

Blaise



CMA - CMA Admin tool - CPI

Pre-conference training, October 23, 2023

Overview of CMA / CMA Admin tool / CPI training

During this session, we will look in depth into the functionality and features of the Case Management Application, the CMA Admin tool and the Consumer Price Index (CPI) Application, which Team Blaise has developed.

Subjects you will learn more about during the session are:

- Compiling sources and deployment of CMA, CMA Admin tool and best practices to follow.
- CMA features/concepts. Some topics covered will be:
 - data models and settings in use by CMA and their purpose.
 - how does the CMA synchronization of cases between the interviewer's device and Blaise server work?
 - various demos of CMA features like conducting interviews, adding attempts, viewing of logs, spawning and syncing of cases.
- CMA Admin tool features/concepts. Some topics covered will be:
 - data models and settings in use by CMA Admin tool and their purpose.
 - defined user roles and their responsibilities within the CMA Admin tool application.
 - various demos of Admin tool features, like management of interviewers and supervisors, assigning cases, transferring cases, applying instructions to cases, and monitoring progress.
- CPI App features/concepts. Some topics covered will be:
 - data models and settings in use by the CPI App and their purpose.
 - steps to be taken in order to install the CPI App.
 - demo of the CPI App in action.



CMA - History

Development started in 2019

- CMA 1.0 Shipped with Blaise 5.8.2, July 2020
- CMA 1.5 Shipped with Blaise 5.9.6 & 5.10.0, June 2021
- CMA 2.0 Shipped with Blaise 5.11, December 2021
- CMA 2.5 Shipped with Blaise 5.12, June 2022
- CMA 2.6 Shipped with Blaise 5.13, December 2022

The original CMA 1.0 design / architecture has been extended to get to CMA 1.5 and later

Current versions

- CMA 2.605. Shipped with
 - Blaise 5.12.14.3290 (2023 October 12 Bug Fix Version 13) and
 - Blaise 5.13.9.3463 (2023 October 12 Bug Fix Version 8)
- CMA Admin tool 2.11. Shipped with
 - Blaise 5.13.9.3463 (2023 October 12 Bug Fix Version 8)

CPI application not yet shipped. Will probably be part of 5.14

CMA 2.0 presentations in 2022

- Early last year we did some online presentations on CMA 2.0
 - Slides and more than 5 and ½ hours of recordings are available on Internet



CMA Workshop - January 27, 2022

CBS's Blaise • 84 views • 1 year ago



Inside CMA Workshop - February 9, 2022

CBS's Blaise • 33 views • 1 year ago



CMA Q&A session - March 7, 2022

CBS's Blaise • 41 views • 1 year ago

CMA

The basics of CMA



CMA – Case Management Application

- CMA is an application to help interviewers to manage cases for one or more surveys on a device
- Created in Manipula Dialogs, source code is shipped as a 'sample' in
 Cocuments>\Blaise5\Samples\Case Management\CMA
 - So it is possible to inspect the sources and change them if you want...
- Technical documentation is present in that folder; CMA_Version2x.pdf

CMA – Some design principles

- It should be survey agnostic
 - CMA has no knowledge of the datamodel of the survey
- It should be result agnostic
 - CMA only registers/displays the result/outcome code, it does not use them anywhere
- As few statuses as possible
 - Ultimately CMA only knows whether a case is handled or not
- Automate what can be automated
 - E.g. automatic (de-)installation of surveys
- Configurable by using setting files and CMA specific data models

CMA – Application

- CMA will download, install, update, and uninstall topic surveys
- Contains many settings can be customize to your business requirements
 - Capability to enable/disable nearly every feature
- Runs in DepApp, Android app (Google play store) and iOS-app (app store)
- CMA can function when an interviewer is offline and upload any changes when a connection is established



CMA - Basics

- Interviewer receives assignments (cases)
 - Cases database
- For each case the interviewer needs to know where to conduct the interview
 - Contact data (no database...)
- Interviewer needs to able to register what happened
 - Attempts
 - Automatically
 - Manually

CMA – Cases database

- CMA is based on a centralized database with cases
 - Centralized means: installed on a server that is accessible through the internet
- Each case in the database is for a specific survey
 - A survey is a Blaise data model package installed on a server. Also called Topic instrument
- Each case can be assigned to a specific user
 - A user is defined in the server manager
 - By using a download interceptor the right assignments are selected
- The centralized database is called the *launcher* database
- The advices is not to modify the definition of that database
 - There is no need to...
 - But if you want you can...

CMA – Demo

- I will walk you through the examples that are shipped with Blaise
 5 and explain/show how CMA works
- I will use CMA Admin tool during the demo
 - Used to handle transfer of cases and management of interviewers
 - Also run with the DepApp
 - Online unlike CMA you must have a live connection to the server

CMA Admin tool – User definition

- In the world of CMA admin tool there are 4 different kind of users:
 - Interviewer someone that will be using CMA
 - Supervisor someone who manages the work of one or more interviewers
 - Manager someone who manages one or more supervisors
 - Administrator someone with administrative tasks for the admin tool

CMA Admin tool - Roles

- There are 3 different roles
 - Supervisor assign, transfer, reopen, release cases
 - Manager import cases, perform consistency checks, assign cases to supervisor, view interview
 - Administrator create users and manage access to surveys
- An interviewer can only have one supervisor and a supervisor can only have one manager
- A supervisor can also be allowed to act as manager
- A manager can also be allowed to act as administrator

CMA – Demo

Feel free to ask questions and please do!

Some additional CMA survey examples

- Visitors Survey (a.k.a. Exit Survey)
 - Conducted on some of the Dutch Caribbean Islands
 - Is an example of spawning new cases using a donor case
- Institutions Survey
 - Conducted as part of the Cyprus 2021 population census
 - Is an example of spawning and grouping and of transferring data between CMA and instrument (in both directions)
- CPI application
 - Manipula Dialog based survey
 - Will be discussed later during this session

CMA synchronization only

- NatCen (UK) is / will only be using the synchronization part of CMA
- They opted to extend their existing interviewer laptop case management to allow for Blaise 5 surveys by using CMA synchronization
- Blaise 5 surveys are downloaded and installed by CMA
- New assignments are handled through launcher database
 - This results in updates on tables in the local Access database
 - To enable this CMA 2.6 was extended with a trace log
- A Manipula setup acts as intermediate between CMA and their own system

Call CMA Synchronization

```
PROCEDURE CallCMASynchroniation
INSTRUCTIONS

res:= CALL(LocalInstallPath+'cma\cma.msux '+
    '-W:'+LocalInstallPath+'cma -Q:true -&:HandleSynchronization('+Credentials+')')
ENDPROCEDURE
```

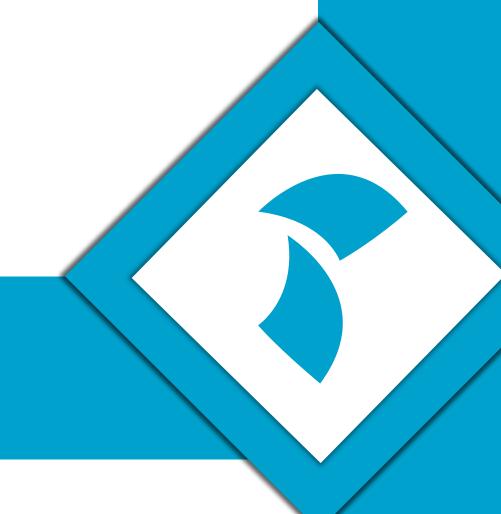
Manipula extensions

During implementation some/many generic extensions to Manipula were implemented. My two favourites:

- File assignment: F:= G
 - F & G are file handles inside the setup
 - F & G do not have to have same datamodel
 - Looking back I now wonder why Manipula 4 did not have this...
- Very late binding using LOADDATAMODEL
 - MyMeta.LOADDATAMODEL(<filename>) where MyMeta has been defined as (VAR)
 - All file handles using MyMeta are re-initialised.
 - Allows for reading/writing Blaise data that was unknown at start of setup

CPI Application

Example of advanced CMA usage



CPI application

- CPI = Consumer Price Index
- Designed in 2013 to collect prices for products in the Dutch Caribbean on a monthly basis
- Was originally a Blaise 4 Maniplus application running on a Windows tablet. Now converted to a Blaise 5 Manipula Dialogs applications that is hosted by CMA
- Uses a CMA 2.5 addition that allows CMA to start a Manipula Dialog package instead of a Datamodel package
 - See Appendix I of pdf for framework of such a setup
- For Manipula dialog package there is no survey database on the server
 - So survey data needs to be handled differently

CPI application

- System works using a list of shops and each shop has a list of products that needs to be handled
- Input for the system is a csv file that holds all products for all shops
 - Still using the original definition made in 2013 to make transition from old system to new system easy
- In CMA each shop corresponds with one record in the launcher database
- The list with products is loaded in the blob field CMA_Data.Survey
- The CPI application has read/write access to the launcher database
 - It is responsible for keeping the launcher database up-to-date

CPI application

- In Blaise 5 it was originally designed to only run on a phone
 - CMA was adapted to enable running a phone (portrait mode; not allowed to switch to landscape)
- Recently it was changed to run also on a tablet
- This was done by introducing a second layout set
 - Not sure if that was a right decision because this now requires maintenance of the logic embedded in layout in two places, for instance enabling a button under a certain condition is now present twice

Taking pictures

- The application also supports taking pictures of products
- Because of the size of pictures a mechanism was implemented to only download/upload changed pictures
 - Avoiding downloading same pictures for each new survey month
- CMA was extended with a mechanism to run a Manipula setup during synchronization
 - See Appendix G of pdf for framework of such a setup
- Pictures are stored in database on the server
 - CMA installs the datamodel of the database because it is defined as a child in the survey settings XML file

Update pictures

The setup checks for changed/new pictures on server using the F.EXECUTEQUERY file method

SURVEYDATAFILE sdPictures:cpi_pictures

QUERYFILE qPictures

s:= 'SELECT productcode, lastchanged FROM CPI_Pictures_Form WHERE productcode like \''+pShop+'%\"

Res:= sdPictures.EXECUTEQUERY(s, qPictures)

Next session...

Consider visiting the Multimode / Case Management session



Pre-Conference Training - October 23

Preconfe	rence train	ing IBUC 2023		
		Room 1	Room 2	
9:00am	9:45am	CMA/Admin tool/CPI	Performance testing	
9:45am	10:30am		Manipula	
10:45am 11:30am	11:30am 12:15pm	Apps Building custom MVC apps	Multimode / Case Management	
1:15pm	2:00pm	Data	Deployment (Cloud/Fallback roles)	
2:00pm	2:45pm	Data Entry Verification		
3:00pm	3:45pm	Tips and Tricks		
3:45pm	4:30pm	New feature demo		



Thank you for participating in the training!



Gaining deeper understanding









CMA Admin Tool



The basics of the CMA Admin Tool

Compiling CMA_AdminTool

Source files

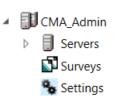
- AdminTool\CMA_AdminTool.bsol
 - CMA_AdminTool: the user interface for supervisors/managers
 - CMA_ManageInfo: datamodel who is a supervisor or manager and which surveys they can supervise/manage
 - CMA_UserInfo: datamodel of all users (including interviewers) using CMA
 - CMA_CustomScript: datamodel for database that can hold custom Manipula scripts that can be started by Admin tool (recent addition)
 - CMA_AdminSettingsMeta: customize appearance and enable/disable features
- AdminTool\Demo\CMA_AdminDemo.bsol
 - Contains additional Manipula setups to load cases and create a settings file

Installing CMA Admin Tool

- Create an additional server park CMA_Admin
 - Settings should be the same as the CMA and CMA_App server parks
 - Run Mode = Disconnected; Sync Surveys When Connected = True
 - Users of the Admin Tool should have access to the following server parks
 - CMA
 - CMA_Surveys
 - CMA_Admin

Installing CMA Admin Tool

The server park CMA_Admin



 Build the AdminTool\CMA_AdminTool.bsol and install the multipackage CMA_AdminTool.mbpkg at the server park CMA_Admin

Instrument	Status
CMA_AdminTool	Active
CMA_CustomScript	Active
CMA_ManageInfo	Active
CMA_UserInfo	Active

Server Park: CMA CMAAdmin CMAApp CMASurveys LocalDevelopment

Installing CMA Admin Tool

- Supervisors:
- Create a user (CMA_Sup for the demo package) who uses the role CMA, and has access to CMA, CMA_Surveys and CMA_Admin

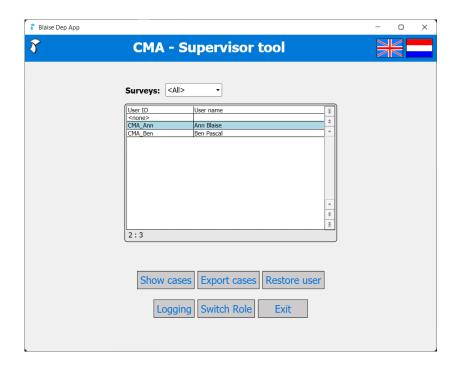
CMA_UserInfo/ManageInfo

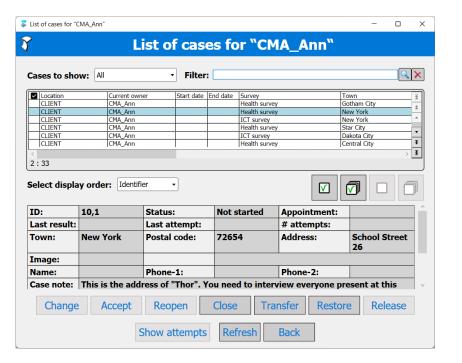
- Add interviewers to CMA_UserInfo
- Add Supervisors/Managers/Administrators to both CMA_UserInfo and CMA_ManageInfo
- Managers and Supervisors need to be added per survey

UserID	InstrumentID	SurveyName
cma_sup	2cbb4701-93fd-4217-8d56-02c769d2da11	EN=Labour survey,NL=Arbeidkrachtenonderzoek
cma_sup	a764d1a1-5277-4b1c-94ad-cf356dd2fba3	EN=ICT survey,NL=Automatiseringonderzoek
cma_sup	fe94aa68-e405-4ce4-84ab-e4a6a0139f45	EN=Health survey,NL=Gezondheidonderzoek
cma_sup	20cde0a2-67c2-4e6a-b02f-322065deb3e7	EN=Household survey,NL=Huishoudenonderzoe
cma_jen	fe94aa68-e405-4ce4-84ab-e4a6a0139f45	EN=Health survey,NL=Gezondheidonderzoek
cma_jen	20cde0a2-67c2-4e6a-b02f-322065deb3e7	EN=Household survey,NL=Huishoudenonderzoe
cma_man	2cbb4701-93fd-4217-8d56-02c769d2da11	EN=Labour survey,NL=Arbeidkrachtenonderzoek
cma_man	a764d1a1-5277-4b1c-94ad-cf356dd2fba3	EN=ICT survey,NL=Automatiseringonderzoek

Supervisor Tool

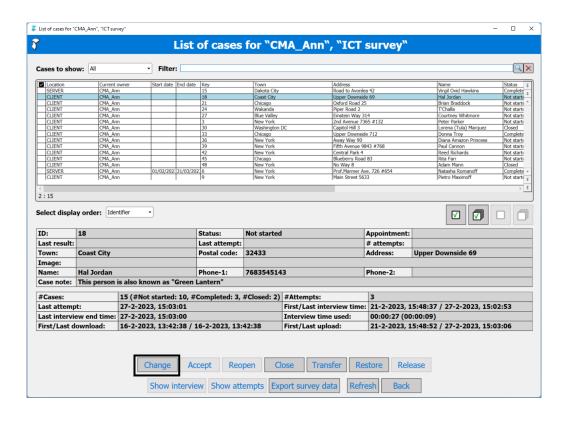
- View/change cases for users
- View user logging
- Assign/Transfer/Restore/Release/Refresh/Reopen

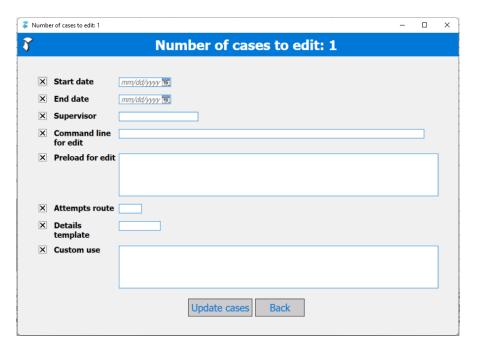




Supervisor Tool: Changing a Case

- Change case information in launcher
- Set status to REFRESHCASE_REQ





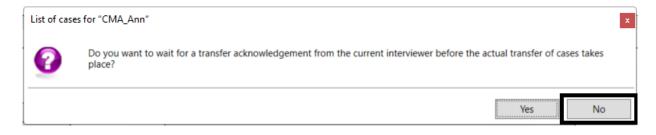


Supervisor Tool: Transferring Cases

With the Admin Tool, it is possible to transfer cases in two ways

- Two Step: First the case goes to the server (current interviewer must sync). Next, the transfer user must sync
- One Step: Case is available for transfer interviewer immediately. A special instruction is used
 - Can remove null GUID after instruction has been executed
 - Null GUIDS will remain in the launcher database unless you delete them yourself

Supervisor Tool: One Step Transfer



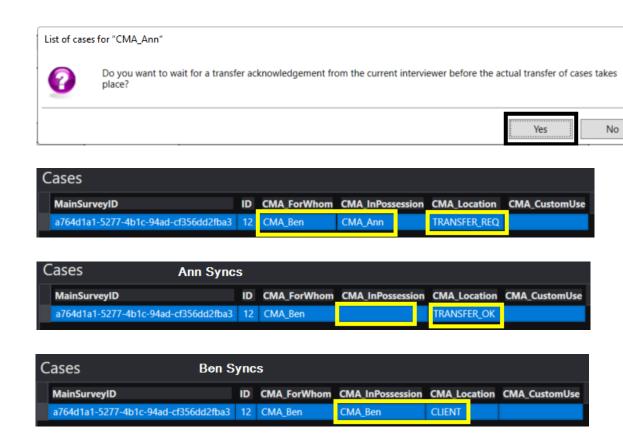


Cases	Ann Syncs				
MainSurveyID	ID	CMA_ForWhom	CMA_InPossession	CMA_Location	CMA_CustomUse
fe94aa68-e405-4ce4-84ab-e4a6a0139f45	1,1	CMA_Ben			
00000000-0000-0000-0000-000000000000000	20230227,11:53:20.108	CMA_Ann		RELEASE_DONE	fe94aa68-e405-4ce4-84ab-e4a6a0139f45;1,1

 MainSurveyID
 ID
 CMA_ForWhom fe94aa68-e405-4ce4-84ab-e4a6a0139f45
 CMA_En
 CMA_Ben
 CLIENT
 CMA_En
 CMA_En
 CMA_En
 CMA_En
 CMA_En
 CLIENT
 Fe94aa68-e405-4ce4-84ab-e4a6a0139f45
 Fe94aa68-e405-4ce4-84ab-e4a6a0139f45;1,1

Last two steps can be done in any order

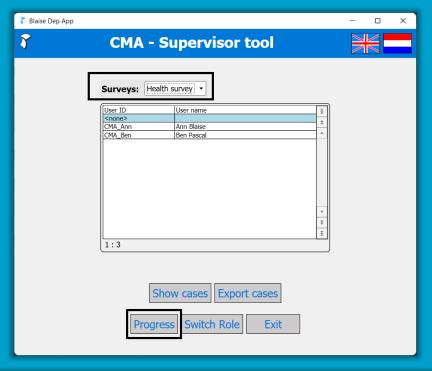
Supervisor Tool: Two Step Transfer

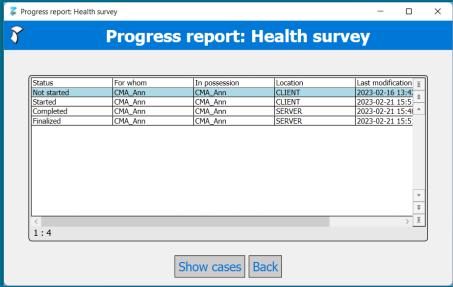


Ann must sync before case is available for Ben

Supervisor Tool: One vs. Two Step

- One Step
 - Pro: Ben doesn't have to wait for Ann to sync
 - Con: Ben doesn't have access to changes Ann may have made since last sync
- Two Step
 - Pro: Ben has the most up-to-date information regarding the case
 - Con: Ben has to wait for Ann to sync before he can receive the case



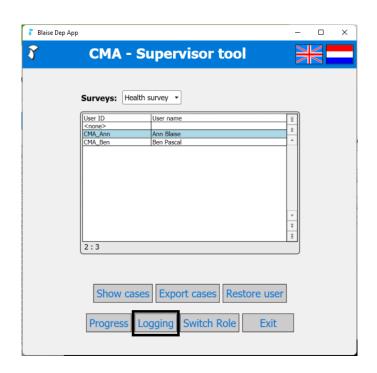


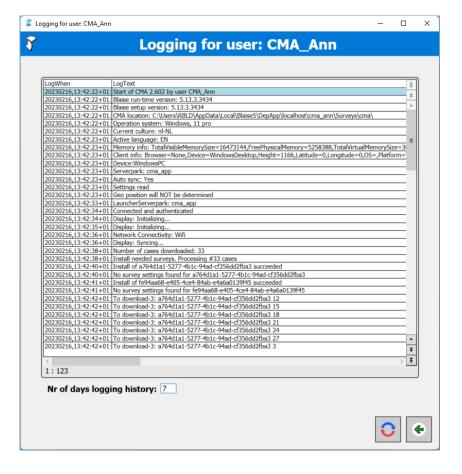
Supervisor Tool: Progress Reports

 Get a progress report for the selected survey

Supervisor Tool: Logging

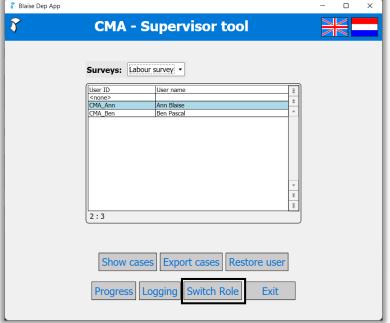
View the logging uploaded by interviewers

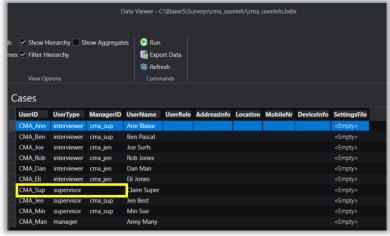




Supervisor Tool: Switching Roles

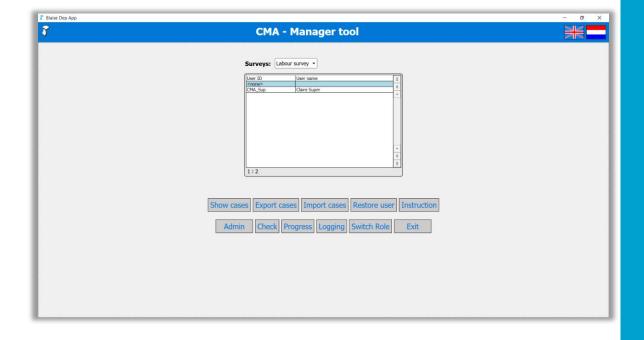
- Switch Role
 - Available to users with the following criteria
 - UserType = supervisor
 - ManagerID = <Empty>
 - Allows user to use both Supervisor and Manager functionality





Manager Tool

- Export/Import Cases
- Restore all cases for a selected interviewer
- Create Instruction
 - Release all cases
 - Release cases for selected survey
 - Release orphan cases
- Consistency Check
- Logging



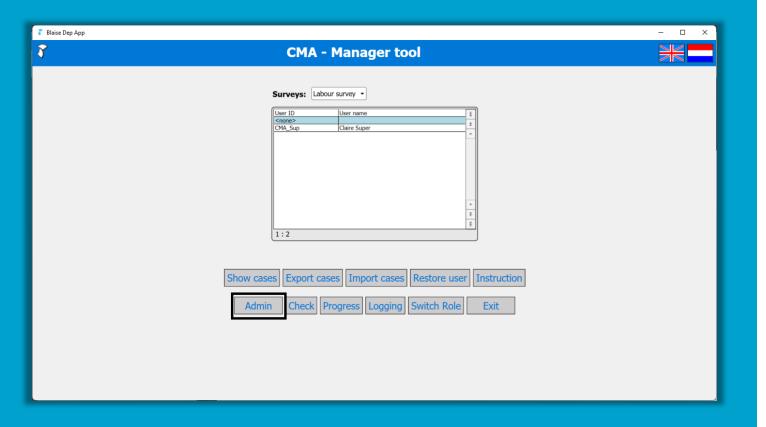
Manager Tool: Importing Cases

- Load a CSV/Excel file into the admin tool
- Cases can be generated in both the launcher and topic databases
- Add fields to CMA_ContactInfo and CMA_CustomUse

Prefix	Description
launcher:	This indicates that the column contains a value for the launcher. This prefix is optional (not using a prefix defaults to the launcher).
topic:	This indicates that the column contains a value for the topic (survey). For instance topic:person.firstname will assign the value to the field person.firstname in the topic database.
contact:	This indicates that the column contains a value for the CMA_ContactData fields. For instance contact:address will add a field-value pair to CMA_ContactData for address.
custom:	This indicates that the column contains a value for the CMA_CustomUse fields. For instance custom:projectcode will add a field-value pair to CMA_CustomUse for projectcode.

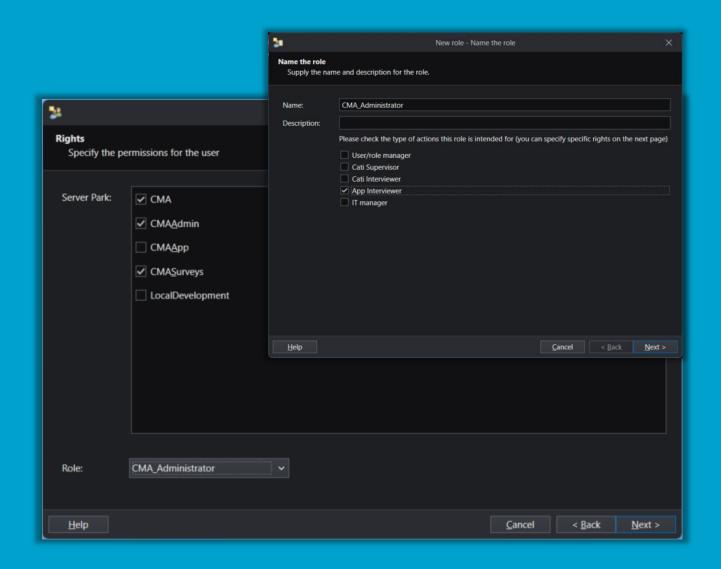
Manager Tool: Consistency Checks

- Data saved as a blob in the launcher is compared with topic/attempts database
- If they are not consistent, you have the option to repair the case
- Data in the launcher (blob) is set in the topic/attempts database



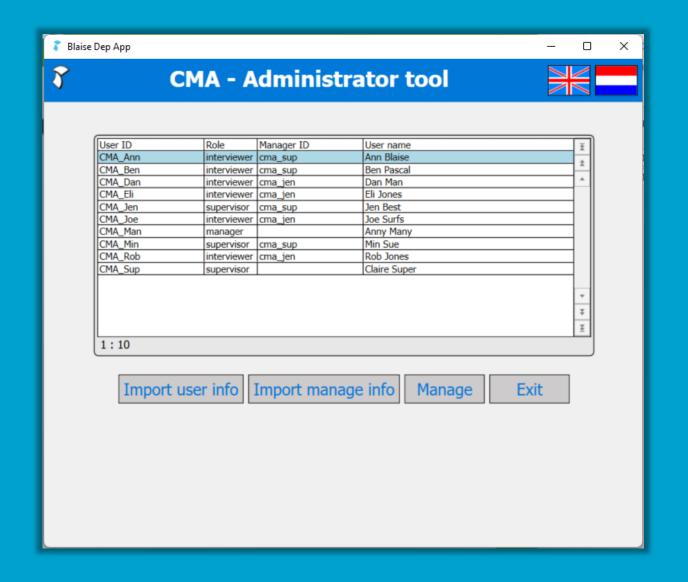
Manager Tool: Admin

- Manager can switch to Admin role
 - Use Administrator interface to add new users



Administrator Tool

- Can be accessed even if UserInfo/ManageInfo are empty
- Create a role in the server park "CMA_Administrator"
- Create a new user with this role or assign role to existing user

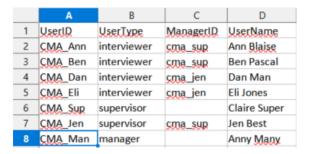


Administrator Tool

 Import Excel/CSV files into UserInfo/ManageInfo databases

Administrator Tool

- Excel/CSV should use UserInfo/ManageInfo meta respectively
- First row in file should indicate the field names



	A	В	C
1	userid	instrumentid	surveyname
2	cma_sup	2cbb4701-93fd-4217-8d56-02c769d2da11	EN=Labour survey,NL=Arbeidkrachtenonderzoek
3	cma_sup	a764d1a1-5277-4b1c-94ad-cf356dd2fba3	EN=ICT survey,NL=Automatiseringonderzoek
4	cma_sup	fe94aa68-e405-4ce4-84ab-e4a6a0139f45	EN=Health survey,NL=Gezondheidonderzoek
5	cma_sup	20cde0a2-67c2-4e6a-b02f-322065deb3e7	EN=Household survey,NL=Huishoudenonderzoek
6	cma_jen	fe94aa68-e405-4ce4-84ab-e4a6a0139f45	EN=Health survey,NL=Gezondheidonderzoek
7	cma_jen	20cde0a2-67c2-4e6a-b02f-322065deb3e7	EN=Household survey,NL=Huishoudenonderzoek
8	cma_man	2cbb4701-93fd-4217-8d56-02c769d2da11	EN=Labour survey,NL=Arbeidkrachtenonderzoek
9	cma man	a764d1a1-5277-4b1c-94ad-cf356dd2fba3	EN=ICT survey,NL=Automatiseringonderzoek

CMA_AdminSettings.xml

- A number of settings from CMA can be used for the Admin Tool as well
- Admin Tool specific settings to enable and disable buttons for Supervisors, Managers and Administrators
- See the Admin Tool documentation for a complete list of settings
- Create this file using Manipula
- Added to Admin Tool via bcps, make sure to rebuild the admin tool after changing settings

CMA_AdminSettings.xml: Admin-specific settings

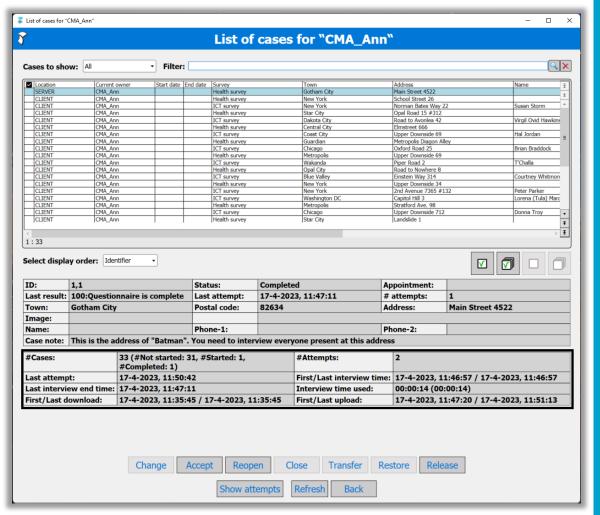
- sMultiSelect: select more than one user for an action
 - E.g. Transfer multiple cases from one user to another
 - Enables multi select buttons
- sRestoreUserBtn, sShowInterviewBtn, sAssignBtn, sAssignSupervisorBtn, sAcceptdBtn, sTransferBtn, sRestoreBtn, sReopenBtn, sReleaseBtn, sCloseBtn, sExportCSVBtn, sImportCasesBtn, sCheckBtn, sLoggingBtn, sProgressBtn, sInstruction, sEditBtn
 - Buttons across all interfaces can be enabled/disabled
- sAllowAdminTasksForManager: Allow managers to access the Administrator Tool

CMA_AdminSettings.xml: Admin-specific settings

- sExcelExePath: The location of Excel (the Admin Tool will try to open a generated CSV file for you)
- sExcelOutputPath: Path where csv files will be written to
- sShowSummary: Display an additional details template in the case overview
- sShowUDInSummary: Adds first
- sDataExportSep / sDataImportSep: separators used when exporting/importing CSV files

CMA_AdminSettings.xml: Admin-specific settings

- sShowSummary: Display an additional details template in the case overview
- sShowUDInSummary: Adds first/last download and upload to summary template





CMA_AdminSettings.xml

```
SETTINGS AUTOREAD=NO
USES CMA_AdminSettingsMeta
OUTPUTFILE Outp: CMA_AdminSettingsMeta('CMA_AdminSettings.xml', XML)
  CREATEBDIX=NO
  sShowInterviewBtn:= yes
  sAcceptBtn:= yes
  sReopenBtn:= yes
  sTransferBtn:= yes
  sRestoreUserBtn:= yes
  sReleaseBtn:= yes
  sRestoreBtn:= yes
  sCloseBtn:= yes
  sExportCSVBtn:= yes
  sExportDataBtn:= yes
  sMultiSelect:= yes
  sAssignBtn:= yes
  sShowSummary:= yes
  sShowUDinSummary:= yes
  sImportCasesBtn:= yes
  sCheckBtn:= yes
  sLoggingBtn:= yes
  sProgressBtn:= yes
  sInstructionBtn:= yes
  sAllowAdminTasksForManager:= yes
  sAssignSupervisorBtn:= yes
  sEditBtn:= yes
  sAddStartDateToFieldFilter:= yes
  sAddEndDateToFieldFilter:= yes
  sEditParts:= [seStartDate,seEndDate,seSupervisor,seCmdlineForEdit,sePreloadForEdit,seAttemptsRoute,seDetailsTemplate,seCustomUse] //all fields..
  sExcelExePath:= 'C:\Program Files\Microsoft Office\root\Office16\EXCEL.EXE'
  Outp.WRITE
```