What fired it: schedule, event, or manual run
Status	Success, failed or partial
Duration	Total execution time in seconds
Details	Per-block output and error messages, expandable

A workflow runs under the credentials of its creator. Blocks that modify data — SQL query, import — require at least an Admin role; read-only blocks need only the User role.

Good practice

What to have provided for before switching a flow on in production.

✓ Test manually first

Manual triggering exists for that: watch the flow run end to end before handing it to a clock.

✓ Notify on failure too

A notification that only arrives when all is well lets a silent failure go unnoticed.

✓ Check the execution rights

The flow runs under given rights: what it cannot read or write, it will not do — and that has to be known beforehand.

✓ Think about concurrency

Two runs overlapping on the same table produce an unpredictable result. The concurrency rule is set explicitly.

✓ Know how to roll back

Rollback undoes a run's writes. It has to be verified on the flow before it is needed.

✓ Read the log periodically

A flow running for six months with nobody reading its log is not an automation, it is a blind spot.

Frequently asked

The questions asked before automating.

Q Is programming knowledge needed?

No. The flow is built by placing blocks on a canvas and wiring them; flow control is set through conditions.

Q Does the application have to stay open?

A scheduled trigger assumes the service that runs it is up. That is a point to settle with IT before relying on it.

Q What happens if a block fails?

The run stops on the failing block, the diagnostics name it, and the rollback undoes the writes already made.

Q Which notification channels?

Generic SMTP, Office 365 and Gmail are supported, along with other channels depending on the workstation's configuration.

Q Can it trigger on a database write?

Yes: that is the event mode — the arrival of a certificate can launch the quality check with no intervention.

Q Can a flow call another one?

Flow control allows actions to be chained and branched. Keep the flows readable, though: an unreadable flow does not get maintained.



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SECTION III

The data

What the module produces on a real dataset, and the vocabulary needed to read those results.

01 Anonymised data

02 Key concepts

Anonymised data

What an automated weekly routine represents on a project the size of KOUKOUDAN.

5

BLOCK FAMILIES

triggers, data, import/export, control, notifications

22

AVAILABLE BLOCKS

assembled without writing a line of code

11 740

ASSAYS CONCERNED

revalidated and recomposited on every import

198 335

INTERVALS REVALIDATED

in one scheduled run, with no intervention

The standard sequence — import the certificate, re-run validation over the 198,335 intervals, recompute the intercepts, regenerate the report, send the email — becomes a six-block workflow fired by the completion of the import.

Source: KOUKOUDAN project database (Senegal) — figures computed from the real data exported from GeoMate.

Key concepts

The vocabulary of workflow automation.

Trigger

The condition that opens a flow's execution: a clock, a database event, or a manual action.

Flow control

The conditions and branches deciding which path is followed according to a previous block's result.

Rollback

The undoing of the writes made by a failed run, returning the database to its previous state.

Block

An elementary action of the flow — read, transform, export, notify. Blocks wire together to form the flow.

Concurrency

The case where two runs of the same flow overlap. The chosen rule decides whether the second waits, is refused, or runs in parallel.

Execution log

The timestamped trace of every run, block by block. The only way to know an automation is still working.



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SECTION IV

Value & specifications

What the module changes for the project, and its technical integration profile.

01 Business value

02 Technical profile

Business value

The routine no longer depends on memory

Validation after import, intercept recalculation, Friday's report: the workflow runs whether anyone remembers or not.

Triggers

Failure is visible, not silent

The timestamped log and email notifications report a partial or failed run.

Immediate alert

No code required

The geologist who owns the database builds their workflow with the mouse, with no IT involvement.

No-code

The workflow is validated before going live

Diagnostics, dry run and rollback prevent the automation that destroys data at three in the morning.

Diagnostics

Rights are enforced

A workflow cannot do more than its creator is allowed to do — automation is not a back door.

Creator's role

Technical profile

Triggering

Scheduled

Interval in minutes, or fixed daily / weekly time

Event-driven

Import complete, project open, application start

Manual

Immediate run from the canvas

Concurrency

Running-count indicator, global stop

Execution

Rights

Under the workflow creator's account

Writing

SQL and import blocks: Admin role minimum

Reading

Reports and exports: User role

Rollback

On a run, from the canvas

Notifications

SMTP

Server, port, sender and authentication configured once

Office 365

smtp.office365.com, port 587, STARTTLS

Gmail

smtp.gmail.com, port 587, app password if 2FA

Other channels

Desktop alert, logged message, file write



One platform, from field to report

The “Automation Builder” module is one of the 19 modules of GeoMate 2026 — a single, fully offline platform covering the whole chain: database design, data entry, validation, QA/QC, dispatch, analysis and reporting.