

Automated Laboratory Processes

CCLAS EL

**CCLAS EL
Mobile
Release Notes**

1.0.0



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Overview

CCLAS EL Mobile is an extension of CCLAS EL and allows users to track samples via an Android mobile device.

CCLAS EL Mobile has several capabilities:

- Communication with the CCLAS EL database over the internet via HTTPS.
- Only authorised devices can set a connection to a CCLAS EL environment.
- Only authorised users can register for CCLAS EL Mobile, using both Azure AD B2C and CCLAS EL authorisation.
- Download of configuration data from the CCLAS EL database.
- Off-line logging in and sample tracking.
- Creation of collections of tracked samples for a given location and sample tracking action.
- QR code scanning to identify samples.
- Validation of a sample against the sample tracking action.
- Entry of attribute values for a tracked sample.
- Review of collections of tracked samples and their attribute values.
- Transmission of selected collections of tracked samples and their attribute values to the CCLAS EL database.
- Interface in both English and Spanish.

CCLAS EL Mobile 1.0.0 Release Notes

This is the first release of CCLAS EL Mobile.

CCLAS EL Mobile is available as an Android application on the Google Play Store.

- Access the Google Play Store
- Search for Datamine to return a list of Android applications available from Datamine
- Download the CCLAS EL Mobile application.

Uninstalling CCLAS EL Mobile from the mobile device will remove all associated data.

1.0.0 (March 2024)

Features

STORY CA-32 Change language

The **Set Language** home screen option page allows the screen language to be changed between en_AU—English (Australia) and es_PE—Spanish (Peru).

STORY CA-17 User Registration and Credentials Setting; STORY CA-60 Implement authorisation using Azure B2C on back-end side; CA-111 Ability to delete all local accounts from forget connection screen

The **Set Connection** main menu option is used to establish a connection to the CCLAS EL environment to where sample tracking data is to be uploaded. The user must enter the url of the end point at which the APIs reside to connect with the specific CCLAS EL database, or select the url from one previously entered.

Once the end point is located, then a token is issued that is used to return the url of the Azure AD B2C tenant from the API configuration and a list of laboratories from the CCLAS EL database which are stored on the mobile device, and the Home screen displays a green circle to indicate that a connection is set. The url of the Azure AD B2C tenant and the list of laboratories are for use in Register for CCLAS EL Mobile.

For this process to occur:

- No existing connection must be set.
- The mobile device must be connected to the internet.
- The mobile device must be configured in CCLAS EL.

The **Forget Connection** main menu option is used to forget the connection to the currently connected CCLAS EL environment. An option is given to forget all local mobile accounts associated with this connection. Doing this clears all users registered for this connection. Not doing this means that the registered users are available upon a reconnection to the same CCLAS EL environment.

For this process to occur:

- An existing connection must be set.
- No user must be logged in.

The **Register for CCLAS EL Mobile** main menu option is used to register a user for CCLAS EL Mobile so that they can subsequently log in and access the sample tracking functionality. This first requires the user to enter Azure AD B2C credentials, such that,

the CCLAS EL **Staff Code** held as a claim in the Azure AD B2C account must match a **Staff Code** for a staff member within CCLAS EL where that staff member is configured for mobile sample tracking.

After this, a **Laboratory Code** must be selected from the current CCLAS EL connection, and the user must enter a **Mobile Account Name** that is unique on the mobile device and a numeric **4-digit PIN** that is used for subsequent login, and a **Security question** and **Answer** that is used to reset the PIN.

For this process to occur:

- The mobile device must be connected to the Internet.
- A connection to CCLAS EL must be set.
- The user must be configured as a mobile user in CCLAS EL.

STORY CA-55 Display Device ID in the side menu with copy ability

Where a mobile device has CCLAS EL Mobile installed, to set a connection to a CCLAS EL environment, the mobile device must be configured in the CCLAS EL database. The **Device ID** is displayed at the bottom of the main menu. This may be copied so that it can easily sent to the CCLAS EL administrator,

STORY CA-21 User Login; STORY CA-164 Limit PN attempt when it hits 3x failure

The **Log in** main menu option is used to log in to CCLAS EL Mobile and access the sample tracking functionality. This requires a user to enter their **Mobile Account Name** and 4-digit **PIN**.

Upon user log in, then a token is issued that is used to return the configuration data.

Note: You have up to three attempts to enter a valid PIN for the account before a lockout of 60 seconds is put in place before another attempt can be made.

For this process to occur:

- The user must have a registered for CCLAS EL Mobile.
- The mobile device does not have to be connected to the internet.

The **Forgot PIN** flow from user log in is used to reset the **PIN**. This can only be done where a valid **Answer** is entered for the **Security question**.

STORY CA-28 Main screen dashboard

Once a user logs in, they are presented with a dashboard from where they can:

- View collections
- Track samples (as a new collection)

- Synchronise configuration.

STORY CA-33 User Logout

The **Log out** main menu option is used to log out of CCLAS EL Mobile.

STORY CA-49 Handle Idle time for session expiration

If a user does not interact with CCLAS EL Mobile for five minutes, then they are automatically logged out. CCLAS EL Mobile will automatically sign out the user where the user is:

- on the landing screen after login and doing nothing after that time
- in a tracking sample session and doing nothing on each screen of this flow.

STORY CA-29 Tracking Samples; CA-98 On Track Samples enter attributes page, after Done clicked, needs confirmation to exit tracking; CA-156 Adjust dropdown to filter location type by staff

The **Track Samples** dashboard flow is used to enter sample tracking mode.

Once sample tracking is activated, the location at where this is taking place has to be specified. A location can be selected either by selecting the location type and then the location, or by directly selecting a location from all locations, upon which, the location type is determined.

The location type determines which actions can occur at this place. A user may be configured within the CCLAS EL database to have access to one or more sample tracking location types. That is, if another user logs in, they might have access to locations associated with the same or a different set of location types.

Note: You have to have access to at least one sample tracking location type to even create an account in CCLAS EL Mobile.

An action for the location type can be selected from those associated with the location type.

Once the location type, location and action is selected, then sample tracking can start.

A tracking session involves scanning sample QR codes, viewing the decoded sample details, electing to use the sample, and, if the sample is to be used, then entering attributes associated with the action upon the sample, if there are any to be entered.

A sample QR code for CCLAS EL Mobile is comprised of key pairs:

- LABCODE—The sample's Laboratory code. Only one term, in quotes, can be provided.
- CUID—The sample's CUID. Only one term, in quotes, can be provided.

- **NAME**—The sample's identifiers. Multiple terms, each in quotes, can be provided, comma-separated, for example, the sample's Sample type, Sample ident, External ident and Description.
- **ACTION**—The sample's preparation schemes that are configured for mobile sample tracking. Multiple terms, each in quotes, can be provided, comma-separated.

For a sample to be used in the collection of sample tracking data, the sample must be associated with the current laboratory, an action on the sample (which equates to a sample tracking preparation scheme on the sample) has to match the current action, otherwise it is deemed that the sample is not suitable for that action. This can occur where the incorrect sample QR code has been scanned.

Where a sample was already scanned for an action, and attribute details were entered, if the same sample is scanned again for the same action, then the user is warned, and the attribute details are displayed, upon which, they may be updated.

If attributes are configured for the action, some of those attributes may be mandatory, in which case, the next sample cannot be scanned until the details are entered.

Note on entering sample attribute values:

- **STRING**—Comprised of a mandatory status, length and optional default; can have text entered, or left empty.
- **NUMBER**—Comprised of mandatory status, scale, optional default, optional minimum and optional maximum; can have a number entered according to the scale, or left empty.
- **BOOLEAN**—Comprised of an optional default; Can have YES or NO selected, or left empty.

After mandatory attributes are entered, the next sample can be scanned for the collection, or the sample tracking session can be ended.

For this process to occur:

- A user must be logged in to CCLAS EL Mobile.
- CCLAS EL Mobile must be allowed to take pictures and record video either while using the application or only this time.

The **Done** flow from sample tracking is used to save the sample tracking data as a new collection. A collection is assigned the next **Collection ID** for the logged in laboratory. A sample tracking collection is tied to a laboratory, user, location type, location, action, collection number and date-time of sample tracking start.

STORY CA-27 Set number of expiration days; STORY CA-45 Erase the data from connection days expiration setting

CCLAS EL Mobile stores entered sample tracking data for subsequent sending to the CCLAS EL database. After data is sent, it is removed from the device after the specified **Number of days**. The default number of days is three, and one day is the minimum. Retaining transmitted data on the mobile device for a specified number of days allows you to review the recent history of collections sent to the CCLAS EL database.

Important: Where the new number of days is less than the old number of days, then sample tracking data captured in that date window, with a status of sent, is deleted after any sample tracking data is sent to CCLAS EL.

There is no restriction on when this process can occur.

STORY CA-30 View collection data; STORY CA-31 Transmit the data

The **View Collections** dashboard flow is used to view sample tracking collections. The view collections process does not require mobile data to be turned on or the CCLAS EL connection to be available

Sample tracking collections are associated with a **Collection ID**. Collection IDs are unique within the logged in laboratory.

Collections may be searched by **Collection**, **CCLAS Username**, **Action Code** or **Location Code**, and subsequently filtered by **Collection**, **CCLAS Username**, **Sync Status**, **Location**, **Action**, and/or date range defined by **Start Date** and **End Date**.

The **Transmit Data** flow from view collections is used to transmit selected collections of sample tracking data to CCLAS EL. The send collection process requires mobile data to be turned on and the CCLAS EL connection to be available.

After sending one or more sample tracking collections to the CCLAS EL database, any sent collection with a start collection date earlier than the **Number of Days History** are deleted.

STORY CA-72 Sync data on the landing page

The **Synchronise Configuration** dashboard flow is used to synchronise configuration data in the CCLAS EL database with CCLAS EL Mobile. Configuration data is also synchronised when a user logs in. Any synchronisation of configuration requires connection to the internet.

Configuration data includes sample tracking location types, locations, actions and action attributes.

During the synchronising of the configuration data, the existing configuration data is removed and replaced with downloaded content. This does not affect existing sample tracking collections.

For this process to occur:

- The mobile device must be connected to the internet.
- A connection to CCLAS EL must be set.
- A user must be logged in to CCLAS EL Mobile.

STORY CA-118 Establish a websocket communication between point to point

The APIs utilised by CCLAS EL Mobile use Secure Sockets layer (SSL) encryption protocol to provide security for internet communication between CCLAS EL Mobile and the CCLAS EL database.

STORY CA-165 Store all information to local database using encryption; CA-166 Mask all constant information using encryption

All information associated with constants, configuration data, scanned sample details, and attribute data entered for sample actions is stored in encrypted format in CCLAS EL Mobile's local database.

STORY CA-130 Add application version

Each release of CCLAS EL Mobile is tied to a version.

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