Centralized Logging for Analytical Studio

What Is It and Why You Should Care

When an experiment goes sideways, you open your lab notebook, flip back through the pages, and look for clues. That single, well-documented record is priceless: you can spot an out-of-spec reagent, confirm instrument settings, or prove that yesterday's run really did finish at 6:42 p.m.

Now imagine if the data analysis module in your workflow kept its own private notebook, written in a dozen different formats, stored in a dozen different drawers. If you needed to track down a software error code, it could become an all-day task. That's what traditional software logs look like: separate files living on each computer, impossible to search all at once.
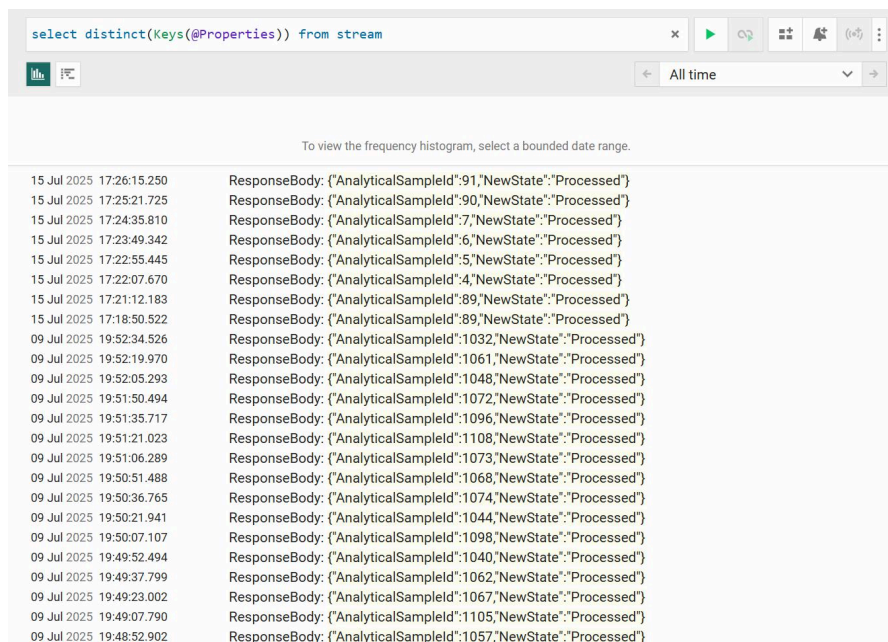
Centralized logging helps simplify trouble shooting in the digital age by gathering those "notebooks" into one place, time-stamping every entry, and giving you a single search box to scan the whole story. Analytical Studio can now communicate with SEQ, a secure cloud-ready- centralized log hub that does exactly what your well-documented lab notebook does for off-line experiments.[1] Keep reading to see why this matters to you.

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1. Troubleshoot in minutes, not hours

Picture a purification run that suddenly pauses. Maybe the database is full, or perhaps an unexpected result in the peak picking-algorithm? With centralized logging, you type the sample ID into SEQ and see every Analytical Studio-related event, all sorted by time. Instead of hunting through folders or calling IT, you zero in on the root cause before the next sample even loads. You can select the degree of logging you want, anything from normal mode for everyday use or verbose mode if you are troubleshooting or want to log the detailed sample history.

select distinct(Keys(@Properties)) from stream

All time

To view the frequency histogram, select a bounded date range.

15 Jul 2025 17:26:15.250   ResponseBody: {"AnalyticalSampleId":91,"NewState":"Processed"}
15 Jul 2025 17:25:21.725   ResponseBody: {"AnalyticalSampleId":90,"NewState":"Processed"}
15 Jul 2025 17:24:35.810   ResponseBody: {"AnalyticalSampleId":7,"NewState":"Processed"}
15 Jul 2025 17:23:49.342   ResponseBody: {"AnalyticalSampleId":6,"NewState":"Processed"}
15 Jul 2025 17:22:55.445   ResponseBody: {"AnalyticalSampleId":5,"NewState":"Processed"}
15 Jul 2025 17:22:07.670   ResponseBody: {"AnalyticalSampleId":4,"NewState":"Processed"}
15 Jul 2025 17:21:12.183   ResponseBody: {"AnalyticalSampleId":89,"NewState":"Processed"}
15 Jul 2025 17:18:50.522   ResponseBody: {"AnalyticalSampleId":89,"NewState":"Processed"}
09 Jul 2025 19:52:34.526   ResponseBody: {"AnalyticalSampleId":1032,"NewState":"Processed"}
09 Jul 2025 19:52:19.970   ResponseBody: {"AnalyticalSampleId":1061,"NewState":"Processed"}
09 Jul 2025 19:52:05.293   ResponseBody: {"AnalyticalSampleId":1048,"NewState":"Processed"}
09 Jul 2025 19:51:50.494   ResponseBody: {"AnalyticalSampleId":1072,"NewState":"Processed"}
09 Jul 2025 19:51:35.717   ResponseBody: {"AnalyticalSampleId":1096,"NewState":"Processed"}
09 Jul 2025 19:51:21.023   ResponseBody: {"AnalyticalSampleId":1108,"NewState":"Processed"}
09 Jul 2025 19:51:06.289   ResponseBody: {"AnalyticalSampleId":1073,"NewState":"Processed"}
09 Jul 2025 19:50:51.488   ResponseBody: {"AnalyticalSampleId":1068,"NewState":"Processed"}
09 Jul 2025 19:50:36.765   ResponseBody: {"AnalyticalSampleId":1074,"NewState":"Processed"}
09 Jul 2025 19:50:21.941   ResponseBody: {"AnalyticalSampleId":1044,"NewState":"Processed"}
09 Jul 2025 19:50:07.107   ResponseBody: {"AnalyticalSampleId":1098,"NewState":"Processed"}
09 Jul 2025 19:49:52.494   ResponseBody: {"AnalyticalSampleId":1040,"NewState":"Processed"}
09 Jul 2025 19:49:37.799   ResponseBody: {"AnalyticalSampleId":1062,"NewState":"Processed"}
09 Jul 2025 19:49:23.002   ResponseBody: {"AnalyticalSampleId":1067,"NewState":"Processed"}
09 Jul 2025 19:49:07.790   ResponseBody: {"AnalyticalSampleId":1105,"NewState":"Processed"}
09 Jul 2025 19:48:52.902   ResponseBody: {"AnalyticalSampleId":1057,"NewState":"Processed"}

Figure 1

Analytical Studio's Centralized Logging capability simplifies finding and viewing software log messages.

Result: Less downtime, fewer re-runs, more usable data per day.

2. Compare runs like you compare peaks

Because SEQ treats log entries as if they were data records, each is stamped with a method name, sample ID, or user tag, you can graph them just like you graph UV traces. Want to see how long it took to transfer a data file from the instrument? How many samples you ran this week vs last week?   All this and more is now easily done.

Result: Spot trends before they become problems, and back up decisions with objective numbers.

3. Remote support that can easily pin-point any issues

When something breaks, the last thing you need is ping-ponging emails and screenshots back and forth or spending hours on a call with support while they reconstruct your work. Because our support team can (with permission) peer into your SEQ dashboard, they see the same logs you do, often in real time. That collaborative view streamlines identification and resolution of any issues, reducing your downtime.

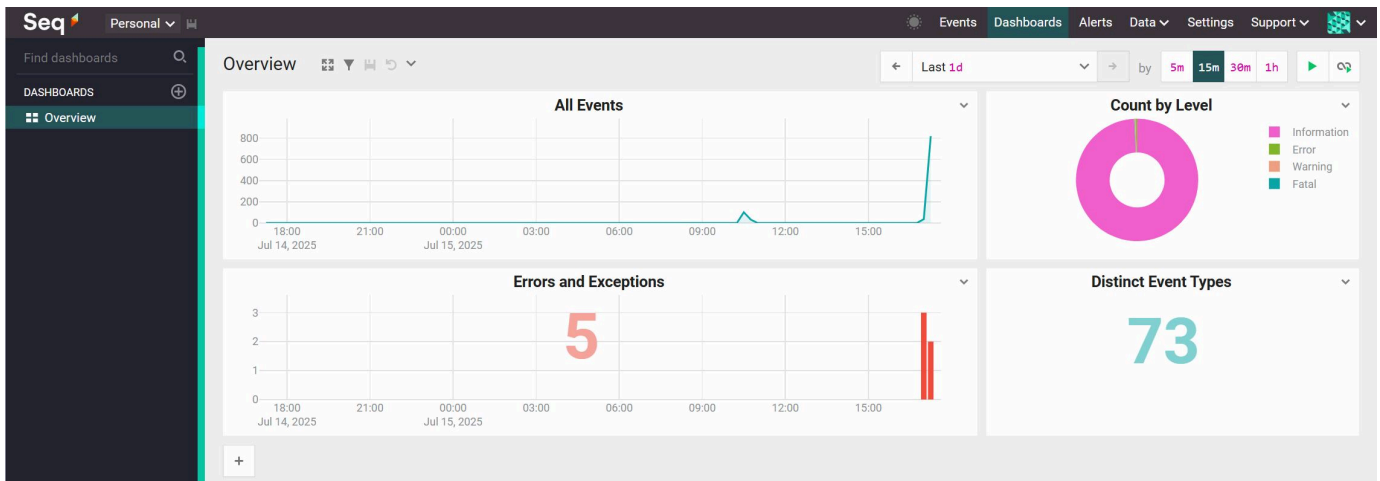**Result:** Faster fixes and fewer distractions from the bench.

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Figure 2

Dashboards make it easy to get an overview of how your system is performing.

4. Future-proof for bigger data sets

High throughput labs keep scaling: more samples, more plates, and more instruments. Traditional log files grow right along with them, eventually filling disks or forcing periodic purges (and lost history). SEQ was built to ingest millions of events per day, with smart indexing that stays fast even as your throughput increases.

Result: Confidence that today's investment will still work when throughput increases again next year.

Getting started is easy

- Existing Analytical Studio methods stay exactly the same, while the behind-the-scenes logging platform is vastly simplified

- Out-of-the-box dashboards show common KPIs such as run success rate, average processing time, and instrument uptime. You can customize these or create new ones with drag and drop widgets.

- Smart alerts allow you to define rules in SEQ and automatically be notified if a rule fails. For example, if you want a text when a check standard fails? Define a rule once and let SEQ keep watch.

Figure 3

Setting alerts provides rapid notification of any events that need your attention.

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Bottom line

Centralized logging turns scattered machine logs into a single, searchable lab notebook, complete with charts, alerts, and audit ready records. For you, that means faster troubleshooting, increased uptime, and data-driven insight into every run. It's one more way Analytical Studio keeps your workflow moving, from sample to answer, with total confidence.

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