



DATAMINE

CCLAS 6 Release Notes

2022-m08-p3

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Introduction

CCLAS 6 is a LIMS for the modern laboratory, with a simple and intuitive web interface that can be easily personalised by end users. User-friendly charts, icons and color-coding put key data at the forefront, enabling lab operators and managers to readily see issues that require immediate attention. CCLAS 6 supports different industrial sectors and laboratory sizes. CCLAS 6 caters for advanced registration, analysis, reporting and invoicing functionality.

This document includes release notes for 2022-m08-p3.

Further Information

More information on your product can be found:

- in your installed Help file.
- in the Datamine Knowledge Base:
<https://datamine.freshdesk.com/en/support/solutions>.
- from members of the Datamine LinkedIn, Facebook and Twitter group pages and forums.
- on Datamine's website: www.dataminesoftware.com

Product Downloads

The latest versions of Datamine products, and release notes for other versions of CCLAS 6, can be downloaded from the support website:

- <https://www.dataminesoftware.com/support-portal-and-downloads/>

Overview of CCLAS 62022-m08-p3

This patch release addresses the installation of third-party libraries onto a deployed application server, for use in CCLAS scripts, and management of CCBGEN (Report Generation) job types on the system batch queue.

Enhancements

CCLAS-3582 Allow Custom Libraries and Source to be copied into AKS PODs from EFS Source Folders

Created Date: 4/11/2022 Case Number: 139651

Previously, where the Jaxen library was referenced in any CCLAS script (for example, hook scripts, service scripts, workbook scripts, reporting scripts) but the library was not installed on the application server, then the script would fail.

This feature (which only applies to Azure environments) copies custom software (libraries and source files) into a suitable folder within the Kubernetes Pod, so that each Pod has its own copy of these libraries and scripts.

If the libraries are required to be updated, then the Pod must be restarted. Depending on the configuration options applied, script-only changes can be updated (if stored offline to the Pod) without Pod restarts. If the scripts are configured to be copied into the Pod, then either these scripts must be manually injected, or the Pod restarted.

This kind of manual script updating within each Pod is not provided by Datamine.

The following details explains how the LIMS Manager can utilise this new feature.

Configuration options to control where scripts run from include five separate locations:

- global/lib
- hooks/lib
- hooks/src
- services/lib
- services/src

The following settings are used to configure both the source folder for the custom software as well as which of the sub-folder are installed into the Kubernetes Pods.

- **custom.root**—The location of the custom script root folder (typically in an EFS repository), referenced below by variable `${custom.root}`.
- **customsrc.root**—Optional. An override location of both the hooks and services src custom script root. Defaults to `${custom.root}/hooks/src`, `${custom.root}/services/src`.
- **customlib.root**—Optional. An override location of both the hooks and services lib custom script root. Defaults to `${custom.root}/hooks/lib`, `${custom.root}/services/lib`.

- **global-lib**—Optional. An override location of the global/lib custom script root. Defaults to `${custom.root}/global/lib`.
- **custom.source.root**—CCLAS does not know anything at all about this. It is just used by the following example **k8s** Yaml file used to copy files and could be set to anything (system variable, environment variable, hardwired), or not at all.

Example: k8s Yaml file (as for `cclas-web-patch.yaml` and `cclas-batch-patch.yaml`)

k8s.yaml

```
env:
- name: "BEFORE_SHELL"
value: >-
/files/scripts/utils/map-files2env.sh -e CUSTOM_ROOT=custom.root -e
CUSTOM_SOURCE_ROOT=custom.source.root -d /mnt/app/config/cclas-
startup-dev.properties:
/files/scripts/utils/eval.sh cp -r $CUSTOM_SOURCE_ROOT/. $CUSTOM_
ROOT:
/files/scripts/utils/eval.sh chown -R user $CUSTOM_ROOT:
/files/scripts/utils/eval.sh chgrp -R jbossgroup $CUSTOM_ROOT:
/files/scripts/utils/eval.sh chmod -R 755 $CUSTOM_ROOT
```

This script assumes:

- `custom.root=/mnt/local/customfiles`
- `custom.source.root=/mnt/efs/customfiles`
- `customsrc.root=/mnt/efs/customfiles`

This example script copies all the custom files from `/mnt/efs/customfiles` to `/mnt/local/customfiles` on environment startup.

CCLAS will:

1. Load all the libraries including the **global/lib/*.jar** from the local container `/mnt/local/customfiles/**/lib/*.jar`.
2. Load all the src scripts from `/mnt/efs/customfiles/**/src/*.groovy`.

CCLAS-3616 Allow Custom Libraries (Jaxen) to be injected to the Wildfly LIB folders (AWS Only)

Created Date: 9/11/2022 Case Number: 139143

Previously, where the Jaxen library was referenced in any CCLAS script (for example, hook scripts, service scripts, workbook scripts, reporting scripts) but the library was not installed on the application server, then the script would fail.

Now, when an environment is deployed on AWS, the CCLAS Deployment Manager tool injects third-party libraries that it finds in the global/lib folder of the custom root into the Wildfly folders on the application server.

Therefore, where any CCLAS script requires a third-party library, the LIMS Manager must copy the library files to the global/lib folder of the custom root, ready for deployment on AWS.

CCLAS-3581 Restrict Batch Execution Query Only Check For CCBRGEN Dependent Jobs

Created Date: 4/11/2022 Case Number:

A change to the detection and processing of jobs on the system batch queue now ensures that for a CCBRGEN (Report Generation) job type, the batch server will not process another job for the same report request until the first job is completed or failed, that is, while the job still has a STARTED state.

This change allows that, for other types of jobs submitted to the system batch queue, this restriction is not in place. That is, where a job of a type other than CCBRGEN is in a STARTED state on the system batch queue, then another job of the same type can be triggered and executed. Given this, it is advisable that jobs like instrument result upload tasks are not scheduled more frequently than the typical time it would take to process the average sized instrument data file, otherwise, queued jobs would eventually bank up and block the batch servers.

No user or system configuration needs to be updated for this new feature.

Note: If a system batch job's status is STARTED, and the batch queue is subsequently restarted, then these in-progress tasks are NOT automatically picked up by other system batch queues.

These started but never completed jobs on the system batch queue can be monitored, and if more than 1 day old, then they could be readily deleted. If these started but not completed jobs are of a CCBRGEN (Report Generation) job type, then these should be deleted as it would prevent the specific report request from triggering further report generation jobs on the system batch queue.

Overview of CCLAS 6 2022-m08-p2

This patch release addresses the restriction of concurrent reporting from report requests to guard against access conflicts and a defect in persistence of the invoice sample grid.

Enhancements

CCLAS-3555 Restrict concurrent reporting from report requests

Created Date: 5/10/2022 Case Number:

When multiple report generations are triggered for a single report request, then only one batch job is executed at a time, and the other batch jobs are queued until the executing one has ended finished. This ensures that tables and records do not have access conflicts resulting in failed report generation.

Note that the number of jobs that can be placed on the system batch queue is still controlled by system user preferences:

- The allowed maximum number of duplicate entries is set by the **batch.queue.control.<batch_job_name>.allow.max.duplicate.entry** system user preference.
- The last defined time period is set by the **batch.queue.control.<batch_job_name>.check.timeframe.in.minutes** system user preference.

Defects

CCLAS-3540 CCINVGRD fails to set to Not Invoiceable

Created Date: 26/9/2022 Case Number:

When the CCINVGRD—Invoice Sample Grid application is used to indicate that some SampleScheme or SampleSchemeAnalyte records are not invoiceable. Updates to this grid are now persisted upon submit.

Overview of CCLAS 6 2022-m08-p1

This patch release addresses a defect in job promotion.

Defects

CCLAS-3503 Job promote can leave some SSA records NOT promoted to new scheme version

Created Date: 2/9/2022 Case Number: 131729

Production or internal jobs with lots of samples and schemes can now be successfully promoted to new scheme versions. Previously only 10,000 SSA records per job scheme were processed.

Note that the Promotion service is still limited to 200 analytes per scheme. If a job has more than 200 analytes on a scheme, then there could still be promotion issues. This will be addressed in a future release.

Overview of CCLAS 6 2022-m08

This release presents a new naming convention for CCLAS releases and includes updated content on the Help About page, updated default core rights, the rounding of percentage recovery, relative percentage difference and recovery of QC samples to five decimal points, and improvements in performance of SQL queries.

It also addresses various bug fixes that address batch job creation where there are a large number of sample scheme link records, the correct writing and updating of QC history records in various scenarios, the overlapping of batch queue requests for reports from the same report request, the display of all schemes in report requests where there are a large number of analytes, and improved performance when combining of invoices that include analyte-based price type schemes.

Enhancements

CCLAS-3444 Change the CCLAS release naming syntax to YYYY-mMM (2022-m08 for this release)

The naming convention of CCLAS releases is changed to reflect the time period of release. This release is named 2022-m08 for the eight month of the year. Hot fixes on a release are appended with p1, p2, etc., to indicate the patch number.

CCLAS-3395 Ensure the Help About page has updated content

Created Date: 7/7/2022 Case Number:

When [Getting Help for CCLAS](#), the **Help > About** screen is updated to show:

- Release—The CCLAS 6 release name
- Version No.—The build number (API-indicator.feature-indicator.commit-indicator.build).
- Build Date—The build date.
- Reference—The repository commit ID.

CCLAS-3190 Ensure that the correct rights are defined for LAB_MGR and core rights are flagged as CORE='Y'

Created Date: 12/5/2022 Case Number:

When considering [CCLAS Core Roles and Rights](#), it was noticed that LAB_MGR and OFFICE_MGR roles were not assigned permission to the CCSGRD ALL right. This is rectified in the published core data set for security settings. As the components and permissions within this right were also present within CCREGN ALL right, this oversight probably was not having ANY impact in the normal operations of the laboratory.

It was also noticed that some published rights were not flagged as core and, hence, could have been inadvertently edited (which should not happen). It is unlikely that these core rights are edited on an instance, but if they were, make a note of which ones, and make copies of the rights (as non-core rights), and insert them into you custom roles as required. This is rectified in that the following rights are now flagged as core rights (and are therefore read-only):

- CCSPFN ALL
- CCSPFN LAB_ONLY

- CCSPFN ORG_ONLY
- CCSPFN READ_ONLY.

CCLAS-3340 RPD/PERCENTAGE_DIFFERENCE/RECOVERY to be rounded to 5 decimal places

Created Date: 17/6/2022 Case Number:

After a result is entered for a blank, standard or spike QC sample, then the system process for [Assessing Results against Accuracy Limits](#) now rounds the calculated PD and Recovery to 5 decimal places. Refer to [Conditions for Assessing Accuracy and Setting QC Statuses](#).

After a result is entered for a duplicate or replicate QC sample, or a duplicate or replicate pair of a blank, standard or spike QC sample, then the system process for [Assessing Results against Precision Limits](#) now rounds the calculated PD and RPD to 5 decimal places. Refer to [Conditions for Assessing Precision and Setting QC Statuses](#).

This rounding also applies when forcing reassessment of results either manually or via a workbook onLoad script.

If RPD, PD and/or Recovery are changed in a workbook session, now, only the rounded values are compared. Values with zeroes after the decimal places are managed, for example, 0.1100 and 0.11 are treated as the same value, at 5 decimal places.

Since historical calculations of these properties on sample scheme analytes are unrounded to 5 decimal places, if the results are reassessed in workbook, now, those cells containing a rounded RPD, PD and/or Recovery value are flagged as dirty and saved upon submit, and the related QC History observations are updated. Also, note that **CCLAS-3252 Defects in writing and updating QC history records, various scenarios** provided in this patch ensures that these observations are created where they do not yet exist. Refer to [Update of QC History with the Results of a QC Sample](#) and [Reviewing Detailed QC History Observations](#).

Contact Datamine to obtain scripts to round historical calculations of these properties on sample scheme analytes and/or in QC history observations, without opening the affected jobs in workbook. Note that these queries process all records in CCSAMPLESCHEMEANALYTE and/or CCQCHISTORY, so will potentially take some time to process.

Initially supplied in CCLAS 6.12.0-GA_P4.

CCLAS-3448 Query performance - Add ARCHIVE_STATUS to queries

Created Date: 4/8/2022 Case Number:

ARCHIVE_STATUS is added to the where clause when selecting records from CCSAMPLESCHEMEANALYTE records during a laboratory batch job search of schemes:


```
...where  
(CCSAMPLESCHEMEANALYTERec.organisation_code = :1 and  
(CCSAMPLESCHEMEANALYTERec.laboratory_code = :2 and  
(CCSAMPLESCHEMEANALYTERec.job_code = :3 and  
CCSAMPLESCHEMEANALYTERec.archive_status = :4 )))...
```

ARCHIVE_STATUS is added to the where clause when selecting CCSAMPLESCHEMEANALYTE records during the building of a report request:

```
...where  
(CCSAMPLESCHEMEANALYTERec.organisation_code = :1 and  
(CCSAMPLESCHEMEANALYTERec.laboratory_code = :2 and  
(CCSAMPLESCHEMEANALYTERec.job_code = :3 and  
CCSAMPLESCHEMEANALYTERec.archive_status = :4 )))...
```

CCLAS-3449 Query performance - Add an index to CCJOBPAPERWORK on JOB_ID

Created Date: 4/8/2022 Case Number:

An index is added to the CCJOBPAPERWORK table to assist WHERE clauses in queries by job ID to that table:

```
CREATE INDEX "CCSGSUATX"."CCJOBPAPERWORK01I1" ON  
"CCSGSUATX"."CCJOBPAPERWORK" ("JOB_ID")  
PCTFREE 10 INITRANS 2 MAXTRANS 255 COMPUTE STATISTICS NOLOGGING  
STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS  
2147483645  
PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1  
BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)  
TABLESPACE "CCSGSUATX_IDX" ;
```

CCLAS-3450 Query performance - A WHERE clause containing a raw ID field must have HEXTORAW applied to the ID = :n parameter, to use the index based on the raw ID

Created Date: 4/8/2022 Case Number:

Some ID fields in the database are of raw data type. When java provides a parameter to a query, it supplies it as hex. Where a parameter is used to equate an ID in a WHERE clause, that is, WHERE ID = :parameter, if HEXTORAW is not applied to the parameter, then Oracle attempts to locate an index based on the hex value of the ID. Where the ID is of raw data type in the database, whilst a primary index may exist based on the raw value of the ID, NO INDEX EXISTS based on the hex value of the ID, thereby forcing Oracle to do a full table scan to find records.

For this reason, a hex-to-raw conversion must be applied to parameters supplying values to IDs of raw data type.

For example, instead of the following query in which Oracle cannot find an index based on the hex value of the job ID, so does a full table scan:

```
... where (CCSAMPLESCHEMERec.job_id = :1
```

the query is changed to the following so that Oracle finds the primary index and uses that to find the record, thereby dramatically cutting performance cost:

```
where (CCSAMPLESCHEMERec.job_id = HEXTORAW(:1)
```

It is verified that affected queries in the following functional areas now perform better:

- copying samples
- laboratory batch creation
- report request building
- report generation.

Other functional areas may also be improved, but have not been specifically tested.

Note that, for an unknown reason, the code is not detecting some ID fields in are of raw data type, and so Oracle is still attempting to find an index based on the hex value of the ID field - these will be chased down on a one by one basis in a future release. This, therefore, still impacts the following functional areas:

- copying samples
- deleting samples
- laboratory batch creation
- building report request.

CCLAS-3318 Query performance - A WHERE clause containing a raw ID field must have HEXTORAW applied to the ID in (:n, :n,...:n) parameters, to use the index based on the raw ID

Created Date: 15/6/2022 Case Number:

Some ID fields in the database are of raw data type. When java provides a parameter to a query, it supplies it as hex. Where a list of parameters is used to equate an ID in a WHERE clause, that is, WHERE ID in (:parameter, :parameter,...:parameter), if HEXTORAW is not applied to the parameters, then Oracle attempts to locate an index based on the hex value of the ID. Where the ID is of raw data type in the database, whilst a primary index may exist based on the raw value of the ID, NO INDEX EXISTS based on the hex value of the ID, thereby forcing Oracle to do a full table scan to find records.

For this reason, a hex-to-raw conversion must be applied to parameters supplying values to IDs of raw data type.

For example, instead of:

select * from CCSAMPLE_I18N CCSAMPLE_I18NRec where (CCSAMPLE_I18NRec.id in (:1 ,:2 ,:3 ,:4 ,:5 ,:6 ,:7 ,:8 ,:9 ,:10)) --> Oracle cannot find an index based on the hex value of the sample ID, so does a full table scan

the query is changed to:

select * from CCSAMPLE_I18N CCSAMPLE_I18NRec where (CCSAMPLE_I18NRec.id in (HEXTORAW(:1),HEXTORAW(:2),HEXTORAW(:3),HEXTORAW(:4),HEXTORAW(:5),HEXTORAW(:6),HEXTORAW(:7),HEXTORAW(:8),HEXTORAW(:9),HEXTORAW(:10)))
→ Oracle finds the primary index, so uses that to find the record, thereby dramatically cutting performance cost.

It is verified that affected queries in the following functional areas now perform better:

- copying jobs
- downloading a job's sample grid
- downloading a job's sample grid with biofield columns
- deleting samples
- copying samples
- opening workbooks
- submitting workbooks
- laboratory batch creation
- building report requests
- report generation
- creating draft invoices
- reprice invoices.

Defects

CCLAS-3177 Cannot create a laboratory or subcontract batch where there are >1000 SampleSchemeLink records

Created Date: 6/5/2022 Case Number: 122273

When searching for samples to batch, and subsequently creating laboratory or subcontracting batch jobs, where there are more than 1000 CCSAMPLESCHEMELINK records, the system now handles this large number of records and no longer prohibits the creation of the batch job.

Initially supplied in CCLAS 6.12.0-GA_P4.

CCLAS-3252 Defects in writing and updating QC history records, various scenarios

Created Date: 25/5/2022 Case Number:

Where results are uploaded to CCLAS, but for some reason, QC assessment does not occur (incorrect configuration of schemes, standards, specification, etc., or results are inserted into CCLAS using SQL scripts) then precision assessment or accuracy assessment sets a the affected sample scheme analyte's **Precision Status** or **Standard Status** to *Not Required*, and no observation is written to QC history. Subsequently, forcing reassessment of these results either manually in workbook or via a workbook onLoad script shows the QC assessment as occurring and flags the affected cells as dirty. Upon submit, the properties on the sample scheme analyte pertaining to the QC assessment are updated, however, previously, the system would only update those properties on the associated QC history observation where that QC history observation already existed. Now, the system creates the QC history observation if it does not already exist, and updates it with the QC assessment outcomes.

Note: The **CCLAS-3340 RPD/PERCENTAGE_DIFFERENCE/RECOVERY to be rounded to 5 decimal places** enhancement provided in this patch provides a pathway where these missing QC history records can be written. Since these results are historical, then the historical calculations of RPD, PD and Recovery on sample scheme analytes are unrounded to 5 decimal places, so if the results are reassessed in workbook, then those cells containing a rounded RPD, PD and/or Recovery value are flagged as dirty and saved upon submit and the related QC History observations are created where it does not exist, and updated.

Essentially, when any of the following properties on a QC sample scheme analyte change in workbook, on submit, then QC history records are created if absent, and updated if they already exist:

- Final Numeric Value changes—Can occur if a formula is triggered or Recalculate Formulas, entry of a different Final Numeric Value, entry of a Raw Numeric Value that results in a different Final Numeric Value.
- Analysed Date changes—Can occur with a change to Final Numeric Value.
- Composite QC Status Changes—Can occur with a change to Final Numeric Value and subsequent QC assessment, Reassess Results, Ignore QC Failures, Mark NA/NR/IS/LNR
- User QC Status Changes—Can occur with lower panel UI changes, API changes.
- Workflow Status Changes—Can occur with a change to Final Numeric Value and subsequent DL assessment to set Check or Analysed, request Repeat, request Upper Scheme, Mark NA/NR/IS/LNR, Reset Workflow Status, Release, Validate, Ignore QC Failures which may then allow automatic validation.
- User Workflow Status Changes—Can occur with lower panel UI changes, API changes.

Initially supplied in CCLAS 6.12.0-GA_P4.

CCLAS-3385 Overlapping batch queue requests for reports from the same report request generates errors

Created Date: 1/7/2022 Case Number: 128837

When generating multiple reports (from Report Requests via the Batch Queue) for the same Report Request Code, very quickly one after the other, then the process no longer clashes, and reports are generated, as requested. This is fixed by ensuring that the temporary file used as the target of the Crystal Report output has a unique file name. After report generation, the temporary file is renamed to the final file output name. Improvements in query performance delivered in other stories also impact report generation.

CCLAS-3183 Report request does not display all schemes on RR if there are more than 50 analytes on the RR but <50 distinct scheme codes

Created Date: 6/5/2022 Case Number: 123867

When displaying the schemes and analytes on a particular report request, now all records are displayed and not paginated. This is a summarised list, as it can be possible that multiple jobs can be on one report request, but only the distinct schemes and analytes are displayed on the screen.

Previously there were situations where not all the unique scheme and analytes were displayed, especially if multiple jobs were on the one report request.

CCLAS-3173 Combining invoices with ANA price type schemes is extremely slow and times out

Created Date: 11/5/2022 Case Number: 122997

Invoice pricing is changed for Create Draft, Combine and Reprice actions to improve the performance where the invoice contains Analyte-Based pricing.

Initially supplied in CCLAS 6.12.0-GA_P4.

Getting Help for CCLAS

Related processes...

- [Logging in to a Laboratory](#)
 - [Using the Screen Interface](#)
 - [Using the Home Page](#)
 - [Custom Business Processes](#)
-

Overview

This section describes where you can access help for your CCLAS installation.

Online Help

The CCLAS Online Help that is available from the CCLAS application is divided into information for:

- Glossary—Contains a list of CCLAS terms.
- Operations—Covers the processes involved in day-to-day operation of the laboratory, from registration through to reporting and invoicing.
- Configuration—Covers the processes involved in configuring the laboratory for analytical work.
- System—Covers the processes involved in setting up your CCLAS system, including screen personalisations.
- Appendices—Contain references useful for understanding various CCLAS processes.
- Screens—Contains descriptions of CCLAS screens, fields and flows.

Help About

The CCLAS Help About information provides details pertinent to your CCLAS installation:

- Details of the CCLAS 6 application:
 - Release—The CCLAS 6 release name
 - Version No.—The build number.

- Build Date—The build date.
- Reference—The repository commit ID.
- Datamine Software—Details on how to connect with Datamine Software.

Customer Support

Datamine's commitment to customer service provides our customers with access to a skilled and responsive support team. The global customer support team ensures all customer questions and issues are addressed in a timely manner and escalated as required to ensure resolution.

You should always contact Datamine support if you have an issue. Do not contact individual members of Datamine for support because your issue may not be responded to in a timely manner if that person is unavailable.

For further information about installing or using CCLAS, check your contract with Datamine to determine whether site-specific documentation was supplied to your site.

You should always contact Datamine support if you have an issue. Do not contact individual members of Datamine for support because your issue may not be responded to in a timely manner if that person is unavailable.

Datamine provides global support for CCLAS. If you are a licensed CCLAS user, you can request support via the Support Portal (<https://www.dataminesoftware.com/support/>).

Before contacting support, you should perform some basic troubleshooting of the issue. This allows you to gather information on the issue to pass on to the support team. Providing detailed information assists the support team to find the cause and resolution to your issue. The required information includes:

- Name of site
- Name of contact person for this issue and the contact details
- Name of application with the issue
- Time at which the issue occurred or was noticed
- The application involved, for example, CCSCHM, CCREGN
- A detailed description of the issue and what the expected results should have been
- A detailed description of any related incident, for example, server failure
- Actions taken to resolve the issue, if any
- The current status of the system.

Screen captures or other content pertinent to the issue, for example, reports, should be provided where possible.

We also welcome feedback about this documentation.



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