Cellebrite
UFED

UFED

July 2023 Version 7.66

Cellebrite

Contents

Legal notices

This document is delivered subject to the following conditions and restrictions:

- This document contains proprietary information belonging to Cellebrite DI Ltd. Such information is supplied solely for the purpose of assisting explicitly and properly authorized users of Cellebrite UFED.
- No part of this content may be used for any other purpose, disclosed to any person or firm, or reproduced by any means, electronic or mechanical, without the express prior written permission of Cellebrite DI Ltd.
- The text and graphics are for the purpose of illustration and reference only. The specifications on which they are based are subject to change without notice.
- Information in this document is subject to change without notice. Corporate and individual names and data used in examples herein are fictitious unless otherwise noted.

2. Introduction

Cellebrite UFED is a new generation solution that empowers law enforcement, military, intelligence, personnel to capture critical forensic evidence from Android and iOS mobile devices.

2.1. Overview

Cellebrite UFED is a new generation solution that empowers law enforcement, military, intelligence, personnel to capture critical forensic evidence from Android and iOS mobile devices.

Cellebrite UFED enables you to:

- Perform physical, file system, and logical extraction of device data and passwords. Capabilities may vary, based on the Cellebrite UFED product purchased - Cellebrite UFED Logical or Cellebrite UFED Ultimate.
- Extract vital data such as call logs, phonebook entries, text messages (SMS), pictures, videos, audio files, locations, app data, ESN IMEI, ICCID and IMSI information and more, from a wide range of mobile devices.
- Extract data from the widest selection of operating systems, such as Apple iOS, Blackberry, Android, Symbian, Microsoft Mobile, and Palm OS. You can also extract data from feature phones and drones.
- lone the SIM ID, which allows you to extract phone data while preventing the mobile device from connecting to the network. It can also help if the SIM card is missing.
- Extract the data from a mobile device either by a cable-based connection (serial or USB) or a Bluetooth wireless connection. The tips and cable kit consists of four master cables and various tips.

The extracted data can be saved and then generated in the form of clear and concise reports.

Cellebrite's industry-expertise provides reliability and ease-of-use, and ensures the broadest support for mobile devices, including updates for newly released models before they are available to the market.

This manual is also relevant for Cellebrite Responder users.

2.2. System requirements

PC	Windows compatible PC with Intel i5 or compatible running at 1.9 GHz or higher	
Operating system	Microsoft Windows 11, 64-bit: UFED & Responder require v.7.56 and higher Microsoft Windows 10, 64-bit	
Memory (RAM)	**Required** 32 GB	Minimum 8 GB
Space requirements	1.5 GB of free disk space for installation	
Additional requirements	Microsoft .NET version 4.5 or higher	
Permissions	If you intend to activate the application using a hardware license key (dongle) provided by Cellebrite, you must have administrative rights over the computer.	

This specification is for a PC running both Cellebrite UFED and the Physical Analyzer application as the decoding operations of Physical Analyzer require the higher specification. For a standalone PC running Cellebrite UFED an ATOM-based chipset (or equivalent) is sufficient.

2.3. Extraction types

Cellebrite UFED includes a range of data extraction types.

> The available extraction types and methods may vary between devices depending on their manufacturer, operating system, and chipset.

Extraction types available in Cellebrite UFED products

Extraction types	Cellebrite UFED Logical	Cellebrite UFED Ultimate
Logical / Advanced Logical Extraction	Yes	Yes
File System Extraction	Not available	Yes
Physical Extraction	Not available	Yes
Capture Images and Screenshots	Yes	Yes
Chat capture	Yes	Yes

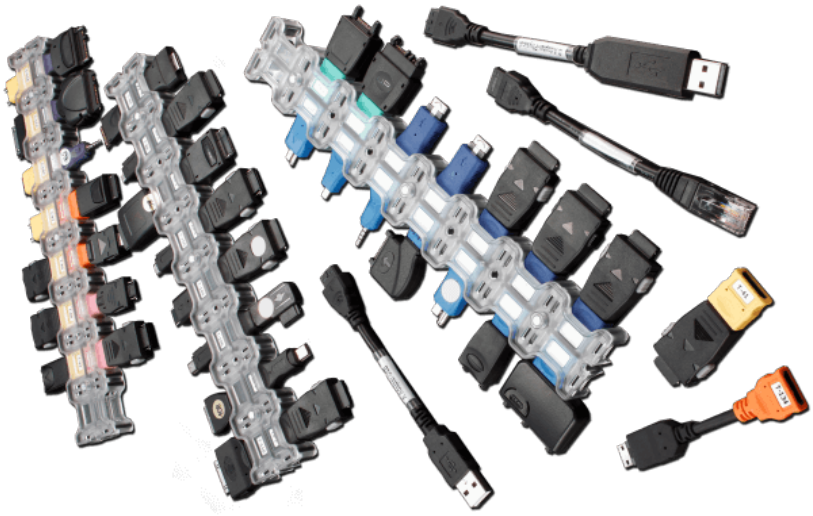
Extraction type descriptions:

- Logical extraction: Extracts user data from a mobile device (SMS, call logs, pictures, phonebook, videos, audio, certain application data, and more). Quickest extraction method but least amount of data.
- File system extraction: Extracts files embedded in the memory of a mobile device. Retrieve the artifacts within a Logical extraction, in addition to hidden system files, databases and other files which were not visible within a logical extraction.
- Physical extraction: Extracts a physical bit-for-bit image of the flash memory of a device, including the unallocated space using advanced methods. Unallocated space is the area of the flash memory that is no longer tracked by the file system, which may contain images, videos, files, and more.
- Capture images and screenshots: Take pictures or videos of a device using the Cellebrite UFED camera. You can also capture internal screenshots directly from the connected device.
- Chat capture: Chat Capture is an automated screen capturing process that allows users to extract and analyze selective chat conversations from third-party application data (available for Android only).

For more information about the extraction types that are available, see the Performing extractions data sheet.

2.4. Accessories

The Cellebrite UFED kit includes connection cables and tips. These are used to connect mobile devices to Cellebrite UFED.



Cellebrite UFED Cables and tips

The Cellebrite UFED Ultimate kit contains tips and cables for logical, file system, and physical extractions.

The Cellebrite UFED Logical kit contains tips and cables for Logical Extraction only.

2.4.1. Cellebrite UFED Device Adapter with USB 3.0

The Cellebrite UFED kit contains a device adapter that attaches to your PC's USB ports. Each connector has a LED that indicates availability during an extraction and blinks to indicate where to connect the source device. In addition, there are LEDs for power and Bluetooth.

Depending on when you received your kit, there are two types of device adapters: Cellebrite UFED Device Adapter with USB 3.0 (latest version) and Cellebrite UFED Device Adapter with USB 2.0 (previous version). This document provides more information about the Cellebrite UFED Device Adapter with USB 3.0.

This manual is also relevant for Cellebrite Responder users.

Some devices can be extracted only by using the Cellebrite UFED Device Adapter.

This device adapter has the following connectors:

- GPIO port (for future use)
- USB 3.0 port
- RJ45 port
- DC In power supply (Input 5.3V 3.7A)
- 2 USB connection cables labeled POWER and DATA.

To connect the Cellebrite UFED Device Adapter with USB 3.0:

1. Connect the DATA cable to a USB port on the computer.
2. Then connect the POWER cable to a second USB port on the computer.

Use the following procedure, if the computer is mounted in a difficult to access or distant location.

To connect the Cellebrite UFED Device Adapter with USB 3.0 using extension cables:

1. Connect the Active Extension cable[1] to the DATA connection cable.
2. Connect the other end of this extension cable to a USB port on the PC.
3. Connect a standard USB extension cable to the POWER connection cable.
4. Connect the other end of this extension cable to a USB port on the PC.

2.4.1.0.1. Using the External power supply

The external power supply is NOT required for the smooth operation of the Cellebrite UFED Device Adapter V3, but is provided for those cases where additional power output is required. The external power supply provides an output of approximately 5.3V 2.7A.

2.4.2. Multi SIM Adapter

A Multi SIM Adapter supports Micro, Nano and standard SIM cards.

> We recommend that you connect the Multi SIM Adapter to an available USB port on your computer, not to the USB port on the Cellebrite UFED Device Adapter.

[1]This cable is 150 cm in length and allows for the easy and accessible placement of the UFED Device Adapter with USB 3.0.

2.4.3. Using cables and tips

The cables and tips include various adapter cables (the number of cables depends on the Cellebrite UFED product and kit purchased). Each cable has a letter and name. For example, A Adapter – USB.

Single cable

For easy recognition, the tips are color coded and numbered; the color represents the vendor.

Cellebrite UFED tip (example)

Before each extraction, the required cable and tip number and color is specified in the **Source** area of the Select Content Types screen.

2.5. Supported devices

There are various electronic devices that Cellebrite UFED supports. These include:

- **Mobile devices**: Mobile devices such as phones and tablets are the most widely supported.
- **SIM cards** -Extract SIM card data (logical extraction) or clone a SIM card.
- **Mass storage**: Extract data from SD cards, removable drives, modems, etc via logical, physical, or file system extractions.
- **Drones**: Extract data from drones via physical orfile system extractions.

To find out more about devices that are supported in Cellebrite UFED and which data extraction capabilities are available for each, use one of the following:

- The Cellebrite UFED <version no> Supported Phone List file is delivered with every Cellebrite UFED software version update. The Microsoft Excel file contains two worksheets:
  - The **Cellebrite UFED Logical** sheet lists the mobile devices supported for logical extraction.
  - The **Cellebrite UFED Physical** sheet lists the mobile devices supported for physical, file system, and password extractions.
- **UFED Phone Detective** (devices supported for logical extraction only).
- Cellebrite UFED Supported Devices document in MyCellebrite.

2.6. Cellebrite YouTube channel

For your convenience, a selection of useful videos demonstrating typical workflows and common procedures are available at youtubAxon Evidence/cellebriteufed.

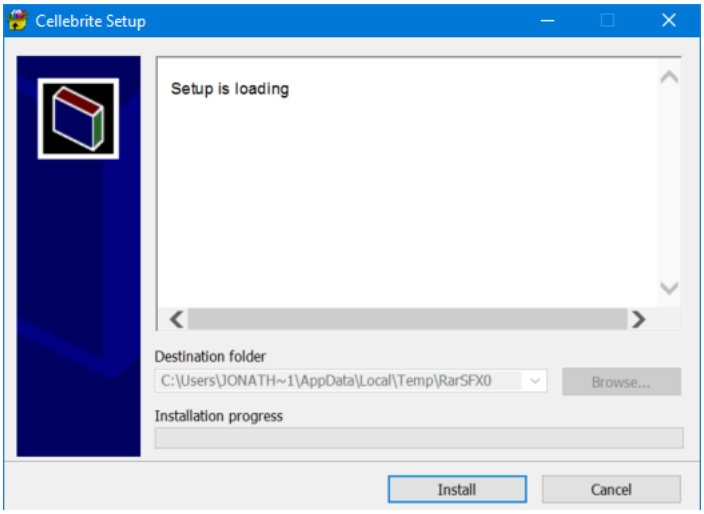
3. Getting started

This section includes the following:

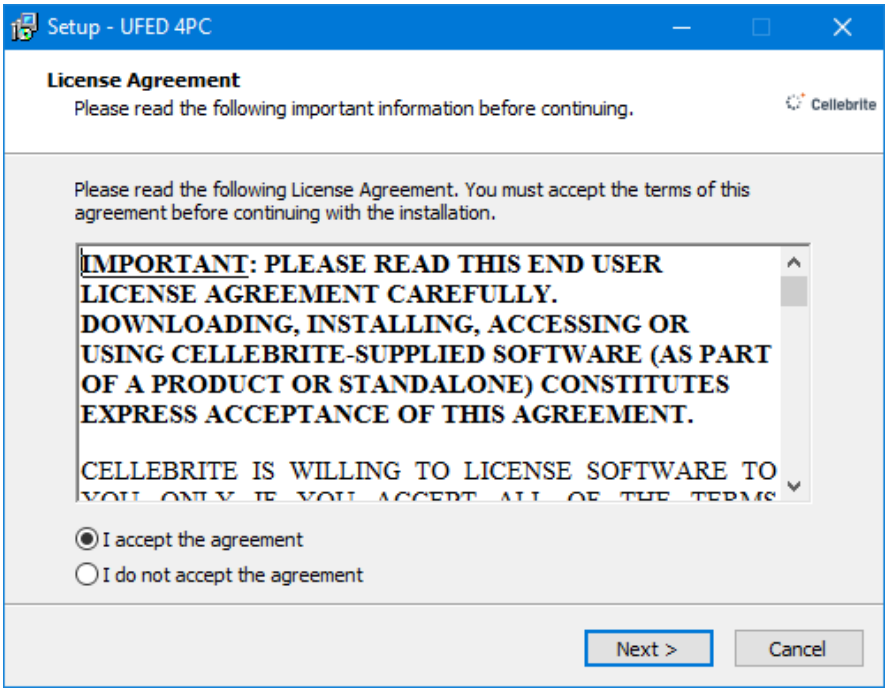
3.1. Installing Cellebrite UFED

To install Cellebrite UFED:

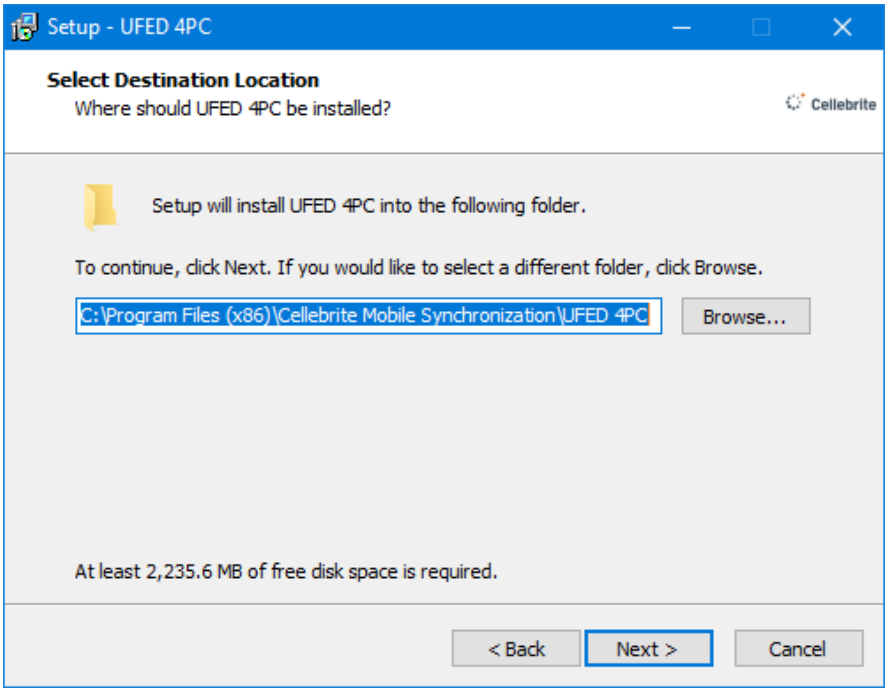
1. Start the Cellebrite UFED installation wizard. The following window appears.



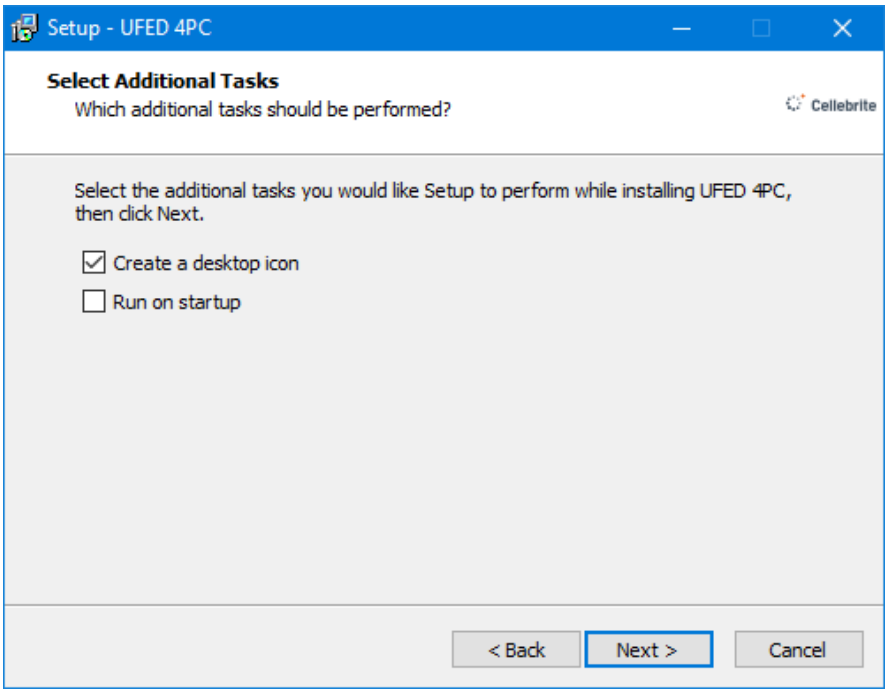
2. Click **Install**. The License Agreement window appears.



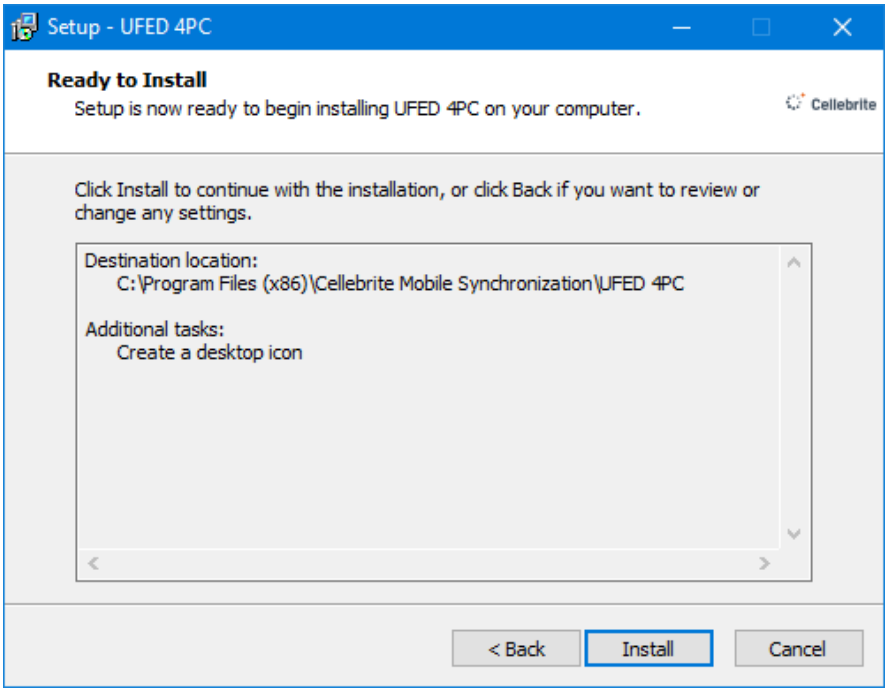
3. Select **I accept the agreement**, and click **Next**. The Select Destination Location window appears.



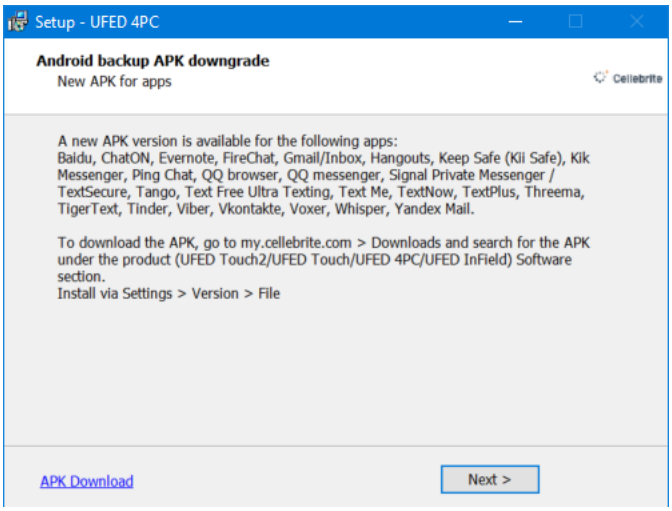
4. Select the folder where you want the application installed, and click **Next** to continue. The Select Additional Tasks window appears.



5. Select the additional tasks you want the install wizard to perform, and then click **Next**. The Ready to Install window appears.



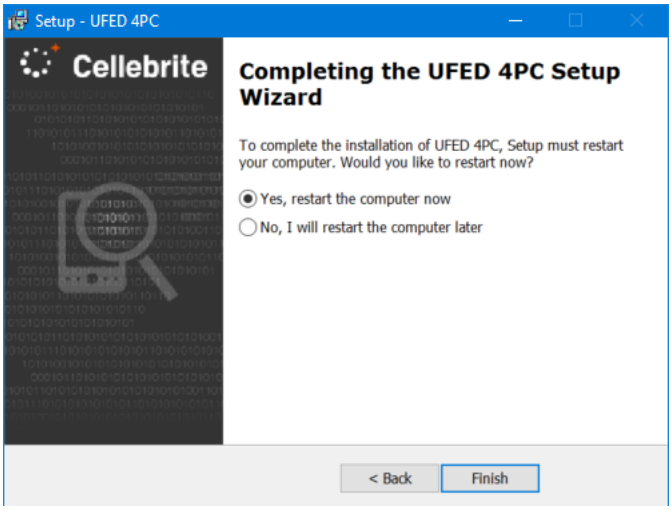
6. Click **Install**. The following window appears.



7. Click the **APK Download** link to go to MyCellebrite and search for and download the new APK under the Cellebrite UFED Software section. The new APK enables Android backup APK downgrade support for additional app versions.

> Install the APK via **Settings** > **Version** > **File** after completing the Cellebrite UFED installation process.

8. Click Next. The following window appears.



9. Select **Yes, restart the computer now**, and click **Finish** to restart the computer.

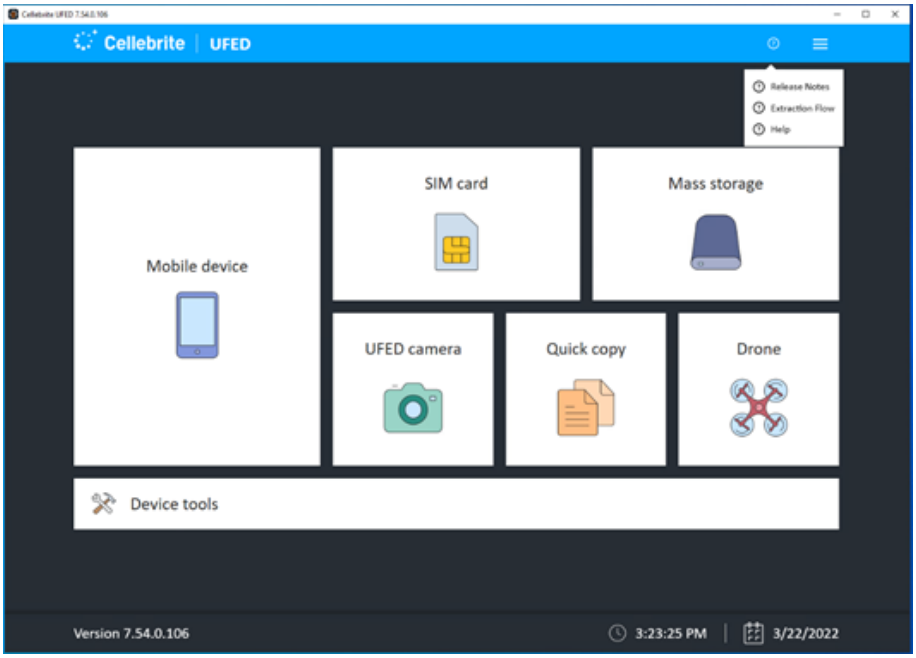
   You must now activate the license to use Cellebrite UFED. Proceed to Activating the license (on page 25).

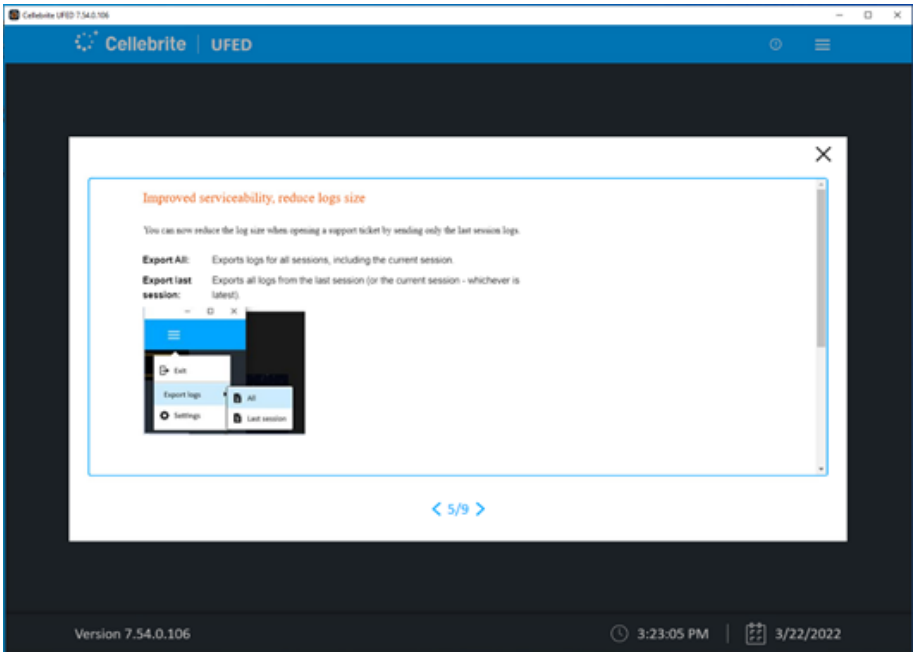
3.2. View Release Notes in-application

You can now review Release Notes from within the applications.

The release notes display automatically after the first launch of the installed application. In addition, you can find the release notes at any time by clicking as follows:

"?" > "Release Notes".




Cellebrite | UFED
Improved serviceability, reduce logs size
You can now reduce the log size when opening a support ticket by sending only the last session logs.
Export All: Exports logs for all sessions, including the current session.
Export last session: Exports all logs from the last session (or the current session - whichever is latest).
5/9
Version 7.54.0.106
3:23:05 PM
3/22/2022

3.3. Activating the license

Activate Cellebrite UFED in one of the following ways:

- Using a dongle license (on page 32)
- Using a software license (on page 36)
- Using a network dongle (on page 39)
- Using an online license
- Online activation of new License from loader

Check your Cellebrite UFED kit to verify the method to use.

If you are using Cellebrite UFED for the first time or a license is not found, see License not found (on page 225).

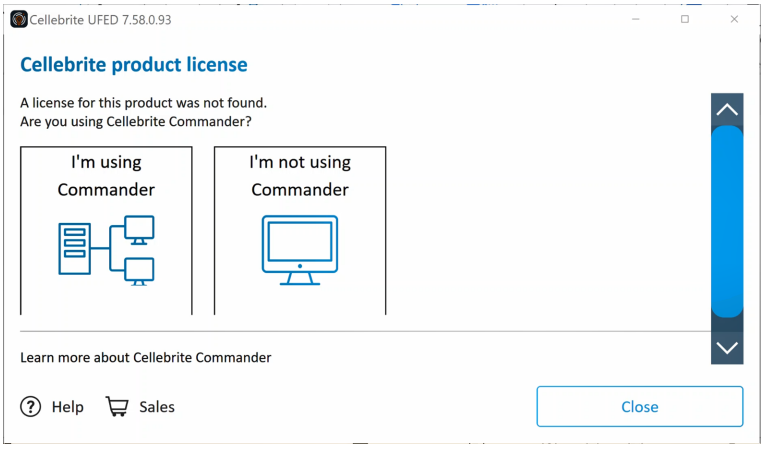
3.3.1. Licensing procedure

Manage licenses for your Cellebrite deployment with Cellebrite Commander. License management via Cellebrite Commander is supported for the following:

- Cellebrite Physical Analyzer (PA),
- Cellebrite Logical Analyzer (LA)
- Cellebrite Responder
- Cellebrite UFED
- Cellebrite UFED Touch

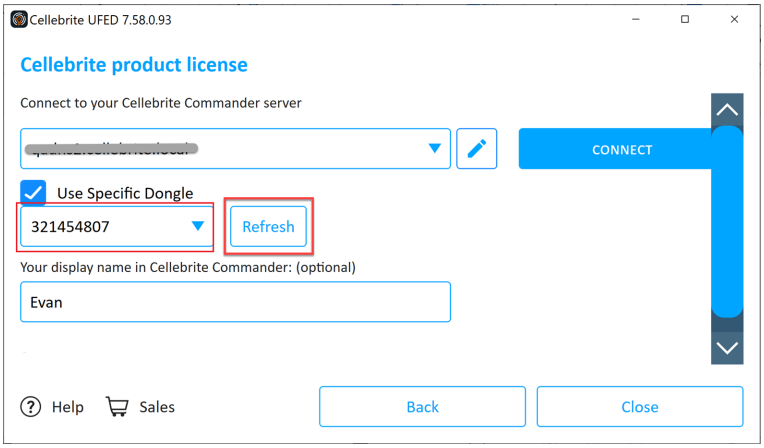
The following process must be performed for **each** UFED unit in order to upload a new or renewal license via Commander.

1. Connect the UFED unit to Commander.
   Connecting a device to Commander
2. Launch the Commander screen selection.
   a. Select **I'm using Commander**.



   b. Choose the license type you are using.
   c. When using a dongle, choose **Dongle**.
   (When more than one dongle is attached to the UFED - there is a drop-down list of dongles.

Choose the dongle containing the device license from the drop-down list.)



3. **UFED** will

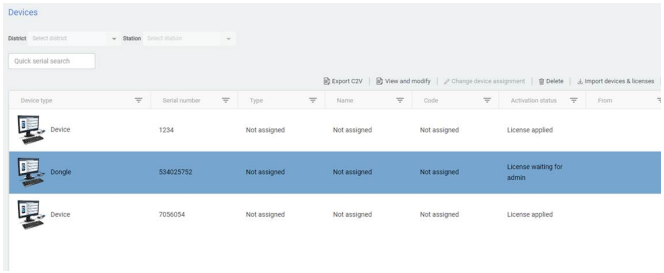
   a. Display **No license** (for that UFED device) in the dialog.

   b. Automatically upload a C2V of the device's Dongle ID to Commander.

   c. Query Commander for a license until the Commander admin loads a valid license to the UFED device/dongle.

4. **Commander** will:

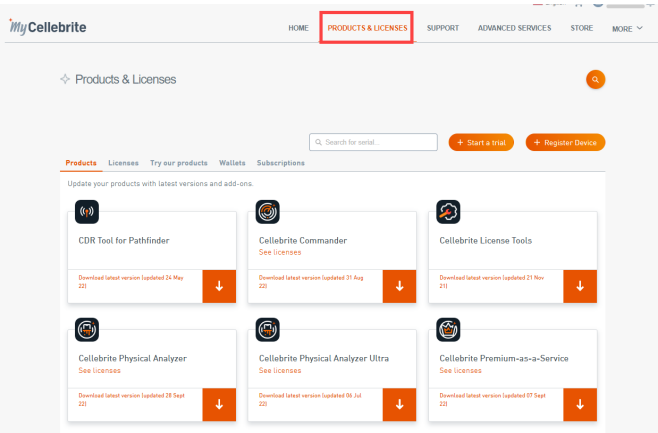
   a. Enter the state "**waiting_for_admin**".



5. When you have done the steps above for all unlicensed devices, go to Commander and click **Export devices & C2V**
   This sends the C2Vs of all the devices to your account in MyCommunity.

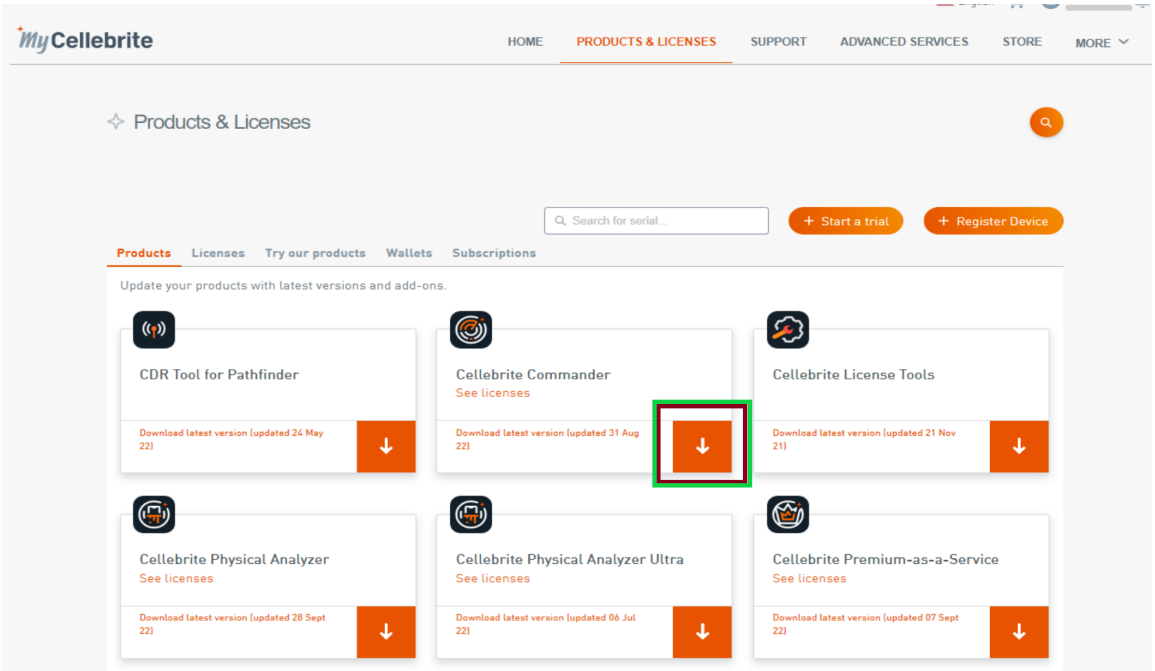
6. Log in to Cellebrite's MyCommunity.

7. Go to **Products & Licenses**.

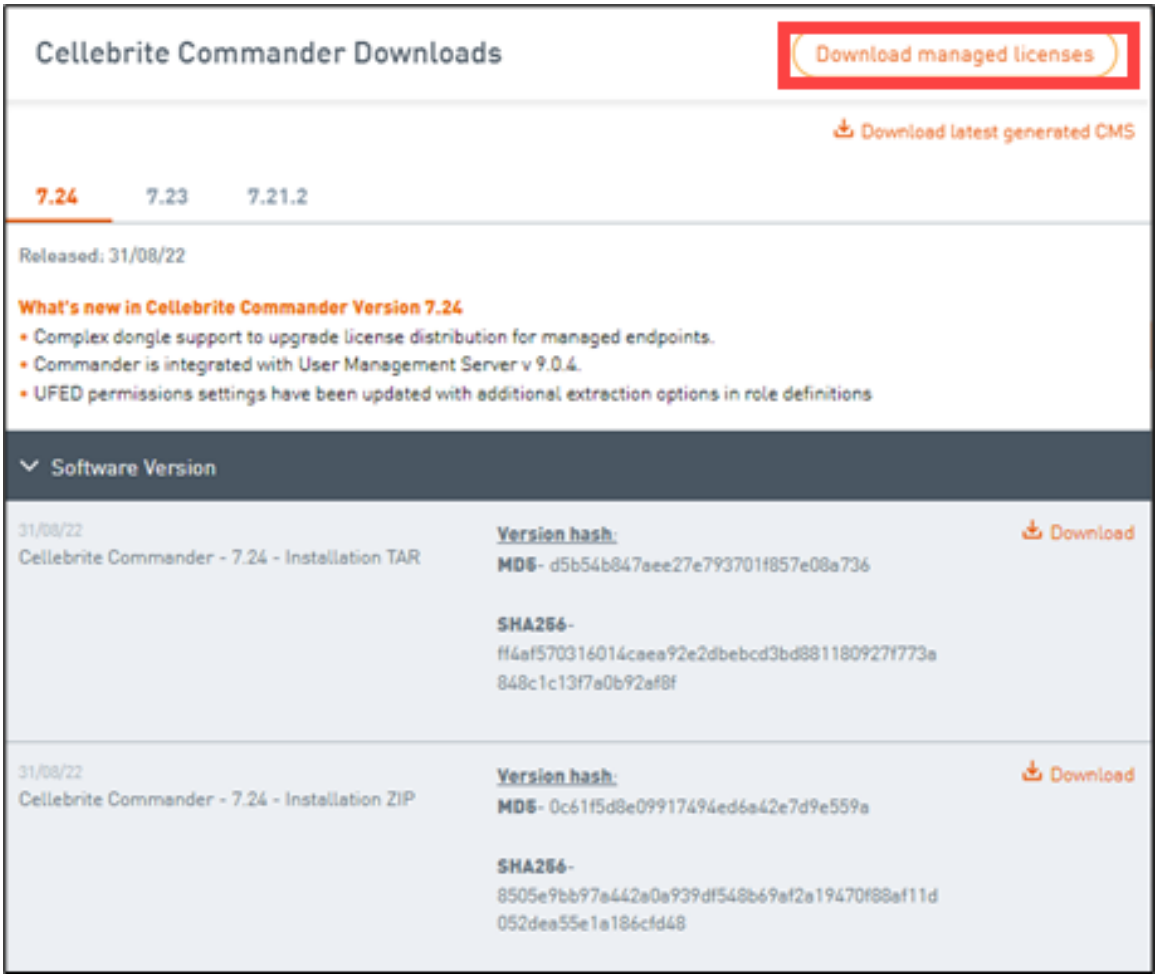


8. Select **Cellebrite Commander**.

   a. Click the down arrow in the Cellebrite Commander product selection box.
   Note: You must have already purchased a Commander license for this option to be available.

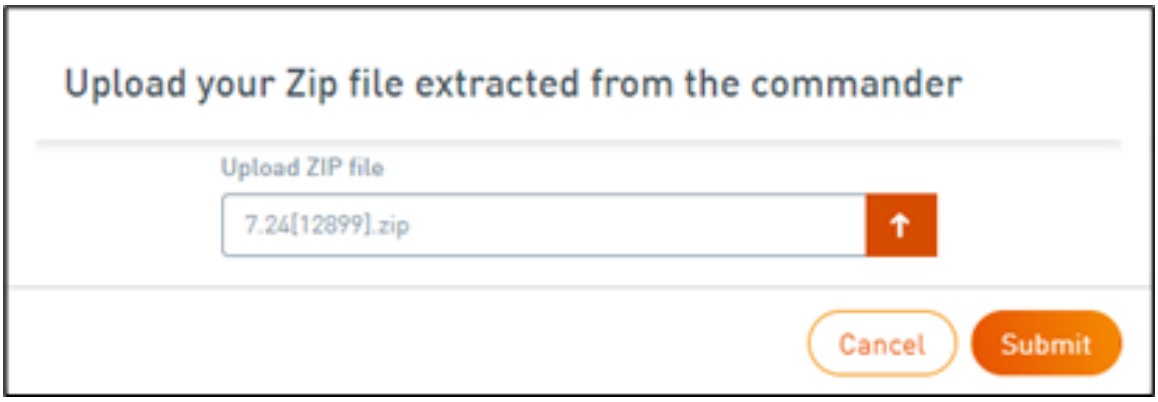


9. Click **Download managed licenses**.



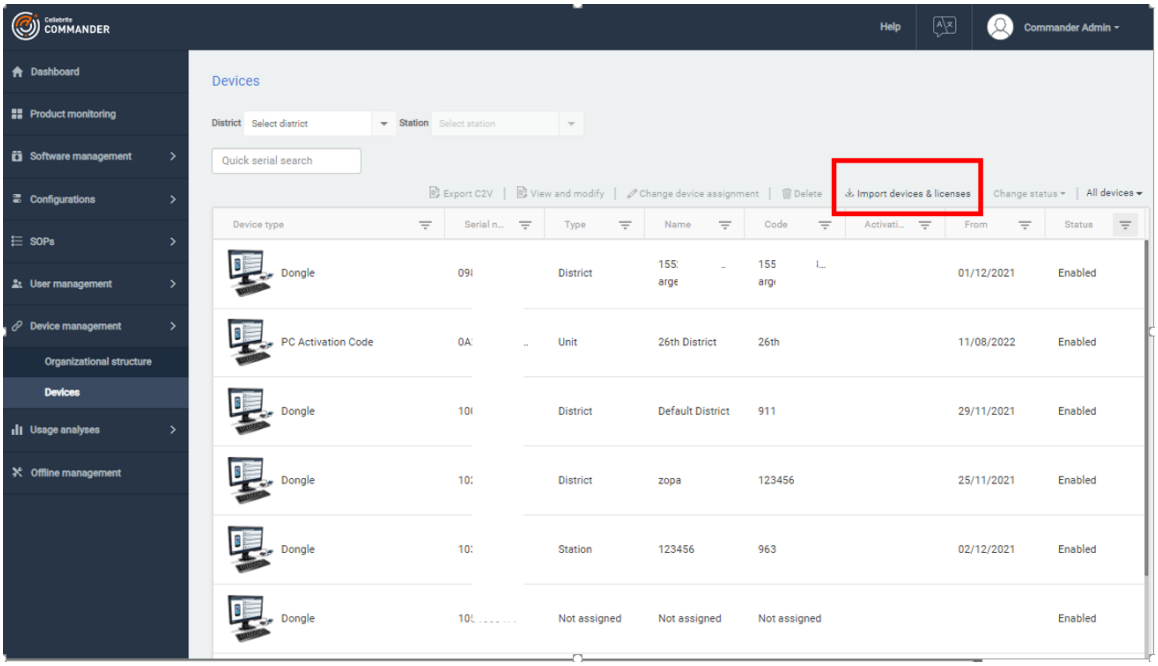
10. Select the serial numbers of all of the devices to be managed by this Commander.

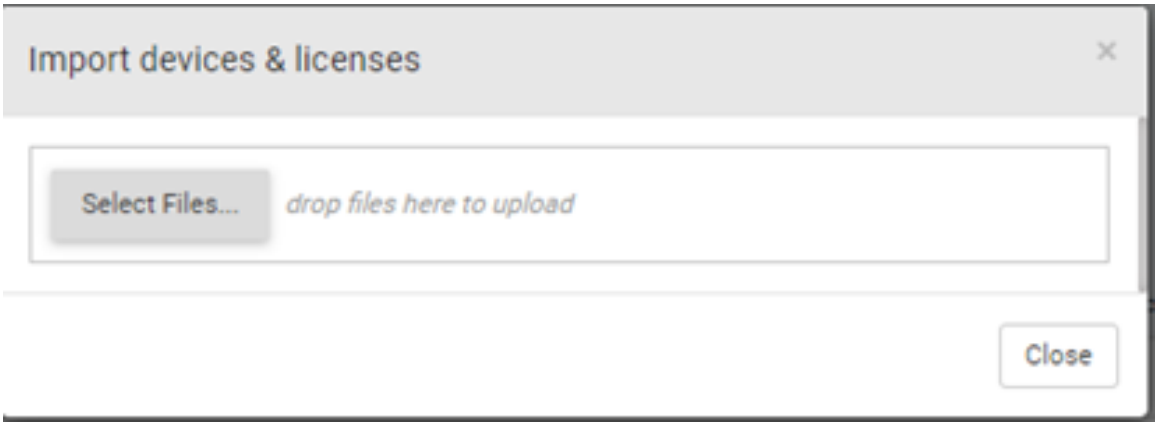
11. Click **Download**.
    A zip file containing licenses for all the devices checked above is downloaded to your computer.



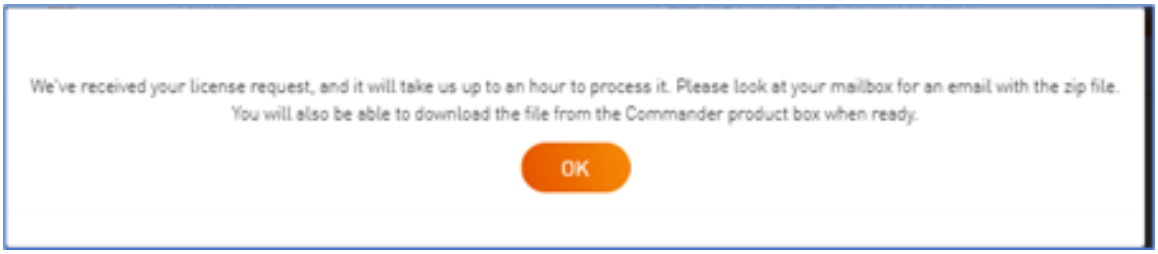
12. In Commander:

a. Click **Import devices & licenses**.

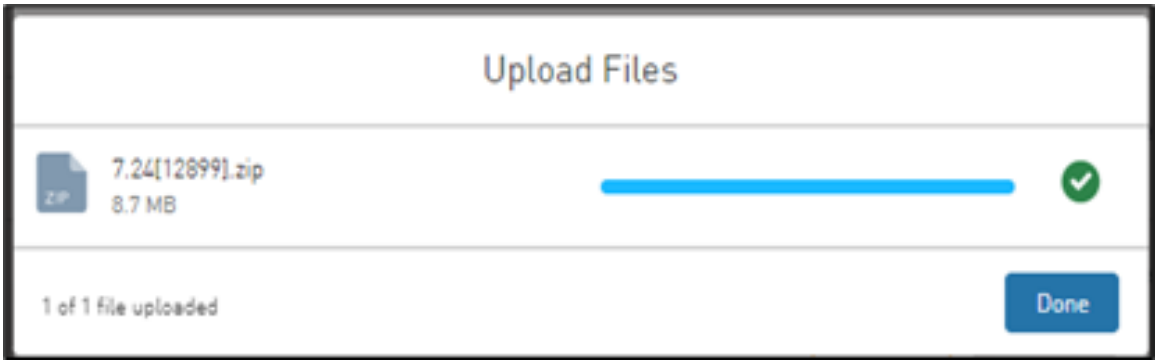




13. This message displays in **MyCellebrite**:



14. Select the license file that MyCellebrite downloaded to your computer and when the green check mark displays, click **Done**.



15. The devices are now licensed and managed by Commander.

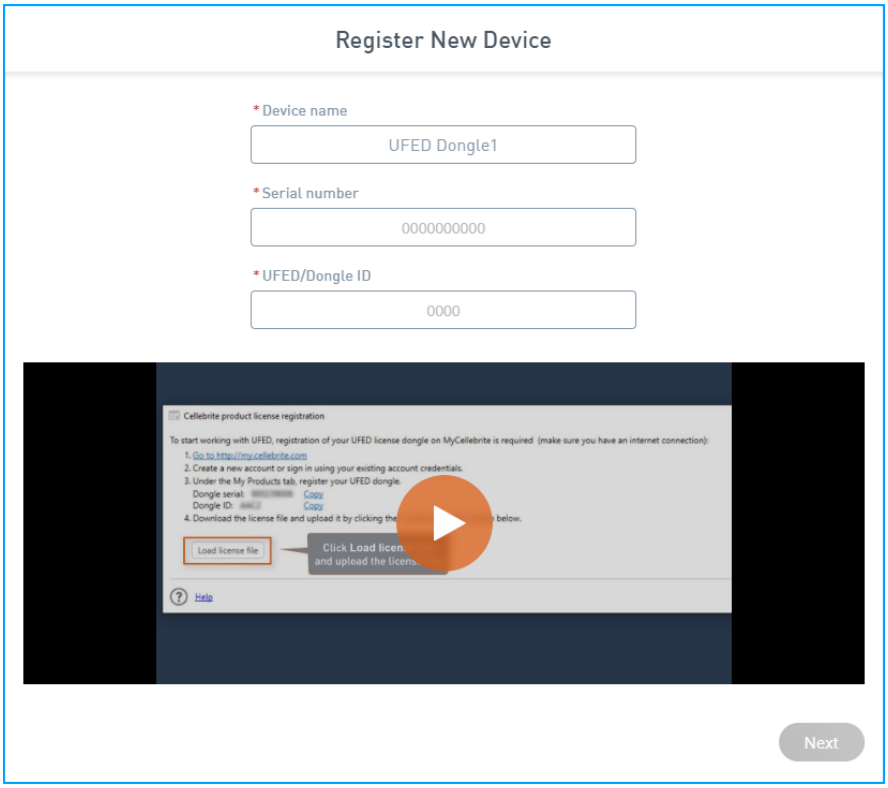
3.3.2. Using a dongle license

Use the Cellebrite UFED dongle provided with your Cellebrite UFED kit. The dongle contains licenses for all the applications purchased.

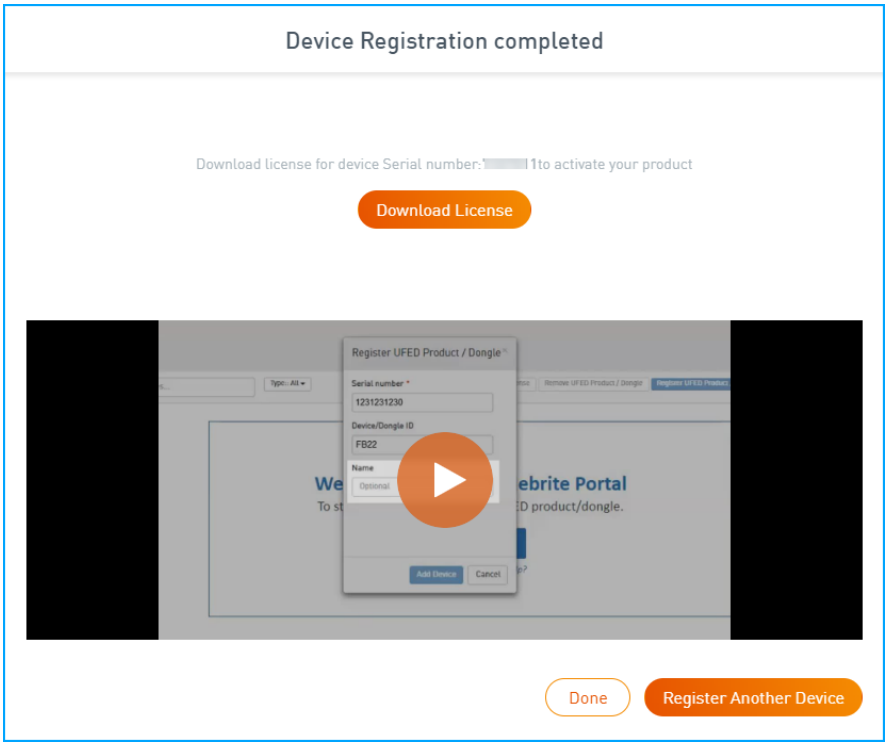
To use Cellebrite UFED with a dongle:

1. Go to community.cellebrite.com and log in with your credentials (or create an account).

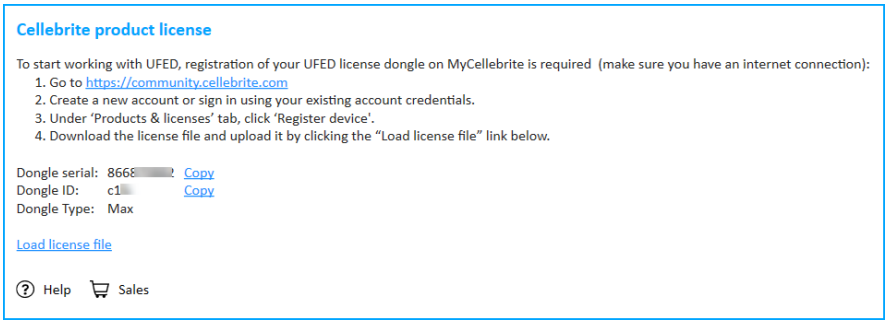
2. Go to **Products & Licenses** > **Register Device** and enter a name for the device, the serial number, and the Dongle ID as displayed on the dongle.



3. Click **Next**. The following window appears.



4. Click **Download License** from the Device Registration Completed window to download the license key (or click **See licenses** in the Products tab and then from the menu on the right select **Download license**).
5. Download and install the Cellebrite UFED application.
6. Start the Cellebrite UFED application and connect the dongle to a USB port on your computer. The following window appears.

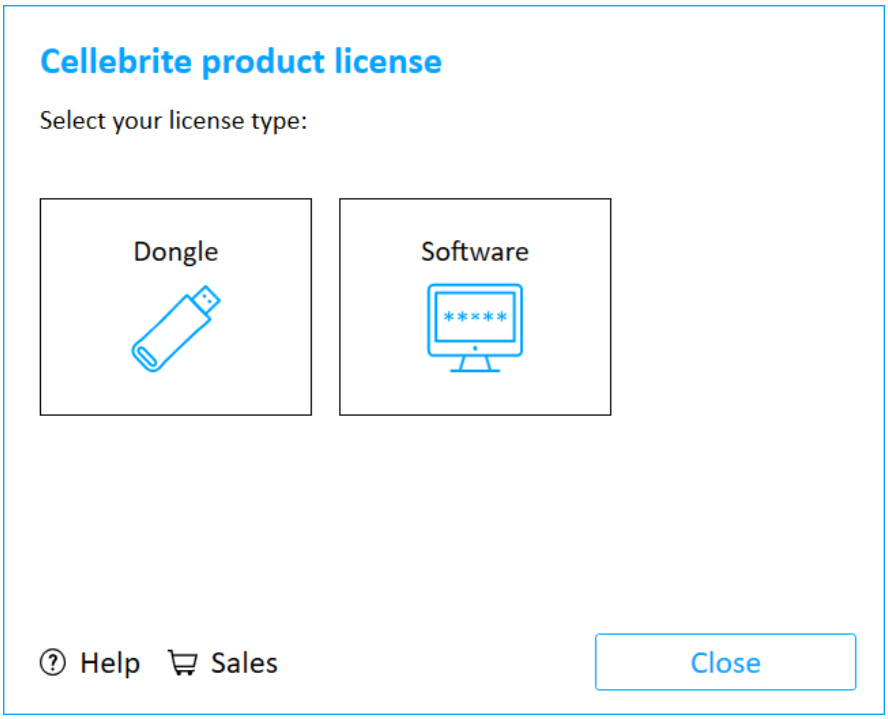


7. In the Cellebrite product license window, click **Load license file** and upload the license key.

Congratulations, your Cellebrite UFED application is now ready!

If a license dongle is not found:

1. When a license dongle is not found, the Cellebrite product license window appears.



2. Click **Dongle**. If you connected the dongle to a USB port on your computer, and it still does not work, contact support@cellebritAxon Evidence.

You can now activate your Dongle or Software license online. Our "Cellebrite License Loader" application, which can be accessed by all users on the Cellebrite Community portal, now offers an activation process with an internet connection. To activate the license, install the License Loader on any computer and activate it with one click.

3.3.3. Using a software license

Use the PC activation code provided with your product kit to download a software license.

To use Cellebrite UFED with a software license:

1. Go to the required product link and sign in to your MyCellebrite account:

   Cellebrite UFED: community.cellebritAxon Evidence/ufed4pc

   (If you do not have an account, click **Register now** and create a user. Then go back to the product link).

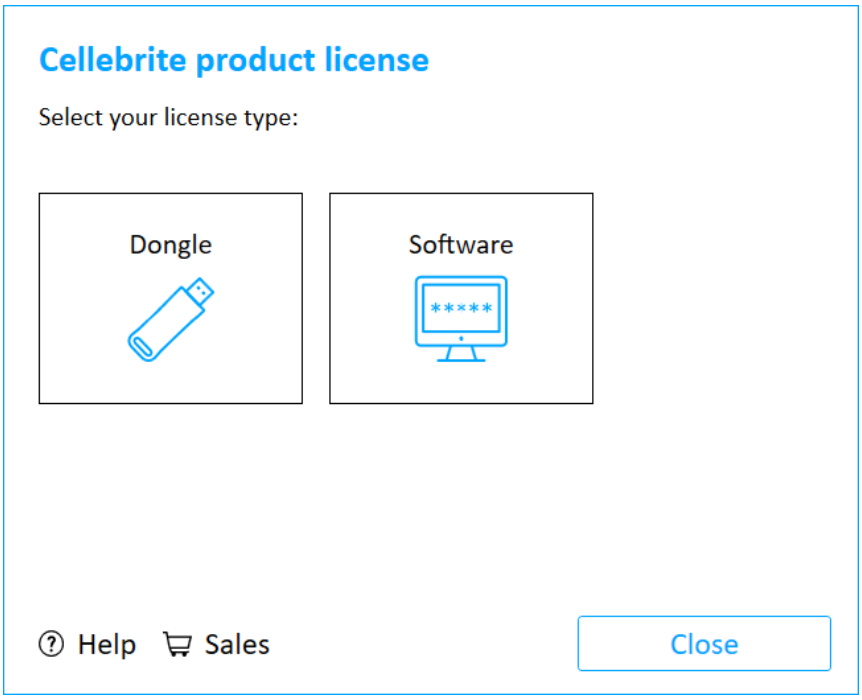
   You are directed to the product activation window.

2. Click **Download Cellebrite UFED** and save the file to a PC.
3. Extract the zip file, click the installation file and install the software using the Setup Wizard. Restart the PC if required.
4. Repeat step 1 and go to the product link.
5. In the Activation Code field, enter the Activation code provided with your product kit.

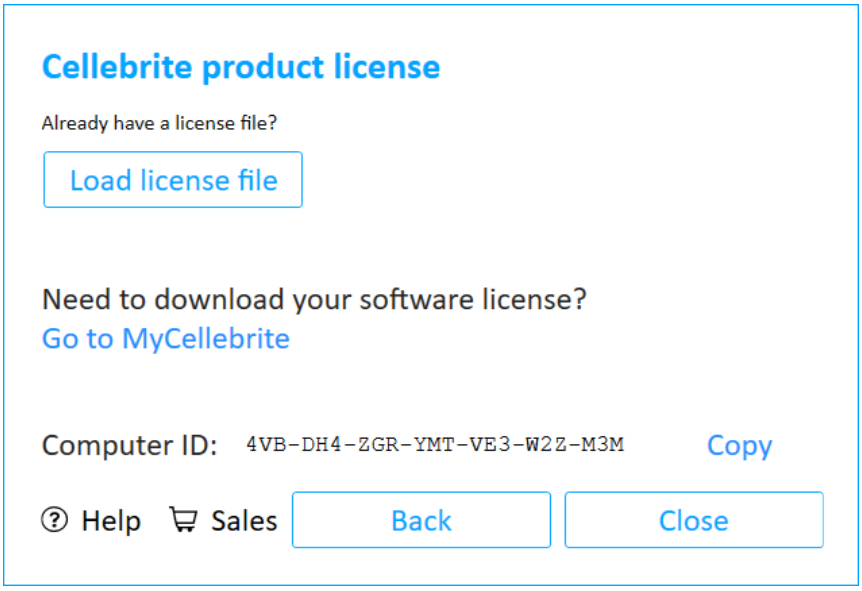
Activation Code	

6. Obtain your Computer ID (do not close the MyCellebrite page while performing this step).

a. Start the application. The Cellebrite product licensing window appears.



b. Click **Software**. The following window appears.



c. Click **Copy** to copy the Computer ID displayed in the window.

7. In MyCellebrite paste the copied Computer ID.

8. Click **Generate License** to download the application license key to your PC. The license key is also sent to your registered MyCellebrite email address.

9. In the application, click **Load license file** in the Cellebrite product license window, then locate and select the license file, or click **Load from the web** to download the license file from MyCellebrite.

   Congratulations, your Cellebrite UFED application is now ready!

3.3.3.1. Software license distribution by Commander

License updates for end points using software licenses can now be distributed from Commander 7.22. Until now thihs was possible only for dongle licenses.

License distribution via Commander can be done only for updates, new licenses should be activated manually on the end point before the first use. When working in offline mode, the license should be applied manually (as before). License distribution for offline mode will be supported in the next version

3.3.3.1.1.

3.3.4. Using a network dongle

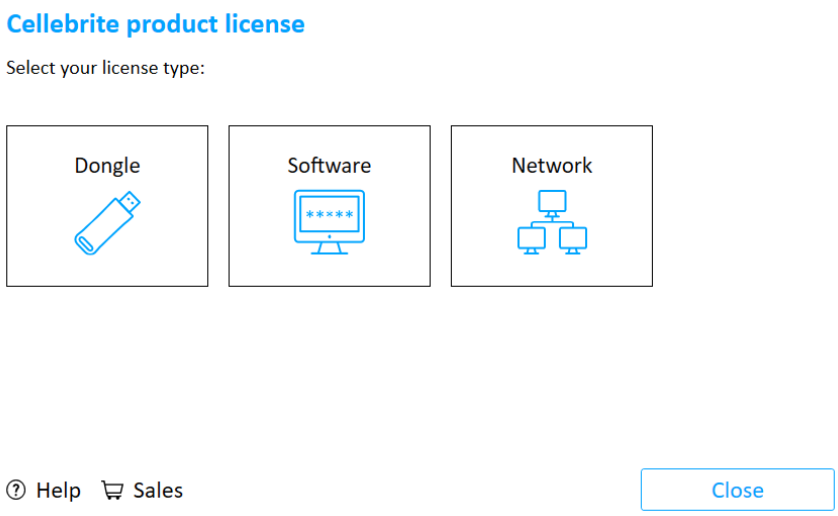
The network dongle is connected to your organization's network and contains licenses for all the applications purchased.

To use Cellebrite UFED with a network dongle:

» Start the application. If the network dongle is connected to the network, the application starts and you can start working immediately.

If a network dongle is not found:

1. If the network dongle is not recognized, the Cellebrite product licensing window appears.



2. Click **Network**.

If a dongle was not found on the network. Make sure that you have an Internet connection and that a dongle is connected to the network. Then click **Refresh** to search for a network dongle again.

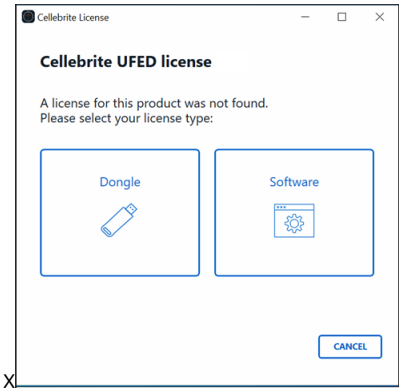
If you click **Refresh** twice, a new window appears where you can manually connect to the network dongle. Click **Advanced** and then enter the IP address (or host name).

If there is only one network dongle, it is selected automatically. If there are multiple network dongles, select the required Dongle Serial number.

Congratulations, your Cellebrite UFED application is now ready!

3.3.5. Online activation of new license from Loader

Go to Start > Cellebrite License Loader > Cellebrite License Loader.



Select Dongle or Software.

For software licenses:

- In the next screen, activate the license online.

Activation Code

Valid Email address

- Press “Online activate”

You receive a license request with:

Activation Code, Email and C2V

- Select Dongle license

You can activate the license online.

» Fill in the following:

Dongle Serial ID (on the stick)

Press “Online activate”

You receive a license request:

Dongle Serial ID and C2V

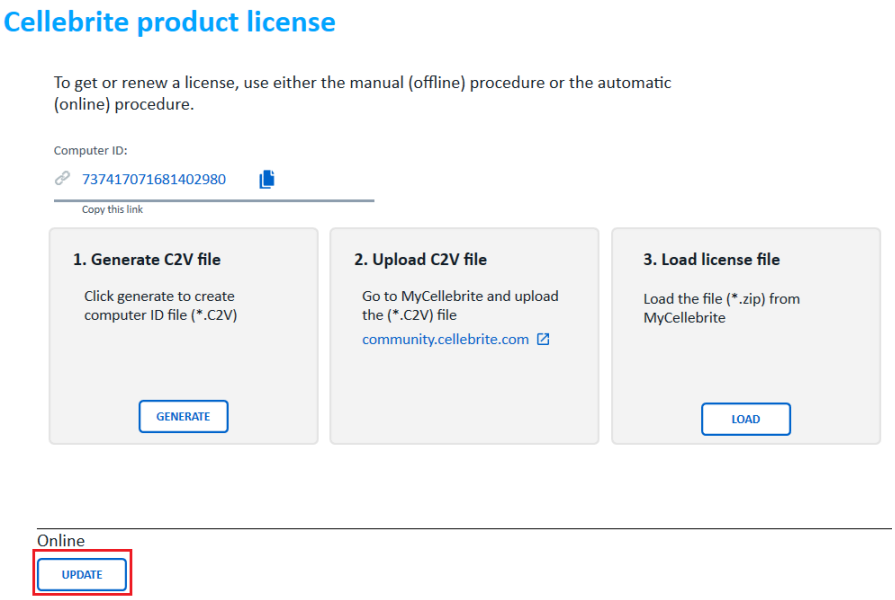
If the Activation Code or Dongle Serial ID are valid, the loader activates the license.

3.3.6. Update software license with one click

You can now update your software license with one click.

To update your software license:

» Go online and click Update. The license file is downloaded and applied automatically.



3.4. Working with UFED

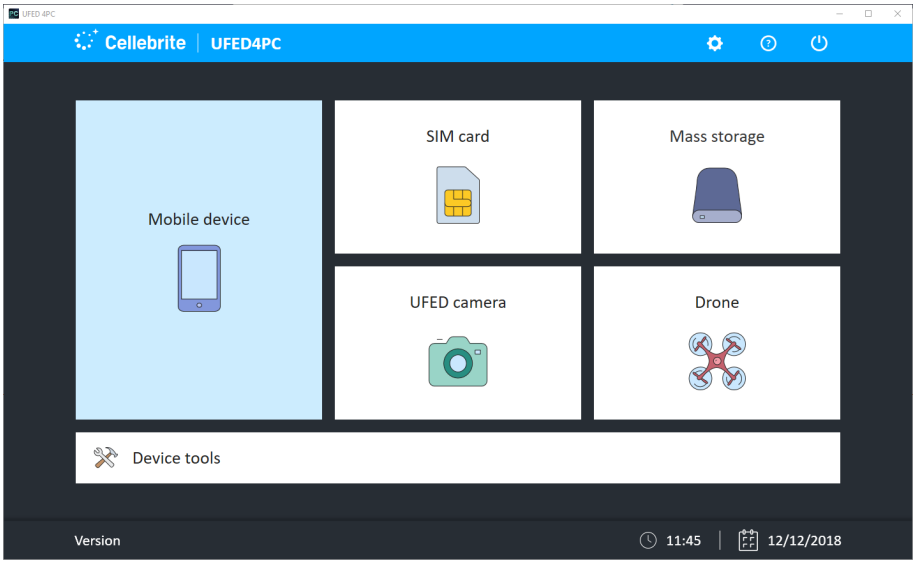
This section includes the following:

3.4.1. Starting the application

» Double-click the Cellebrite UFED icon to open the application.

3.4.2. Home screen

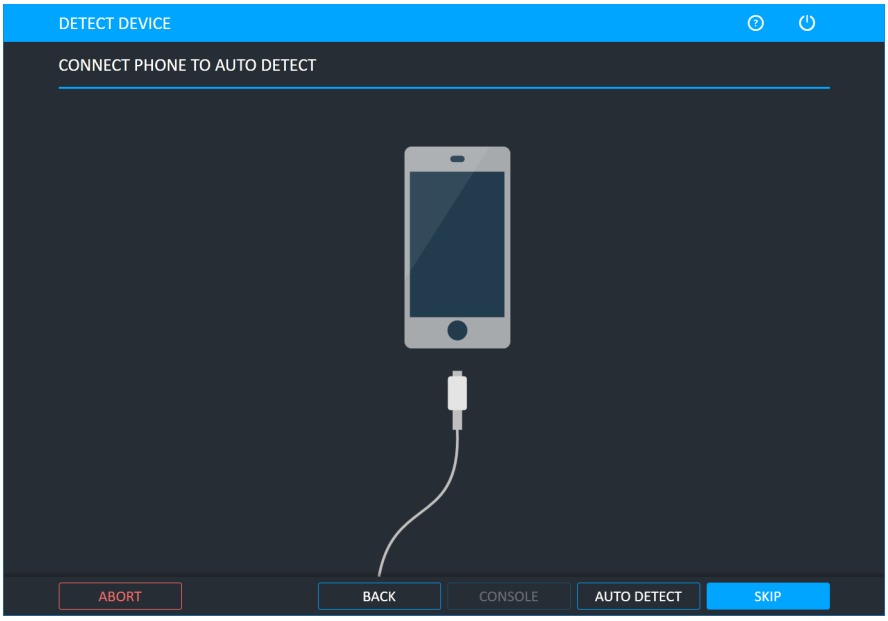
The home screen groups the extraction data into distinct areas: Mobile device, SIM card and USB device or Memory card. In addition, users can directly operate the camera for immediate image capturing or access the device tools. All extraction functionality is driven by **automatic** identification of the device, by **searching** for the device or by **manually** selecting the vendor and model. Cellebrite UFED determines what functions are available for the specific device and displays the relevant functions.



3.4.3. Autodetecting a device

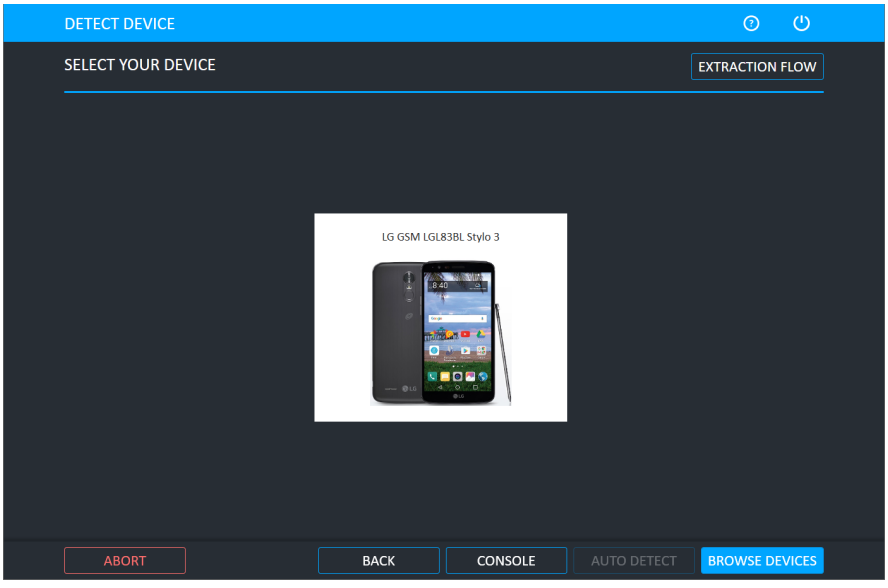
To use Autodetect to locate the mobile device:

1. Connect the mobile device to the Cellebrite UFED unit.

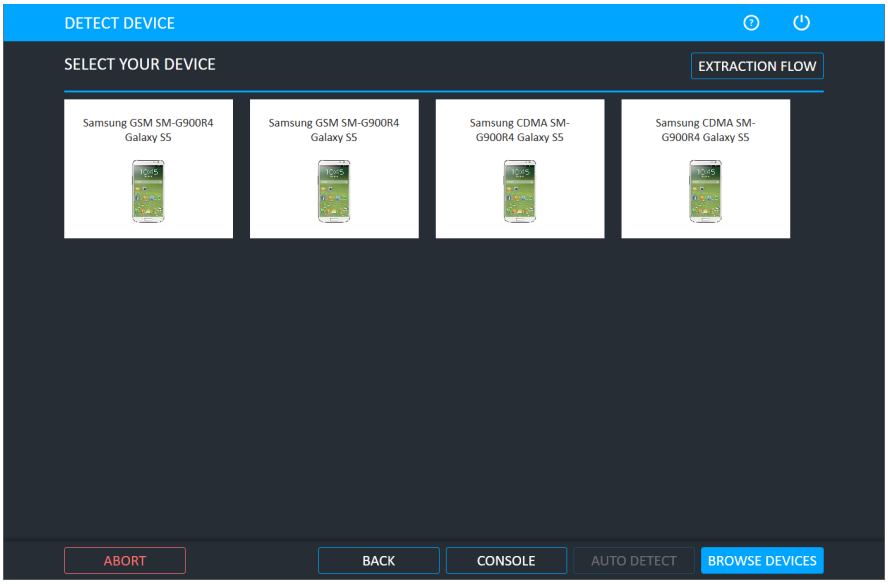


2. Select **Auto Detect** at the bottom of the screen.

   If the connected device is recognized by the system the following window appears.



   If multiple matches are found, the following window appears.

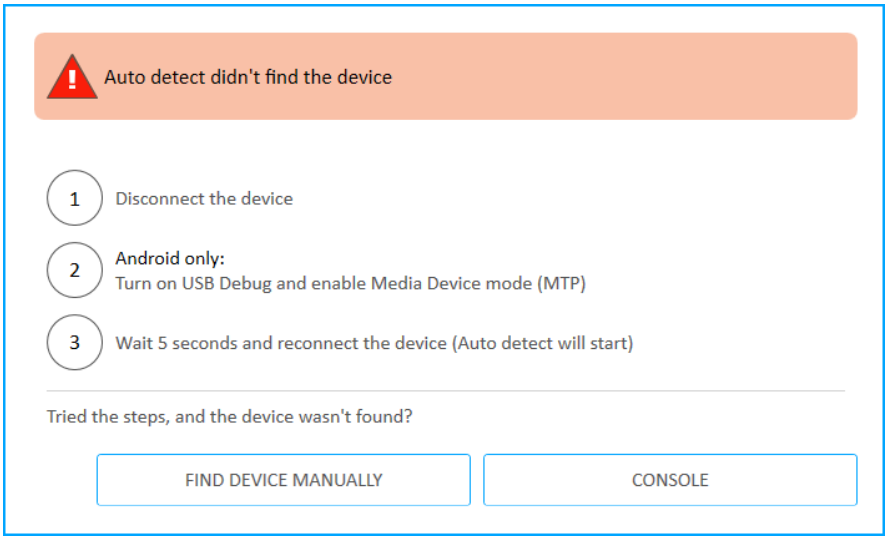


3. Select the relevant device.

4. Alternatively, click **Browse Devices** to manually search for the device.

> Click the **Console** button to access device information using the Android Debug Console. For more information, refer to the *Performing extractions* manual.

5. If the connected device cannot be recognized by the system, a message prompts you to try the following steps or tap Find device manually.

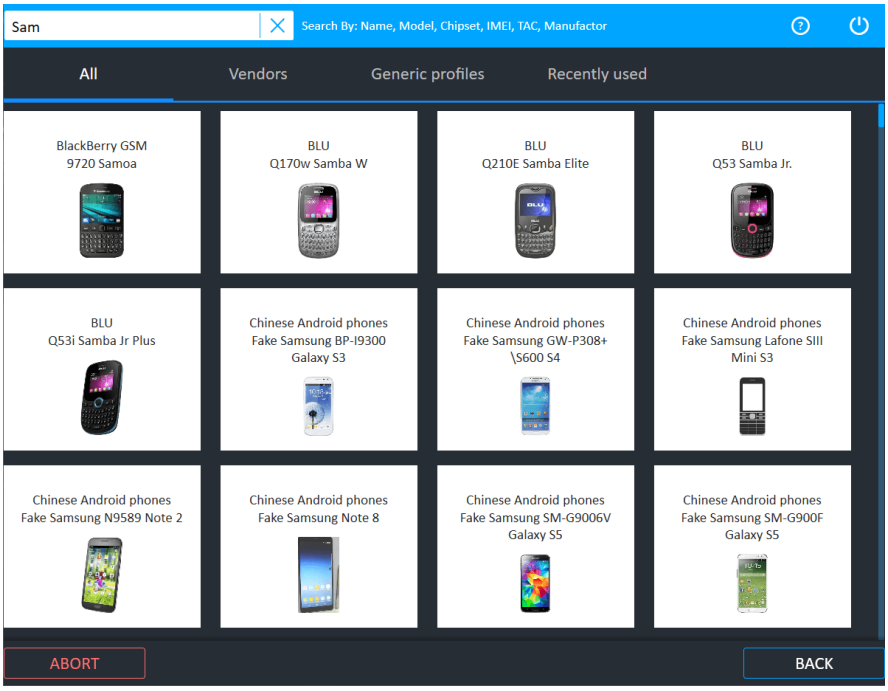


6. If the device still cannot be found, tap **Browse Devices** or **Console**.

3.4.4. Searching for a device

To search for the mobile device:

1. Narrow the list by vendor, recently used, etc. or begin typing in the search field in the top bar to search for a device or model. As you type, the list of devices is reduced to match your search criteria.

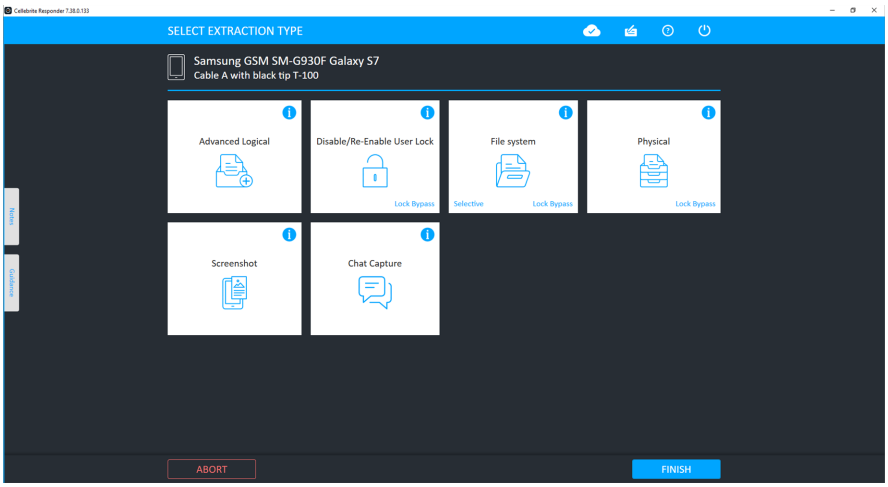


> You can also search for a device by its IMEI value, which is used to uniquely identify devices. The IMEI value is usually found printed inside the battery compartment of the device, or dial *#06# from the phone keypad. Enter the value in the search field, using a minimum of four digits up to the full number. If the IMEI value is recognized, matching devices are displayed.

2. Select the device model type from the list.

   Having selected the **device**, Cellebrite UFED determines what extraction functions are available for

this combination and presents those functions:

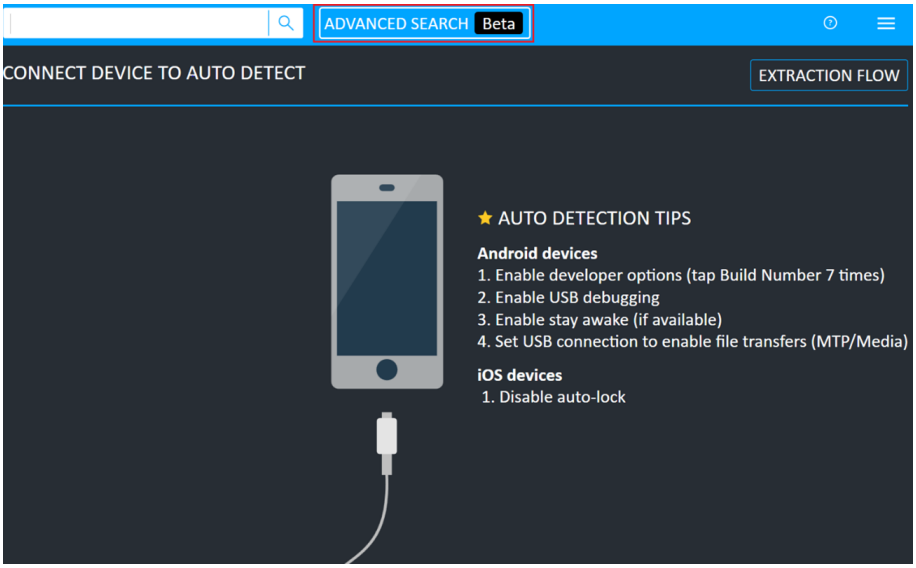


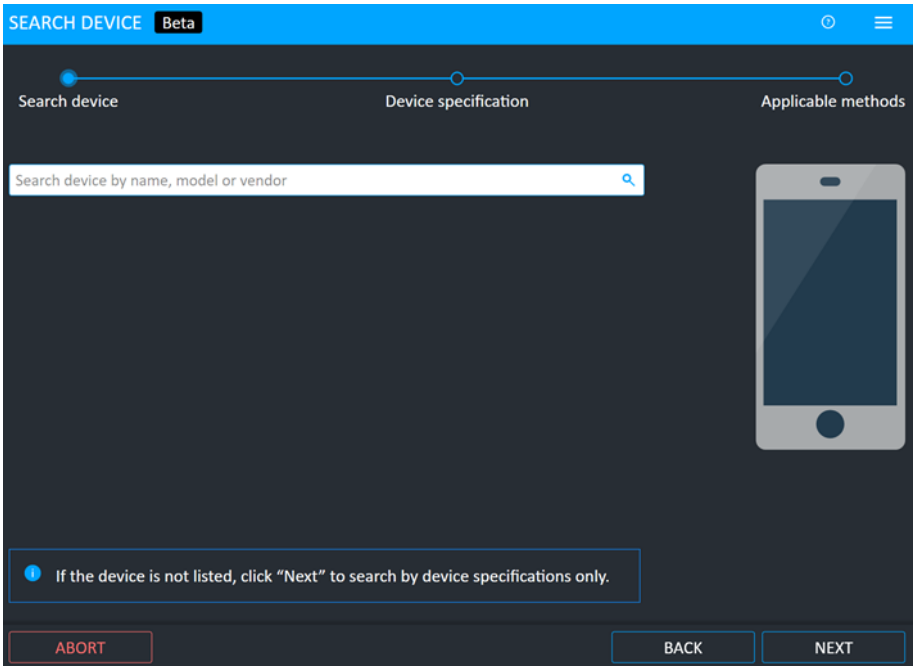
Lock Bypass is displayed for both physical and file system extraction methods that can bypass the user lock of the device.

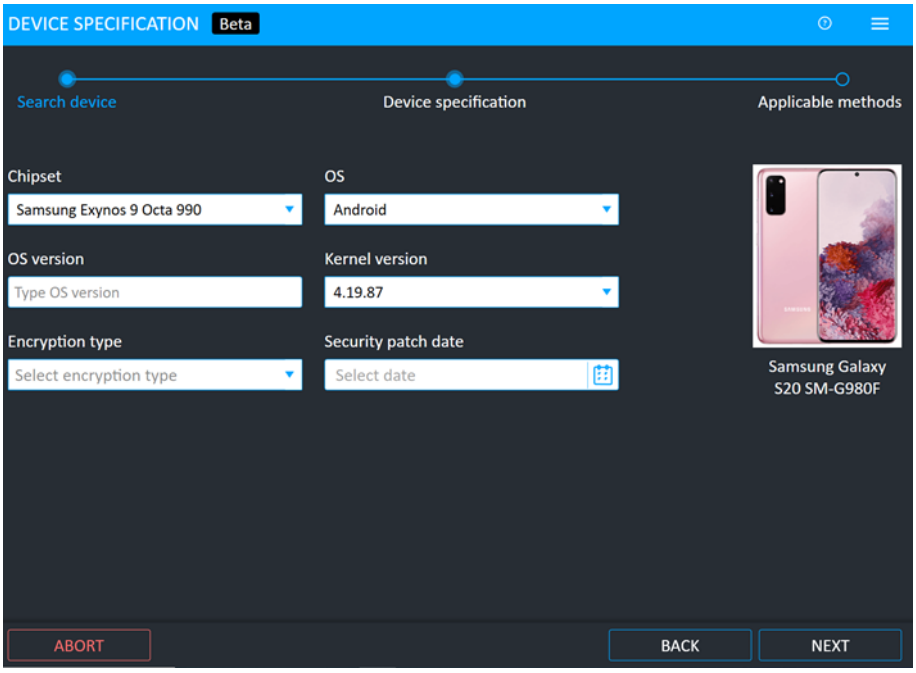
3.4.4.1. Device wizard - Beta

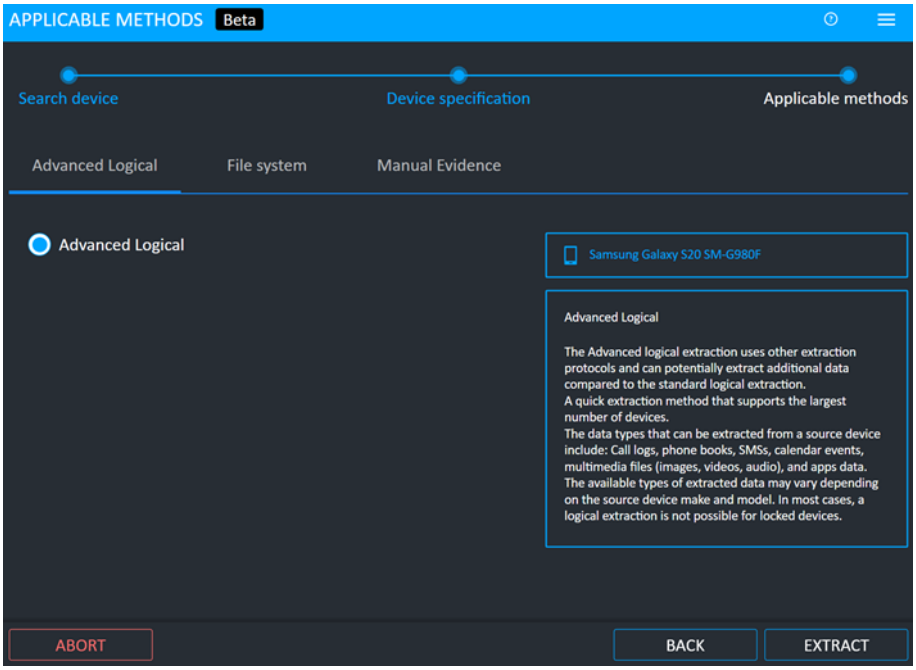
The new search capability enables users to view all supported extraction methods available for a particular mobile device, even before connecting to it.

For Android devices,, you can input device properties such as chipset, OS, OS version etc. Each property added increases the number of methods available for devices that have been tested by Cellebrite, and the number of methods available for devices that have not yet been tested but which have a high probability of success based on the device properties.




SEARCH DEVICE
Beta
Search device
Device specification
Applicable methods
Search device by name, model or vendor
If the device is not listed, click “Next” to search by device specifications only.
ABORT
BACK
NEXT


DEVICE SPECIFICATION
Beta
Search device
Device specification
Applicable methods
Chipset
Samsung Exynos 9 Octa 990
OS
Android
OS version
Type OS version
Kernel version
4.19.87
Encryption type
Select encryption type
Security patch date
Select date
Samsung Galaxy S20 SM-G980F
ABORT
BACK
NEXT

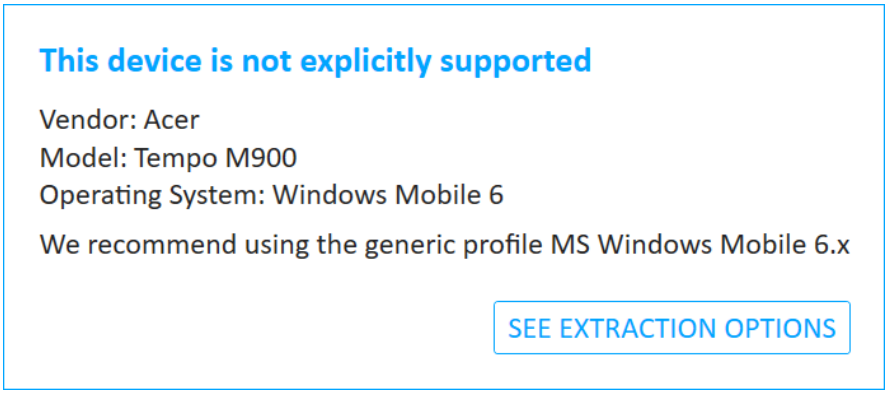


3.4.4.2. TAC search

If you cannot find the Android device which you are looking for after performing a TAC number search, a window appears. This window appears if Cellebrite UFED does not support the device directly, but there are applicable generic options available for the device.

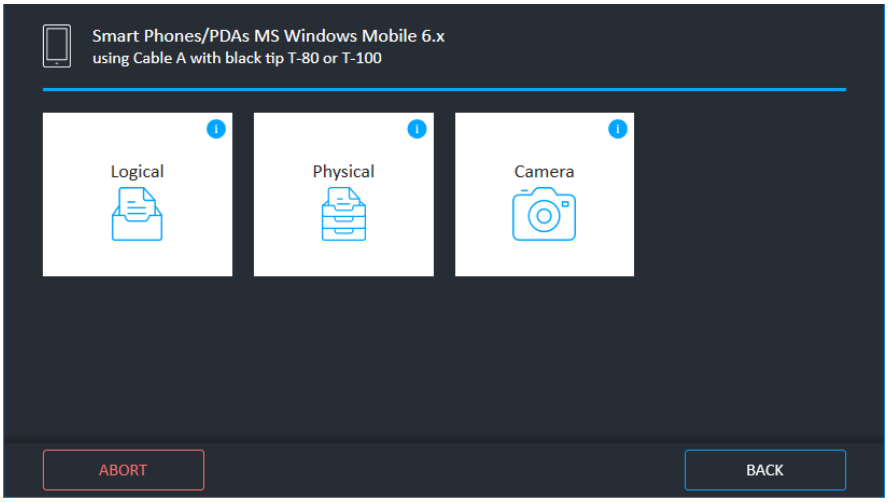
To retrieve device information and view generic extraction options:

1. Enter the complete 8-digit TAC number. The following window appears.

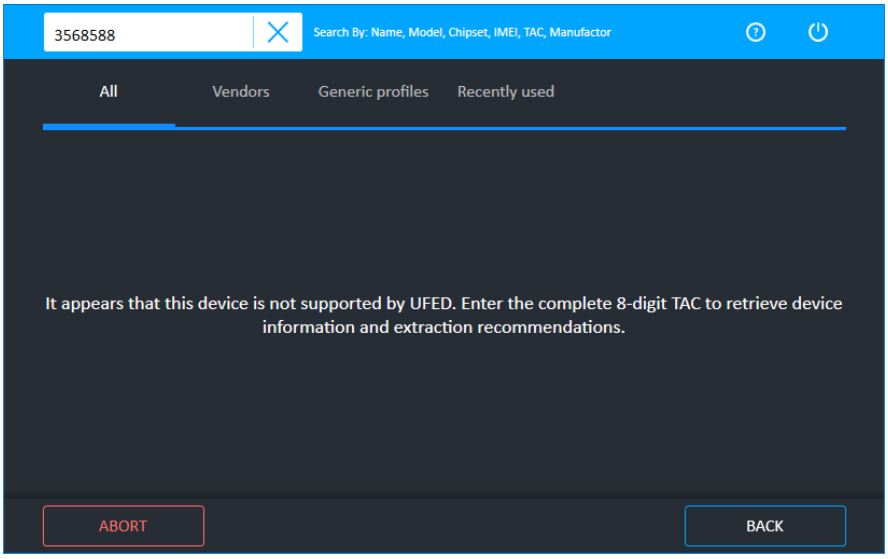


   The window includes the vendor, operating system and device name.

2. Click **See recommended extractions**. A window appears with the generic extraction options for the device.



If you enter a partial TAC number (with less than 8-digits) or the device is not supported by Cellebrite UFED then the following window appears.



3.4.5. Case details

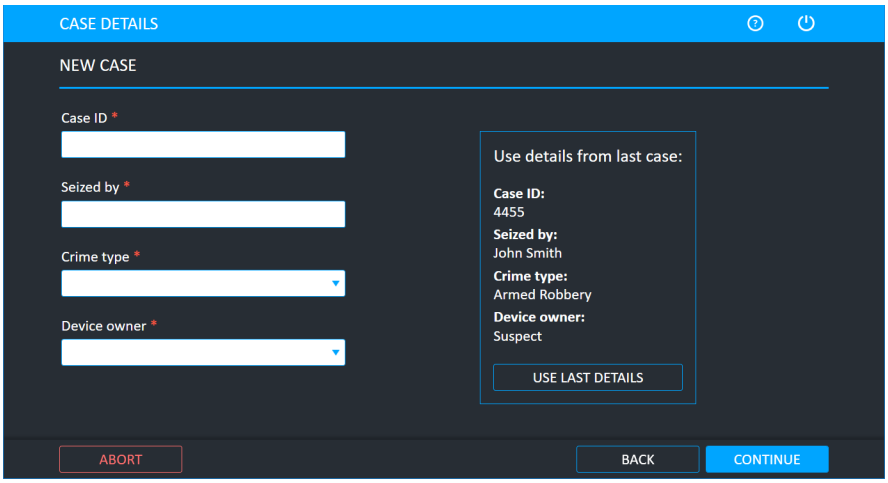
The Case details feature enables you to enter case details when performing an extraction or using the Cellebrite UFED camera. This feature is not enabled by default.

To enable the case details feature:

» Select **Include Case details screen** under **Settings** > **General**.

To specify the case details:

1. On the Home screen, select an extraction type or Cellebrite UFED camera. The following window appears.



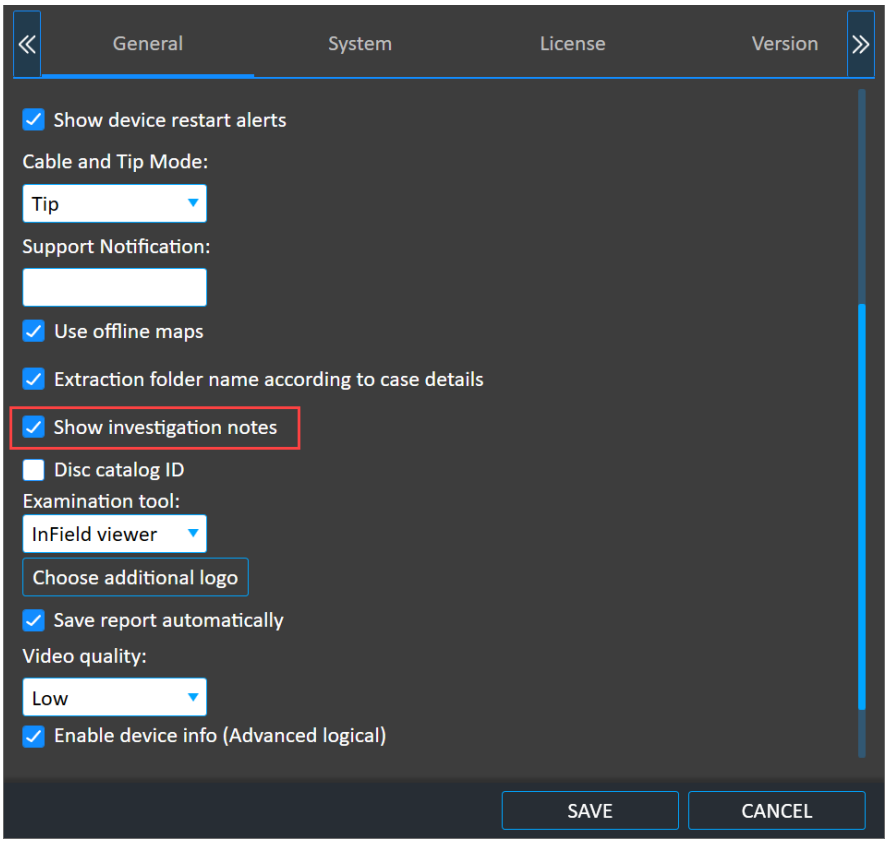
2. Use the current case information, or enter and select the case information and then click **Continue**.

3.4.6. Investigation notes

The Investigation notes feature enables you to add notes during the data extraction process. You can include observations or report any issues encountered during the process.

To enable or disable the feature:

1. Select **Settings** > **General**. The following window appears.



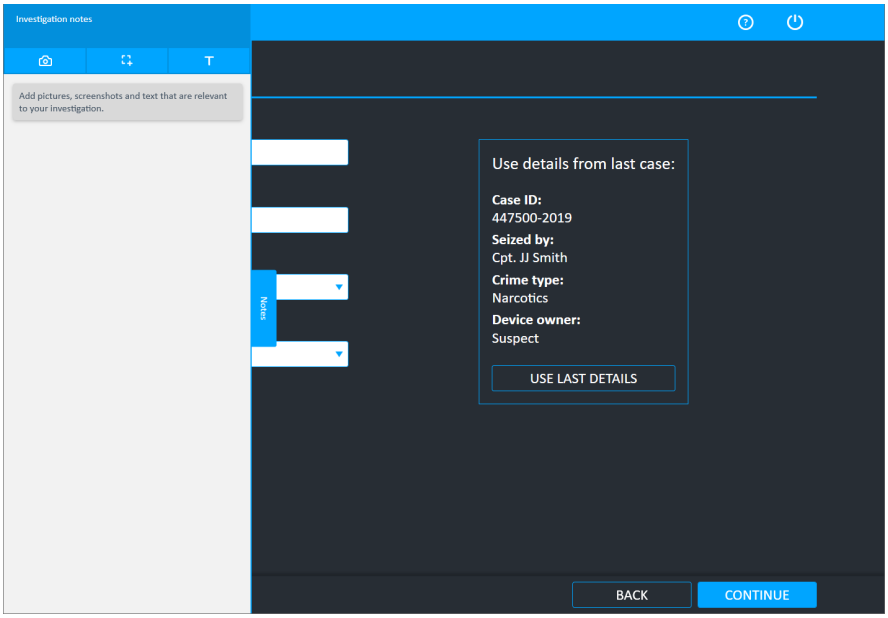
2. Select or clear **Show investigation notes**.

3. Click **Save**.

3.4.6.1. Using the feature

You can add pictures, screenshots and text that are relevant to your investigation to create an audit trail of actions taken and decisions made.

1. Start an extraction and click **Notes**. The Investigation notes window appears.



   To close the window, click the Cellebrite UFED interface outside of the Investigation notes window.

2. Add text, screenshots and pictures that are relevant to your investigation. The investigation notes are available as part of the extracted data or report. See Accessing the extraction notes file (on page 58).

See the following procedures to add text, screenshots and pictures:

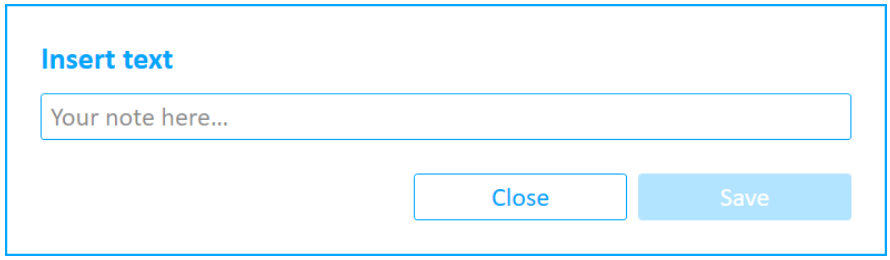
To add text notes: (on the next page)

To add screenhots: (on page 55)

To add pictures: (on page 56)

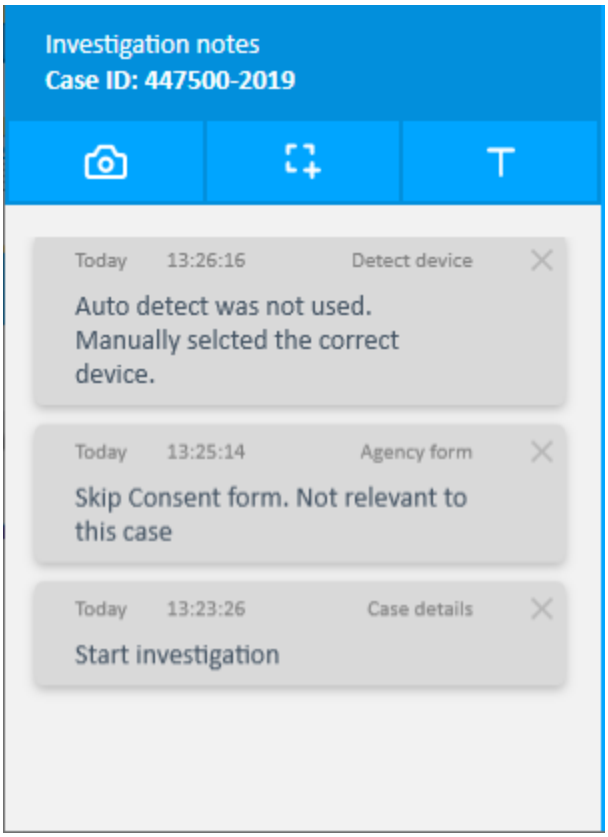
To add text notes:

1. In the Investigation notes window click Text ( ). The following window appears.



2. Enter the required text and tap Save.

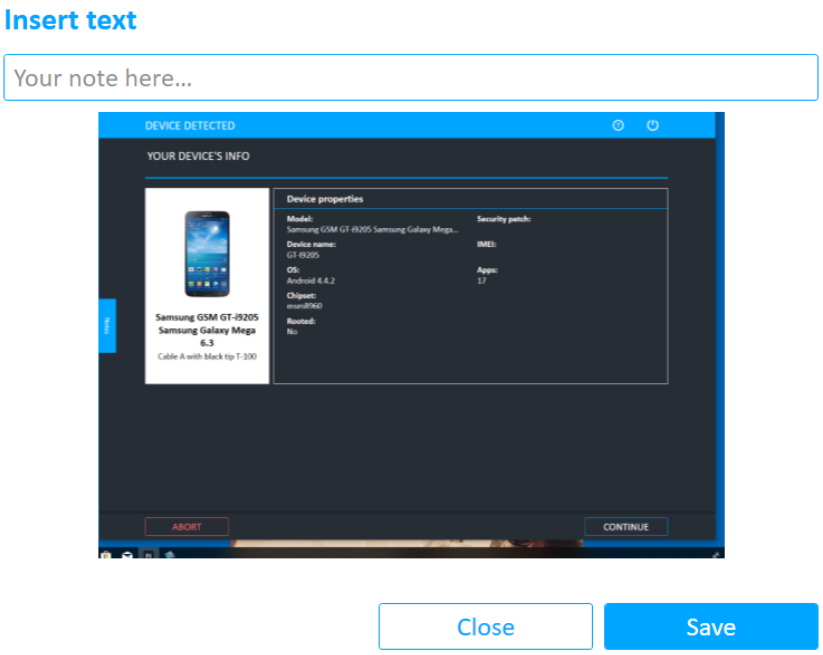
3. The text is added to the Investigation notes panel and it includes the date, time, and stage of the extraction process.



To remove a note click Delete (X).

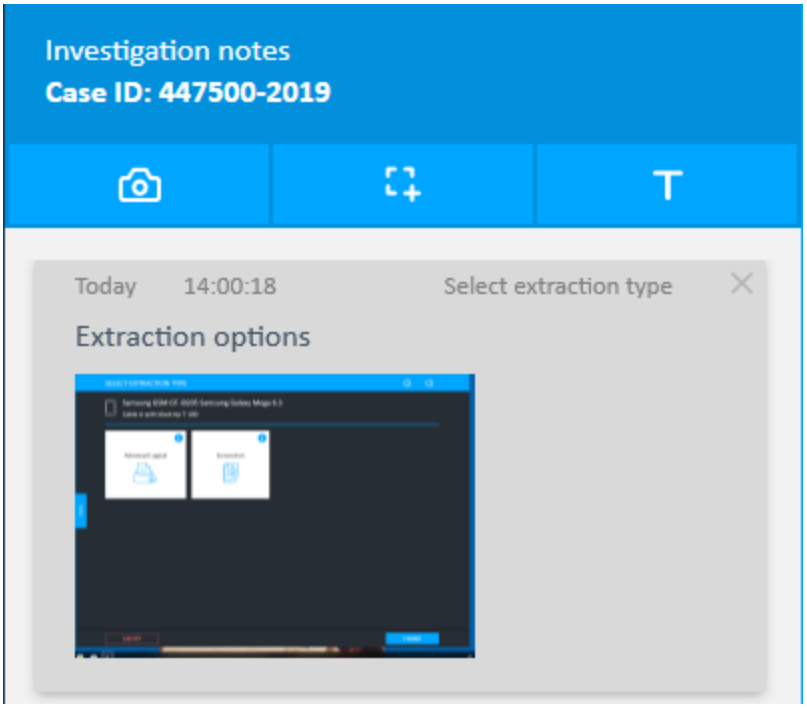
To add screenhots:

1. In the Investigation notes window click Screenshot ( ). The following window appears.



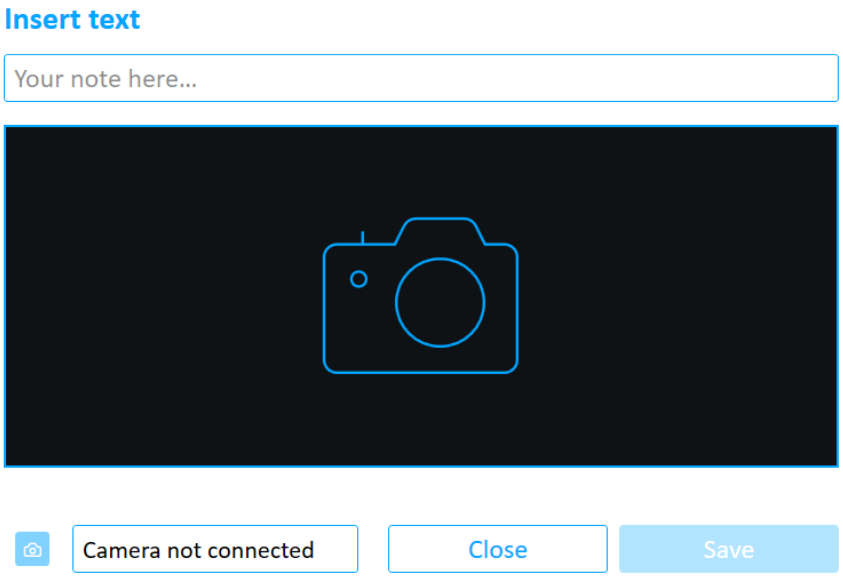
2. Enter the required text and tap Save.

3. The screen capture is added to the Investigation notes panel and it includes the date, time, and stage of the extraction process.

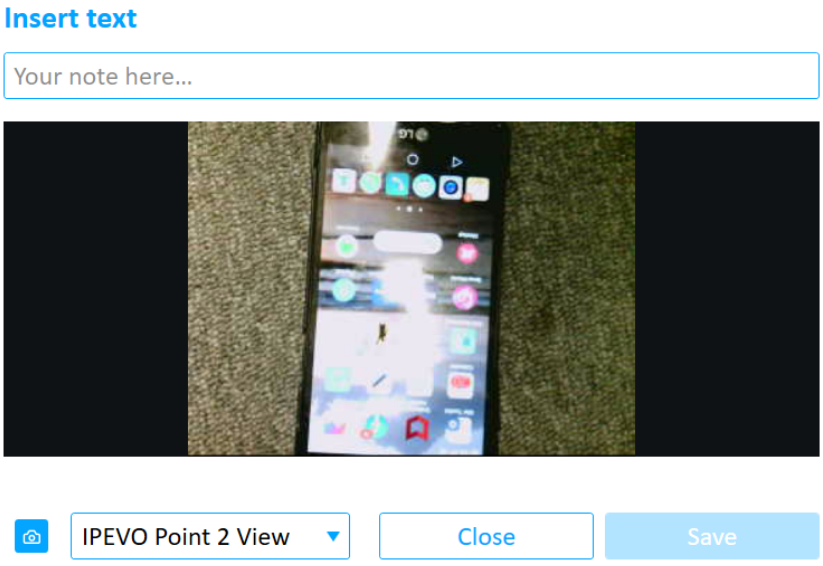


To add pictures:

1. In the Investigation notes window click Picture ( ). The following window appears if a camera is not connected.

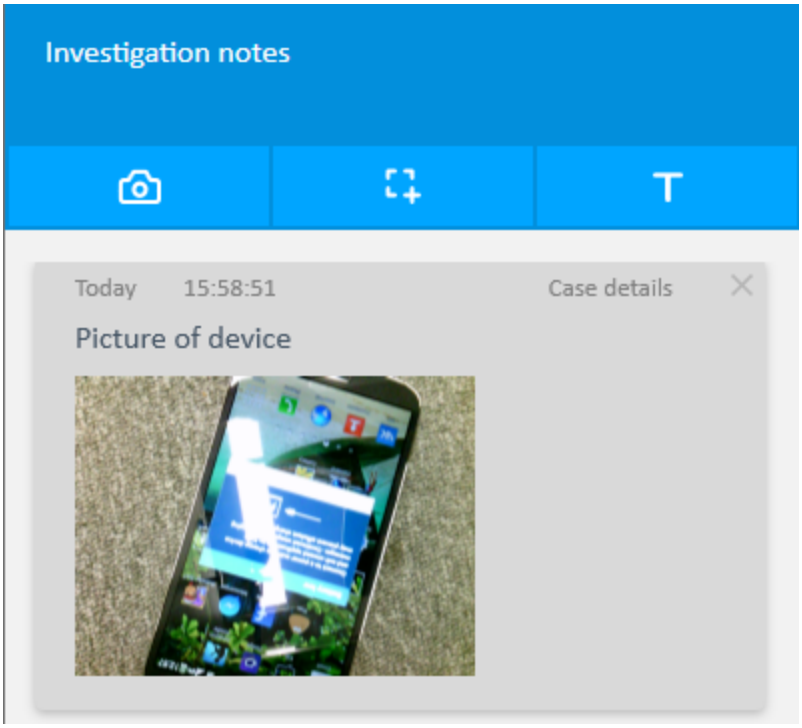


2. Connect a camera to Cellebrite UFED.



3. Select the required camera to use.

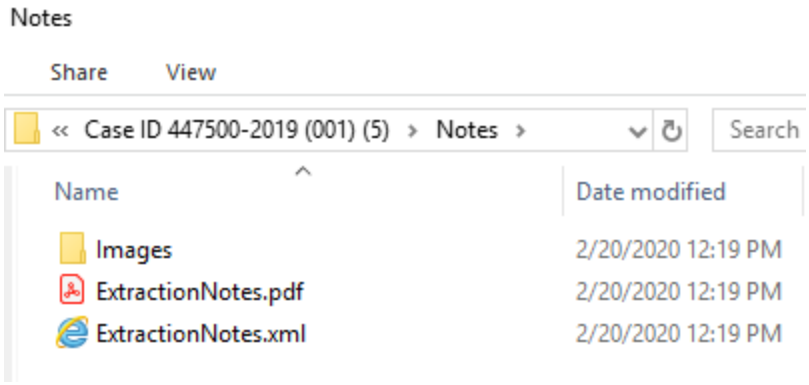
4. Click Camera ( ) to take a picture. If required, tap Refresh ( ) to take a new picture, or click Rotate to rotate the picture.
5. Enter the required text and tap **Save**.
6. The picture is added to the Investigation notes panel and it includes the date, time, and stage of the extraction process.



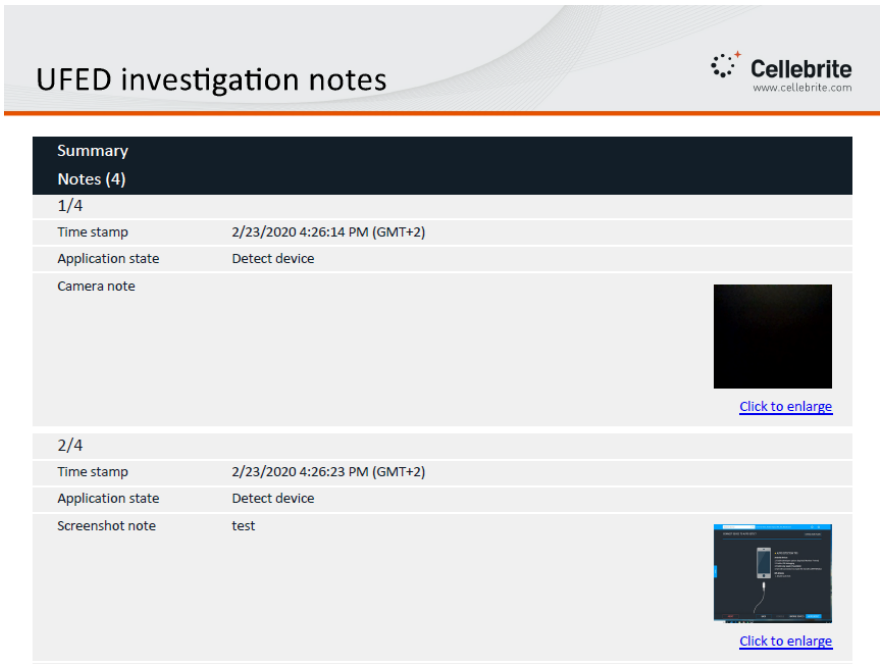
3.4.6.1.1. Accessing the extraction notes file

After completing the extraction, the investigation notes are displayed as an ExtractionNotes.pdf file in the Notes folder when the report or extraction is saved.

In Cellebrite UFED, the PDF file is only created when you click **Finish**.



Folder location



Example Investigation notes

3.4.7. User predefined filter

The User predefined filter provides the ability to extract and view only a portion of the device content, based on time range or specific subject information (person, email, phone). This can be useful when:

- The agency has a warrant to extract data from a specific time window, and is not allowed to view additional data that is not covered by the warrant.
- The user wishes to save time and get to the relevant data ASAP.

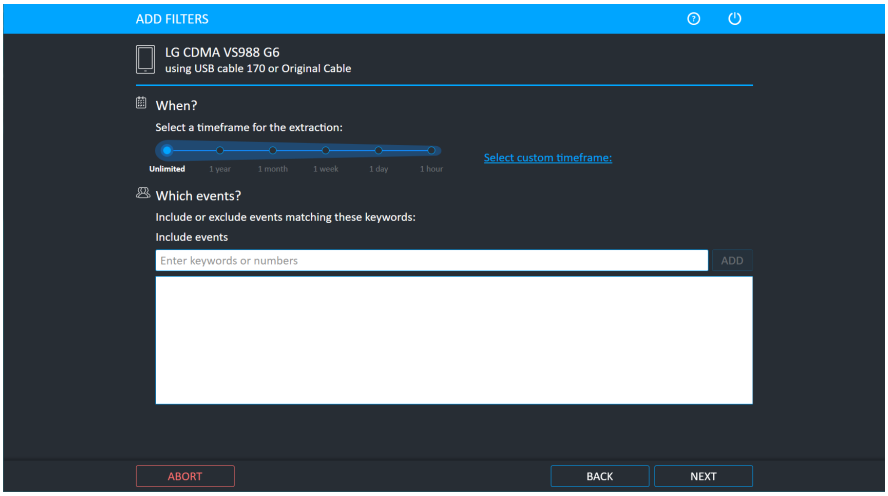
The most time consuming phase during a device extraction is transferring the data from the mobile device to the extraction tool. Timeframe filtering is performed on the device (when technically supported), and can reduce the extraction time. Another advantage is the reduced amount of data that the agent must browse through to find the evidence.

To enable the User predefined filter:

- Select **Allow user predefined filter** under **Settings** > **General**.

To specify the timeframe and parties for the extraction:

1. Identify the device and select an extraction type. The following window appears.



> The extraction is based on the Cellebrite UFED unit's date and time. When selecting a time frame, also consider the device's time zone.

> The timeframe option is not applicable to file system extractions.

2. Select the required time frame. The less time selected, the quicker the extraction.
3. Enter keywords or numbers that you would like to include.

Selective extraction by party: Similar to the time frame, the ability to extract and review only data relevant to a specific party (number or device).

Partial numbers are matched by the application, and names are matched irrespective to the capitalization.

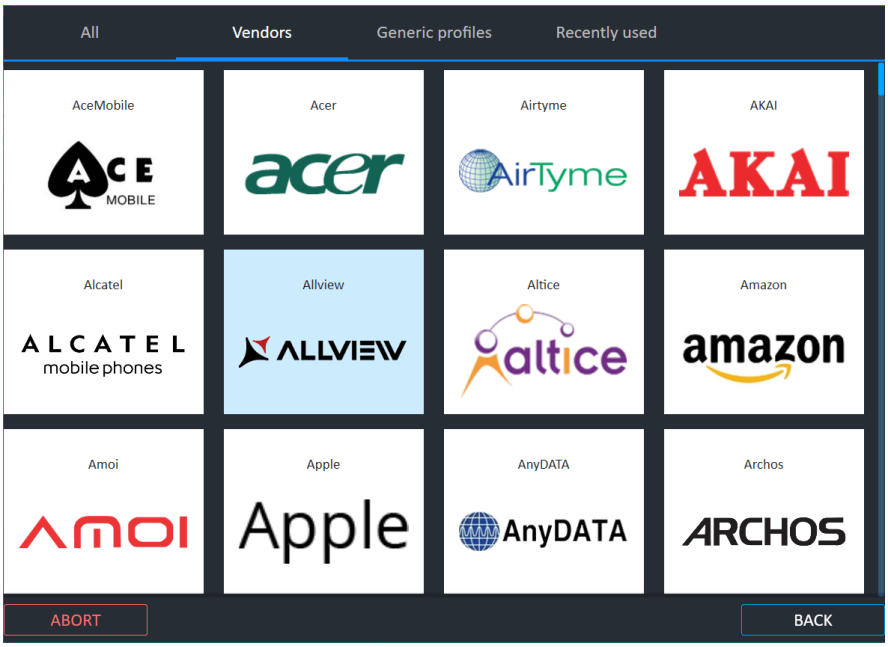
4. Click **Next**.

3.4.8. Manual selection

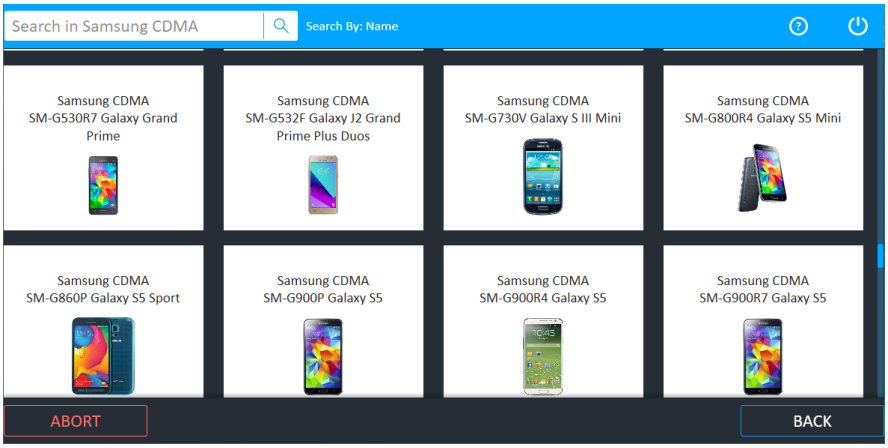
To manually select the vendor and model:

1. Click **Mobile device** and then click **Skip**.

   You can then select **All**, **Vendor**, **Generic profiles**, or **Recently used**. As displayed next, the Vendor screen enables you to select the device vendor.



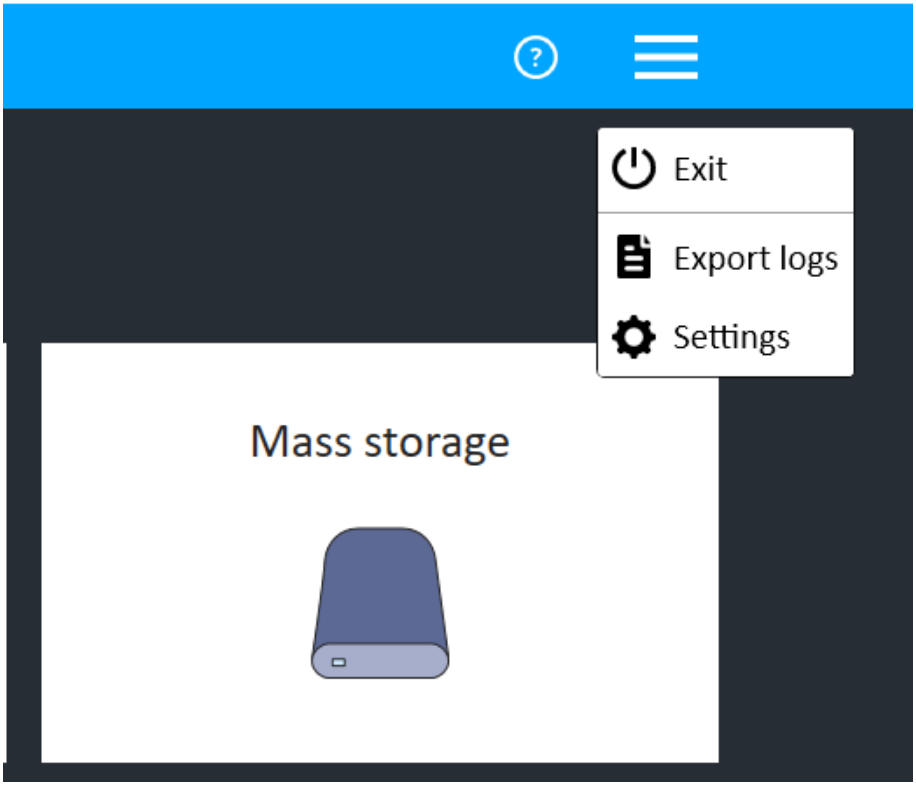
2. After choosing the Vendor, the application presents the Select Model screen where the specific model of the device is chosen.



   Having chosen the **Vendor** and the **Model**, Cellebrite UFED determines what extraction functions are available for this combination and presents those functions.

3.4.9. Application taskbar

The application taskbar is located at the top of the screen.



Application taskbar icons and descriptions

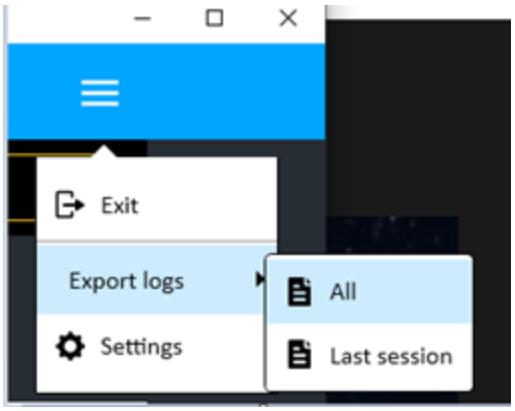
Icon	Description
	Click to select Online help or Extraction flows document.
	Click the menu icon to access the following: » Exit » Export logs » Settings

3.4.9.1. Export last session logs

Click on the options icon (hamburger) and select **Export.**

Export All: Exports logs for all sessions, including the current session.

Export last session:	Exports all logs from the last session (or the current session - whichever is latest).



3.4.10. Creating a Support ticket

UFED enables opening Support tickets directly from the application. It is not necessary to go to the Cellebrite Community site or to email / phone the Support team in order to do so.

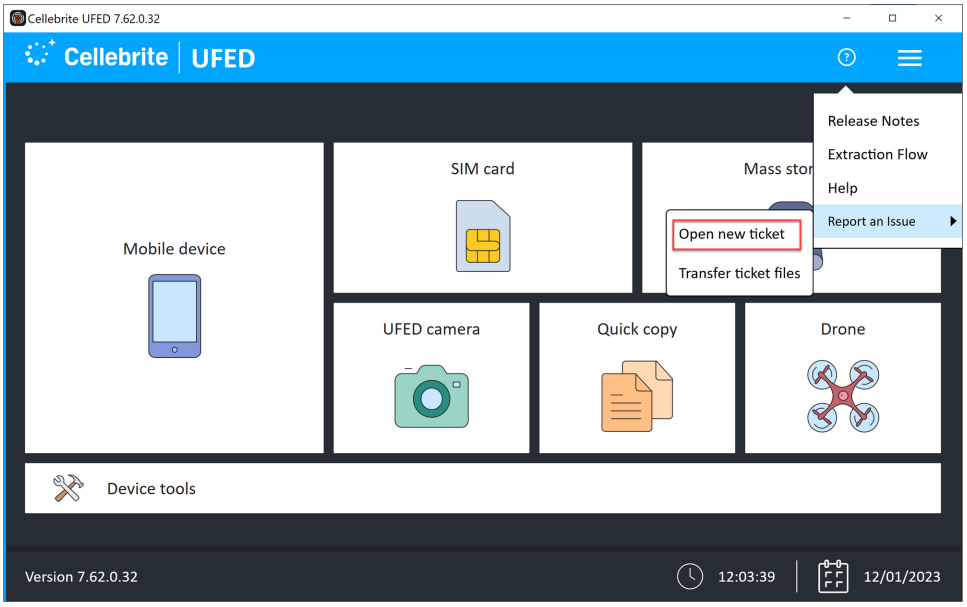
3.4.10.1. Support ticket issues

Support tickets regarding the following issues can be opened directly from the UFED interface:

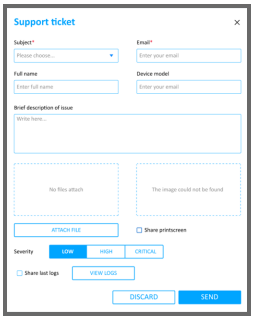
- Installation/Upgrade
- License
- Phone Support Status
- Application
- Android
- iOS
- SIM
- Mass Storage
- Drone
- Device tools
- Other

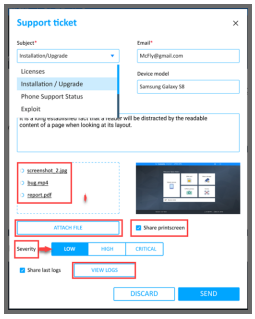
Procedure

1. From any UFED screen, click (the information icon) **? > Report and Issue > Open new ticket**.



2. The **Support ticket** screen displays.





3. In the Support ticket screen, do the following:

a. Enter your email (required field) and select the Subject (required field) from the drop down menu.

b. Enter your name and the device model.

c. Enter a brief description of the problem.

d. To share the last log files, select the option "**Share last logs**".

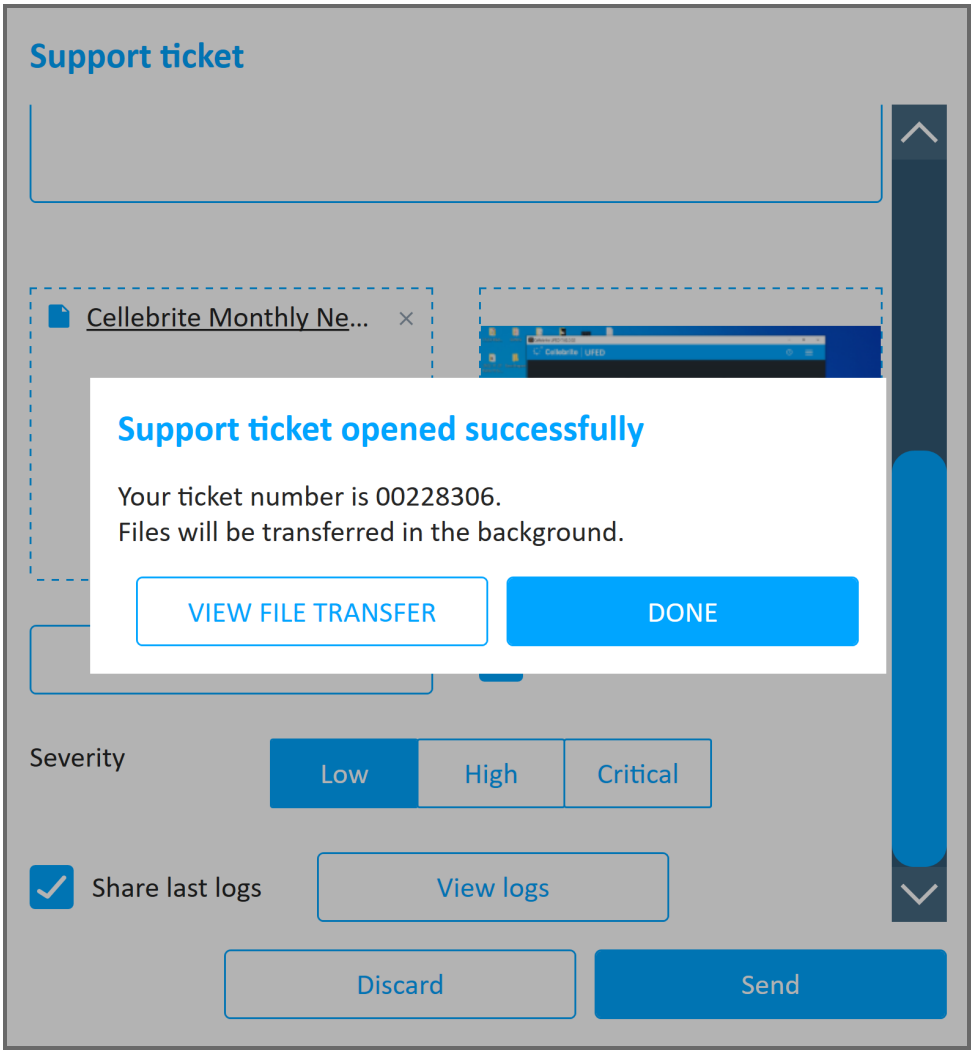
e. To select files that are relevant to the Support request, click **Attach File**. The file names of the selected files display in the small display pane.

f. To share the current screen, select the option "**Share printscreen**". The image displays in the display area above the option and to the right of the file list.

g. Select the severity of the problem (Low, High, Critical).

h. Click **SEND** to send the Support ticket to the Cellebrite Support team

A notice will be sent to the user with a message stating that a Support ticket was opened and will include the Ticket (case) number.



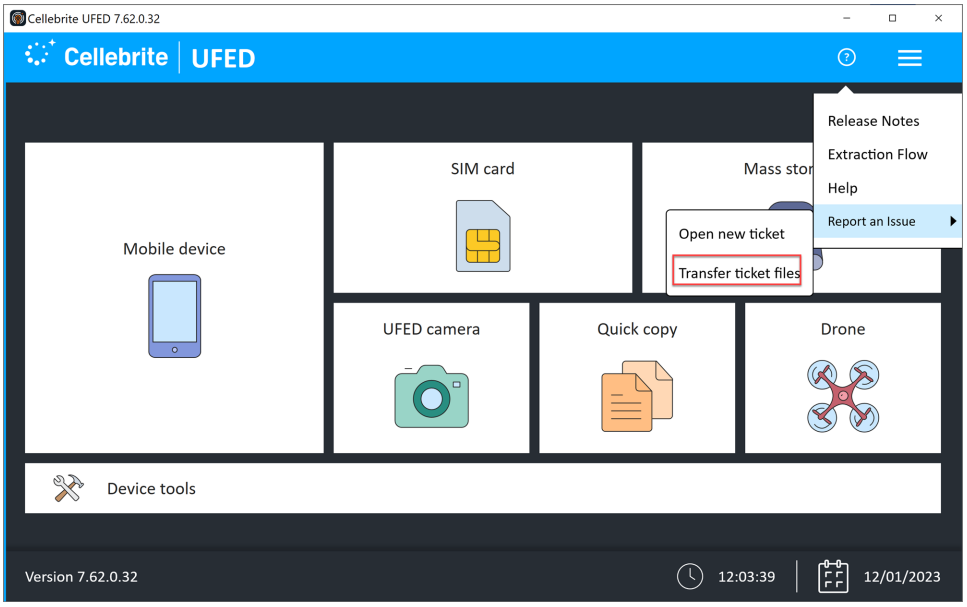
3.4.10.2. Transfer files

Frequently, transferring files that you attach to a support ticket are large and tranferring them to Cellebrite Support requires an extended period of time. Cellebrite UFED enables you to continue working while it transfers the files in the background.

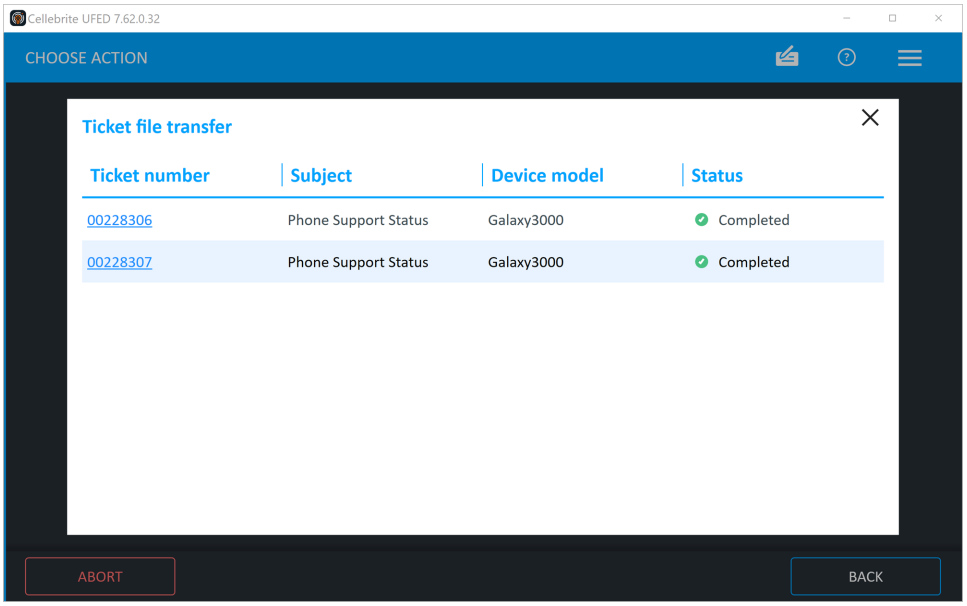
Viewing Transfer file status

To view the status of all your tickets and their associated files *after* you have created a Support ticket, do this:

1. From any UFED screen, click (the information icon) **? > Report and Issue > transfer files**.



2. The **Ticket file transfer** screen displays and shows all tickets:



3. Smart flow

Smart flow is an automated flow that shortens the time to evidence by shortening the extraction process. It is an alternative flow for performing a full file system, physical, or selective, exploit-based extraction, without the need to select a specific phone profile, extraction type, method, etc.

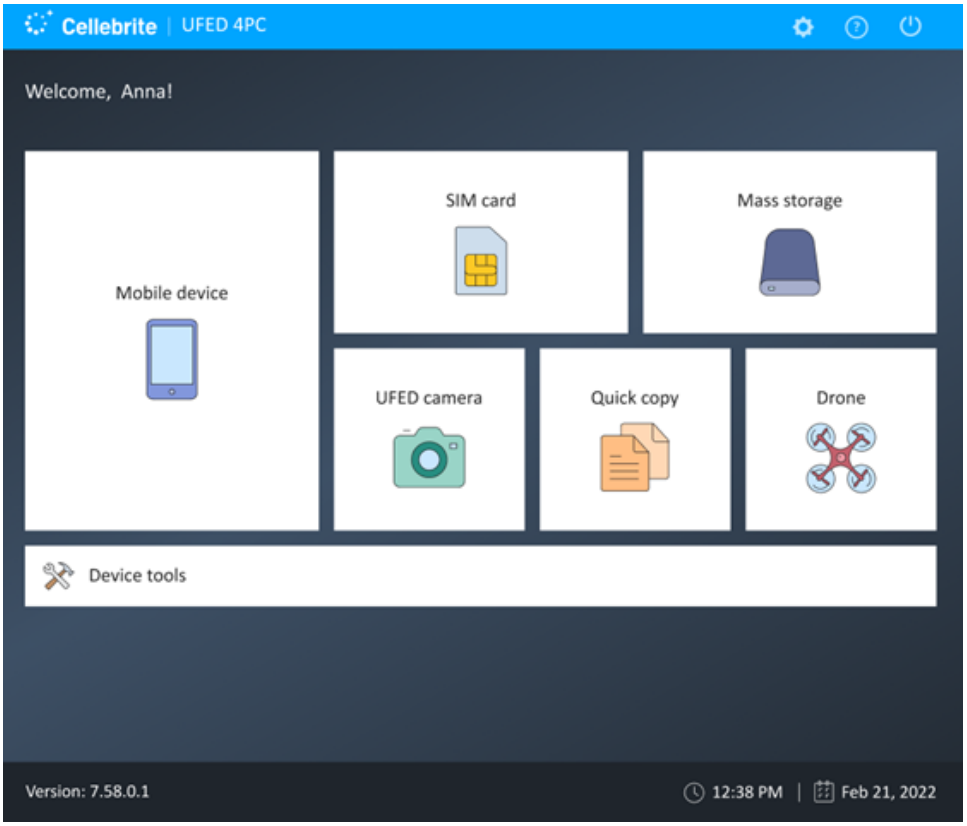
Smart flow is relevant only for:

- Unlocked Android devices (see Android extraction methods (on page 168)). Locked devices will be added in the future.
- An exploit based flow to get full file system or selective by app token extraction.

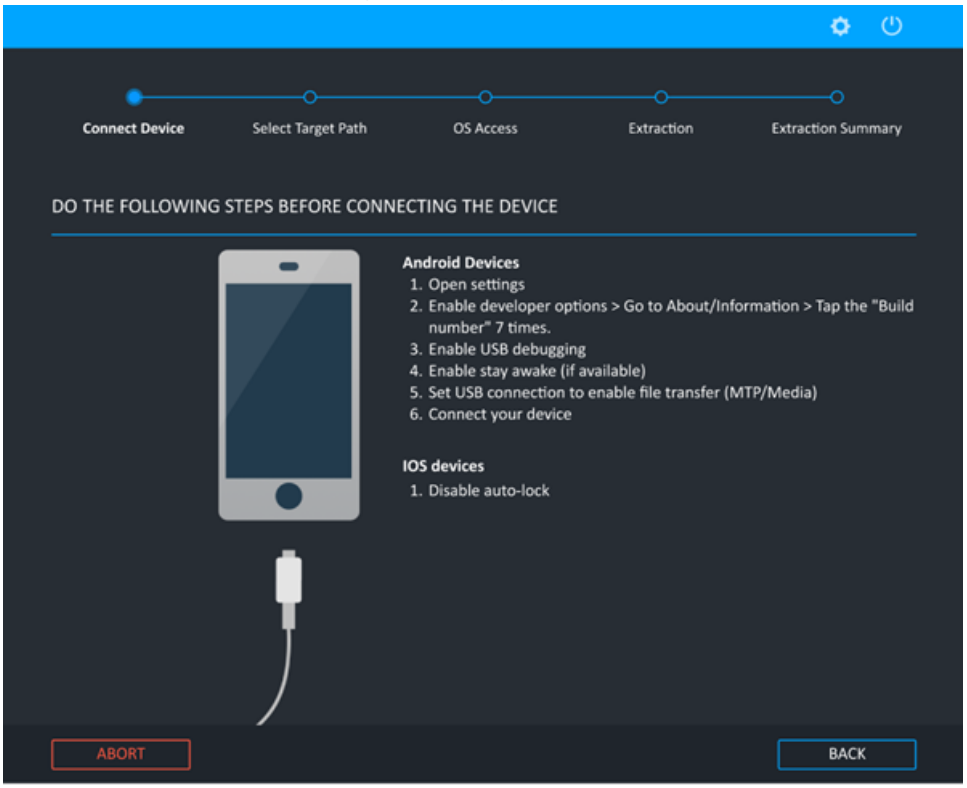
The flow is simple flow – connect the phone, start the relevant exploit based on the connected device, display device info and optional extraction types.

Smart flow automatically tries the compatible method based on the connected device. If the flow fails, it will try another method that may work.

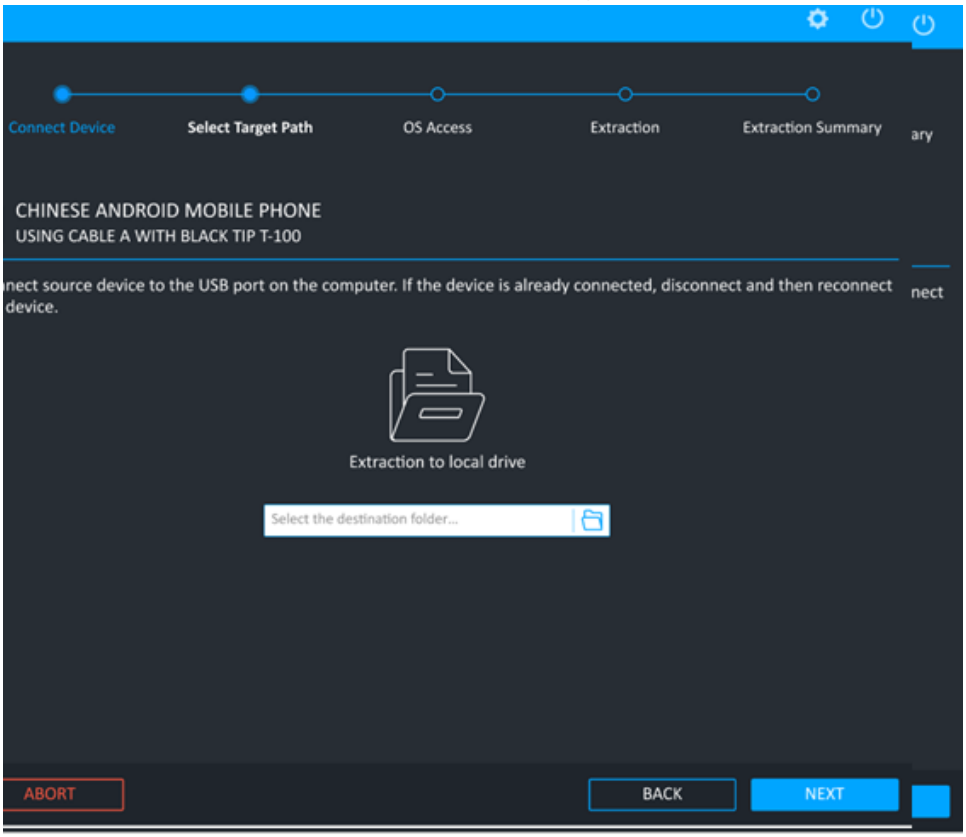
1. Open UFED



2. Select the device. The following screen displays.

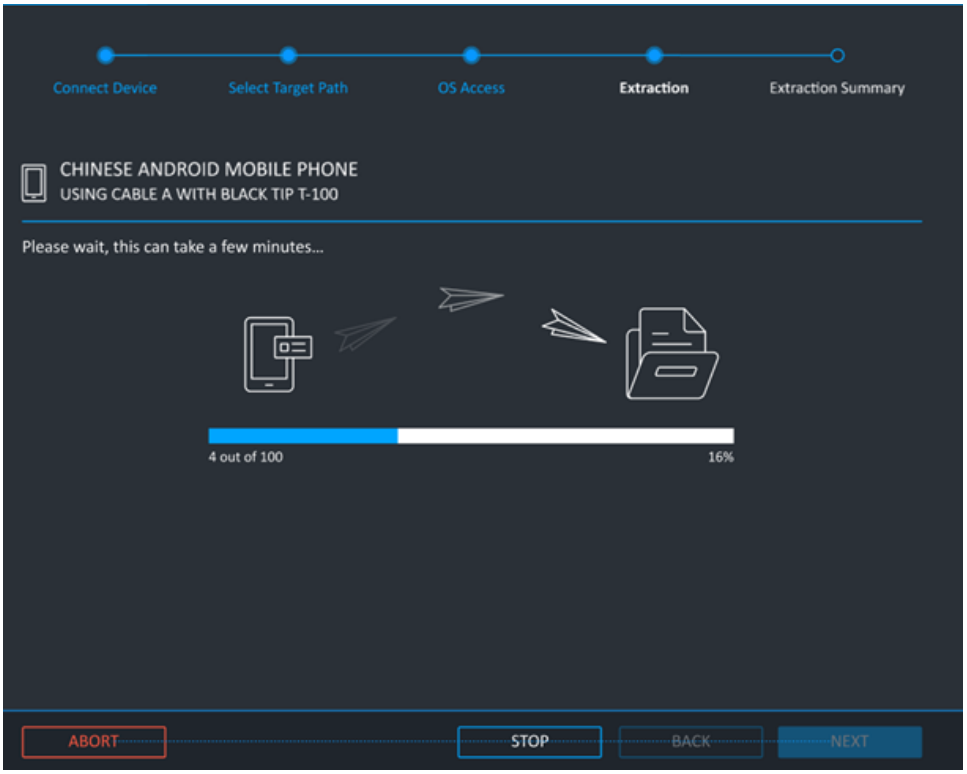


3. In "Choose action", select "Smart Flow".
4. Follow the on-screen directions before connecting the device.

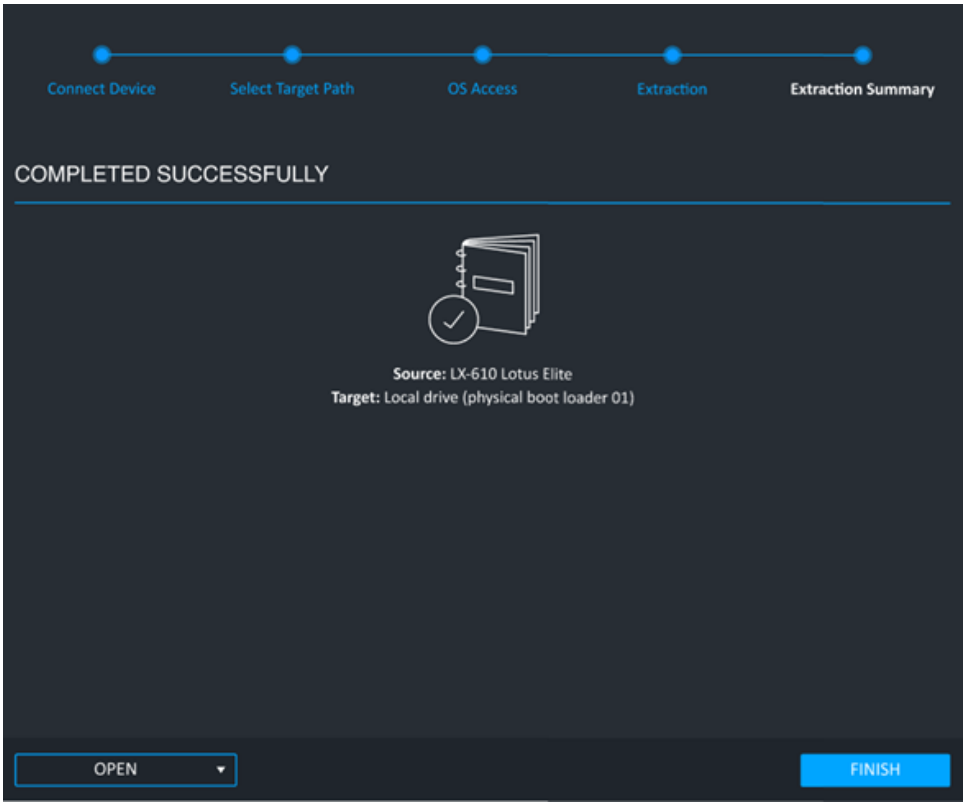


5. Connect your device using the cable appropriate to your device.
6. UFED will select and attempt the best method.
7. From the Select Extraction screen, select the items to extract under "Insights from Installed Apps" or select VIEW ALL to see all items that can be extracted (and select the items to extract).

8. The extraction will proceed.



9. The following sceen displays when the extraction completes.



10. To extract using other, specific flows, see the Extraction sections below.

3.5. Android Live consent-based collection

This Smart-flow process is a unique, new industry-leading capability that provides the widest range of coverage for unlocked Android devices. This simplified flow automatically selects the appropriate “Live” access method for unlocked Android devices (such as Qualcomm Live, Exynos Live, etc.).

There is no need to select the device profile and method. Just connect the device - the relevant access method is automatically applied.

After gaining device access, users can select one of the extraction types presented.

Universal Live Android supports the most popular SoCs in the market: Qualcomm, MTK, Kirin, Unisoc (Spreadtrum), Exynos, and newly introduced SoC, JLQ (used in Xiaomi Poco C4).

This capability adds support to a wide range of devices that were not previously supported in the current “Live” methods, with no known SPL limitation.

Some of the supported devices are:

- Samsung A12, A21, S22 Ultra (Exynos)
- All Google Pixel models (including Pixel 7 and 7 pro)
- Xiaomi Redmi 9/9A/9C, Xiaomi Redmi K50, Xiaomi Redmi Note 11T [Pro Plus]

- Oppo A15, Oppo Reno8 Pro Plus 5G, Vivo S15 PR
- Moto G Pure, OnePlus 10R 5G, Honor 70 Pro Plus

We encourage you to use Smart flow for devices that are not included in this list.

4. Password extraction

It is common to encounter a device that is password protected. Passcodes include a 4-digit PIN, a complex alphanumeric passcode, or a pattern lock. UFED can identify and bypass some passcodes depending on the make and model of the device. To find out if the passcode can be identified or bypassed, refer to the UFED Supported Devices file.

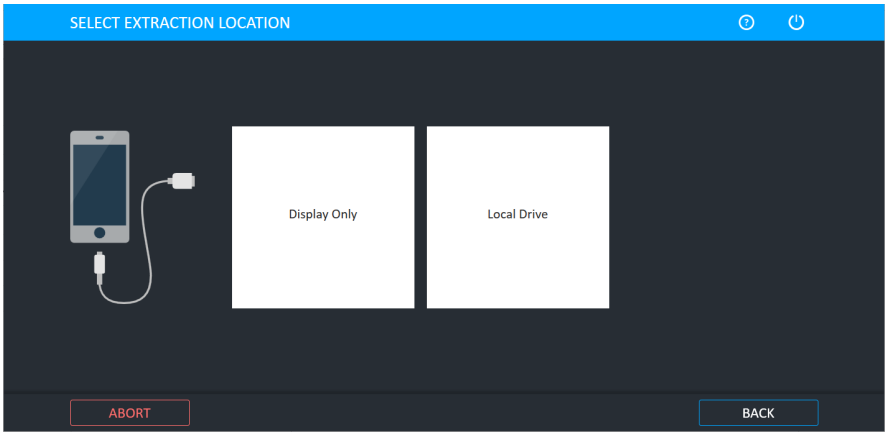
4.1. Extracting the user lock

Extract the password, or user code or PIN, locking the device. The extracted password can be displayed on the screen or written to a USB flash drive or PC for archiving. The ability to extract passwords depends on the device's make and model, the type of passwords enabled on the device, and the password's length.

To extract a user lock on a mobile device:

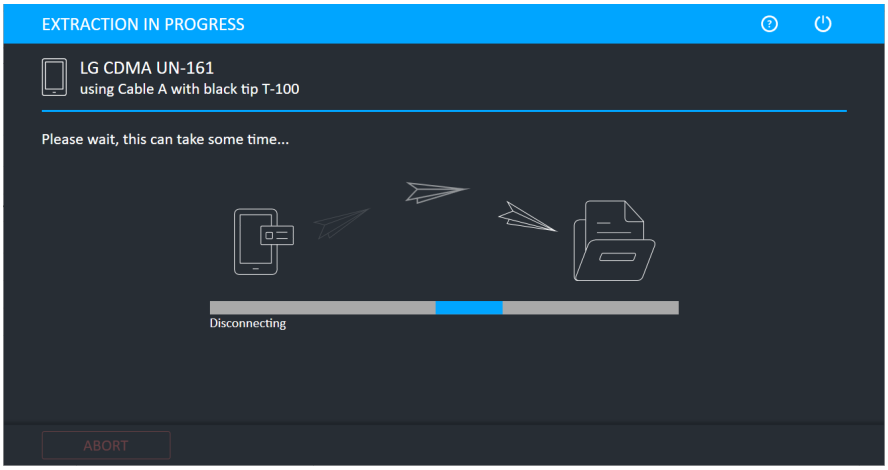
1. Click **Mobile device** and identify the device, then click **Extract User Lock**.

   The Select Extraction Location screen appears.

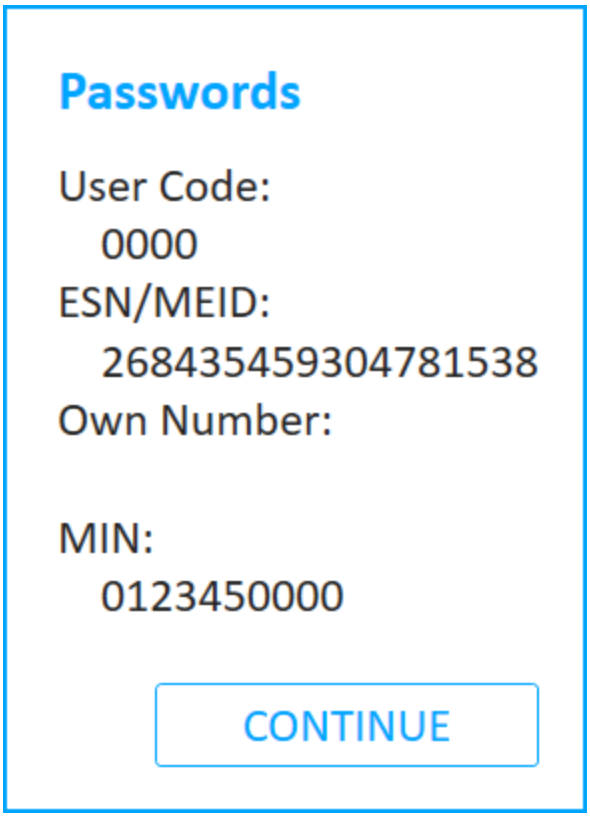


2. Select **Display Only** or **Local Drive**.
3. Connect the source device to the USB port, or via the UFED Device Adapter.
4. Click **Continue**.

   The Extraction in Progress screen appears.

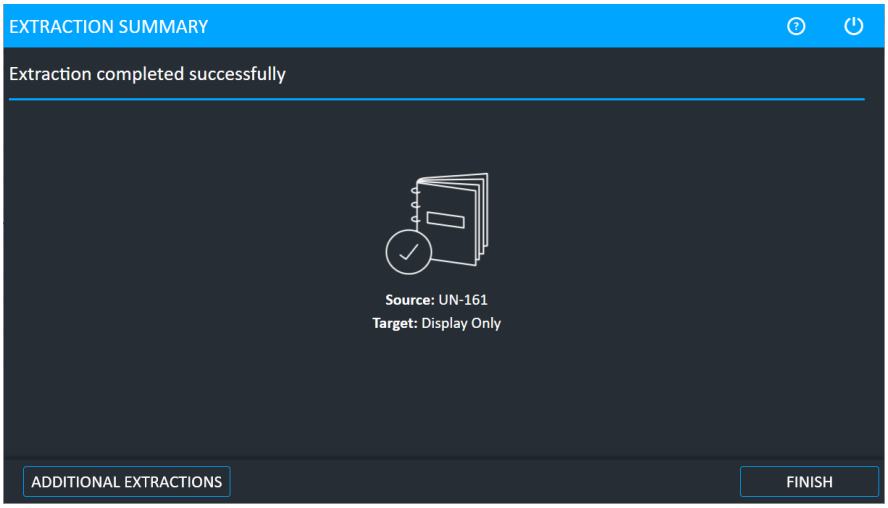


At the end of the extraction process, the extracted passwords are displayed in the **Passwords** screen.



5. Click **Continue** to display a summary of the passwords extraction process.

   The following screen appears.



6. Click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

4.1.1. The extracted passwords folder

At the end of the passwords extraction process, the extracted passwords are saved to a text file named Passwords.txt at the location you selected during the data extraction process.

The text file is located inside a folder named **Password** with the name of the selected device name and the extraction date. For example, **Passwords Iden i9 2011_06_11 (001)**

4.2. Disabling or re-enabling the user lock

You can disable and re-enable the user lock on a device:

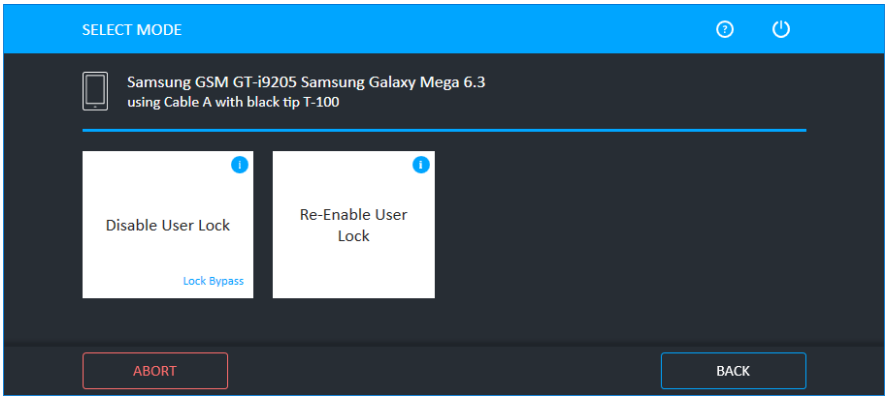
- **Disable the user lock**: Disable the user lock (or password), which means that the device is no longer locked. Each device model has a slightly different process, depending on the device lock combination and how the model connects to UFED. When more than one method is available for the device, we recommend that you try both methods if one method is not successful. If you disable the user lock more than once, you cannot re-enable the original user lock. For a complete list of supported devices, refer to UFED Phone Detective or the UFED Supported Devices document in MyCellebrite.
- **Re-enable the user lock**: Re-enable the user lock on a device, after it was disabled by UFED. This enables you to return a device to its original state.

To re-enable the original user lock on the device, use the Re-Enable User Lock method and do not create a new user lock manually. If you create a new user lock, you cannot re-enable the original user lock.

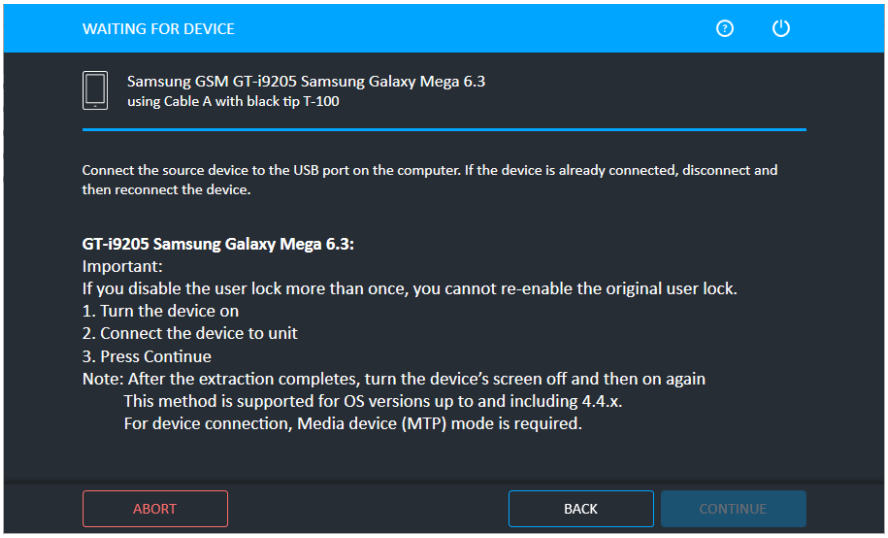
UFED now provides a notification if advanced forensic capabilities are available via Cellebrite Advanced Services for a growing range of supported Android and iOS devices. To learn more refer to: https://www.cellebritAxon Evidence/en/services/advanced-unlocking-services/

To disable (or re-enable) the user lock on the device:

1. Click **Mobile device** and identify the device, then click **Disable/Re-enable User Lock**. The following window appears.



2. Click **Disable User Lock** to remove the user lock from the device, or click **Re-Enable User Lock** to re-enable the user lock on the device. The Waiting for Device screen appears.



3. Follow the instructions for the device and then click **Continue**.

> If the device does not unlock, click **Abort**, and repeat the procedure. Make sure you are using the correct USB cable.

The Extraction completed successfully screen appears.

4. Click **Finish**.

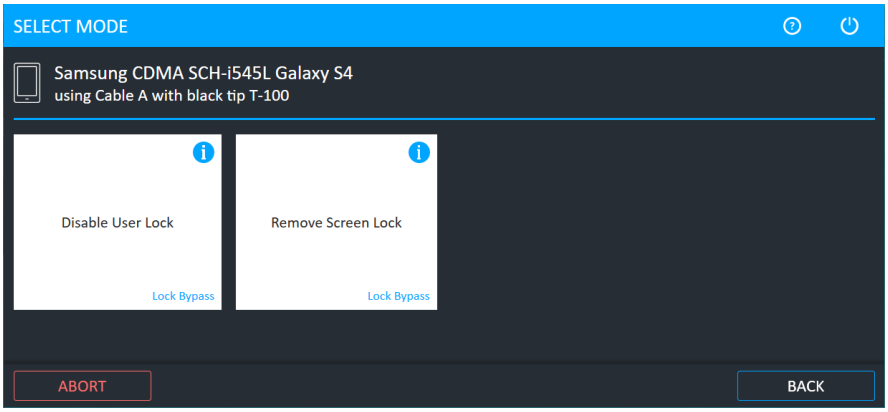
4.3. Removing the screen lock

The Remove screen lock method disables the user lock from a wide range of Samsung Android devices for example Galaxy S7, S7 Edge, J7, J5, A7, and A5. This method works on both Qualcomm and Exynos-based devices.

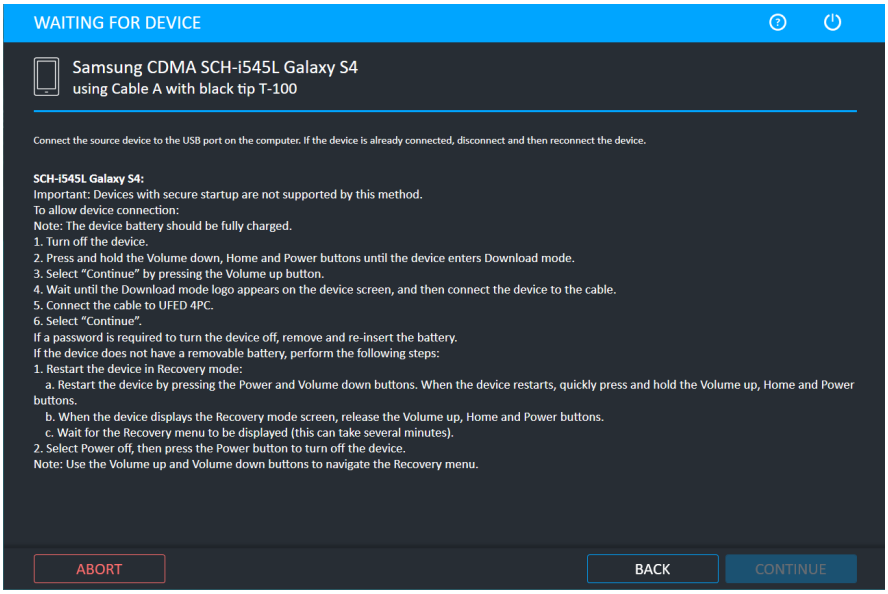
UFED cannot re-enable the screen lock after running the process.

To remove the screen lock from a device:

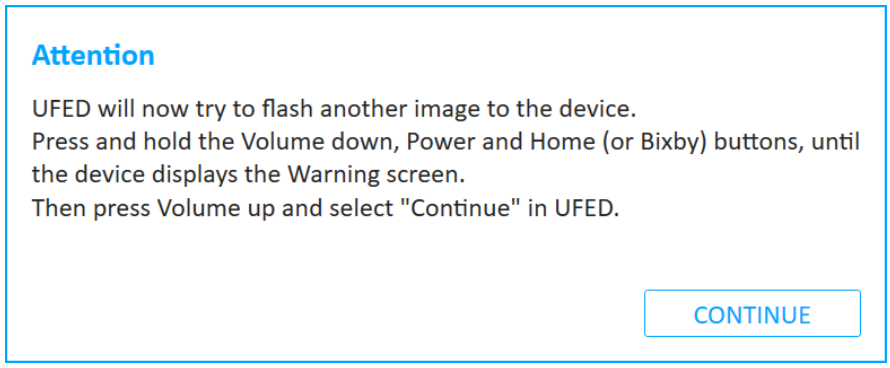
1. Click **Mobile device** and identify the device, then click **Disable/Re-enable User Lock**. The following window appears.



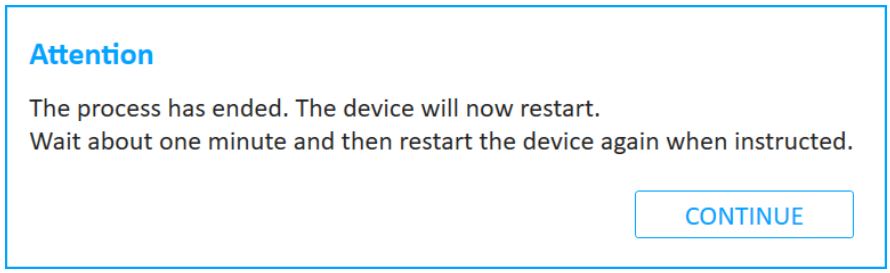
2. Click **Remove Screen Lock** to remove the screen lock from the device. The Waiting for Device window appears.



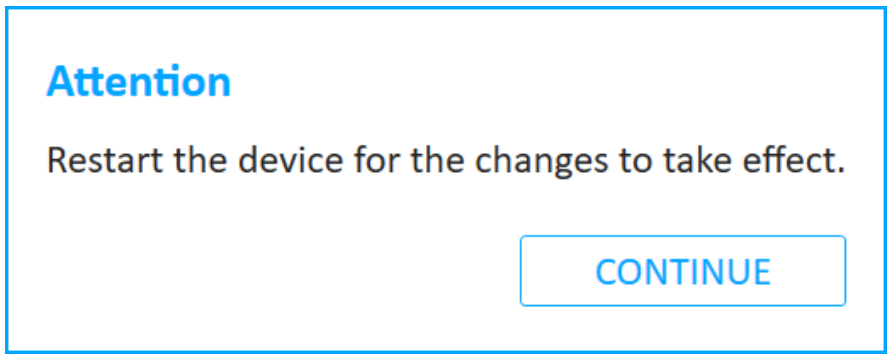
3. Follow the instructions to place the device in Download mode, then click **Continue**. The following window appears.



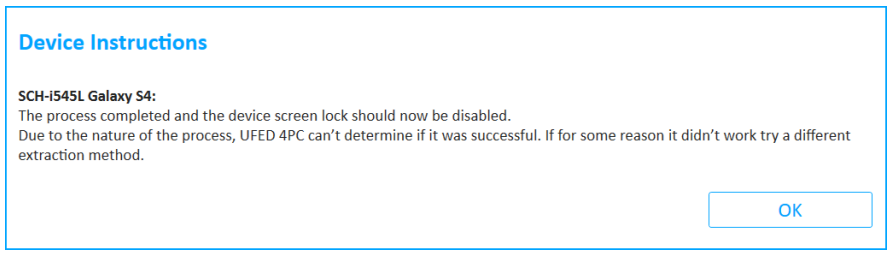
4. UFED now tries to flash another image to the device. Follow the on-screen instructions until the device the device displays the Warning screen and Download mode again. Then click **Continue** in UFED. The following window appears.



5. Click **Continue**, then wait about one minute and restart the device again when instructed. The following window appears.

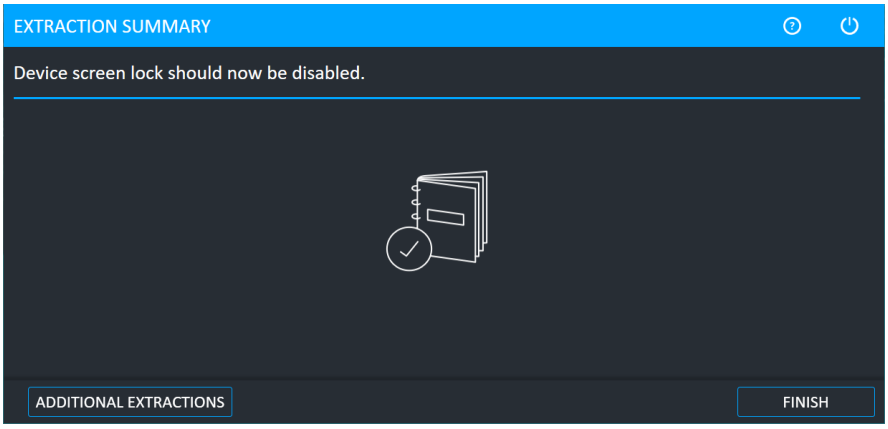


6. Restart the device for the changes to take effect and then click **Continue**. The following window appears.



The process completed successfully, but it may not work on all devices. If the process did not work, try a different method.

7. Click OK. The following window appears.



8. Click **Finish**.

5. Logical extraction

The Logical Extraction function enables you to extract various types of data, such as call logs, phonebook records, SMS text messages, calendar events, and multimedia files (images, videos, etc.). Save the extracted data from the source device to your PC or to a removable storage device, as desired. In most cases, a logical extraction is not possible for locked devices.

A logical extraction can also be used to extract data from many Android, BlackBerry, iOS, and Windows Phone apps. For an updated list of supported apps and versions for each platform go to **Help** > **Supported Apps** in Physical Analyzer or Logical Analyzer. Data extracted from these apps can be analyzed using Physical Analyzer or Logical Analyzer (although the data is not included in UFED HTML and XML reports).

The available types of extracted data may vary depending on the source device manufacturer and model. The supported data types are listed in the UFED Phone Detective or within the UFED Supported Devices.

5.1. Advanced logical Android extraction

The following procedure explains the Advanced logical extraction process for an example device. The procedure may vary depending on the selected device. This section shows only one of the many extraction types that can be performed.

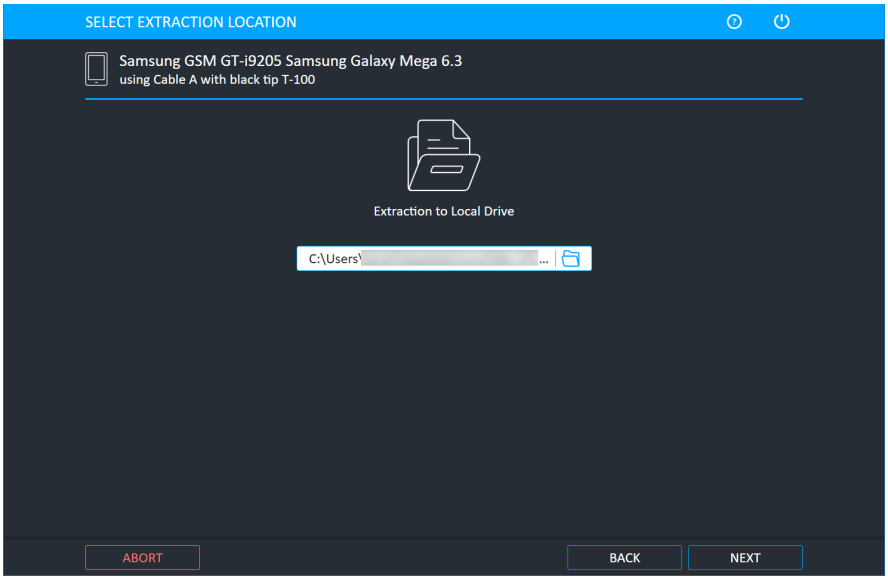
To perform an Advanced logical extraction from a mobile device:

1. Click **Mobile device** and identify the device, then click **Advanced Logical**.

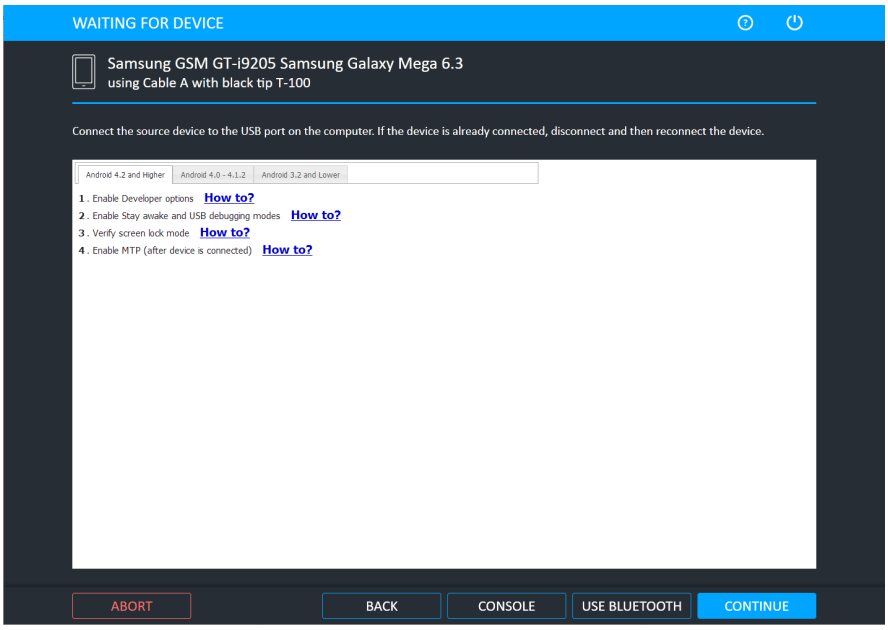
   

   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The Select Extraction Location window appears.



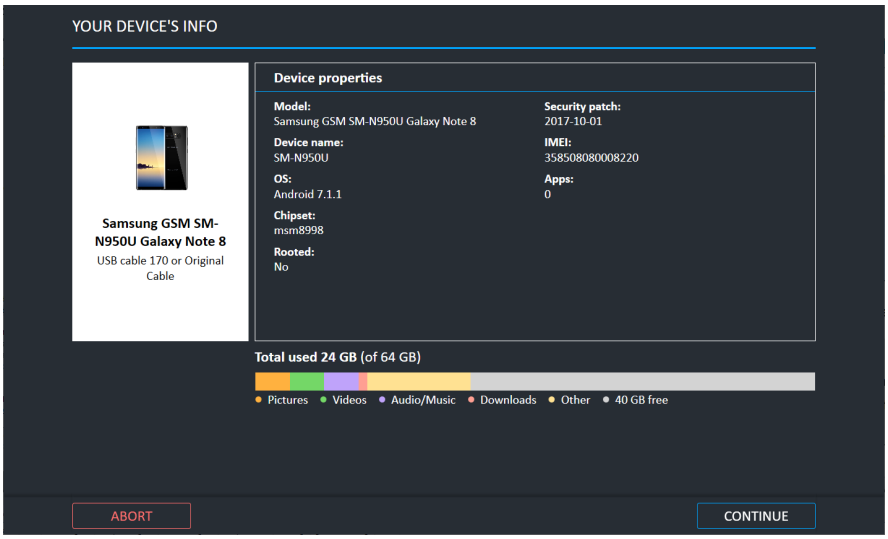
2. Use the current location or click the folder icon to change the target path and select a different location and then click **Next**. The Waiting for Device window appears.



Click the **Console** button to access device information using the Android Debug Console. For more information, refer to the *Performing extractions* manual.

3. Select the correct cable and tip for the mobile device, and change the device settings according to the instructions.
4. Connect the source device to the USB port on the computer. If the device is already connected, disconnect and then reconnect the device.

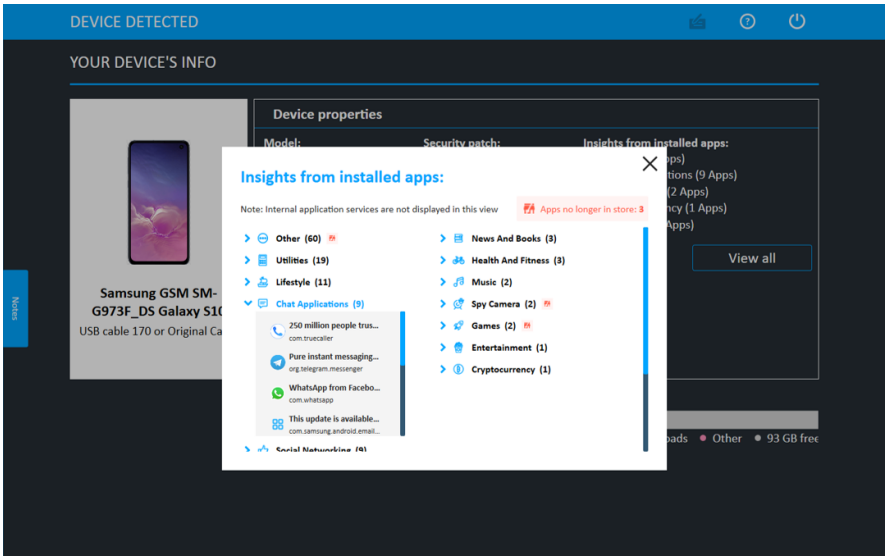
5. Click **Continue**. The following window appears if **Enable device preview info screen** is enabled under General settings.



This window provides information about the device data before performing an Android extraction. It includes device properties such as model, device name, operating system, chipset, whether the device is rooted, date security patch installed, IMEA, the number of installed apps, and insights from installed apps.

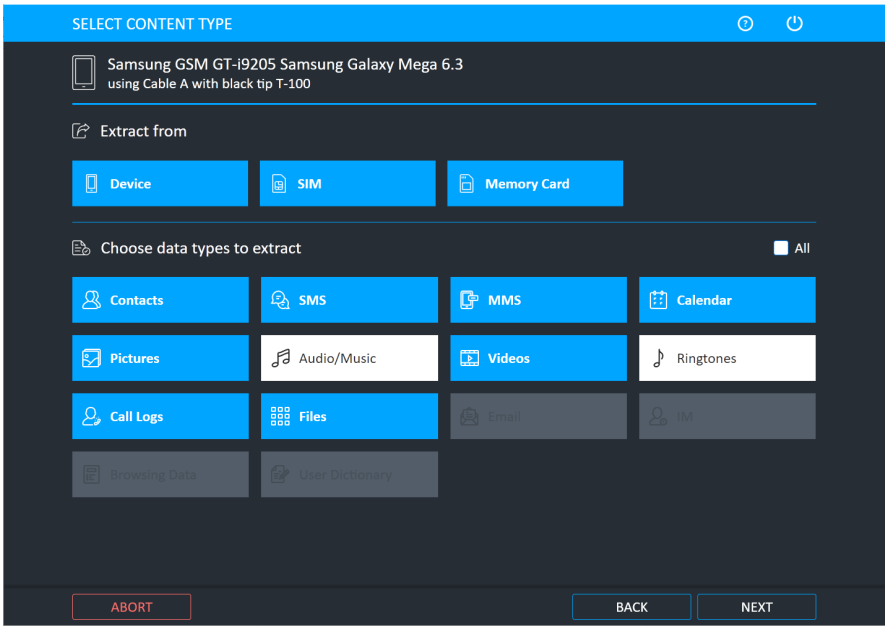
Insights from installed apps allows the user to get a peek into the types of apps installed on the device before the extraction. This areas displays app categories and the number of apps in each. Click View all to view all app insights by category.

To update the app categorization database, go to **System settings**.



On many devices, but not all, it also includes information about storage volume, data types, volume of storage per data type, and free data.

6. Click **Continue**. The following window appears.

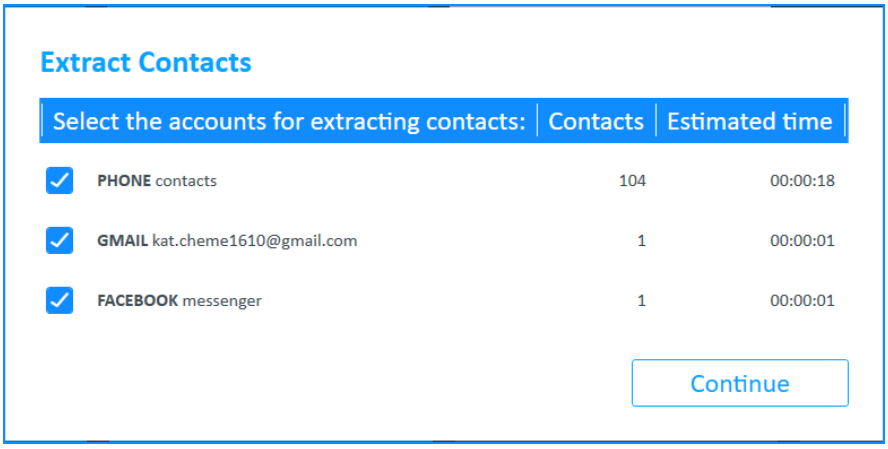


7. Data can be extracted from the Device, SIM and Memory Card of the device. Select from which memory you want to extract.

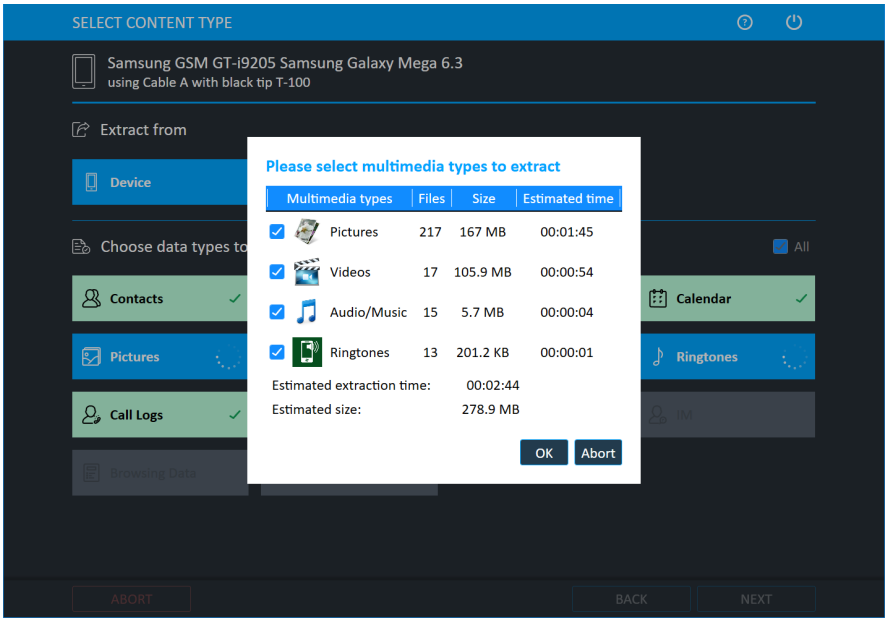
8. Different data types can be extracted. Select which data types you want to extract. In the example above, music and ringtones are excluded and are not extracted.

> When Files is selected, UFED performs ADB backup to enable user data to be extracted.

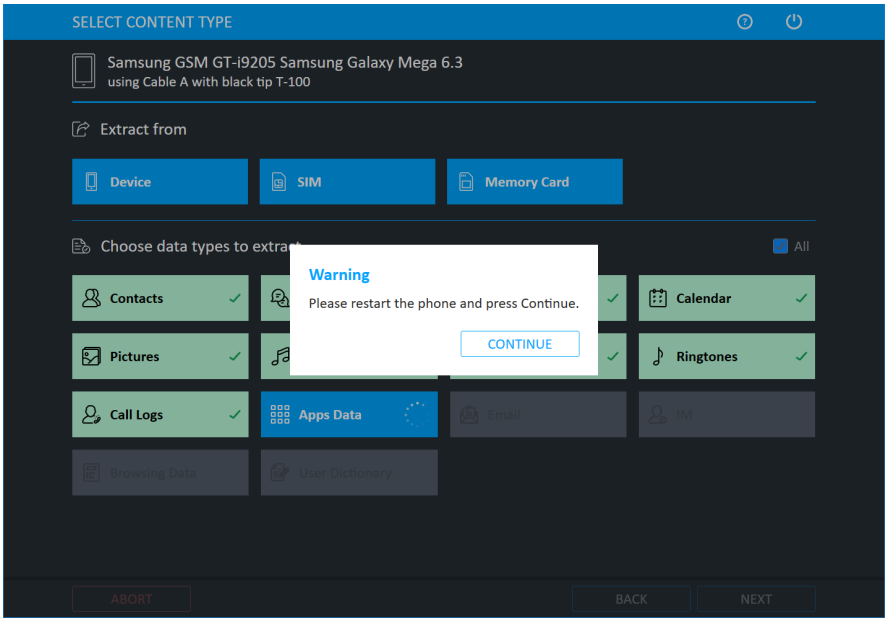
9. Click **Next**. The following window appears.



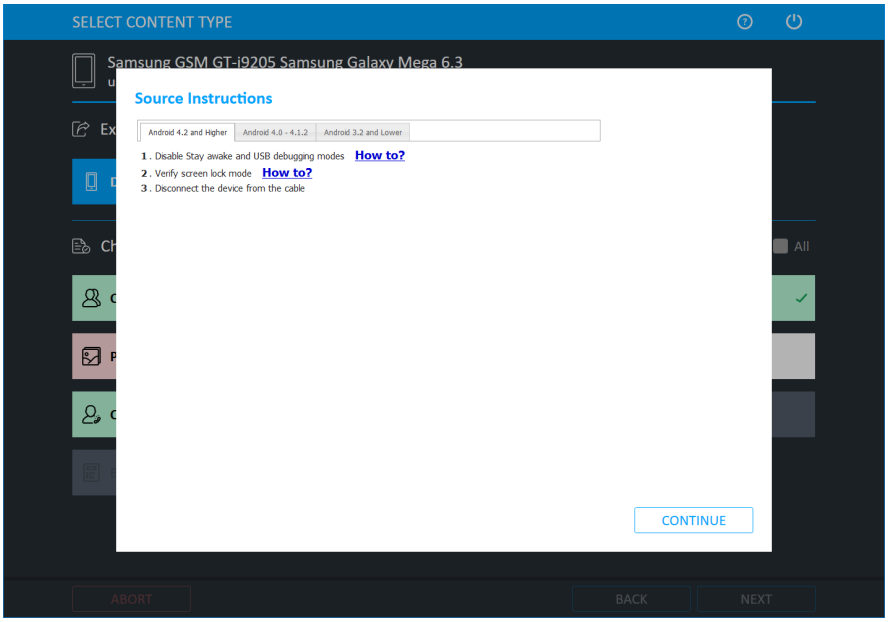
10. Select the required contacts to extract and click **Continue**. The extraction process starts.



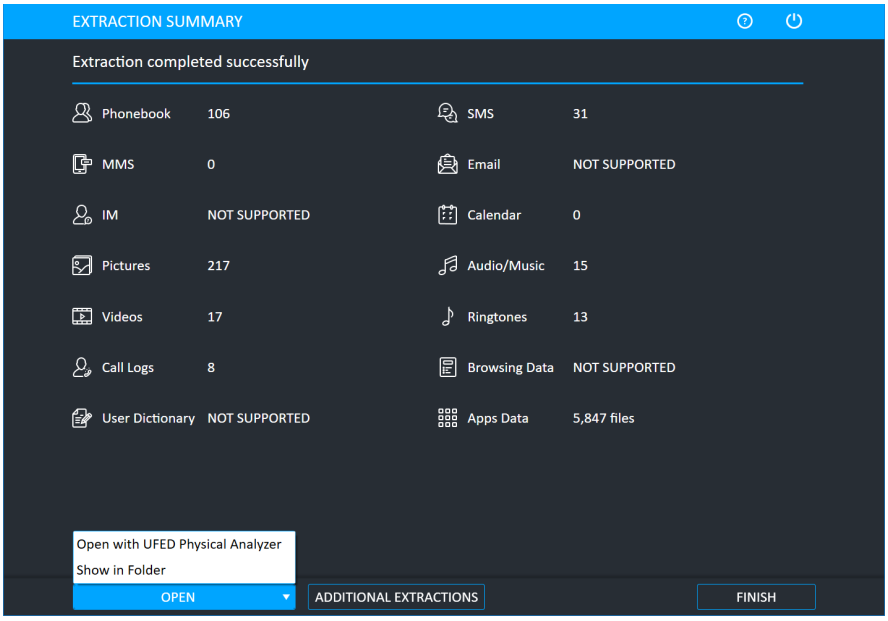
11. Click **OK**. The following window appears.



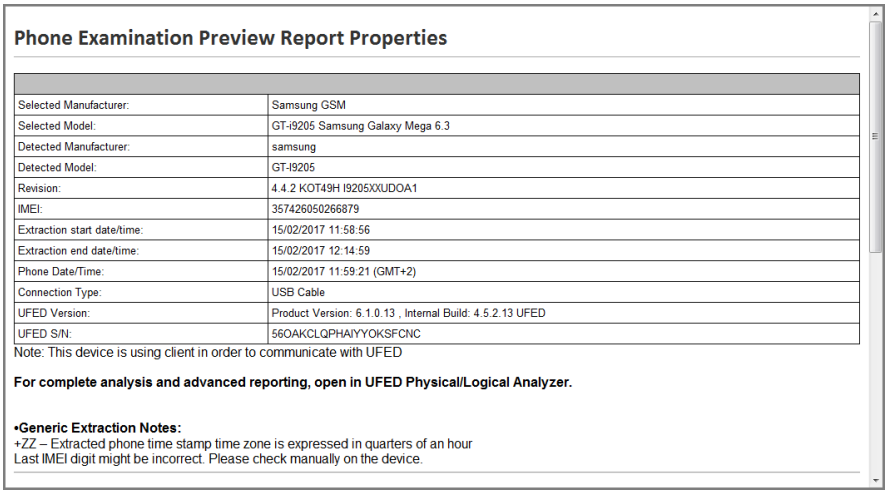
12. If required, restart the device then tap **Continue**. When the extraction is complete and if required, the Source Instructions window appears (this depends on the device model). The following window appears.



13. Follow the instructions to return the mobile device settings to the original settings, and then click **Continue**.



14. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.



Phone Examination Preview Report Properties

Selected Manufacturer:	Samsung GSM
Selected Model:	GT-i9205 Samsung Galaxy Mega 6.3
Detected Manufacturer:	samsung
Detected Model:	GT-I9205
Revision:	4.4.2 KOT49H I9205XXUDOA1
IMEI:	357426050266879
Extraction start date/time:	15/02/2017 11:58:56
Extraction end date/time:	15/02/2017 12:14:59
Phone Date/Time:	15/02/2017 11:59:21 (GMT+2)
Connection Type:	USB Cable
UFED Version:	Product Version: 6.1.0.13 , Internal Build: 4.5.2.13 UFED
UFED S/N:	56OAKCLQPHAIYYOKSFCNC

Note: This device is using client in order to communicate with UFED

For complete analysis and advanced reporting, open in UFED Physical/Logical Analyzer.

•Generic Extraction Notes:
+ZZ – Extracted phone time stamp time zone is expressed in quarters of an hour
Last IMEI digit might be incorrect. Please check manually on the device.

5.1.1. The extracted data folder

At the end of the data extraction process, the extracted data is saved in the location you selected.

The extracted data folder is named **UFED** with the selected device name, the IMEI / MEID information. and the extraction date. For example, **UFED Samsung GSM GT-i9205 Samsung Galaxy Mega 6.3 2014_11_10 (0001)**

The extracted data folder contains:

- Multimedia files folders named Audio, Images, Ringtones, and Video folders, containing each of the respective type of media files.
- Phone extraction report files in HTML and XML formats. (One HTML report per content type)
- UFD file.

The XML file can be viewed by both Logical Analyzer and Physical Analyzer.

5.2. Advanced logical iOS extraction

The Advanced logical extraction uses other extraction protocols and can potentially extract additional data compared to the standard logical extraction.

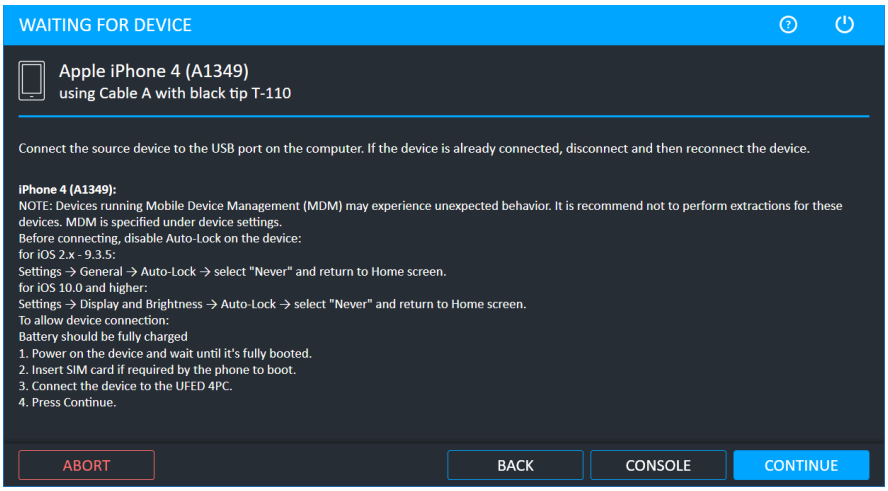
Advanced logical extractions can be used to extract data from Android or iOS operating systems. The following example shows an Advanced logical iOS extraction.

To perform an advanced logical iOS extraction:

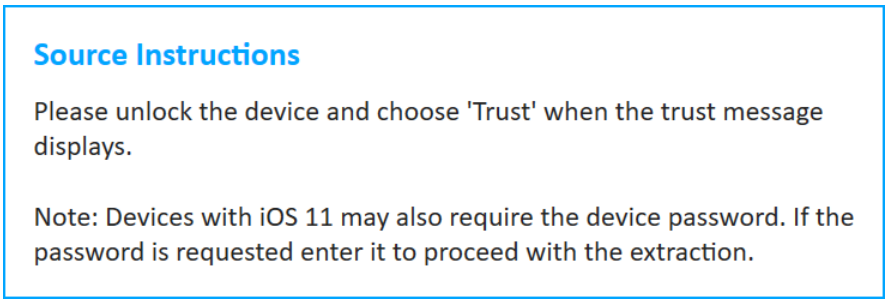
1. Click **Mobile device** and identify the device.
2. Click **Advanced Logical**.

   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

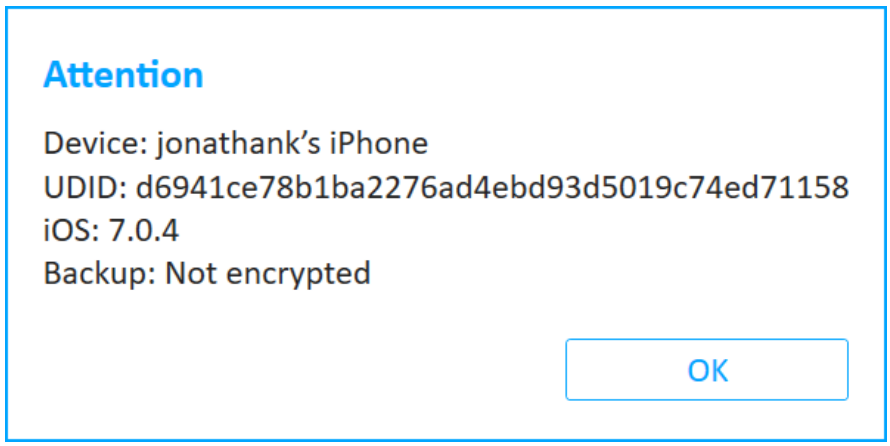
   The following window appears.



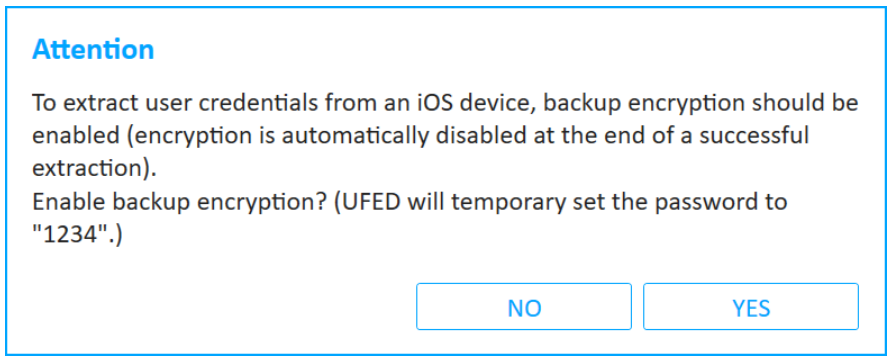
3. Connect the source device to the USB port using the specified cable. If the device is already connected, disconnect and then reconnect the device.
4. Click **Continue**. The following window appears.



5. Unlock the device and select **Trust** on the device. The following window appears.



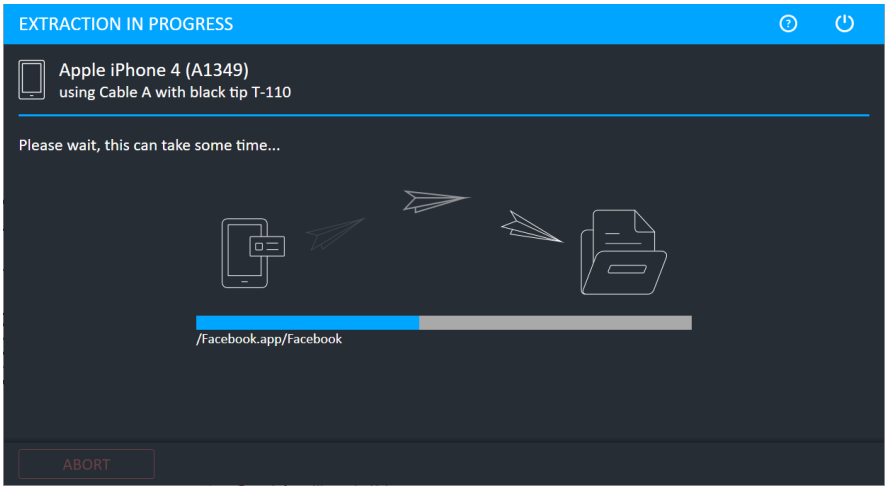
6. This window displays the device name, UDID, iOS version, and whether the backup is encrypted. Click OK. If the iTunes backup is not encrypted, the following message about data encryption appears. If the iTunes backup is encrypted, see Encrypted iTunes backup (on page 92).



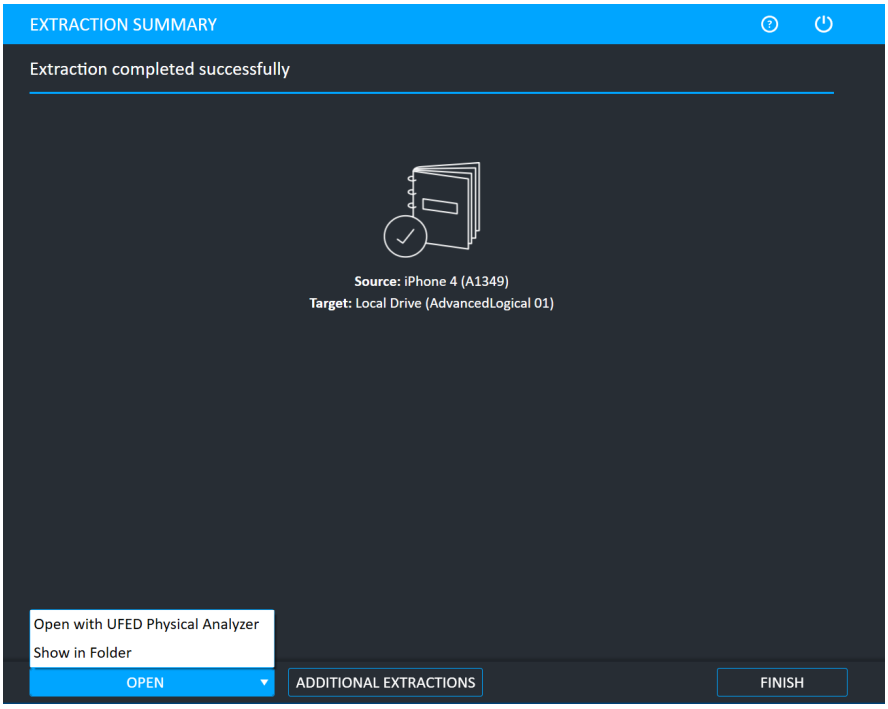
7. In the Attention window click **Yes** to enable backup encryption with the ability to extract additional information from the device, or click **No** if you do not require the additional information. The following window appears.

You can encrypt the iOS file. This additional layer of security allows iOS to include more sensitive information not found on a standard iCloud or iTunes backup file, including login details for apps and email accounts and other services that may be in use. You can extract an iOS keychain (user credentials) using this extraction method. At the end of the extraction, the encryption is automatically reset. You can view the user credentials under the Passwords tree item in Physical Analyzer.

If the extraction was stopped and the device remains encrypted, see Disable iTunes encryption password (on page 200).



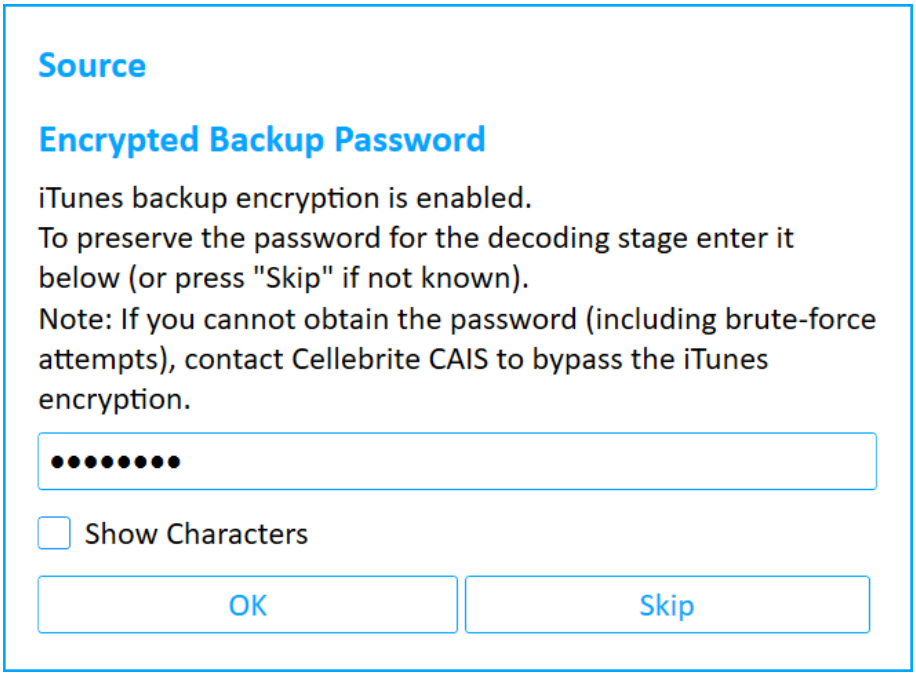
After the extraction completes, the Extraction completed window appears.



8. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

5.2.1. Encrypted iTunes backup

During Advanced Logical Extraction, if iTunes backup encryption is already enabled, then the following window appears.



If you know the iTunes backup password:

1. Enter the password so that it is not required during the decoding stage (in Physical Analyzer).
2. Click OK and follow the on-screen instructions to complete the extraction.

If you do not know the iTunes backup password:

» Click **Skip** and follow the on-screen instructions to complete the extraction.

The password is required during the decoding stage (in Physical Analyzer).

If you have exhausted all options to obtain the password (including the bruteforce option), Cellebrite Services can provide a full file system extraction that bypasses the iTunes encryption.

5.3. Logical (Partial)

This is a quick extraction method that supports the largest number of devices. You can extract Call logs, Phone books, SMSs, Calendar events, Multimedia files, and file data. The available types of data may

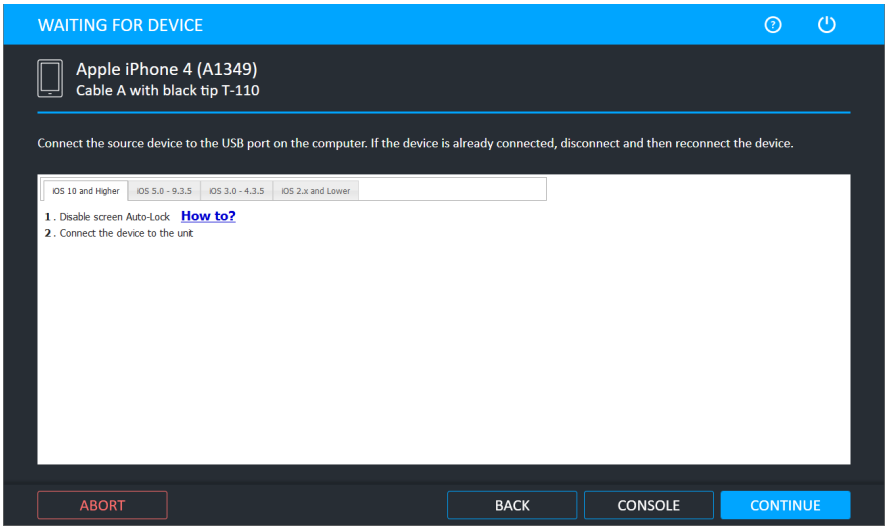
vary depending on the source device's make and model. In most cases, a logical extraction is not possible for locked devices.

To perform Logical (Partial) extraction:

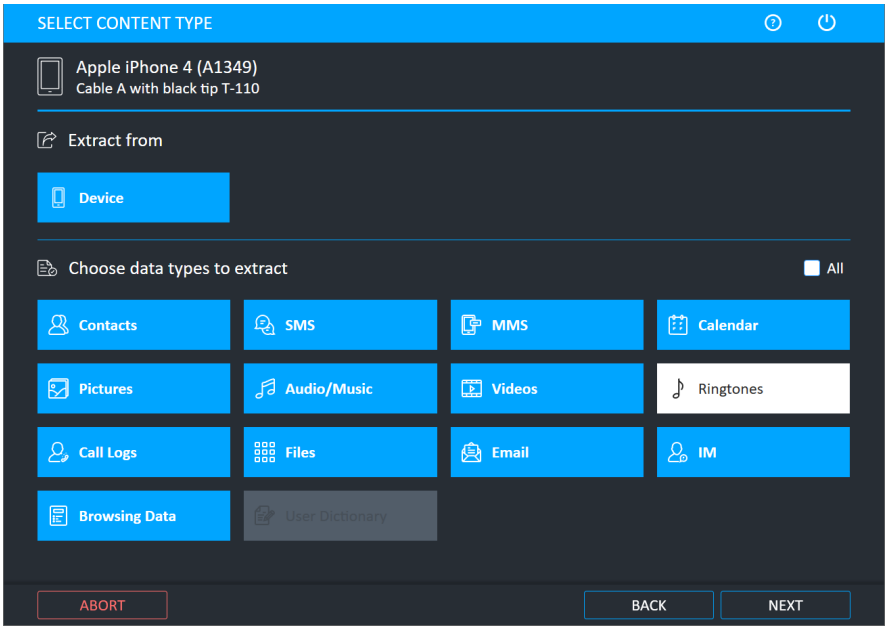
1. Click **Mobile device** and identify the device.
2. Click **Logical (Partial)** and then select where you want to save the extraction.

   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The Select Extraction Location window appears.
3. Use the current location or click the folder icon to change the target path and select a different location and then click **Next**. The Waiting for Device window appears.



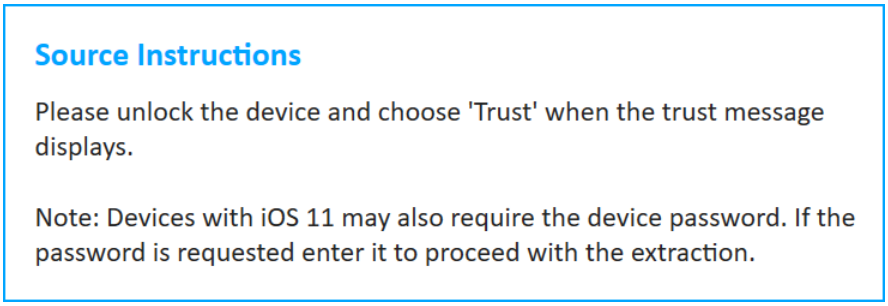
   The Console button is only supported on Android devices.
4. Select the correct cable and tip for the mobile device, and change the device settings according to the instructions.
5. Connect the source device to a USB port. If the device is already connected, disconnect and then reconnect the device.
6. Click **Continue**. The following window appears.



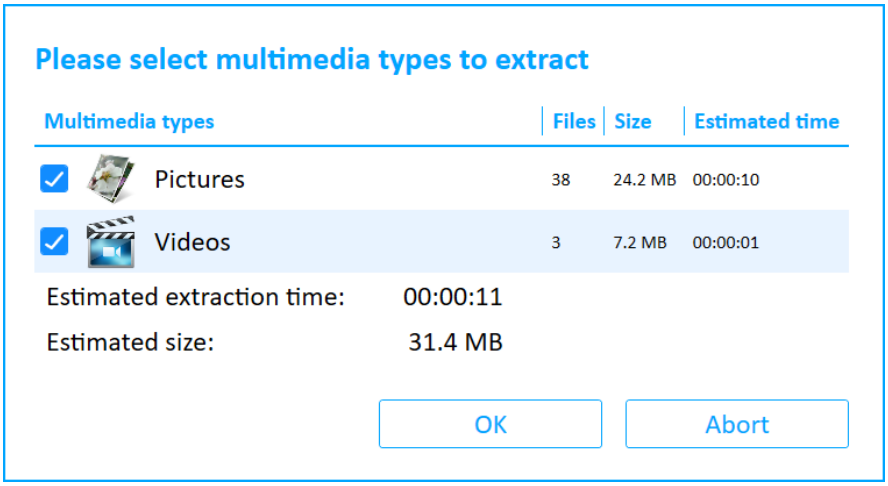
7. Different data types can be extracted. Select which data types you want to extract. In the example above Ringtones are excluded and are not extracted.

> When the **Files** button is selected, UFED performs an iTunes backup to extract user data.

8. Click **Next**. The following window appears.

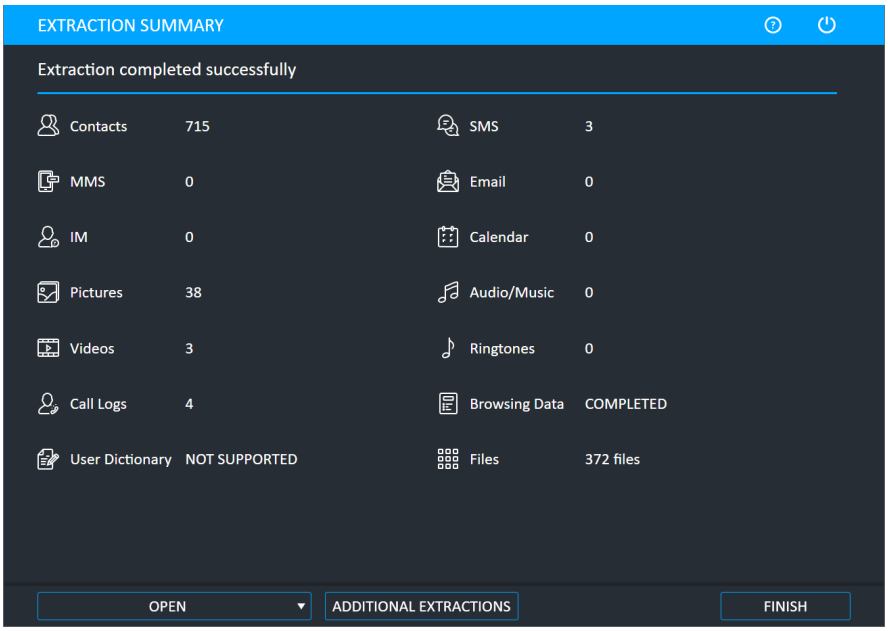


9. Unlock the device and select **Trust** on the source device.



10. Select the multimedia types required and then click OK.

    After the extraction completes, the Extraction completed window appears.



11. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

5.4. Logical extraction via Bluetooth

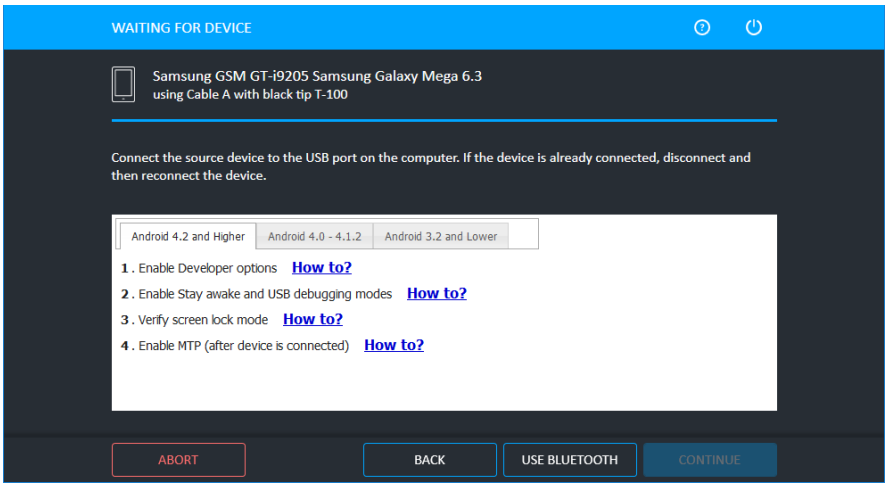
This extraction method can be used to perform logical extraction via Bluetooth from any Android device. To use this extraction method, you must load a client onto the source device over the Bluetooth connection. When extracting data from a device via a Bluetooth connection, some content types (e.g., apps data, pictures, audio and music, video, and ringtones) and memory types (e.g., memory card or SIM card) are not supported. To extract multimedia content via Bluetooth, go to **Smart Phones/PDAs** > **Android Bluetooth > Logical Extraction** > **Logical (Only Multimedia)**. Note that this method takes much longer.

Previously, the logical extraction via Bluetooth method was only available via the generic profile.

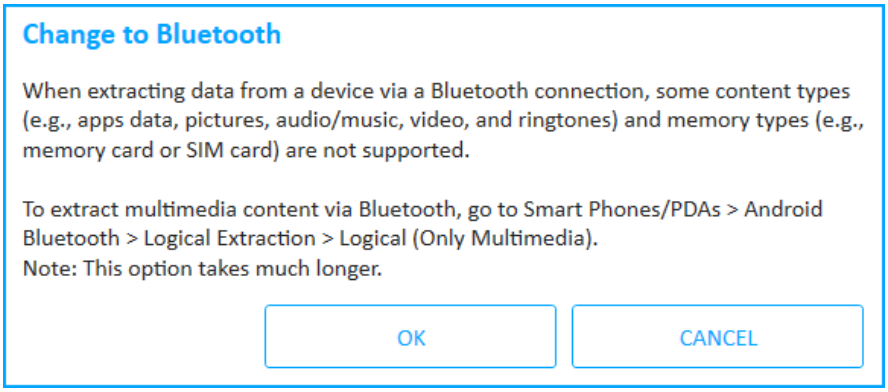
To perform a logical extraction via Bluetooth:

1. Click **Mobile device**, identify the device, select the extraction location, and then click **Logical**.

2. Select the extraction location. The following window appears.



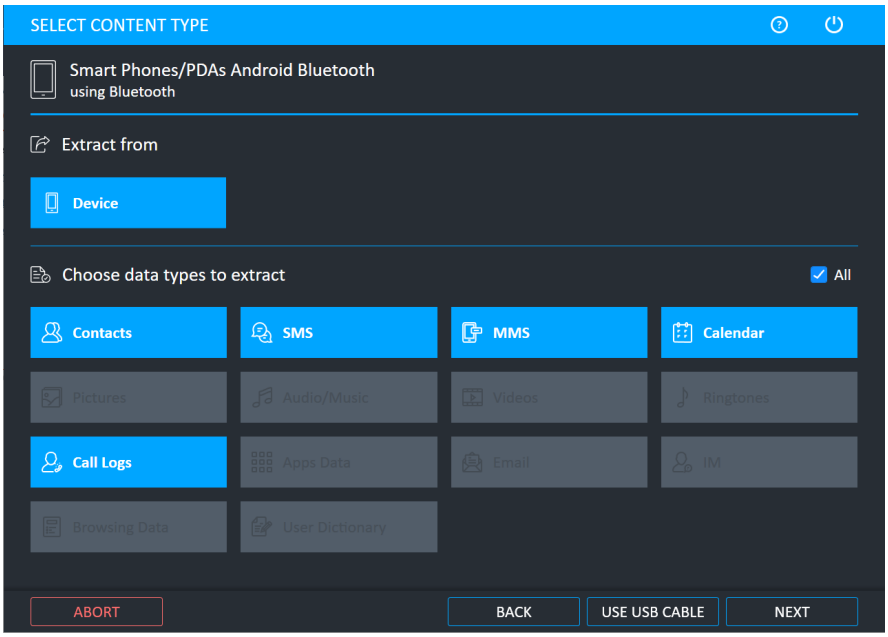
3. Click **Use Bluetooth**. The following window appears.



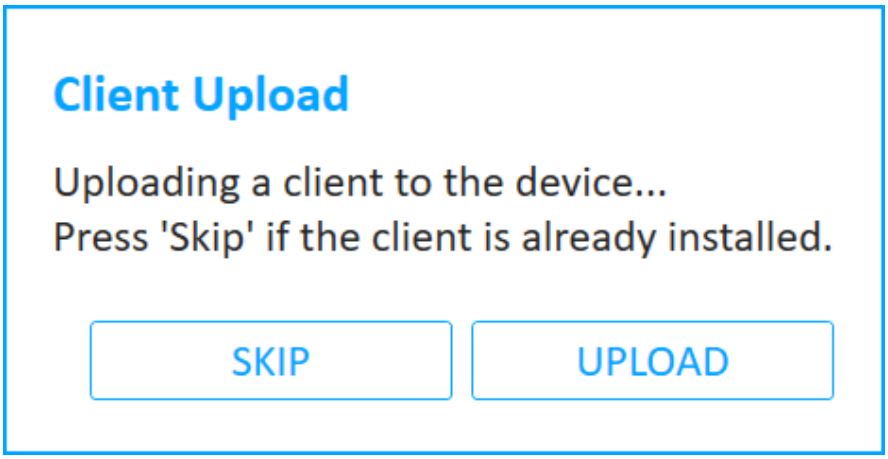
4. Click OK.

5. If required, connect the UFED device Adapter.

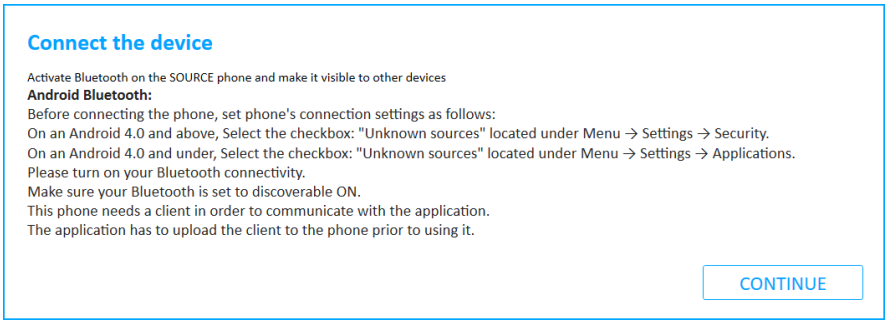
The following window appears.



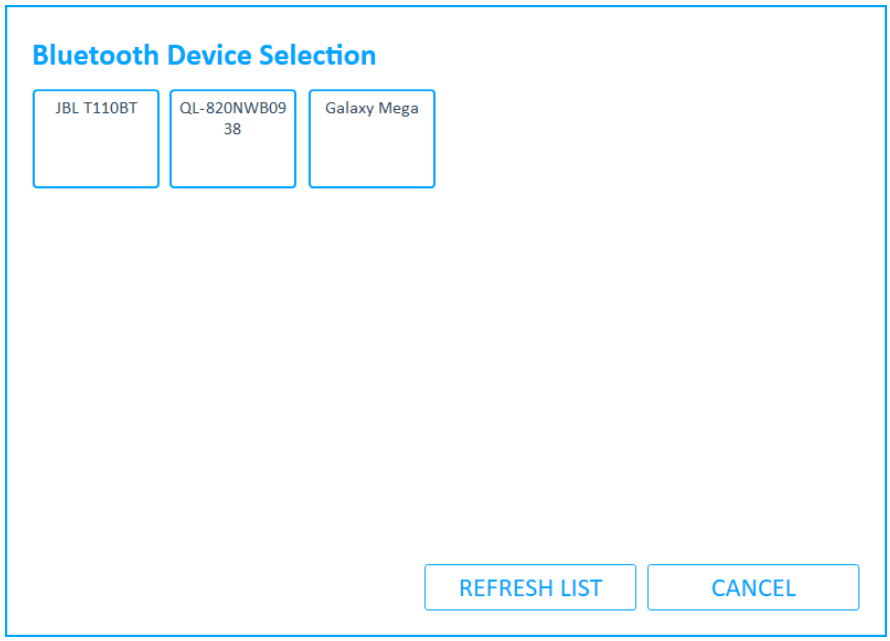
6. Select the required content types and then click **Next**.



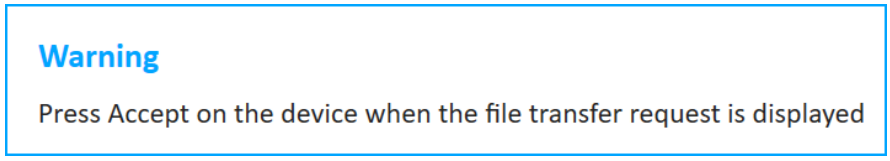
7. Click **Upload** to upload the client to the device or click **Skip** if you have already uploaded the client to the device. The following window appears.



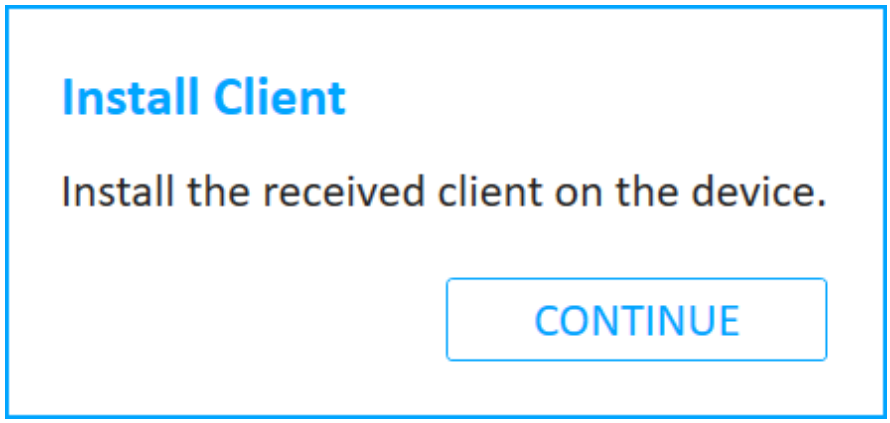
8. Activate Bluetooth on the source device and make it visible to other devices. Follow the on-screen instructions to set the devices connections, then click **Continue**. The following window appears.



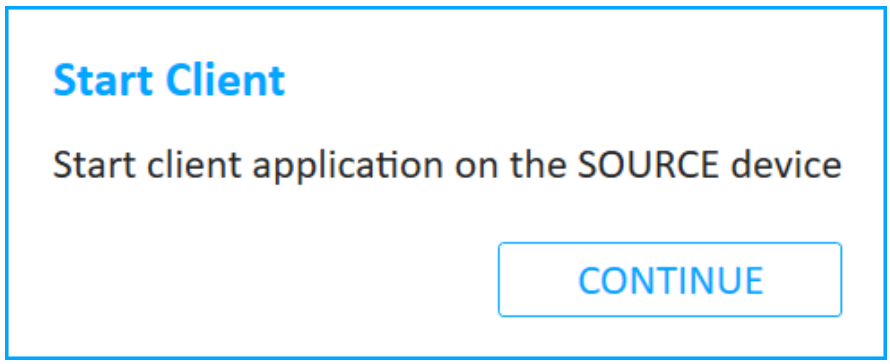
9. Click the required device. The following window appears.



10. Press **Accept** on the device when the file transfer request is displayed (this is skipped if the client is already installed). The following window appears.

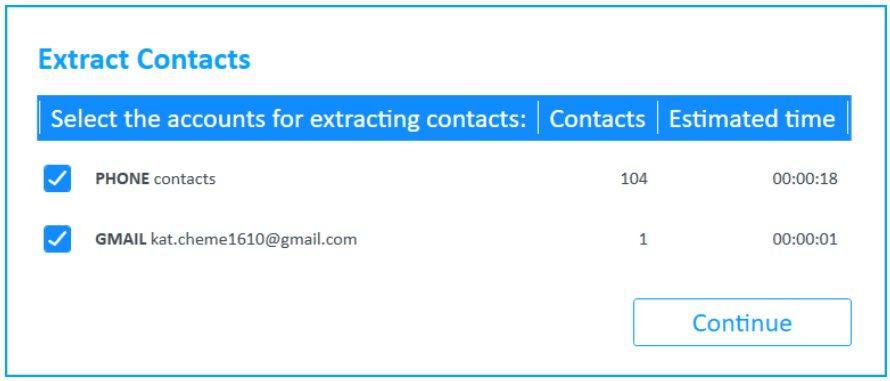


11. Follow the instructions to install the client on the source device, then click **Continue**.



12. Open (or start) the client on the source device and confirm the Bluetooth permission request on the device.

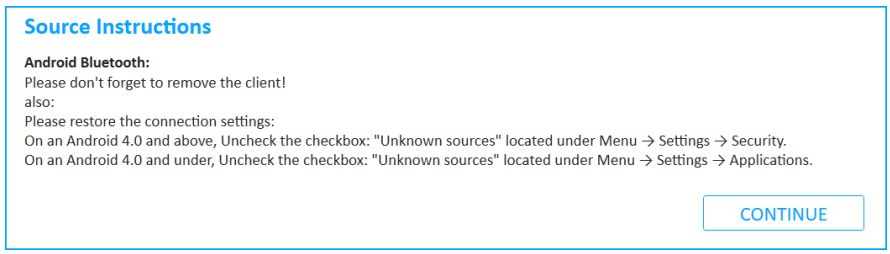
13. Click **Continue**. The following window appears.



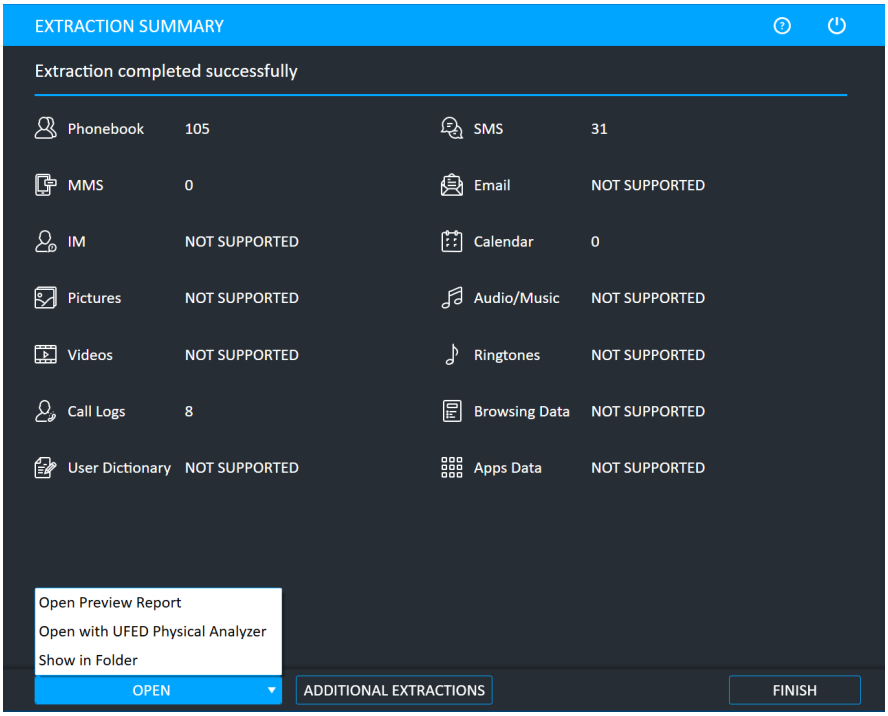
14. Click **Continue**.

    During the extraction process, the progress bar for the Source and then the Target is active.

    When the extraction is complete and if required, the Source Instructions screen appears (this depends on the device model).



15. Click **Continue**. The following window appears.



16. Click **Open Preview Report** to view an HTML preview report that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

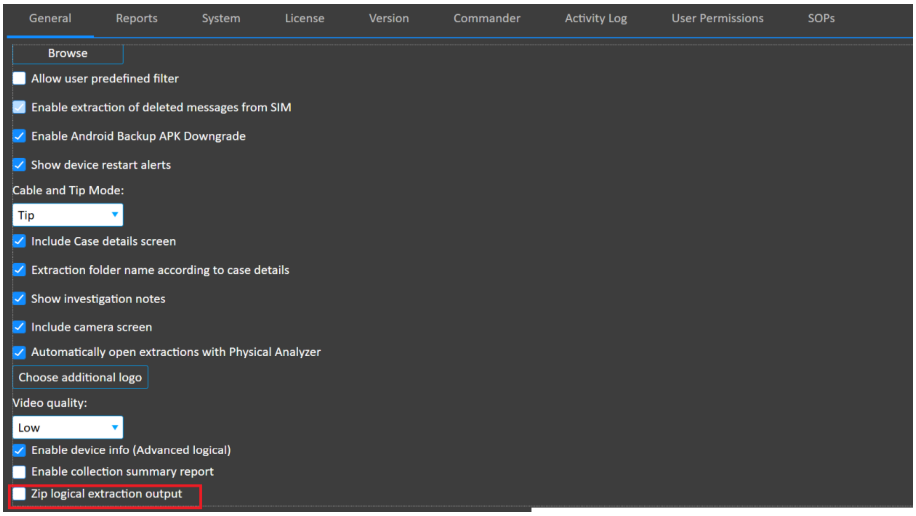
5.5. Faster transfer and verification of logical collection output

Logical extraction output files can now be zipped for faster transfer. During the procedure, a hash of the zip is calculated automatically and is added to the UFD file.

5.5.1. Enabling the zip feature

To enable zipping the logical extraction output, go to *Settings > General tab > Zip logical extraction output* and mark the checkbox.

Logical extractions that were zipped can be opened in PA 7.52 and above.
In older versions, open the extraction by manually unzipping it.


General
Reports
System
License
Version
Commander
Activity Log
User Permissions
SOPs
Browse
Allow user predefined filter
Enable extraction of deleted messages from SIM
Enable Android Backup APK Downgrade
Show device restart alerts
Cable and Tip Mode:
Tip
Include Case details screen
Extraction folder name according to case details
Show investigation notes
Include camera screen
Automatically open extractions with Physical Analyzer
Choose additional logo
Video quality:
Low
Enable device info (Advanced logical)
Enable collection summary report
Zip logical extraction output

6. File system extractions

File system extractions (Full and Selective) enable you to perform extractions from a device.

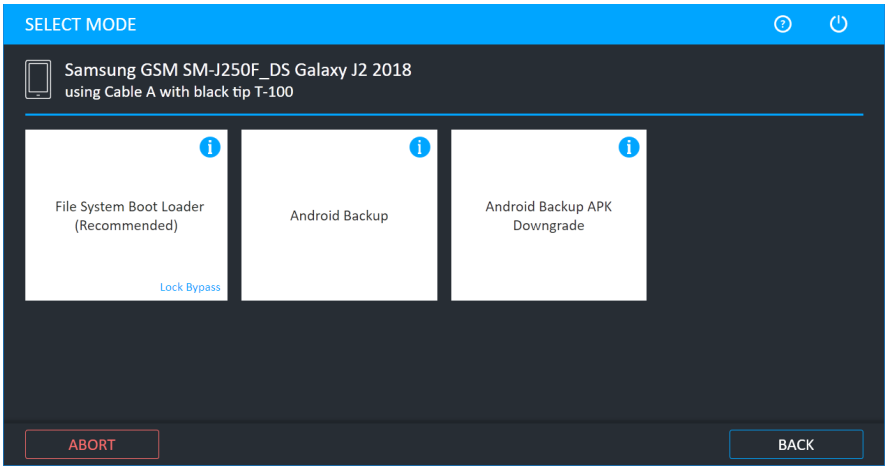
UFED now provides a notification if advanced forensic capabilities are available via Cellebrite Advanced Services for a growing range of supported Android and iOS devices. To learn more refer to: https://www.cellebritAxon Evidence/en/services/advanced-unlocking-services/

Lock Bypass is displayed if the file system extraction method can bypass the user lock of the device.

6.1. Performing a FULL file system extraction

1. Click **Mobile device** and identify the device, then click **File System**.

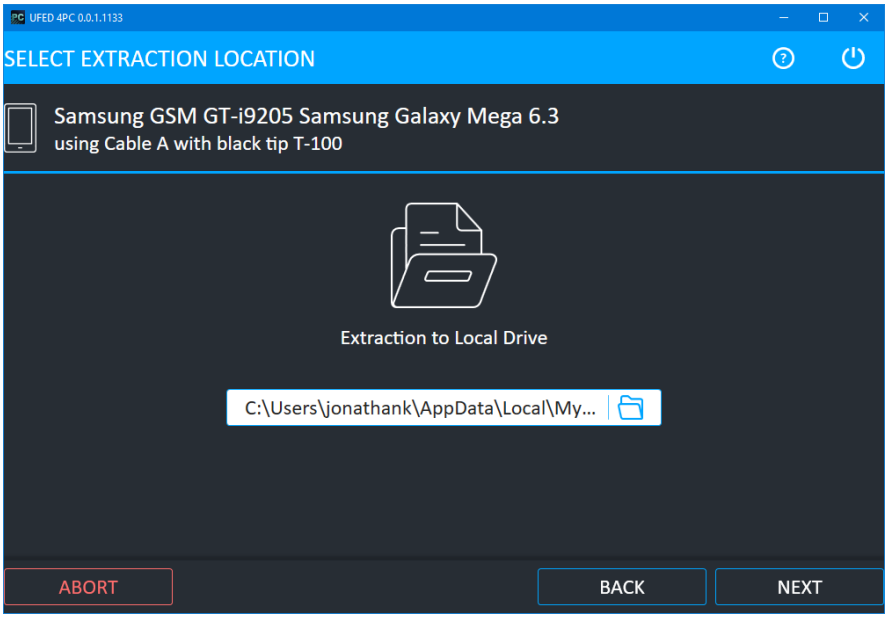
   The Select Mode screen appears.



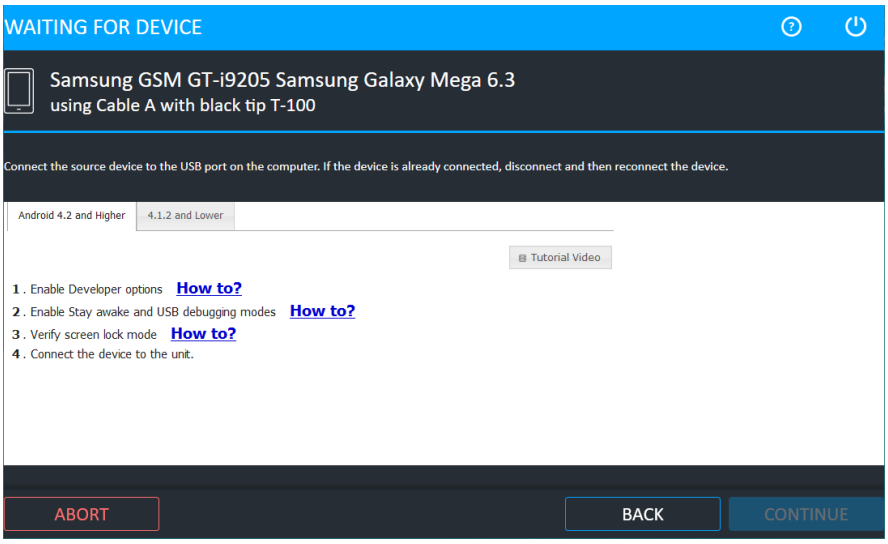
2. Select **ADB** (for Android Backup, see Android backup (on page 117)).

   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

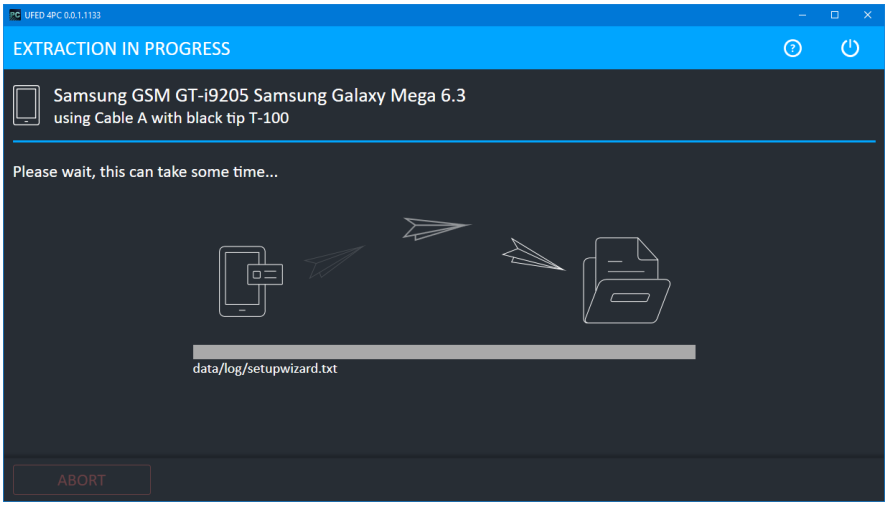
   The Select Extraction Location screen appears.



3. Select a location. The following window appears.



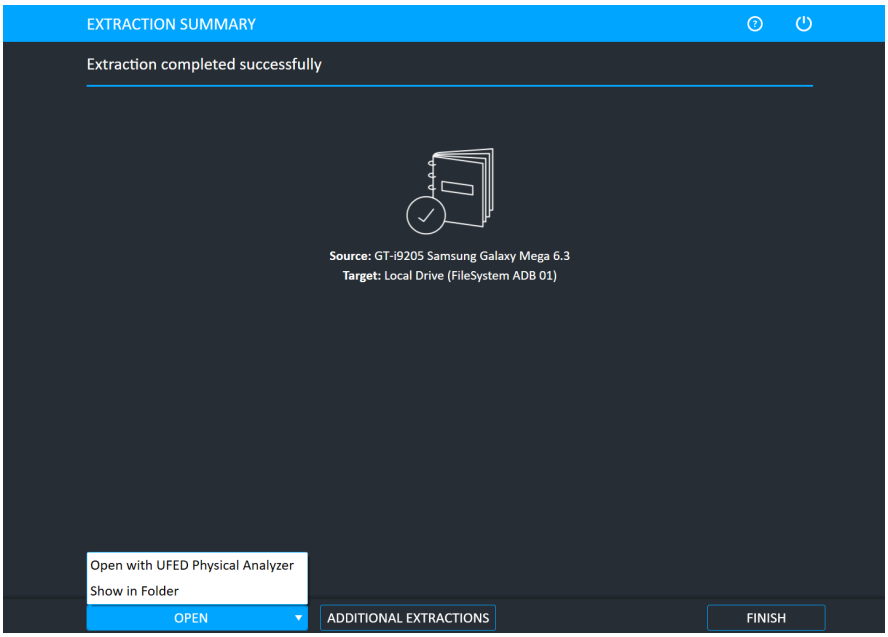
4. Select the correct cable and tip for the mobile device based on the information written in the screen.
5. Change the device settings according to the instructions
6. Connect the device.
7. Click **Continue**. The Extraction in Progress screen appears.



During the extraction process, the progress bar for the Source and then the Target is active.

> For QCP and Samsung MTK devices, an estimation of the time the extraction will take is displayed.

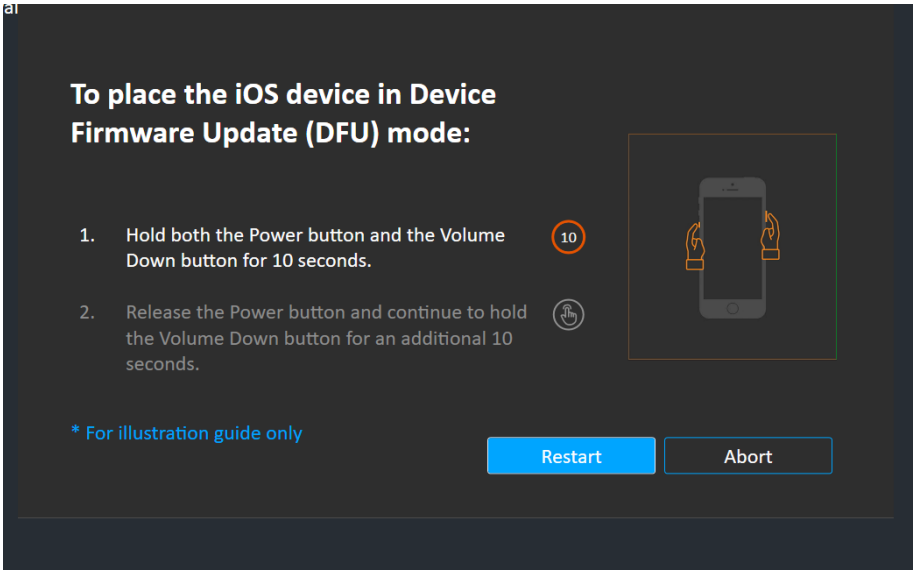
When extraction is complete, the File System Extraction Summary screen appears.

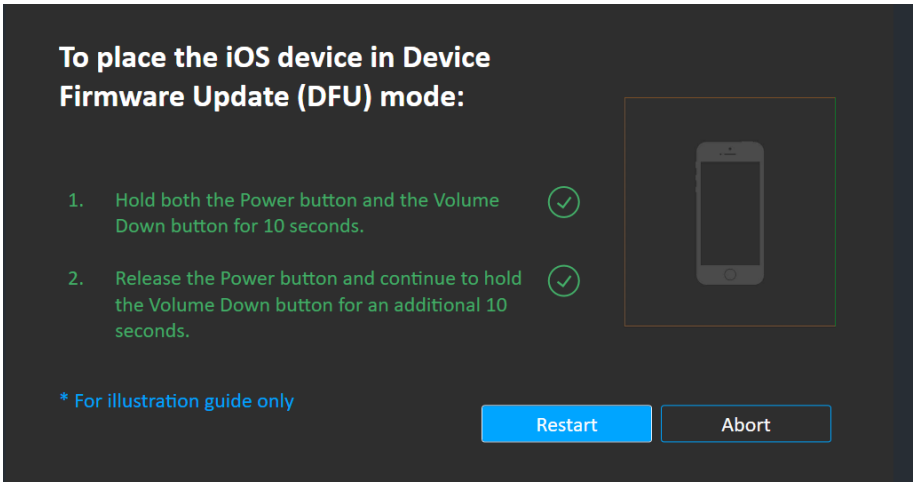


8. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

6.1.1. iOS: Animated DFU instructions

iOS devices have a new animated instructional aid. The new aid displays the iPhone model and an interactive image with detailed instructions for carrying out the process.





6.1.2. The file system extraction folder

At the end of the file system extraction process, the extracted data is saved in the location you selected previously (see Performing a FULL file system extraction (on page 102)).

The extracted data folder is named **FileSystemDump** with the selected device model and name and the extraction operation date. For example, **FileSystemDump Nokia GSM Nokia 2626 2014_03_12 (001)**

The extracted data folder contains:

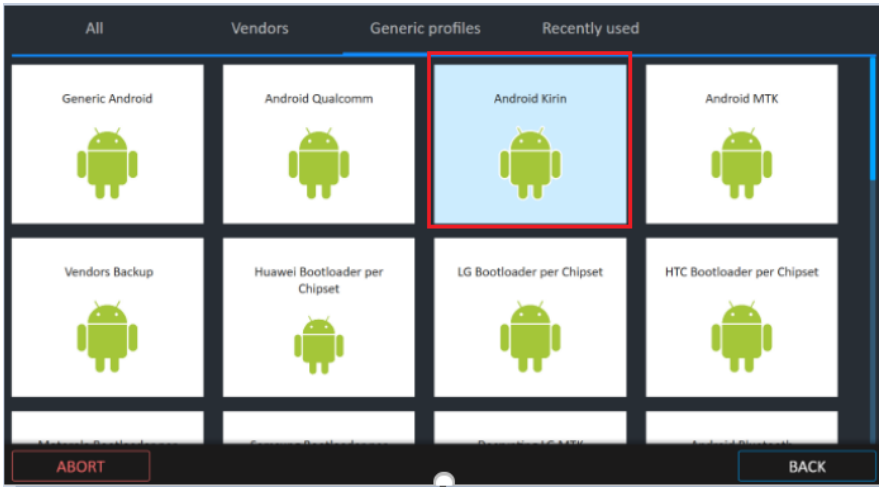
- Zipped archive of the device file system containing files and folders in the same structure they were extracted.
- UFD file containing the system extraction information, used by the Physical Analyzer application.
- PM file.

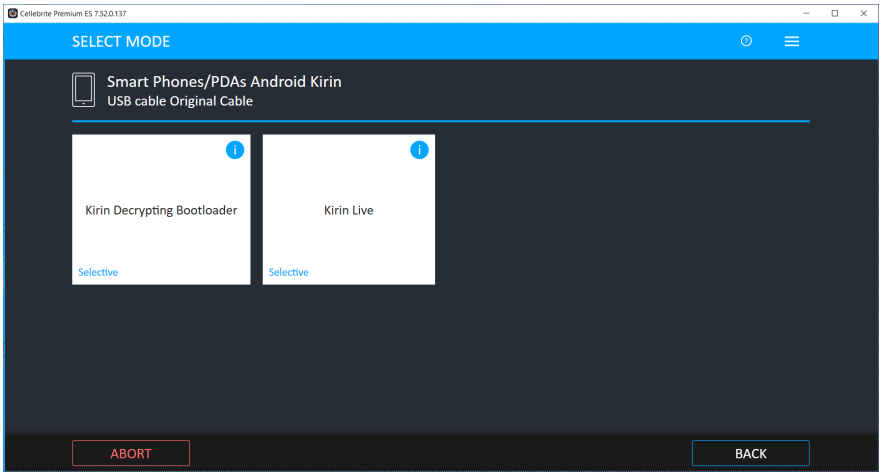
The File System extraction can be viewed using Physical Analyzer.

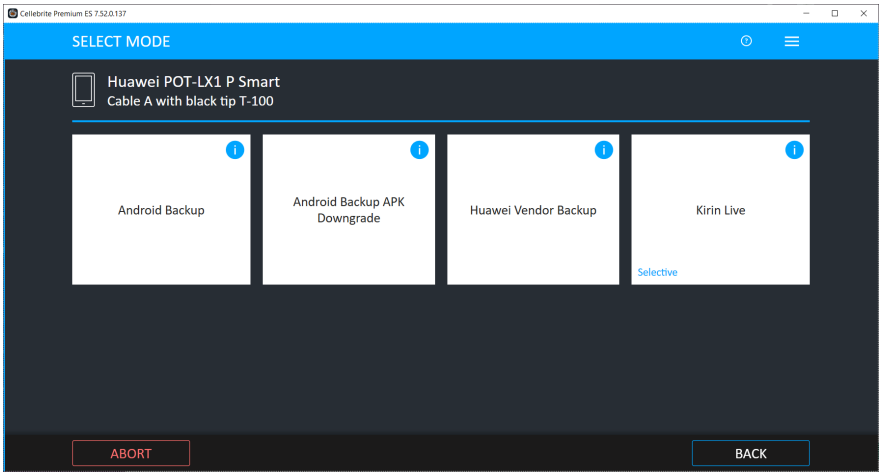
6.1.3. Unlocked Huawei Kirin devices

This new method enables you to do a full file system collection on unlocked Huawei Kirin devices.

- The **Huawei Live** method is located under file system extraction type in the **Android Kirin** generic profile and in several tested Huawei profiles.
- The method also appears as `untested` when connecting Huawei Kirin devices.



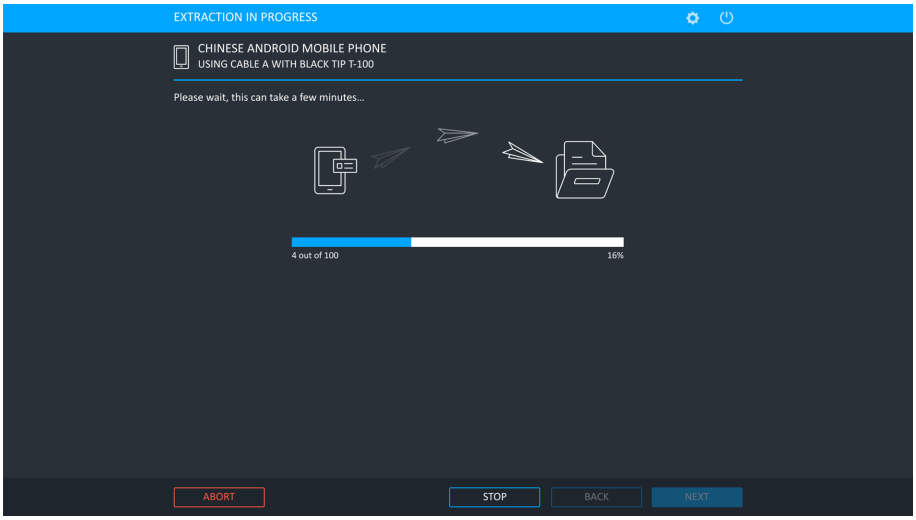


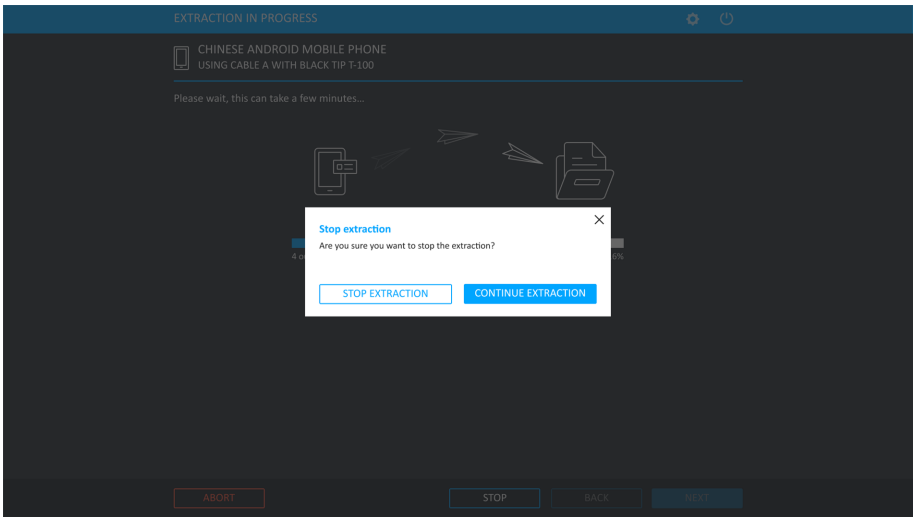


6.1.4. smartStopping an extraction

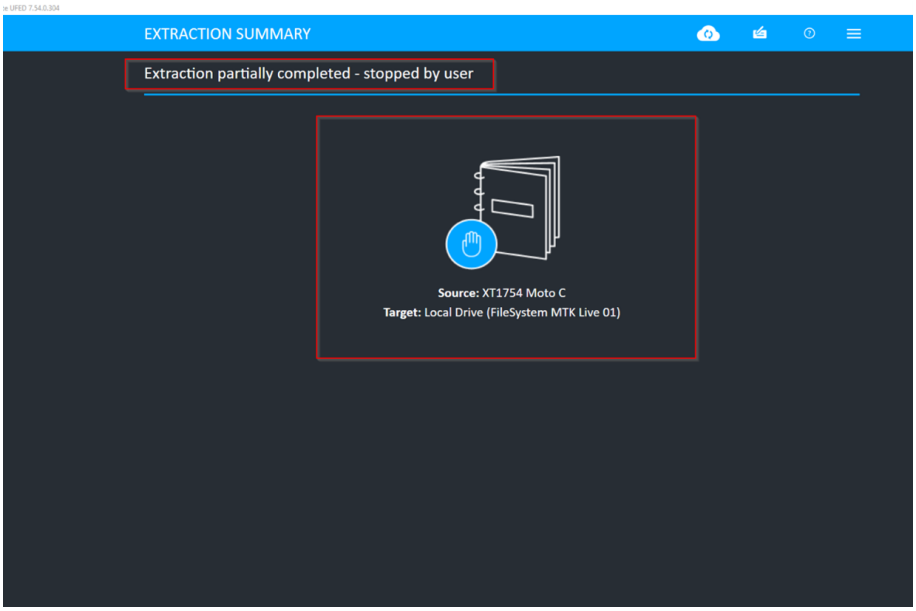
You can now stop Android File System extractions (not including Android Backup and APK downgrades) before they complete and save the (partial) extraction to that point.

1. To stop an extraction in progress, clickthe STOP button in the screen labeled "Extraction in progress".
   A confirmation message displays.
2. Click "Stop Extraction" (the exact wording might change).
   The extraction procedure will finish extracting the current file and stop.

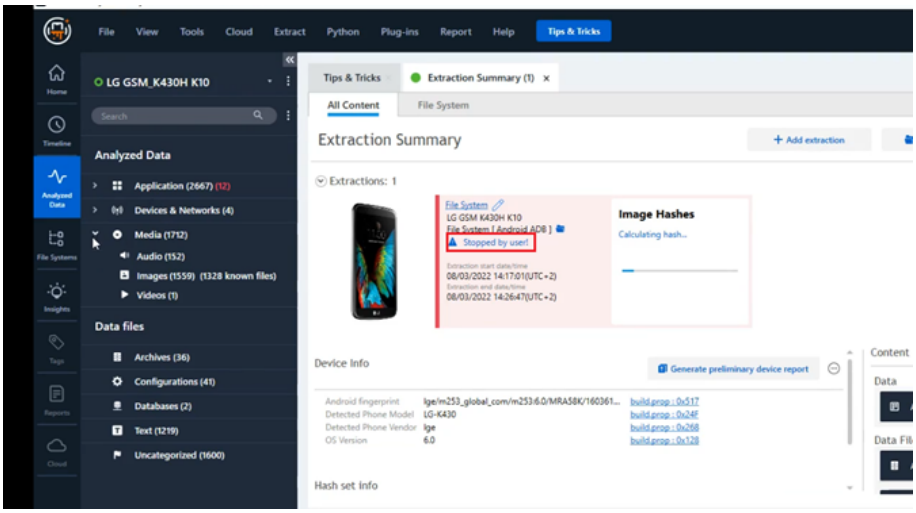




The partial extraction can be opened in Physical Analyzer.



A message stating that the extraction is partial and was stopped by the user displays in Physical Analyzer v7.54 and above.



To continue with the extraction and **not** stop the current extraction), click **Continue extraction** (the exact wording might change). The extraction continues uninterrupted.

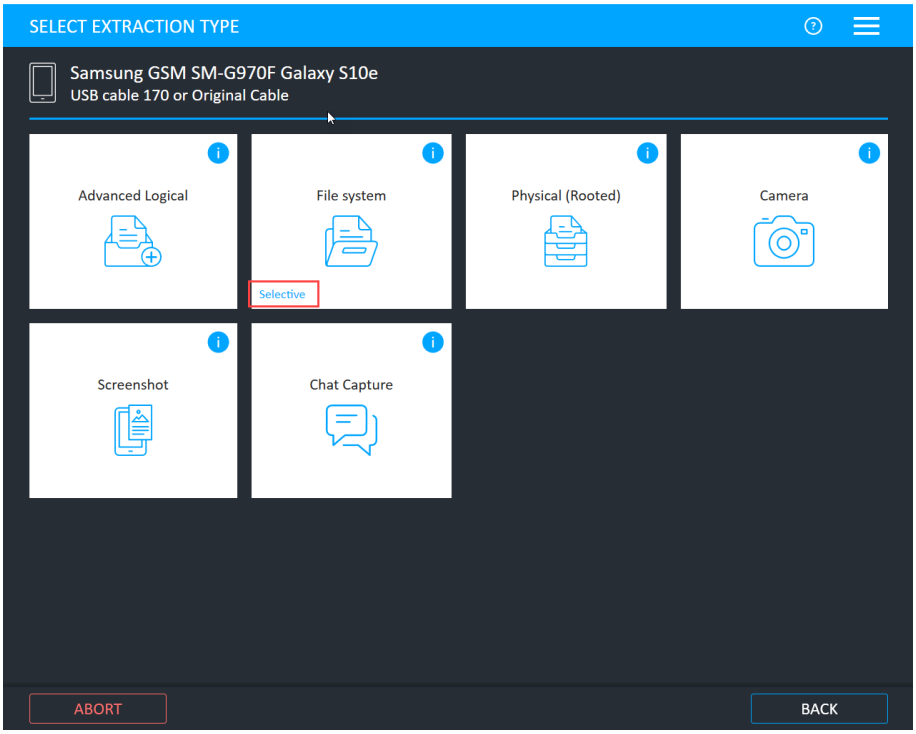
6.2. Performing a SELECTIVE file extraction

Selective extractions are a subset of full file system extractions for both Android and iOS devices. A selective extraction extracts all app data from those files and folders (located under the root directory) that you **select**. The app data includes the folders and files associated with the app such as databases, APKs, images, and keys.

A selective extraction takes less time to complete than a full file system extraction and enables you to select only the files that you require.

Selective extraction is currently supported for **EDL Decrypting Bootloader**, **Samsung Qualcomm Decrypting Bootloader** and **Huawei Decrypting Bootloader** methods. Other methods require that you perform a Full File System Extraction.

When te **Selective file system** method is available, an indication is made on the method(s) presented.

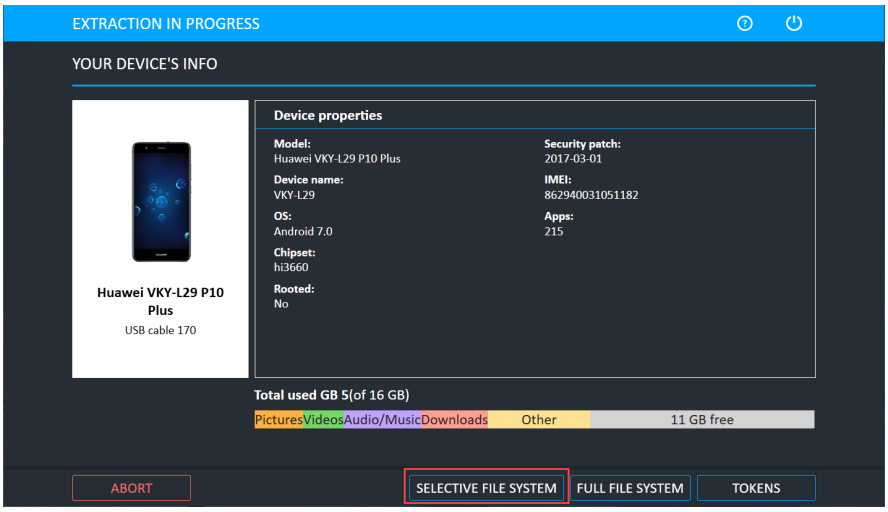


Selective extraction **does not extract data from unallocated space**. Use one of the Physical extraction methods instead.

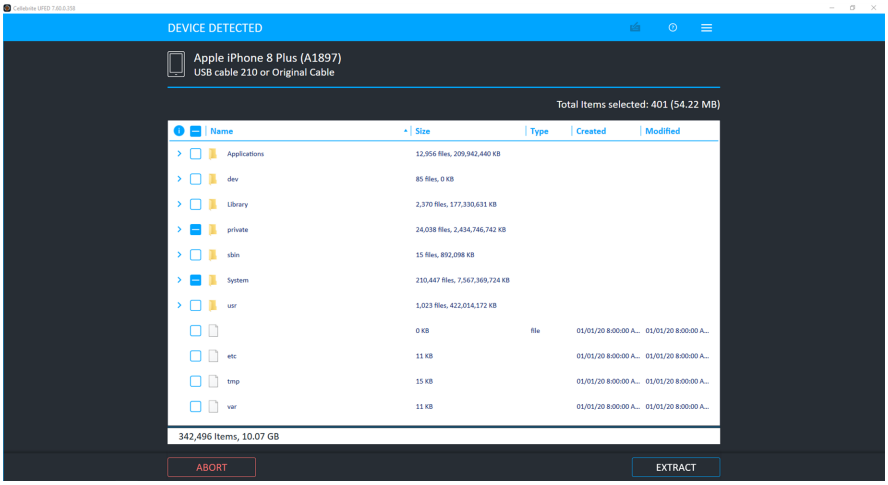
6.2.1. To extract data using Selective file system extraction:

When performing an extraction method that supports Selective file system extractions, you can see the Selective file system button on the Device info screen.

1. Click **Selective file system**.



2. Select the apps to extract. You can search for apps by category from the Select categories list.



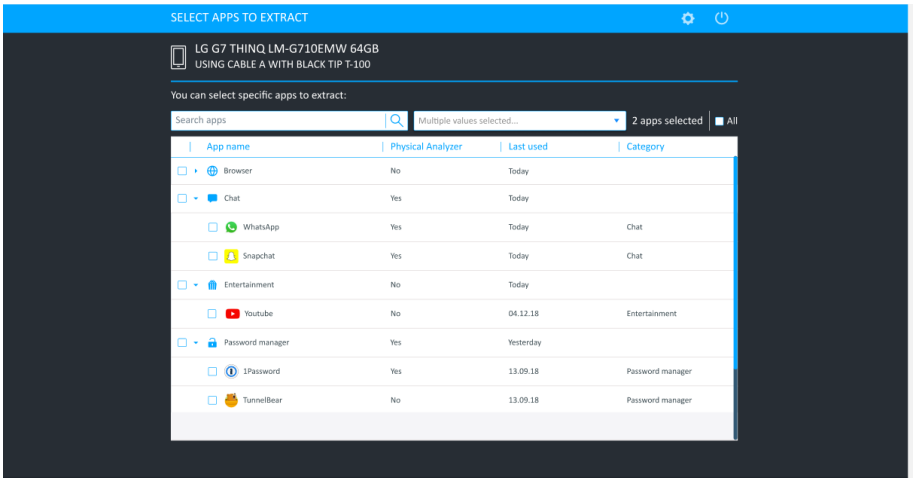
3. Click **Extract**. The Extraction Summary window appears.
4. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

6.2.2. Enhanced selective extraction

Application lists are now grouped by category when using “App categorization”.

Users can select an entire category of applications with a single click for quick and easy “Select by Application”. Enhanced selective extraction also enables standard selection of individual apps.

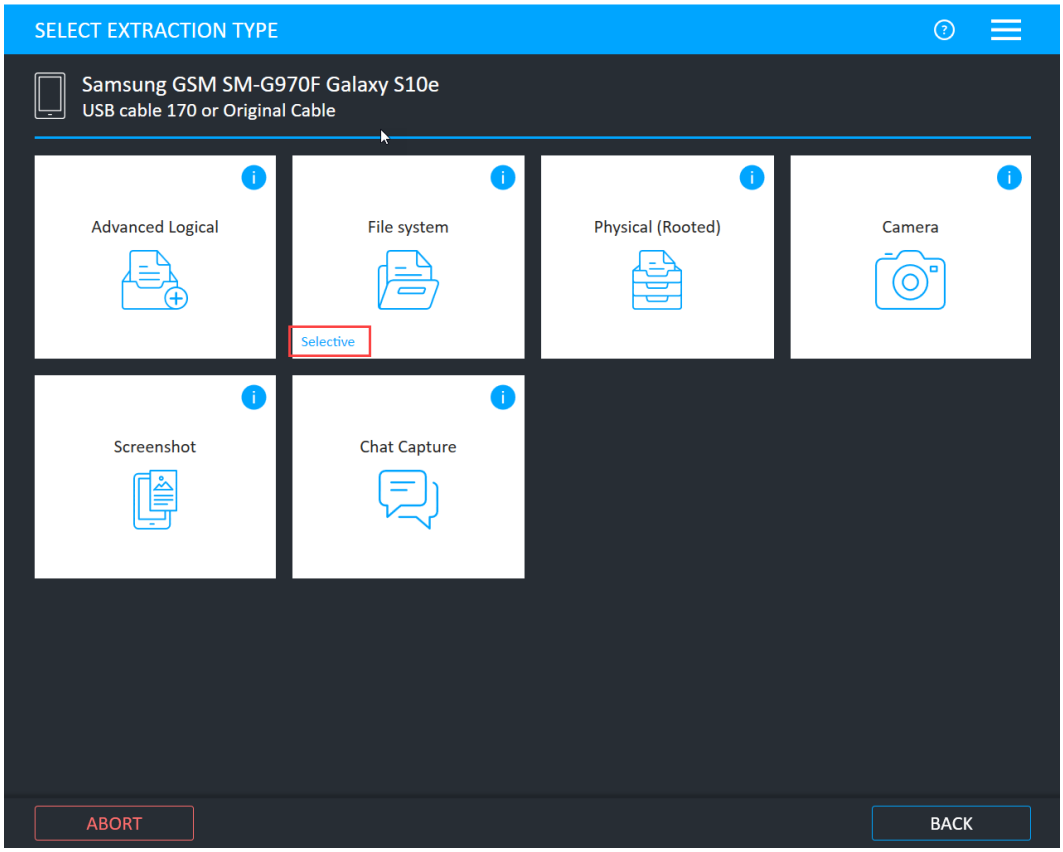
To use this feature, download the “App Categorization DB” file from the Community portal , under the “Add-ons” section of the product, and upload it via Settings.

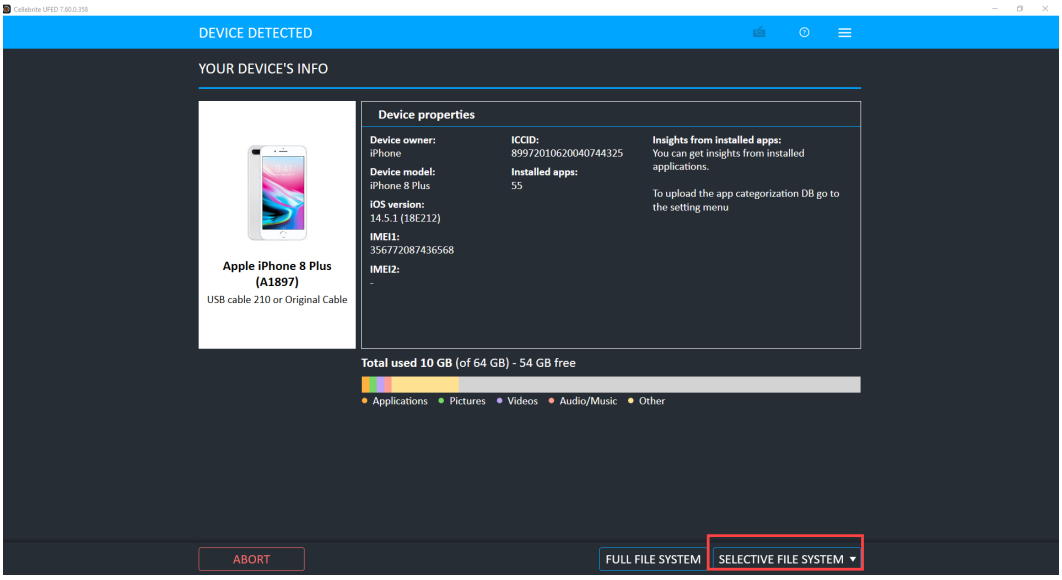


6.2.3. Selective extraction by file (Android / iOS)

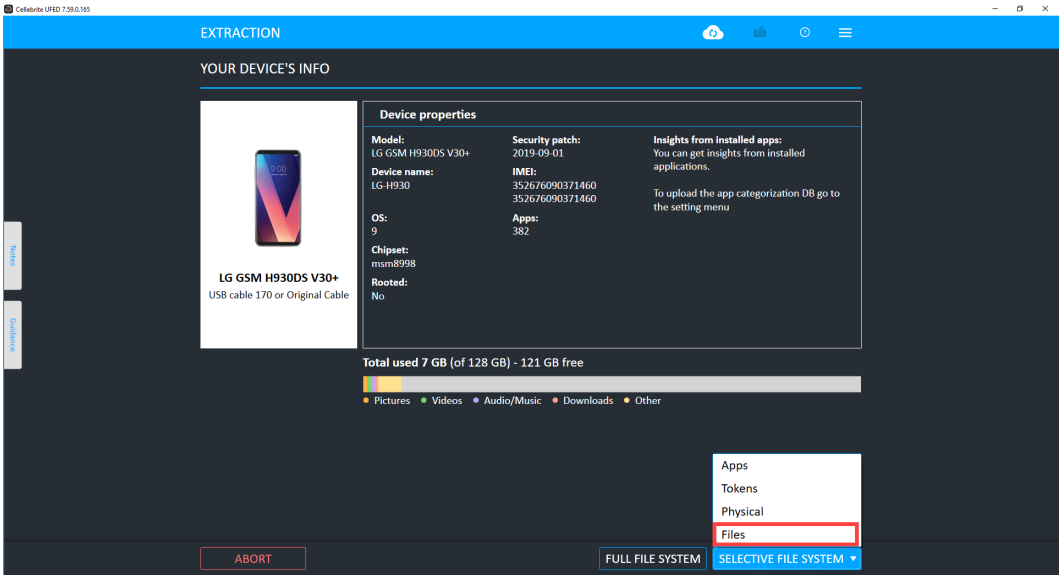
Selective extraction by file (Android / iOS) enables users to traverse the file system and select specific folders and files to extract. All relevant metadata from the files is retained and the forensic integrity of the file remains intact. Additional search capabilities can be applied.

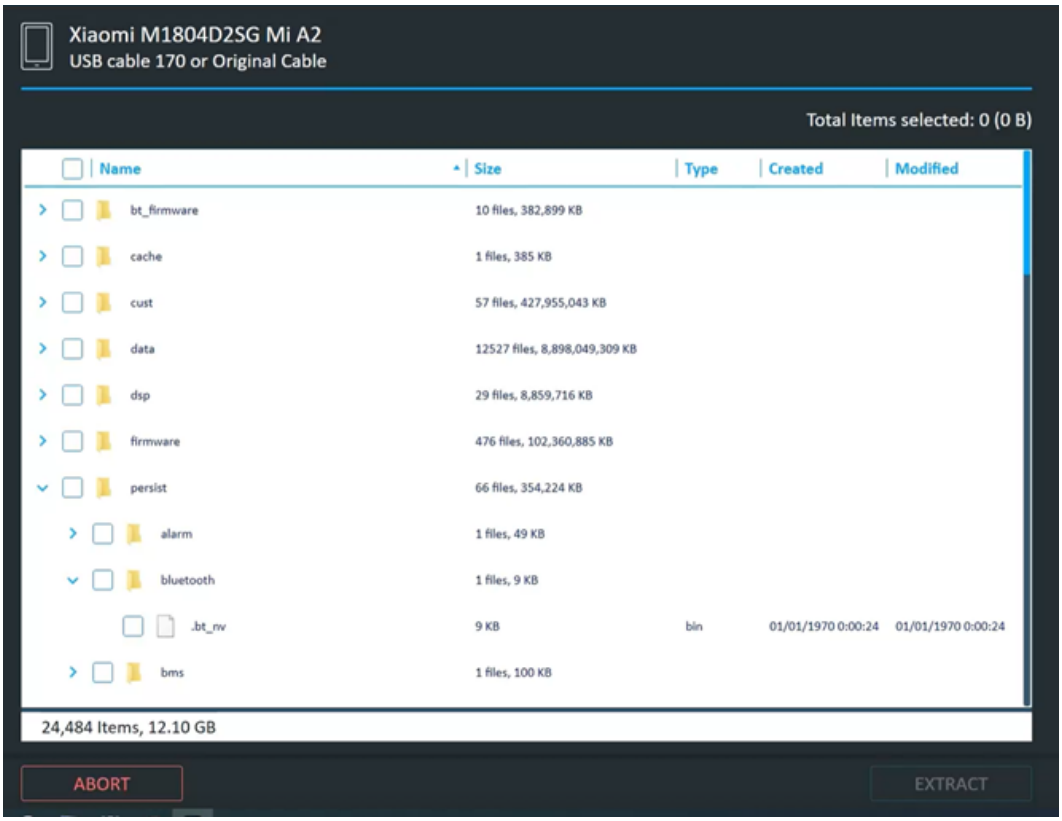
1. When performing an extraction method that supports Selective File System extractions, the Selective file system button displays on the Device info screen.



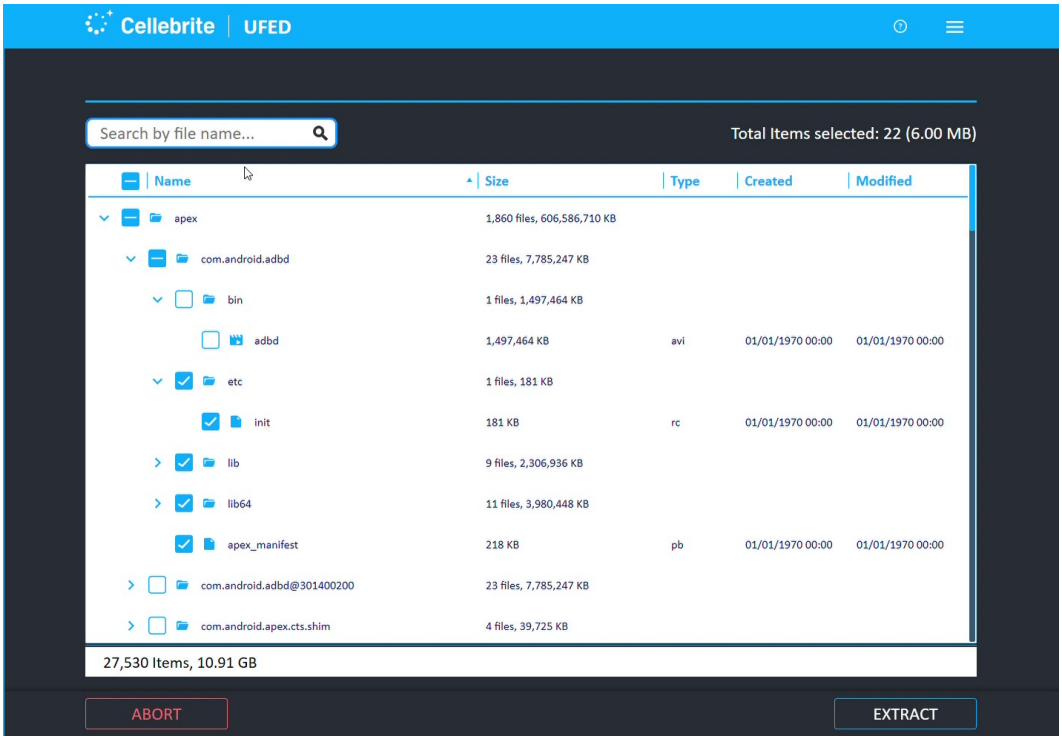


2. Click **SELECTIVE FILE SYSTEM > FILE**S to display the next image:

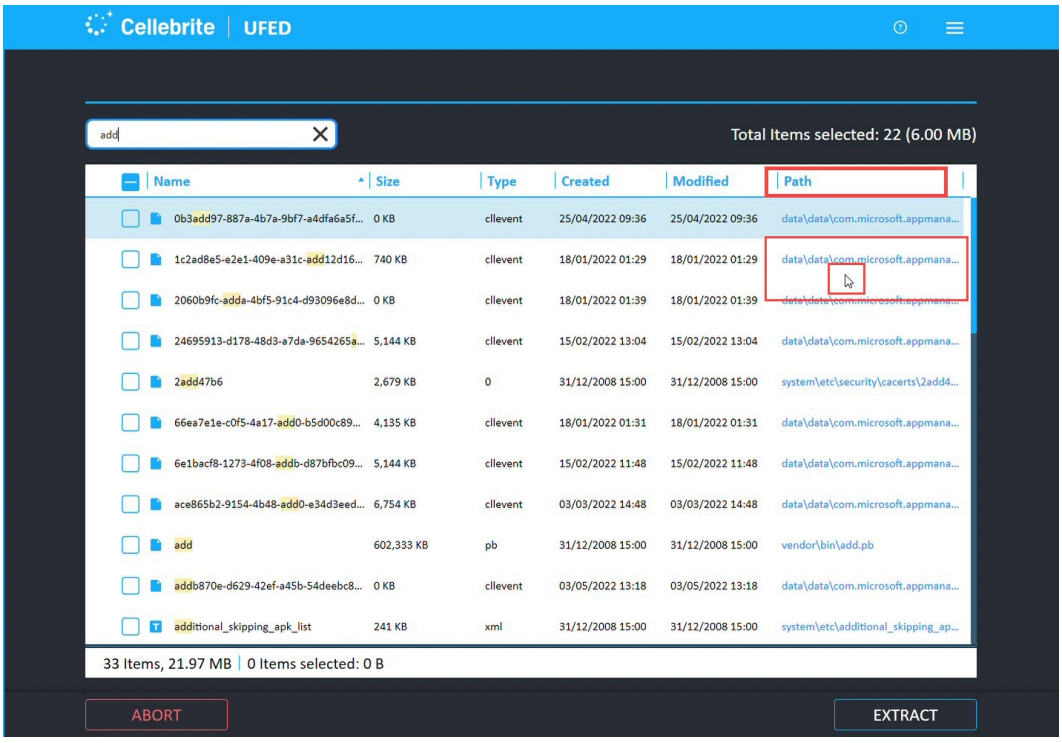




3. Select the folders and files to extract.

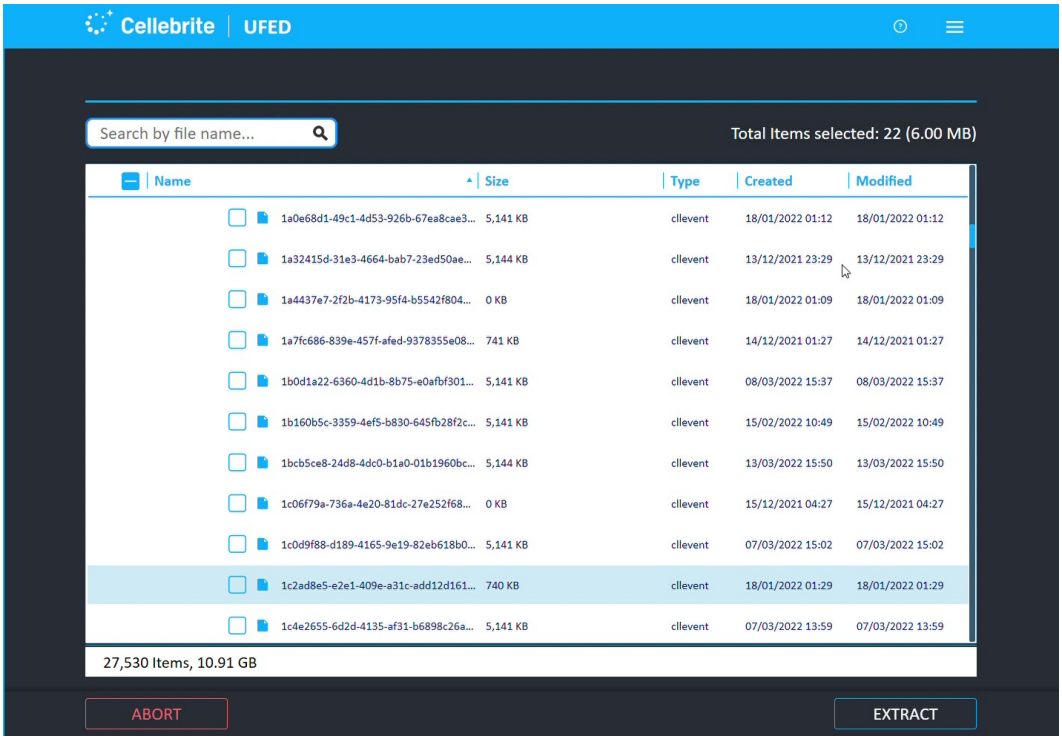


4. To **select files by name**, enter the name (or partial name) into the text entry box at the top. The screen filters the selection and displays all files that contain the characters entered **and their path**.



5. To view all files in the **same location** as any file displayed here, click the file path. The display files now displays the file that you clicked in its path (location) **AND** all files that are located in the **same**

path/memory area and which are therefore likely to be associated with the file whose path you clicked.



Note: In iOS, some files must **always** be selected as part of the extraction operation. Cellebrite pre-selects these files; they cannot be deselected.
a.) Your **first click selects all the files**.
b.) In iOS, a **second click returns the selections to the required files only** (see image above) - they remain selected always.
c.) When you move the mouse near the main checkbox, a tooltip displays with the following text:
Cellebrite pre-selects some files that must be selected as part of the operation; these files cannot be deselected.

6.3. Android backup

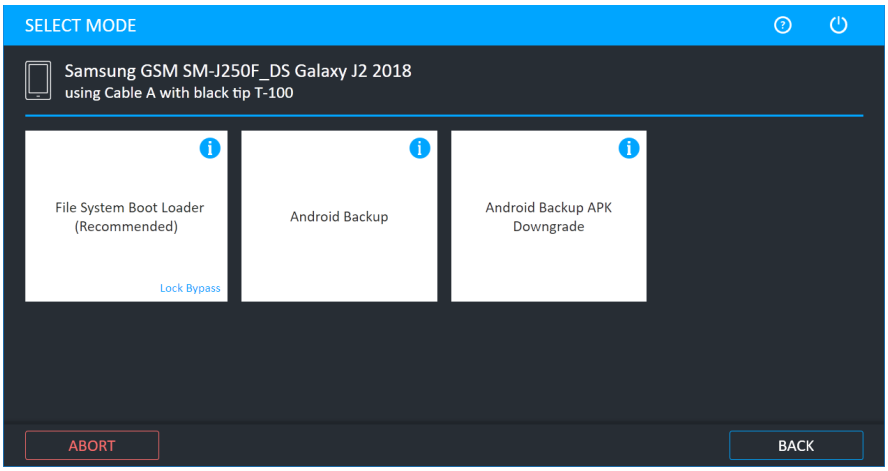
The Android Backup feature communicates with a connected Android device and enables you to extract data from the device. The data that is extracted is dependent on the device's specific characteristics. Android backup supports Android devices with version 4.1 and higher.

Android Backup may provide less data then other methods, therefore, only use this feature when other file system methods such as ADB are not successful or when other file system methods are not available for the device (for example, if the Android version is not supported).

This feature is controlled under **Settings** > **General**.

To extract data using Android backup:

1. Click **Mobile device** and identify the device, then click **File System**.

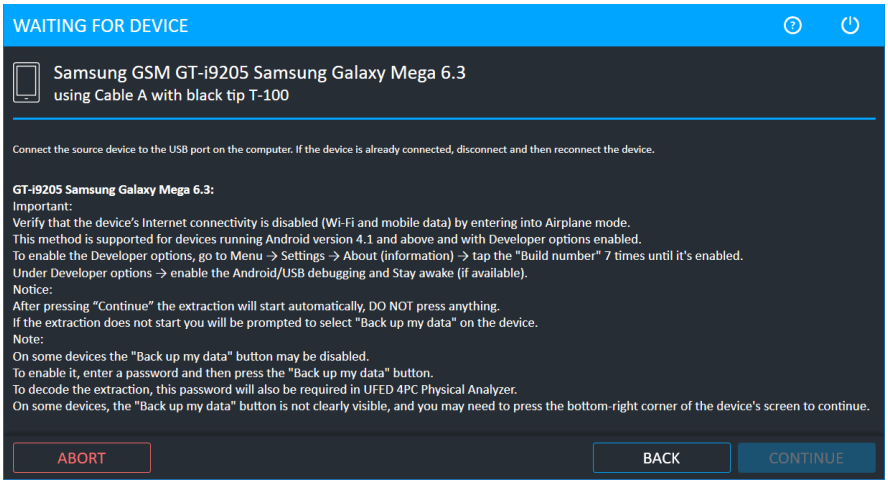


2. Click **Android Backup**.
3. Select the extraction location.

> For information about using optional timeframe and party filters, refer to the *Overview Guide*.

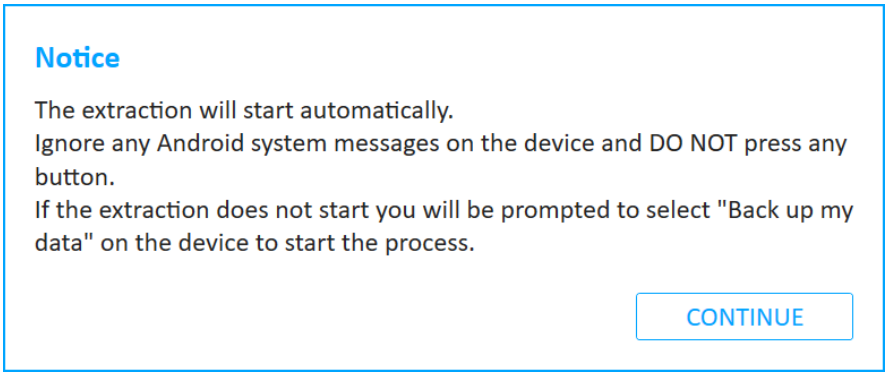
4. Click **Continue**.

   The Waiting for Device screen appears.

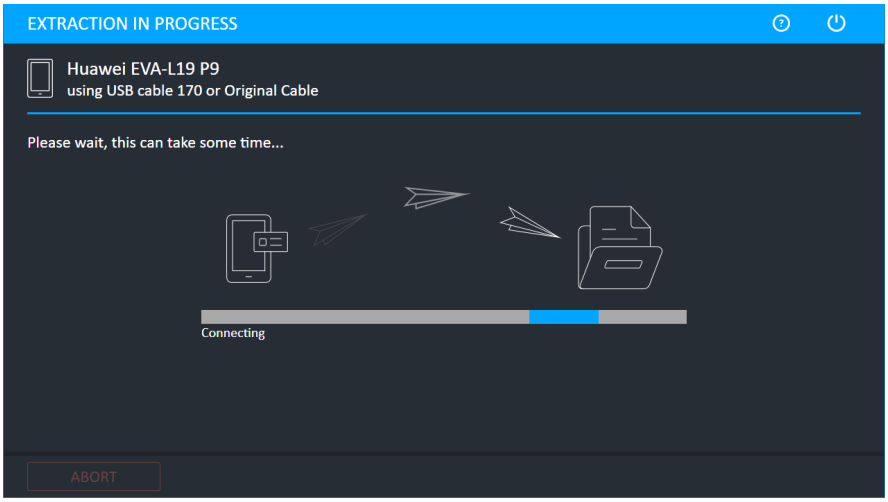


5. Connect the source device to the USB port. If the device is already connected, disconnect and then reconnect the device.

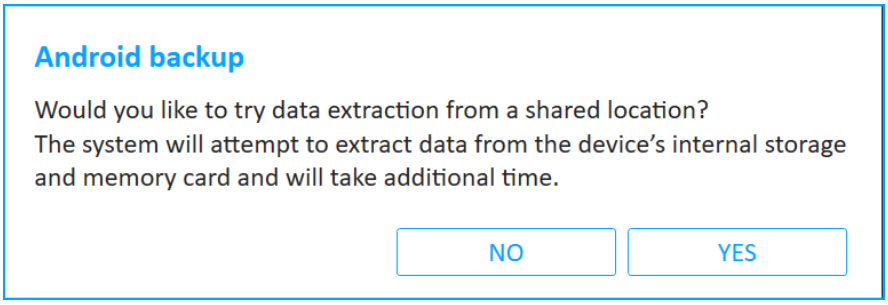
6. Click **Continue**. The following window appears.



7. Click **Continue** and if required select **Backup my data** on the device. The extraction begins.

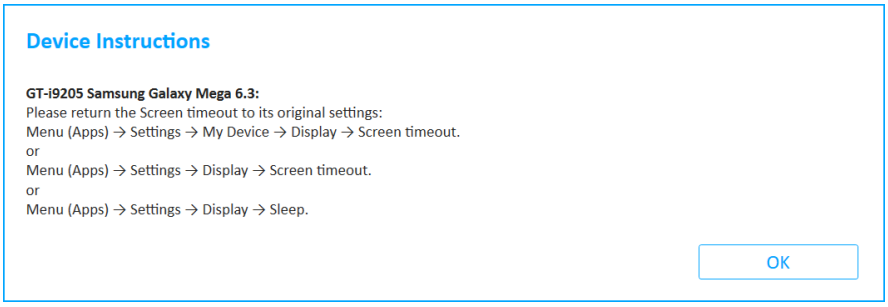


The following screen appears.



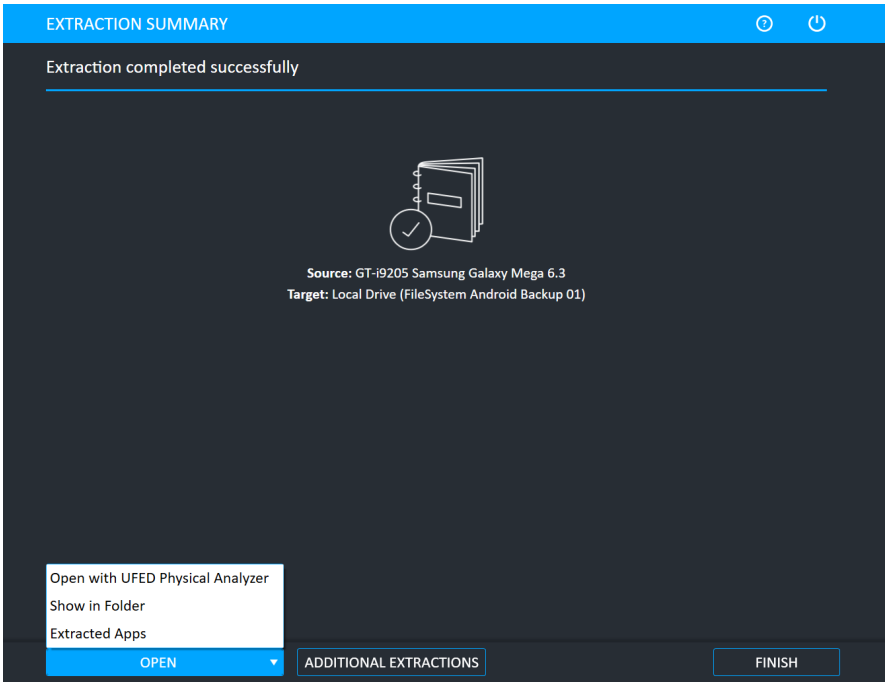
8. Click **No** if you do not want to extract data from a shared location. Click **Yes** if you want to try extract data from a shared location. With a shared location, Cellebrite UFED extracts all the applications (native and non-native) that reside on the device, as well as data from the device's internal storage and memory card (images, videos, etc.), which takes additional time.

   The following screen appears.



9. Follow the instructions and click OK.

   When the extraction completes the Extraction summary window appears.

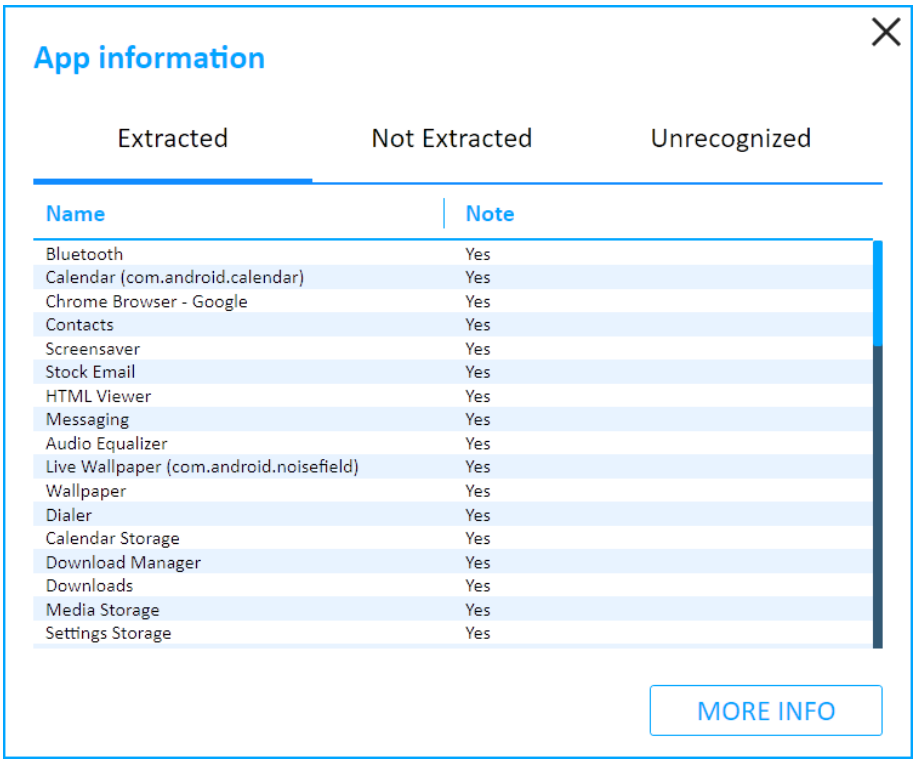


10. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

6.3.1. Extracted apps

The App information window can be displayed by clicking the **Extracted Apps** button after the File system Android backup extraction completes.

It displays the apps extraction status for the device. Apps that were extracted are listed under **Extracted**. These apps are decrypted in Physical Analyzer. Apps that could not be extracted are listed under **Not Extracted** and indicates the reason the apps were not extracted. The Notes indicate if another extraction method is applicable. Unrecognized apps and their status are listed under **Unrecognized**. This list contains files that could not be mapped by the system and exist for extraction results verification. To obtain more information about these files, we recommend that you do an Internet search for the file names.



6.4. Android backup APK downgrade

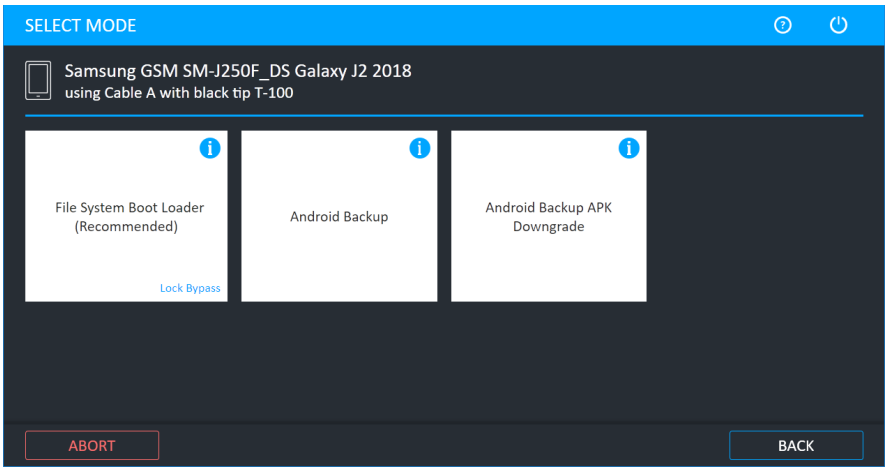
This method extracts application data using Android backup. It supports Android devices with version 4.1 and higher. During the process, the selected application version (*.apk file) is temporary downgraded to an earlier version, so that the data can be extracted. The current version is restored at the end of the extraction process. The potential risk in this method relates to the downgrading and then restoration of the app version.

Only use the Android Backup APK Downgrade method as a last resort after other extraction methods have been exhausted (including JTAG and chip-off).

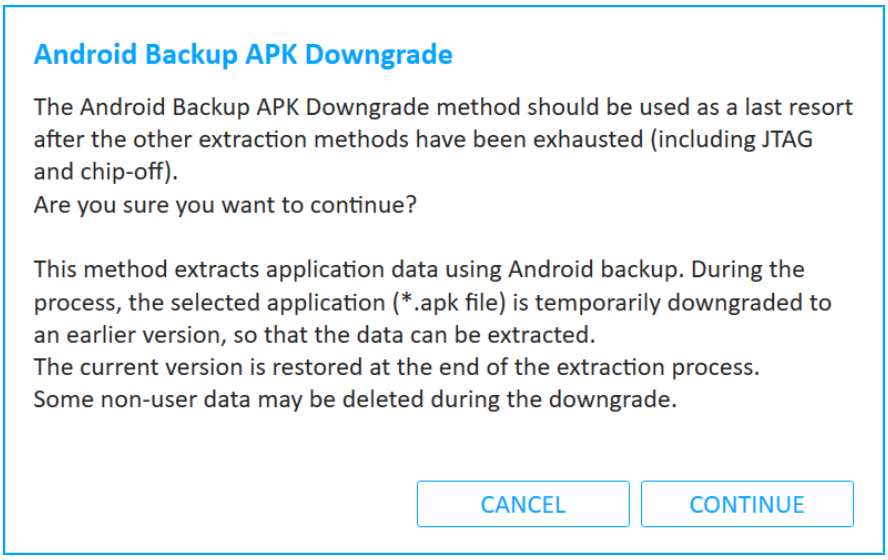
We recommend that you document the process during the extraction.

To extract data using Android backup APK downgrade:

1. Click **Mobile device** and identify the device, then click **File System**. The following window appears.



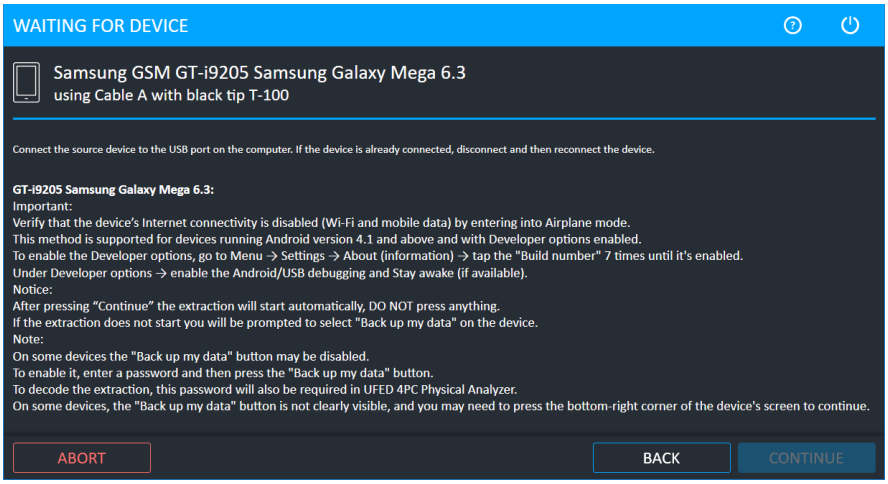
2. Click **Android Backup APK Downgrade**. The following window appears.



3. Click **Continue**.

> For information about using optional timeframe and party filters, refer to the *Overview Guide*.

4. Select the target path and click **Next**. The Waiting for Device screen appears.

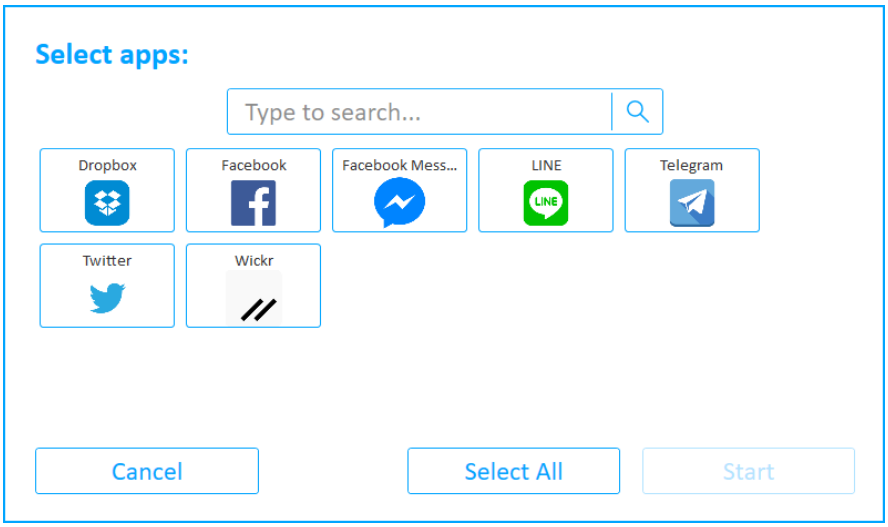


5. Connect the source device to the USB port using the specified cable. If the device is already connected, disconnect and then reconnect the device.

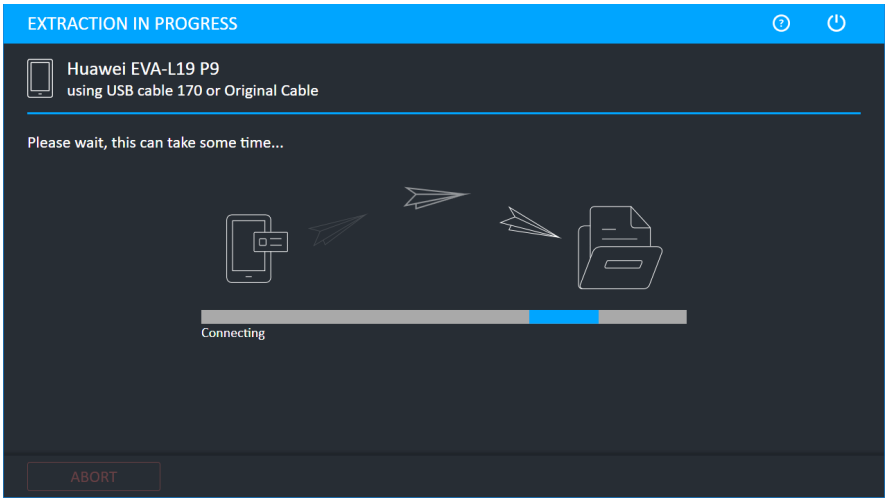
6. Follow the on-screen instructions for the device and then click **Continue**. The following screen appears.

> You are notified when you are required to restart the device or to select **Backup my data** on the device. The following screen appears.

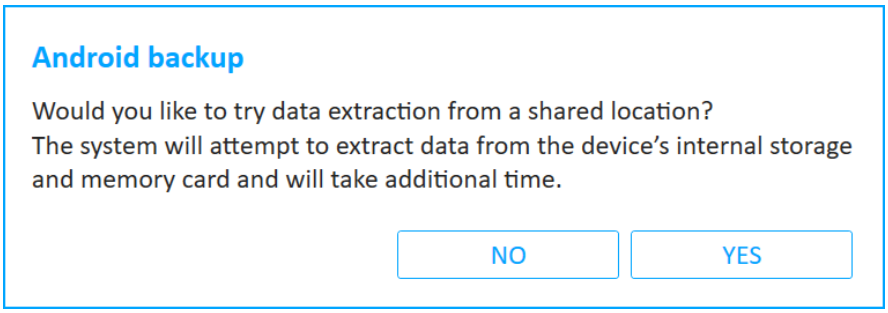
The following window appears.



7. Select the required apps (or click **Select All**) and then click **Start**. The following window appears.



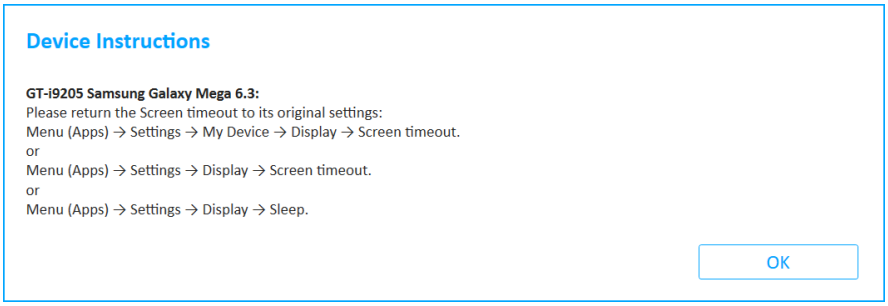
8. Select **Backup my data** on the device. The following window appears.



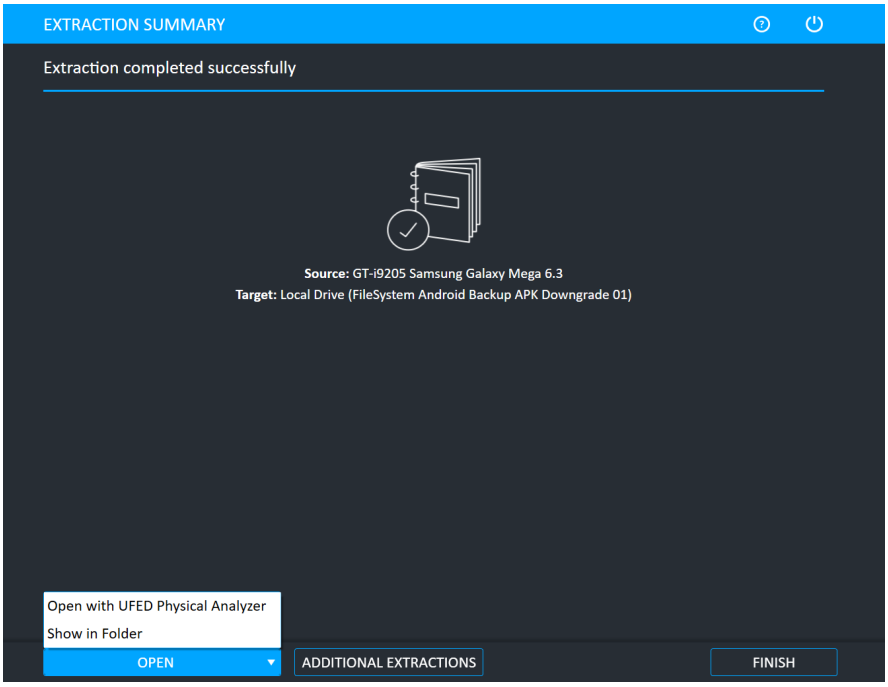
9. Click **No** if you do not want to extract data from a shared location. Click **Yes** if you want to try extract data from a shared location. With a shared location, Cellebrite UFED extracts all the applications (native and non-native) that reside on the device, as well as data from the device's internal storage and memory card (images, videos, etc.), which takes additional time.

   If some app packages could not be backed up, this screen provides an indication of how many app packages were backed up successfully.

10. Click **Continue**. The following screen appears.



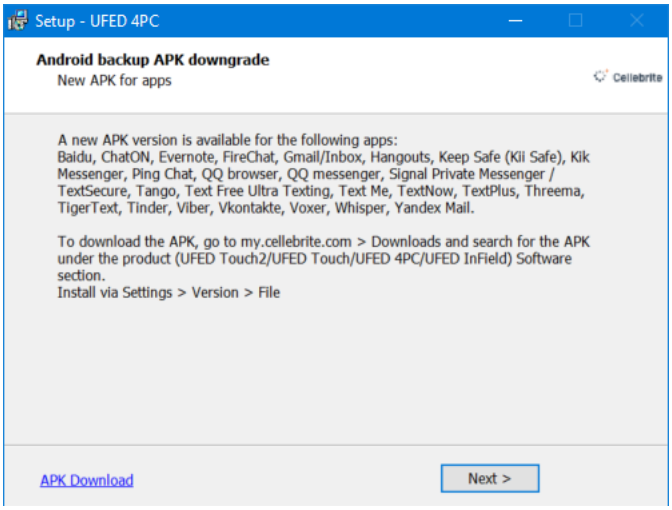
11. Follow the instructions and click OK. The Extraction summary window appears.



12. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

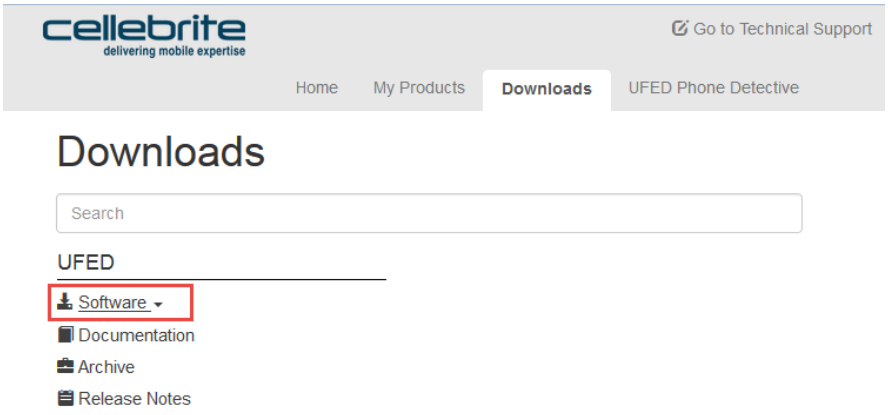
6.4.1. Installing the latest APK version

During the Android backup APK downgrade extraction the following notification appears if you have not installed the latest APK version. The new APK version enables support for additional apps.



To download and install the latest APK version:

1. Go to MyCellebrite and log in with your credentials (or create an account).
2. Click **Downloads**.
3. Search for the APK under the Cellebrite UFED Software.



4. Download the APK Downgrade Pack and save it on the computer or to a USB drive.
5. In Cellebrite UFED, install the APK via **Settings** > **Version** > **File**.

7. Physical extraction

The **Physical Extraction** function enables you to perform a physical bit-for-bit image of the source device memory to a removable storage device or PC.

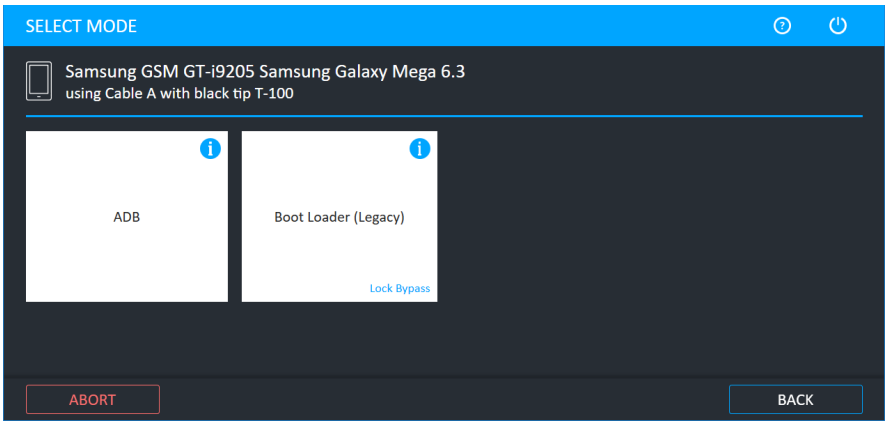
UFED now provides a notification if advanced forensic capabilities are available via Cellebrite Advanced Services for a growing range of supported Android and iOS devices. To learn more refer to: https://www.cellebritAxon Evidence/en/services/advanced-unlocking-services/

Lock Bypass is displayed if the physical extraction method can bypass the user lock of the device.

7.1. Performing a physical extraction

1. Click **Mobile device** and identify the device, then click **Physical**.

   The Select Mode screen appears.

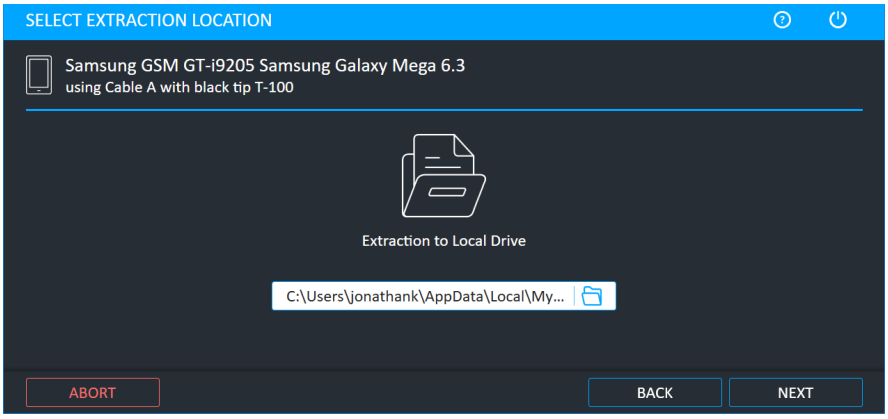


2. Click **ADB** or **Boot Loader (Legacy)**.

   - **ADB**: Android Debug Bridge (ADB) is a built-in communication mechanism that allows device debugging. With this extraction method, you can perform a physical or file system extraction, provided that the device's USB debugging option is enabled. If the device is not already rooted, UFED attempts to temporarily gain the permissions required for the extraction. In some cases, data from a memory card is extracted; however, we recommend that you read the card with an external memory card reader.
   - **Boot Loader**: An extraction method that performs a physical extraction when the device is in bootloader mode. With this extraction, the operating system is not running, so the device cannot connect to the mobile network. It bypasses any user lock and is forensically sound. The bootloader extraction does not support extractions from a memory card.

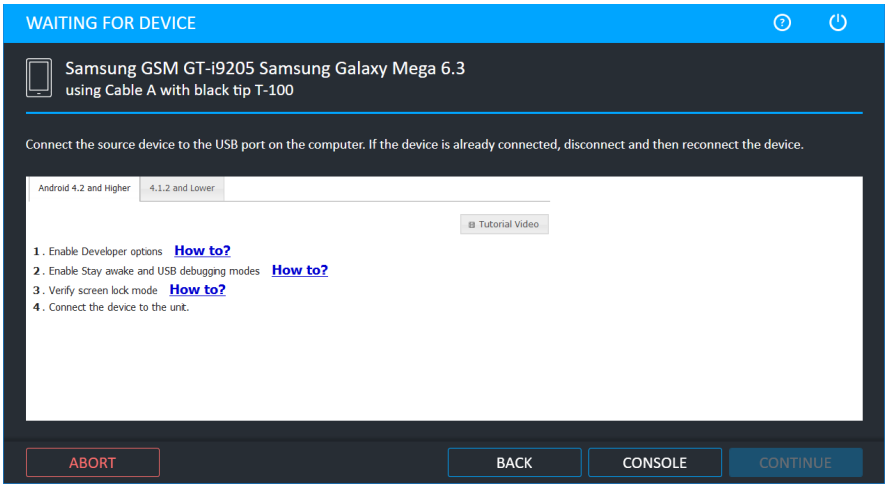
   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The Select Extraction Location screen appears.



3. Click **Next**.

   Depending on whether or not the device requires the UFED Device Adapter, the Waiting for Device or Waiting for Device Adapter screen appears.



4. Do the following:

   a. Select the correct cable and tip for the mobile device based on the instruction on the screen.

   b. Change the device settings according to the instructions.

   c. Connect the device to the PC.

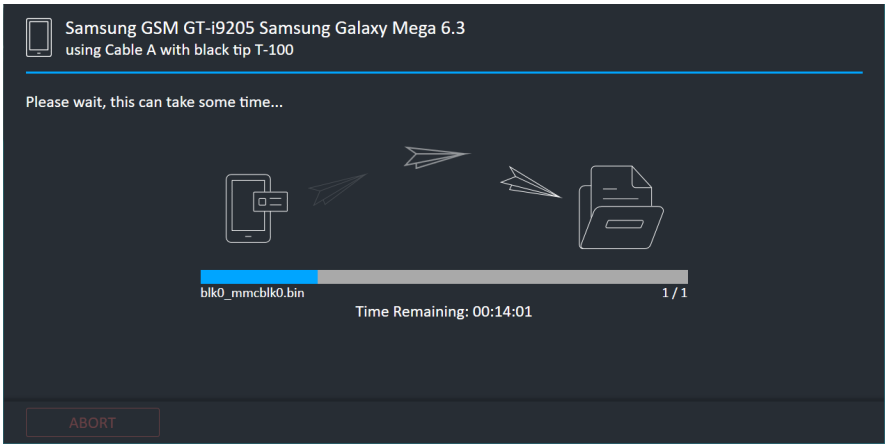
   If the device requires the UFED Device Adapter to perform the extraction:

   - Connect the UFED Device Adapter to a USB port on the computer.

     The source port on the UFED Device Adapter flashes.

   - Connect the device to the UFED Device Adapter.

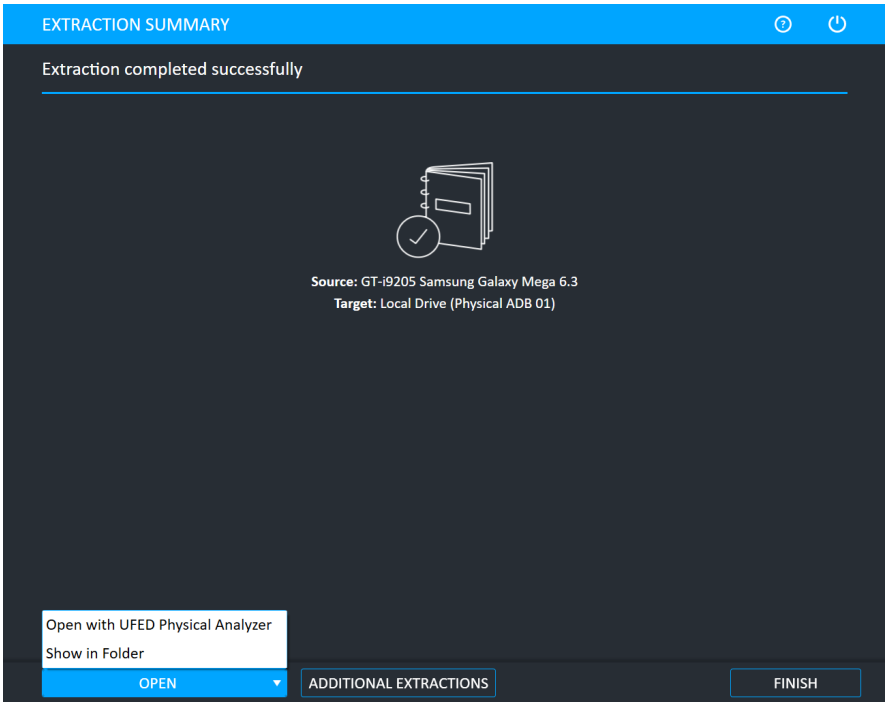
5. Click **Continue**. The Extraction in Progress screen appears.



6. Follow any on-screen instructions.

> For some devices, an estimation of the time the extraction will take is displayed: For example, Blackberry, Nokia BB5, QCP (SamM550, LgEmergency, LgP0), Android, (generic and SPF), SpreadTrum, Samsung GSM (MTK, LGInfinion, and BCM2133), and Palm.

When the extraction completes, the Extraction summary window appears.

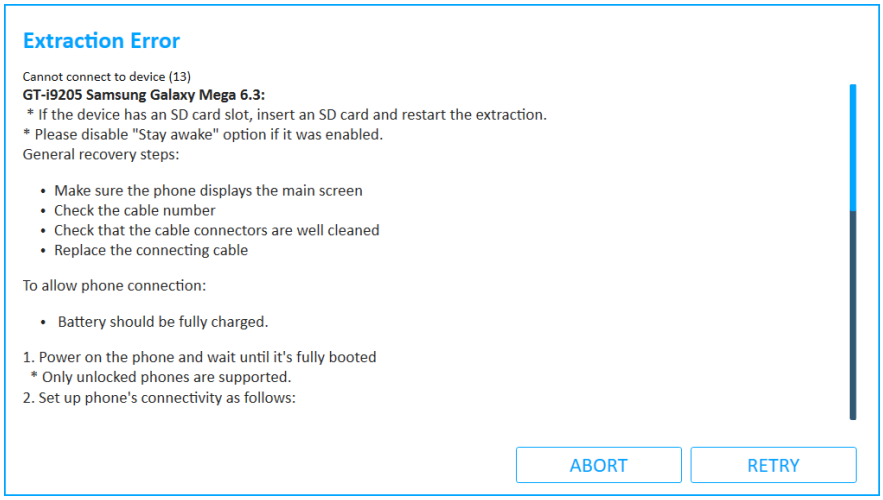


7. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where

Additional Extractions to add additional extraction types for the same device, or click Finish to end the process and return to the Home screen.

If the system cannot connect to the device:

» The following window appears with an error message.



» Follow the instructions on the screen and click Retry.

7.1.1. The Physical extraction folder

At the end of the physical extraction process, the extracted data is saved in the location you selected during the physical extraction process.

The extracted data folder is named Physical with the selected device name and the extraction operation date. For example, Physical Samsung GSM SGH-A711 2011_06_12 (001)

The extracted data folder contains:

» Binary file of the device memory.

» UFD file containing the system extraction information, used by the Physical Analyzer application.

The extraction information can be viewed using the Physical Analyzer. You can double click on the UDF file or open it via the GUI.

7.2. ADB rooted

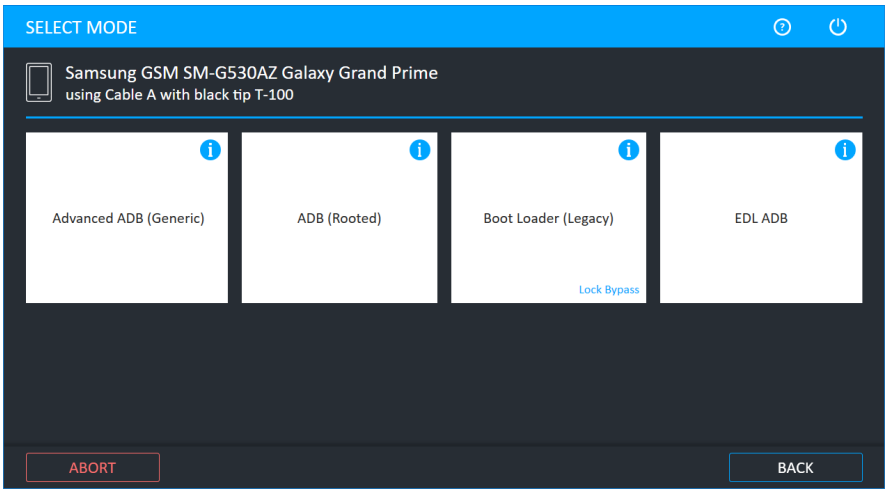
The ADB method for Android rooted devices can be used when the physical extraction method is not supported. Using the ADB method, you can perform a physical extraction from rooted Android devices. This extraction method is for pre-rooted devices only, and does not root the device. To *root* a device means to gain administrative rights on the file system.

A device can be rooted as part of recovery partition or fully rooted following a rooting procedure. We recommend that you do not root the device; however, if there is no other option, use this method.

To perform a physical extraction for a rooted Android device:

1. Click **Mobile device** and identify the device, then click **Physical**.

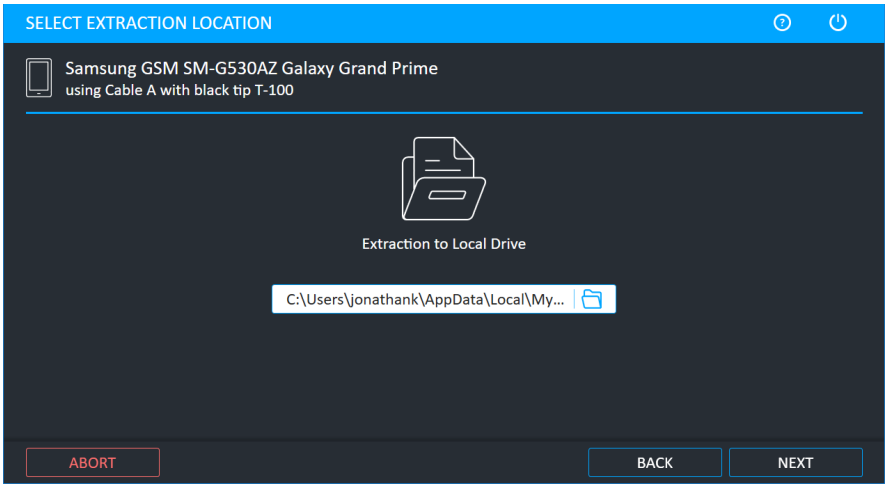
   The Select Mode screen appears.



2. Click **ADB (Rooted)**.

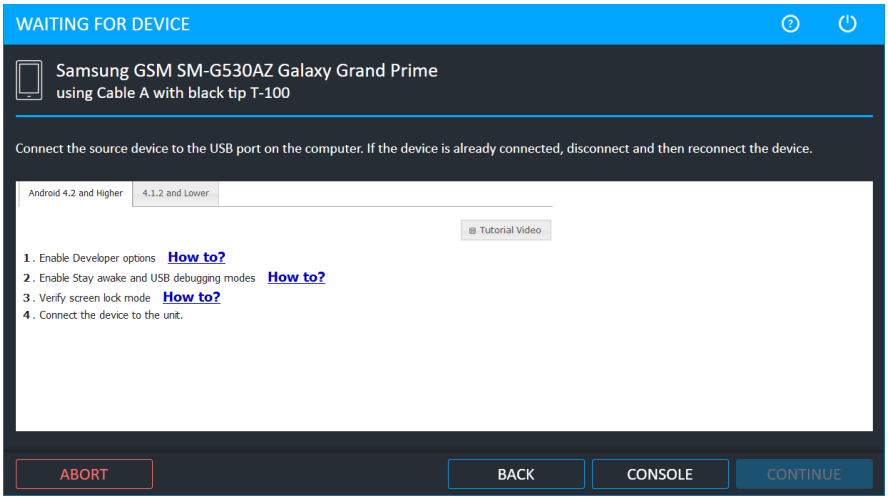
   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The Select Extraction Location screen appears.



3. Click **Next**. The following window appears.

   Depending on whether or not the device requires the UFED Device Adapter, the Waiting for Device or Waiting for Device Adapter screen appears.



4. Do the following:

   a. Select the correct cable and tip for the mobile device based on the instruction on the screen.
   b. Change the device settings according to the instructions.
   c. Connect the device to the PC.

   If the device requires the UFED Device Adapter to perform the extraction:

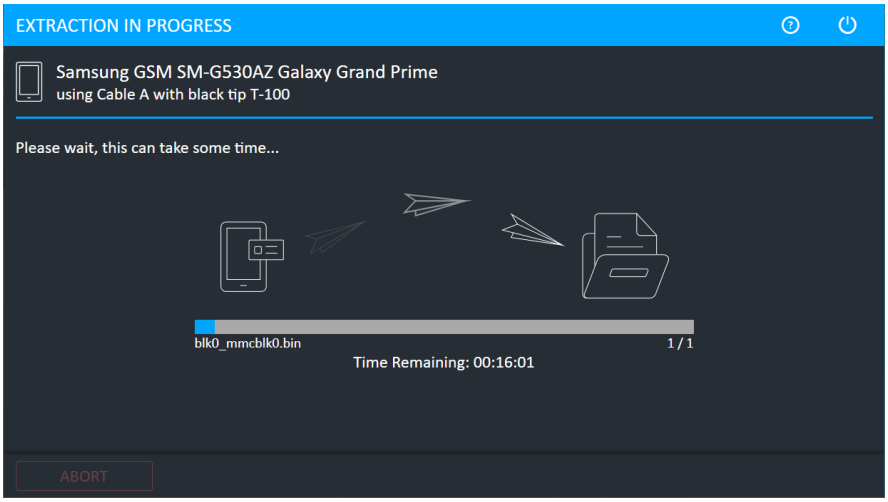
   - Connect the UFED Device Adapter to a USB port on the computer.

     The source port on the UFED Device Adapter flashes.

   - Connect the device to the UFED Device Adapter.

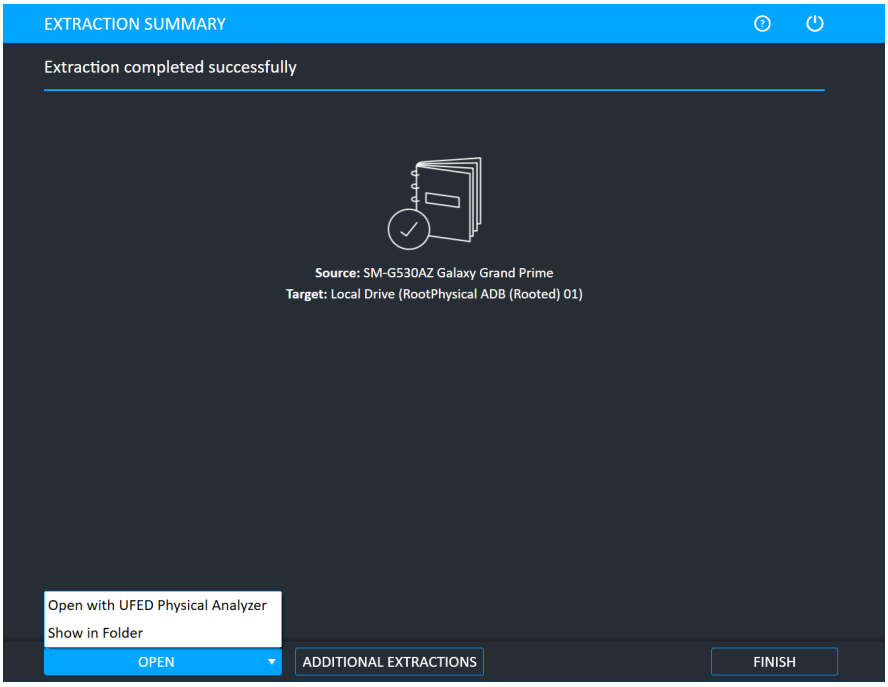
5. Click **Continue**.

   The Extraction in Progress screen appears.



6. Follow any on-screen instructions.

7. When the extraction is complete, the Extraction summary screen appears.



8. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

7.3. Advanced ADB

Advanced ADB extraction enables physical extraction of data from additional devices. This method supports devices with Android operating systems up to version 7.1, on devices with a security patch level up to November 2016, including Galaxy S7, Galaxy Note 5, LG G5, V20, and Nexus devices.

Due to the widely fragmented variance in Android devices, exceptions may apply.

To avoid any interruptions during the extraction, the device must be placed in Airplane mode.

Before performing an Advanced ADB extraction:

1. Make sure the source device is fully charged.
2. Prepare a target storage device on which to save the extraction file. This target can be either a USB mass storage device (connected via OTG cable 501 or 508), or an SD memory card.
   - The target storage device must have FAT32, vFAT, or exFAT format and have sufficient space for the extraction.
   - If a USB drive is selected for the target storage, make sure you have an available OTG cable for the extraction: OTG cable 501 (micro USB connector) or cable 508 (type C connector).

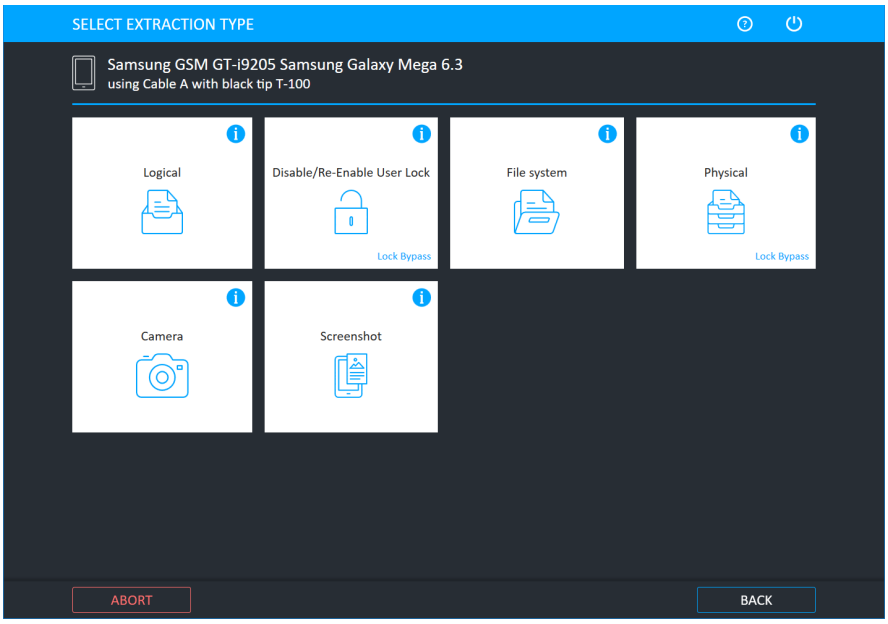
   - If an SD card is selected for the target storage, place it in the Android device now.

     The SD card must be blank and not contain any case evidence.

     If the card port location is under the device's battery, restarting may relock a device that was locked before. Therefore, for devices with OTG support, we recommend using a USB drive for the target storage.

To perform an Advanced ADB extraction:

1. From the Home screen, detect the relevant device automatically. The following window appears.



> If the relevant model is not listed, browse manually for a generic Android model. See Generic model (on page 144).

2. Click **Physical**.

   The Select Mode screen appears.

3. Click **Advanced ADB**.

> For information about using optional timeframe and party filters, refer to the *Overview Guide*.

4. Follow the instructions to set up device connectivity.

5. On the source device, perform the following steps:

   a. On an Android OS 4.3 and above, Go to **Menu (Apps)** > **Settings (More)** > **Security** and clear the Verify apps setting. Approve any pop-ups that may appear.

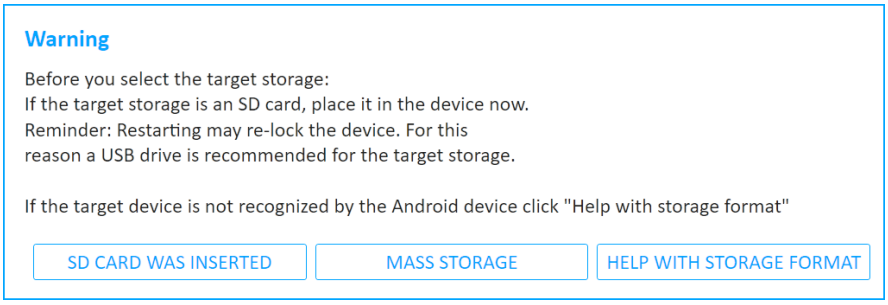
   b. Go to **Menu (Apps)** > **Settings (More)** > **About (Software information)** > **More**, and tap the Build number 7 times until developer options are enabled.

   c. Go to **Development settings** and enable USB debugging.

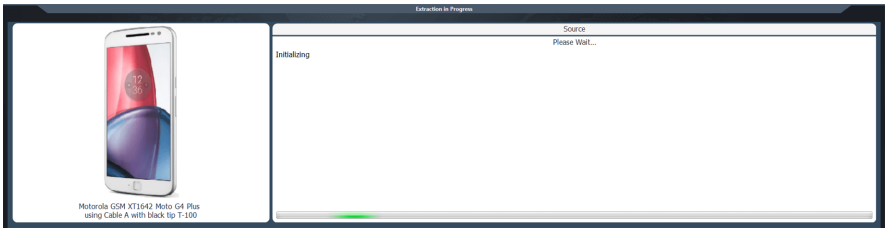
   d. Connect the source device to the cable described in UFED.

   e. A notification is added to the notification dropdown. Allow MTP and PTP on the device.

6. On the UFED screen, click **Continue**. The following window appears.

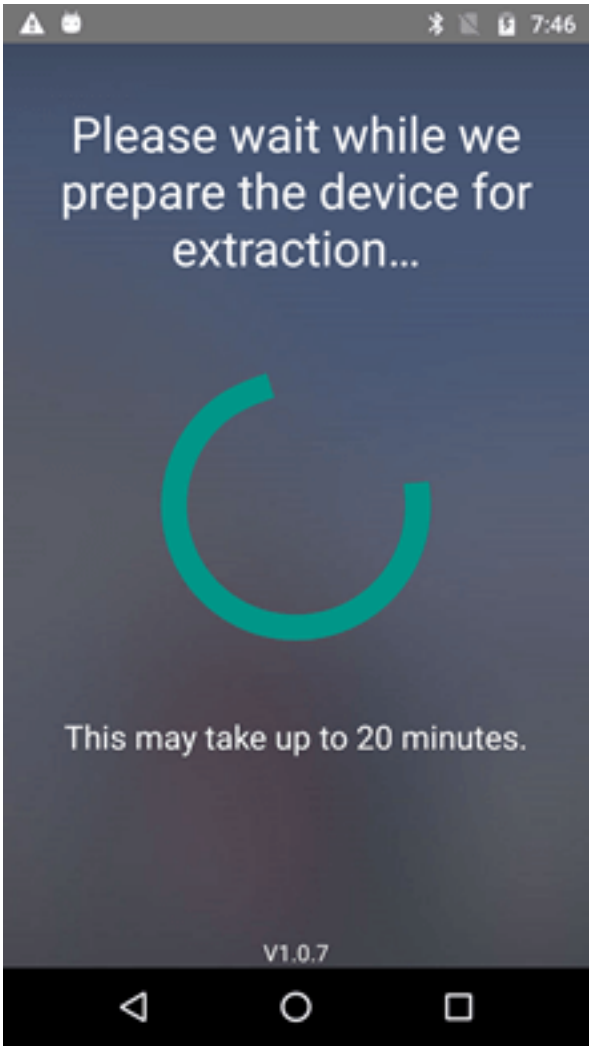


7. Click the relevant target storage. The following window appears.



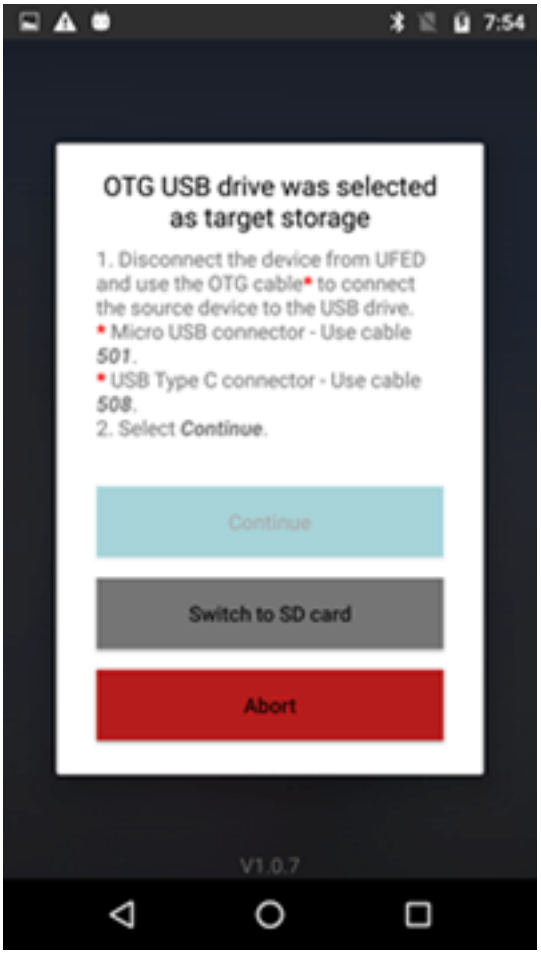
If requested, you should only approve the installation of apps.

UFED is installing the extraction app and attempting to temporarily gain the permissions required for the extraction. This stage can take approximately 20 minutes. During this process, the device screen appears.



When UFED has prepared the device, a window appears indicating that the device is ready for extraction. Disconnect the device from UFED and follow the instructions on the source device.

8. Click **Continue**.
9. Follow the instructions on the Android source device's screen. For a USB drive target, continue to the following step. For an SD card target, skip to the next step.
10. If a **USB drive target** was selected, the following screen appears.



a. Follow the on-screen instructions:

   i. Disconnect the device from UFED.

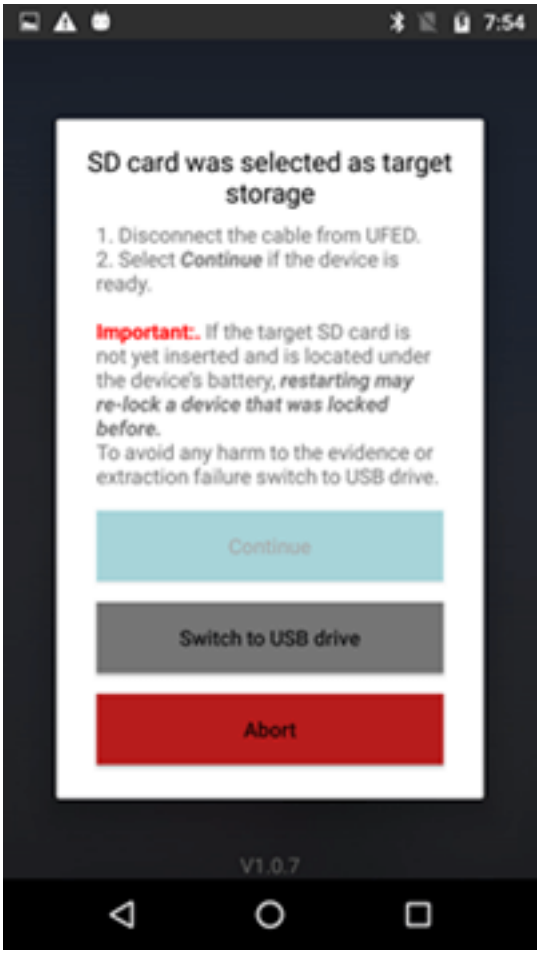
   ii. Use the OTG cable to connect the source device to the USB drive.

> Selecting **Switch to SD card** changes the target type configuration.

> Selecting **Abort** ends the extraction process and requires a device restart.

b. Skip the SD card step.

11. If an **SD card target** was selected, the following screen appears.



a. Follow the on-screen instructions:

   i. Disconnect the device from UFED.

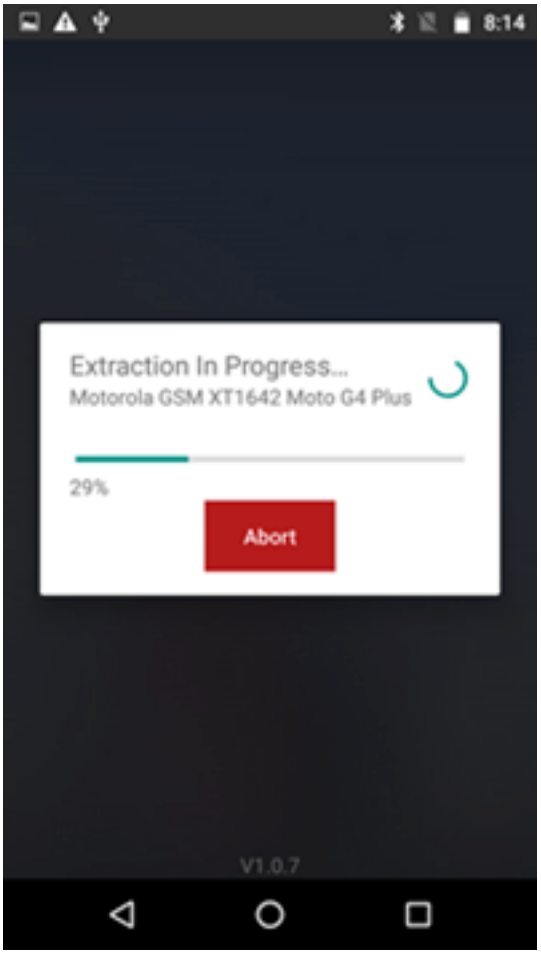
   ii. If the target SD card is not yet inserted and is located under the device's battery, restarting may relock a device that was locked before. To avoid an extraction failure (for devices with OTG support), select **Switch to USB drive**.

   Reminder: This target device requires a FAT32*, vFAT, or exFAT format SD card with sufficient space for the extraction.

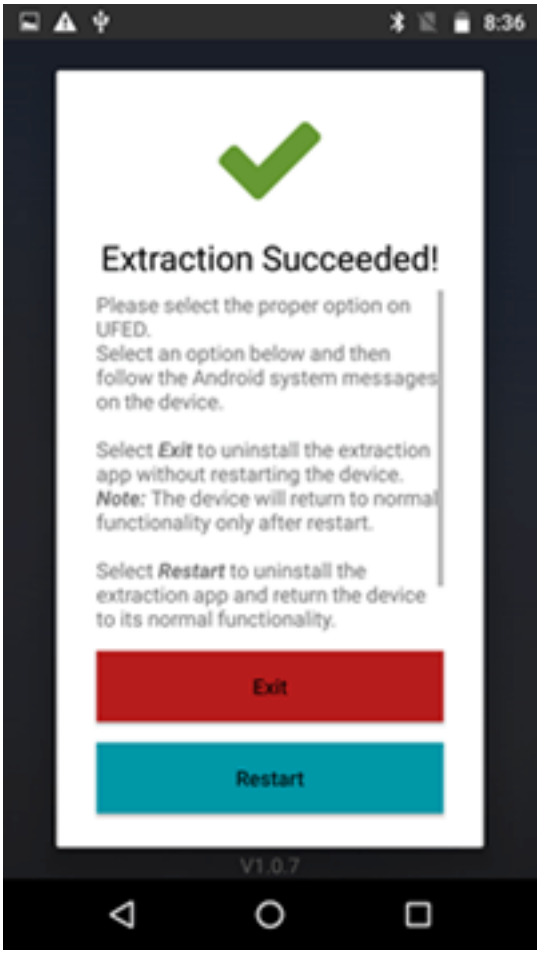
   Selecting **Switch to USB drive** changes the target type configuration.

   Selecting **Abort** ends the extraction process and requires a device restart.

12. Select **Continue**. The reading process begins.



When the extraction is successfully completed, the following screen appears.



13. Select **Exit** to uninstall the extraction app without restarting the device, or select **Restart** to uninstall the extraction app and return the device to its normal functionality.

> Restarting may relock a device that was locked before.

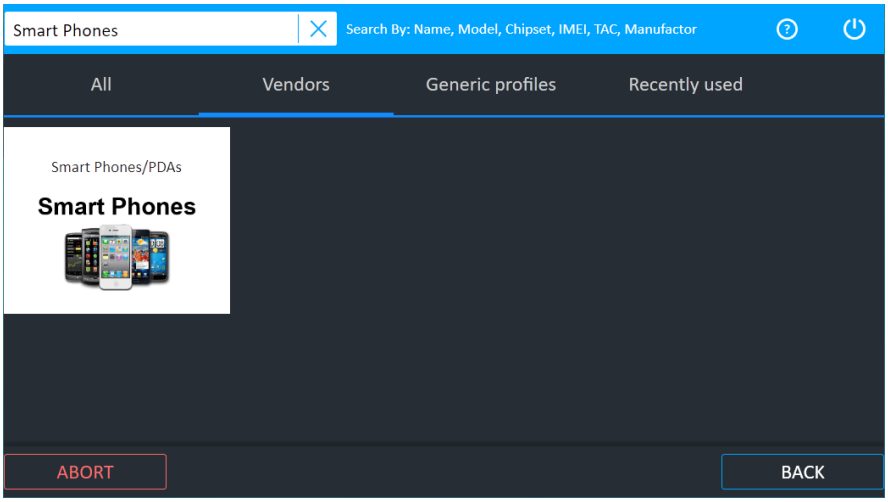
> The device only returns to normal functionality after restart.

14. Return to UFED.
15. Follow the on-screen instructions on the source device. When the extraction completes click **Extraction failed**, **Extraction successful** or **Abort** to update the extraction Activity log.
16. Click the relevant extraction status to update the extraction Activity log.
17. Follow the instructions and click **Finish**.

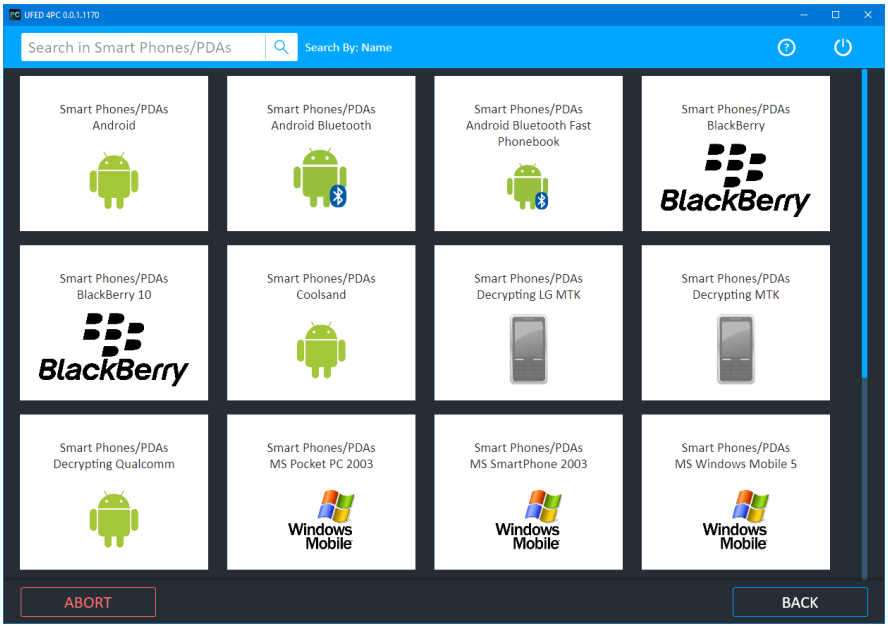
7.3.1. Generic model

To perform an Advanced ADB extraction:

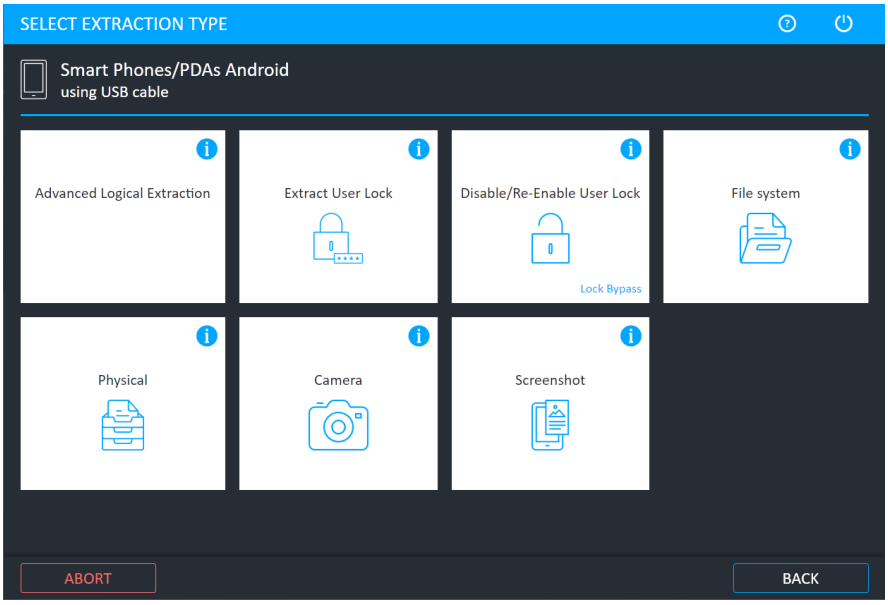
1. From the Home screen, click **Skip** > **Vendors** (tab) and search for `Smart Phones`. The following window appears.



2. Click **Smart Phones**. The following window appears.



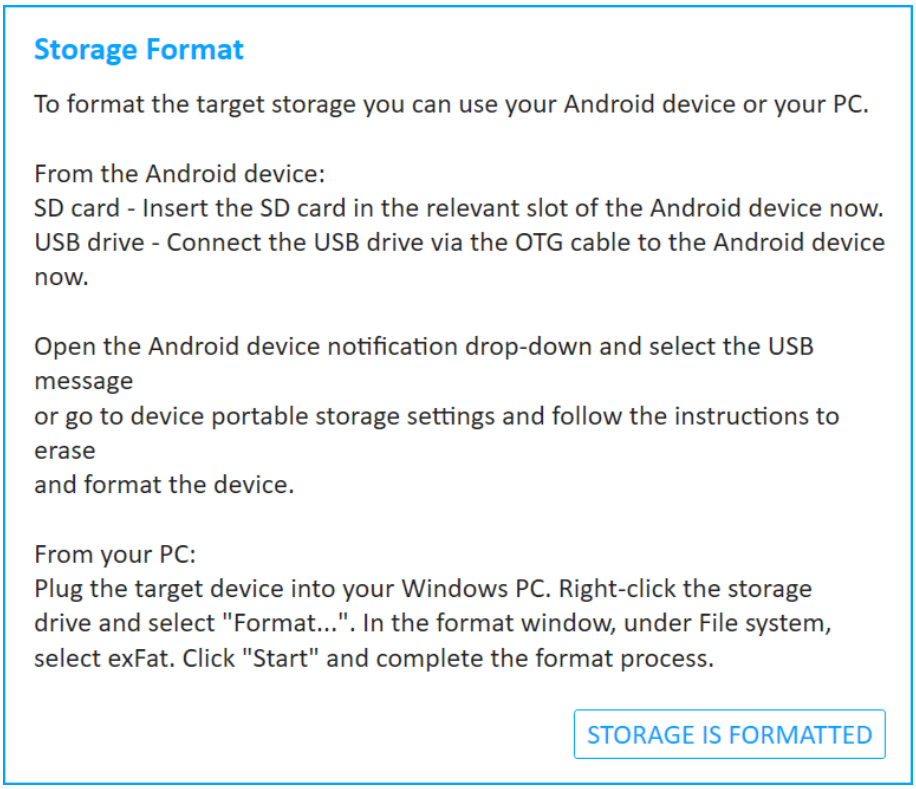
3. Click the relevant model. The following window appears.



4. Click **Physical**.
5. Continue with the extraction.
6. To continue, refer to Advanced ADB (on page 136).

7.3.2. Errors and notifications

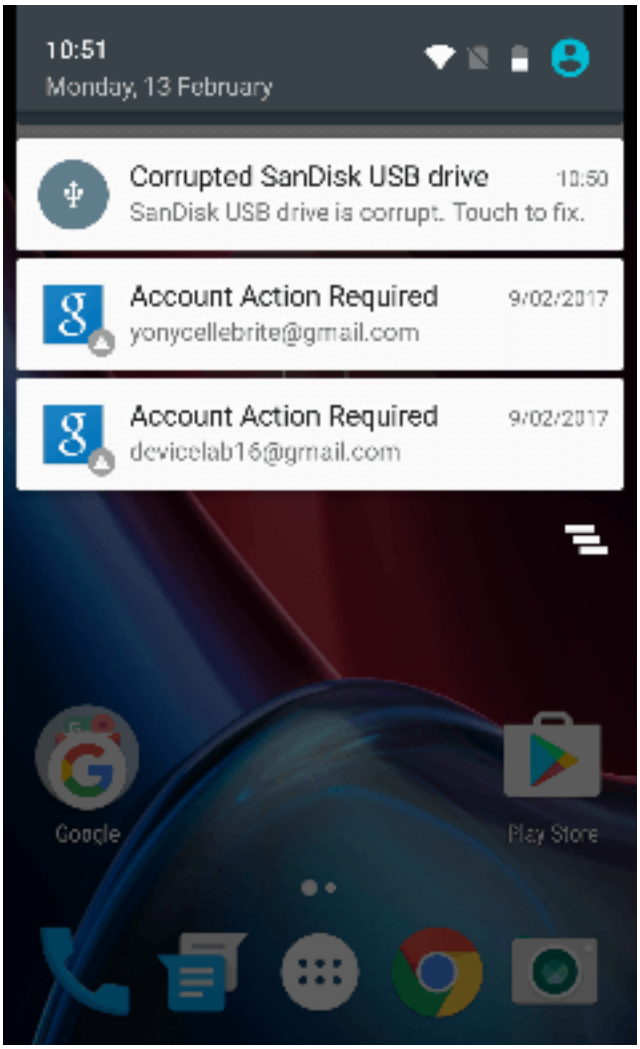
7.3.2.1. Disk format error



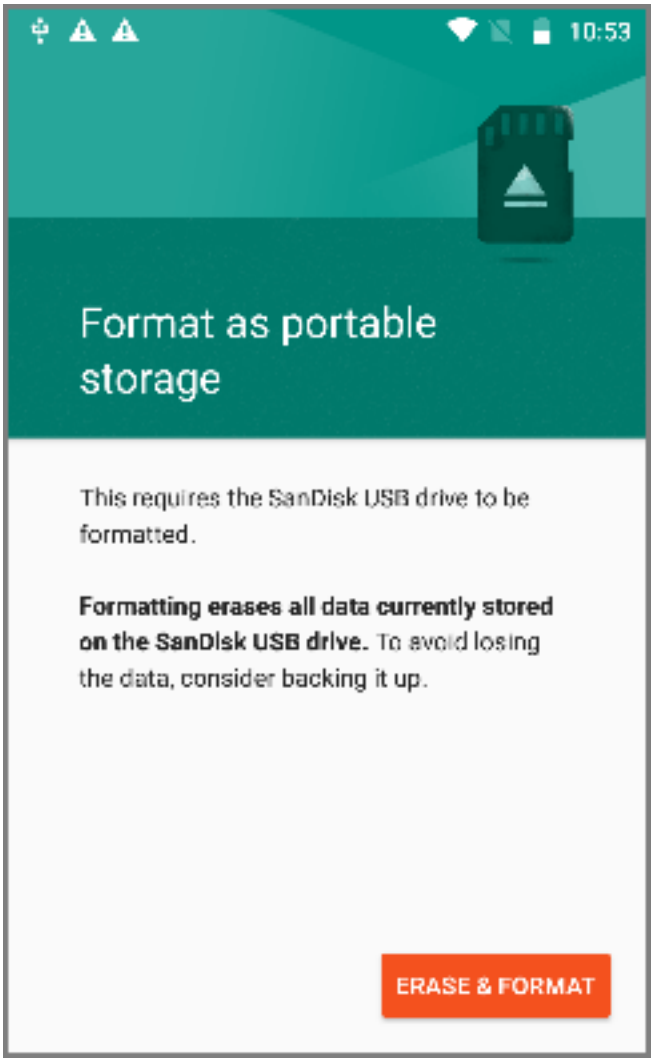
If you receive this error message, follow the instructions listed in the error message.

To format the storage device from the Android device:

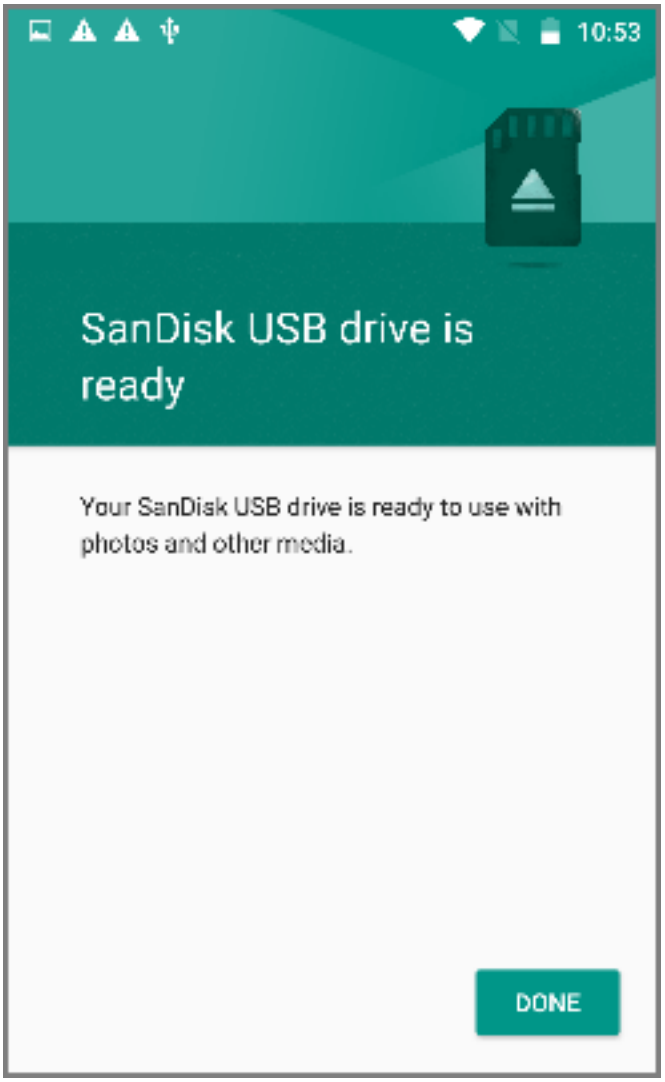
1. Open notification.



2. Select the **Corrupted USB drive** notification. The following screen appears.

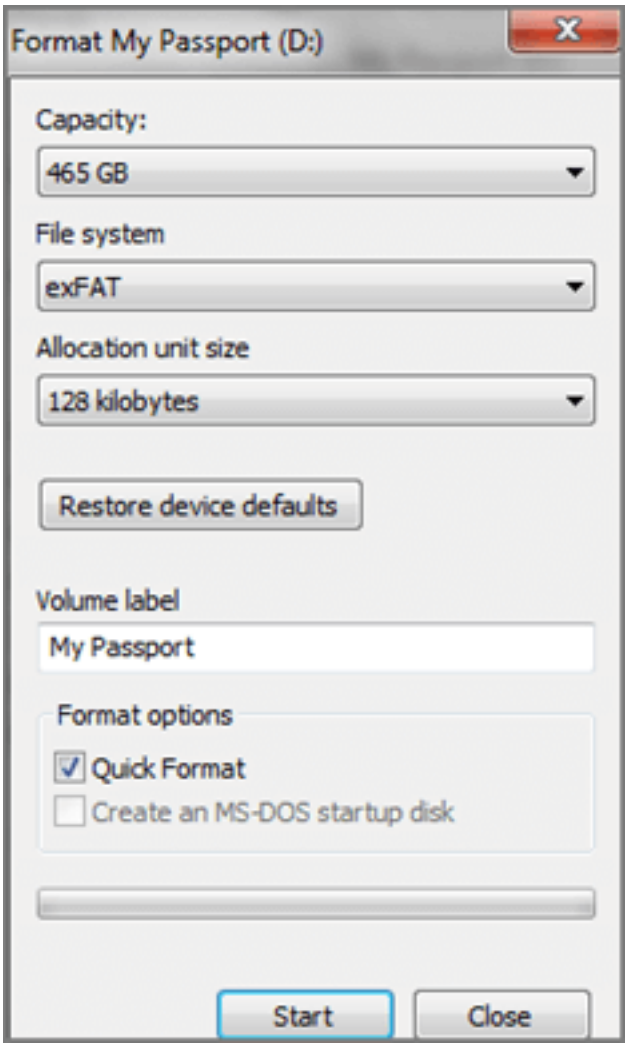


3. Follow the instructions to erase and format the device. Upon completion, the following screen appears.


10:53
SanDisk USB drive is ready
Your SanDisk USB drive is ready to use with photos and other media.
DONE

To format the storage device from the PC:

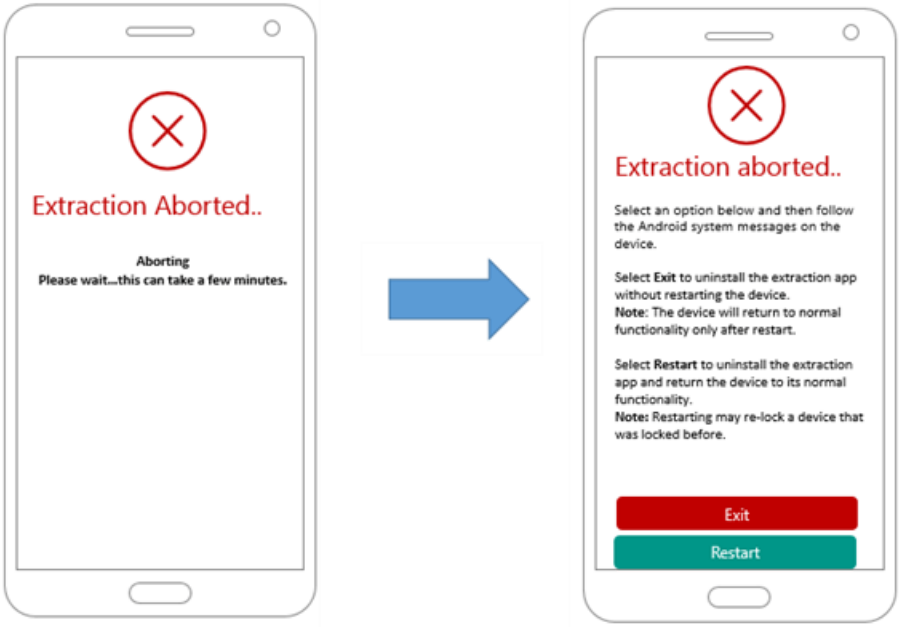
1. Plug the hard drive into your Windows PC. Right-click on the D drive and select **Format** The following window appears.



2. Under File System, select exFAT.
3. Click **Start** and complete the format process.

7.3.2.1.1. Extraction aborted

If **Abort** was selected during the extraction process, the screen on the left appears. After some time (up to a few minutes) the screen on the right appears.



» Select **Exit** to uninstall the extraction app without restarting the device.

> The device only returns to normal functionality after a restart.

» Select **Restart** to uninstall the extraction app and return the device to its normal functionality.

> Restarting may relock a device that was locked before.

7.3.2.1.2. Extraction failed

If the extraction failed for any reason, the following screen appears with the failure reason.

» Select **Exit** to uninstall the extraction app without restarting the device.

> The device only returns to normal functionality after restart.

» Select **Restart** to uninstall the extraction app and return the device to its normal functionality.

> Restarting may relock a device that was locked before.

7.4. Boot loader (FW flashing)

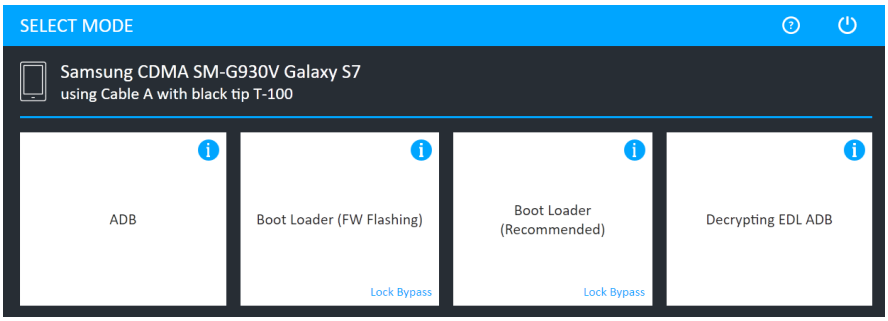
The Boot loader (FW flashing) extraction method uses boot loader reflashing, which enables a physical extraction while bypassing user lock (non-secure startup). This method is for Qualcomm-based Samsung Galaxy S7 devices running firmware version of Android 7.x. For a complete list of supported devices, refer to UFED Supported Devices document in MyCellebrite. This extraction does not support extractions from a memory card.

This Boot loader (FW flashing) extraction method requires the device's firmware to be flashed. In some cases the device may experience unexpected behavior and you must flash the original device firmware, which causes a device wipe. Before using this method, we recommend trying other Physical bootloader methods.

To perform Boot loader (FW flashing):

1. Click **Mobile device** and identify the device, then click **Physical**.

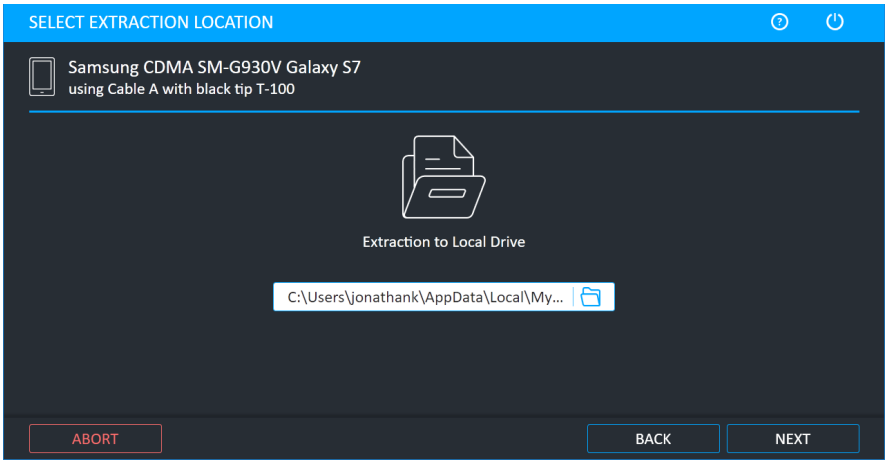
   The Select Mode screen appears.



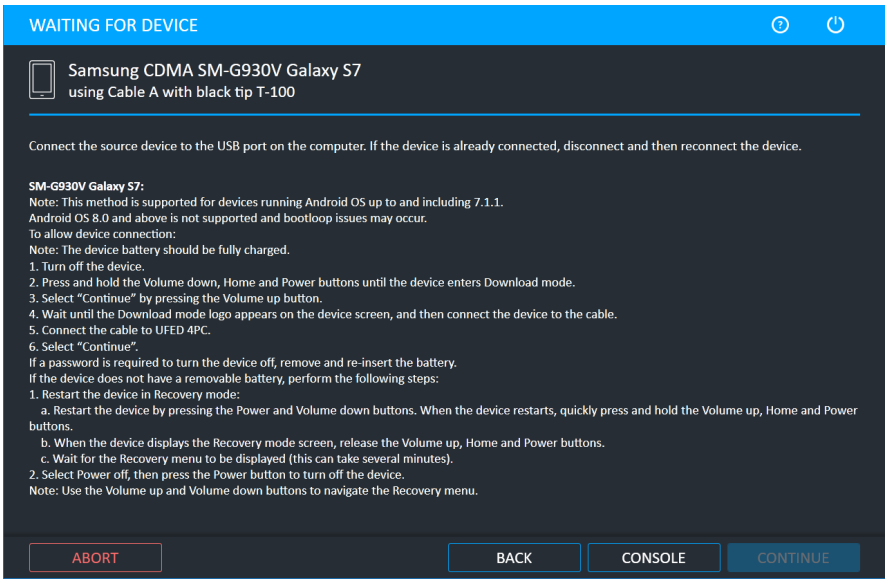
2. Select **Boot loader (FW Flashing)**.

   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The following Select extraction location window appears.

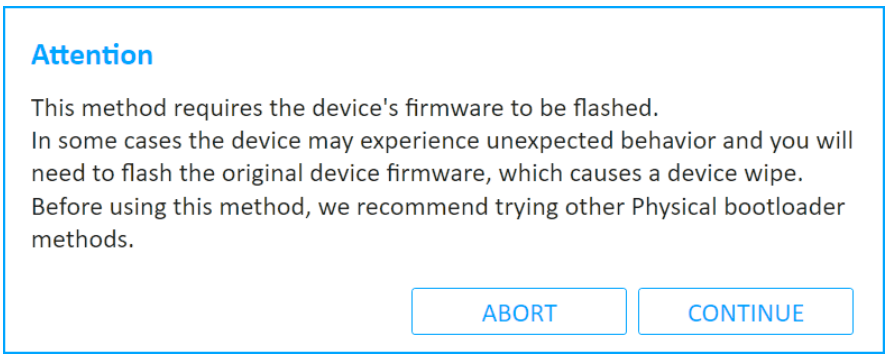


3. Select the extraction location. Click **Next**.The Waiting for Device screen appears.

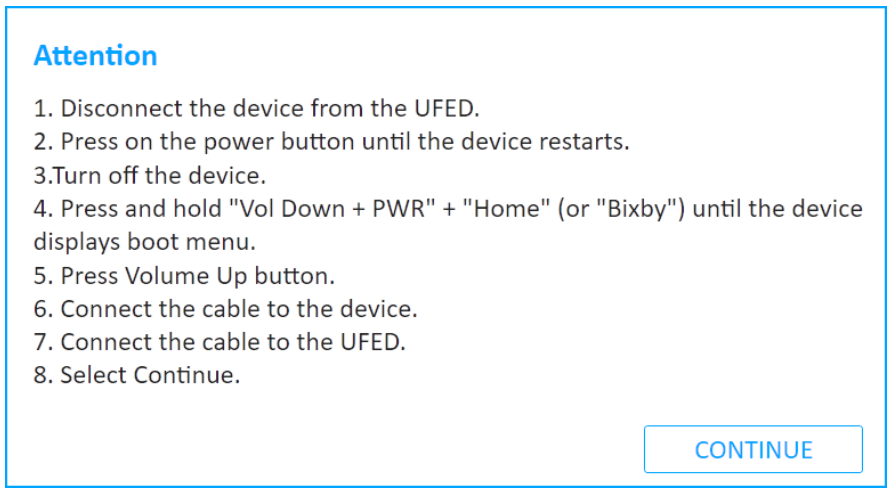


4. Follow the on-screen instructions to place the device in Download mode, then connect the required cable to the device and UFED.

5. Click **Continue**. The following window appears.

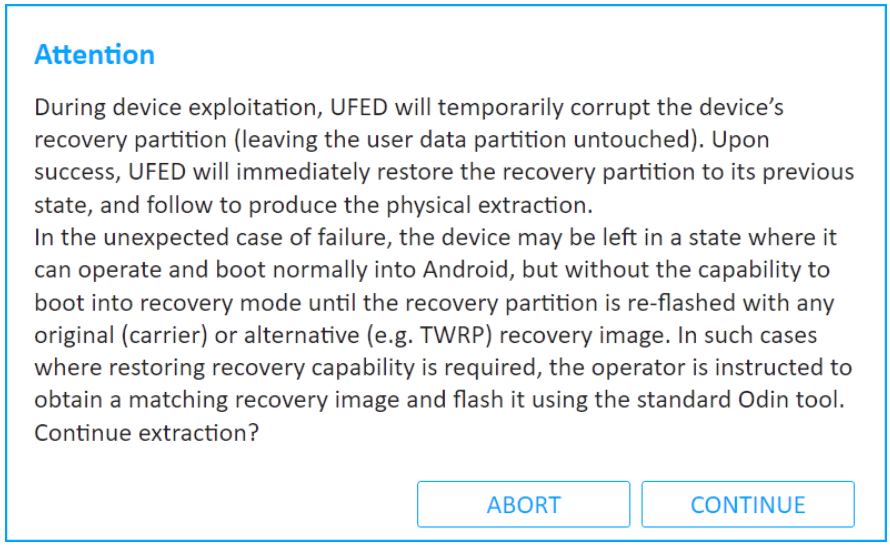


6. Click **Continue** to flash the device's firmware. The following window appears.

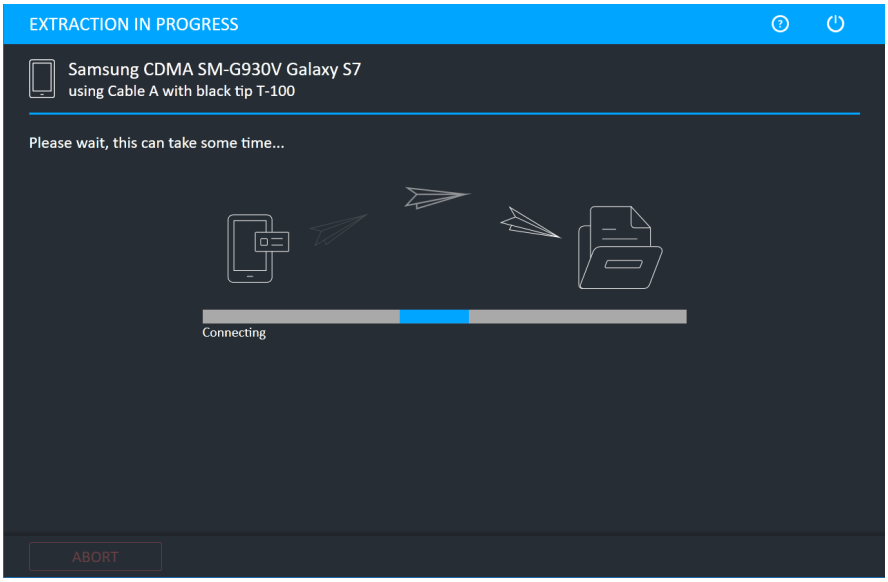


7. Follow the on-screen instructions to place the device in Download mode again, then connect the required cable to the device and UFED.

8. Click **Continue**. The following window appears.



9. Click **Continue**. The Extraction in Progress window appears.



10. Follow any on-screen instructions.

    When the extraction completes, the Extraction completed successfully window appears.

11. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

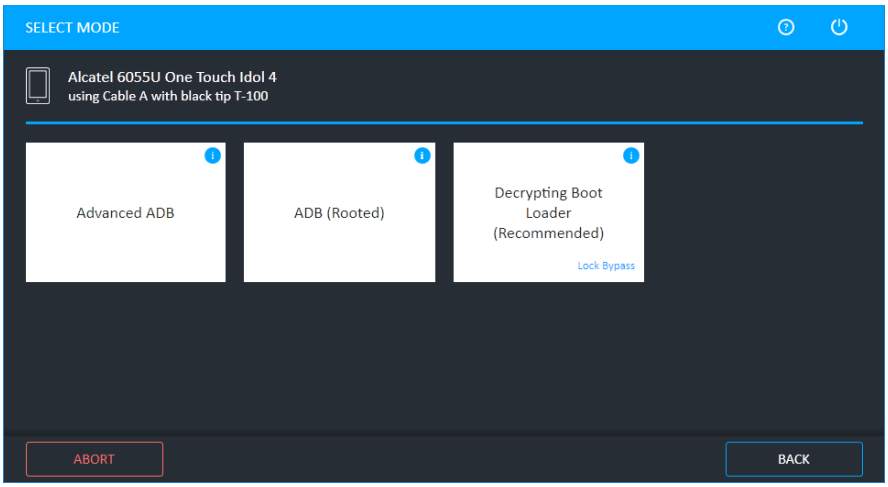
7.5. Decrypting boot loader

This extraction method performs a physical extraction on encrypted Android devices with the following Qualcomm chipsets: 8909, 8916, 8939, 8952, and 8396. It performs the extraction when the device is in boot loader mode. It bypasses the user lock and is forensically sound.

To perform a Decrypting boot loader extraction:

1. Click **Mobile device** and identify the device, then click **Physical**.

   The Select Mode window appears.

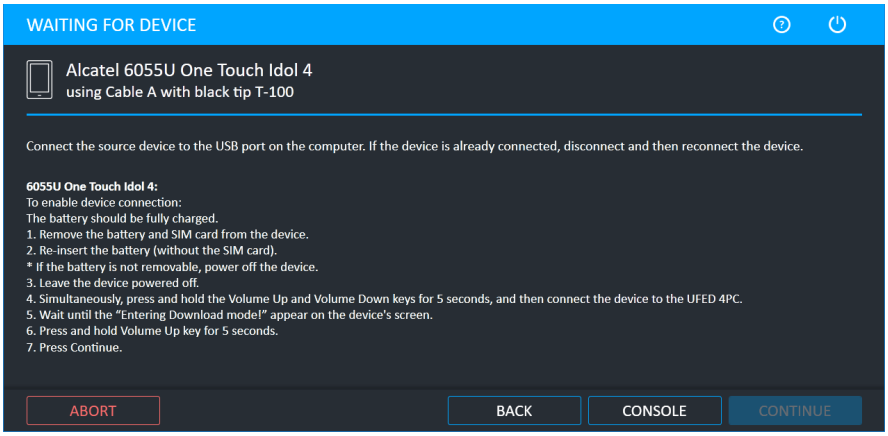


2. Click **Decrypting Boot Loader**.

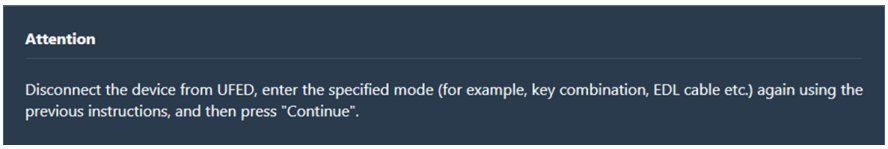
   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The Select Extraction Location window appears.

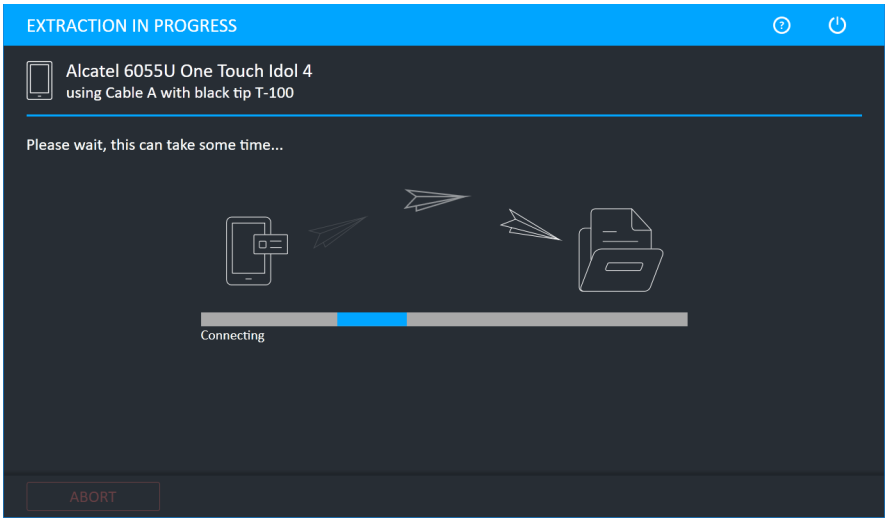
3. Select the extraction location. Click **Next**.The Waiting for Device window appears.



4. Follow the on-screen instructions to place the device in the required mode. Click **Continue** when enabled.



5. Disconnect the device from UFED, enter the specified mode again (for example, key combination, EDL cable etc.) using the previous instructions, and then click **Continue**. The following window appears.



When the extraction completes, the Extraction completed successfully window appears.

6. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

7.6. Forensic recovery partition

An extraction method that performs a physical extraction while the device is in recovery mode. UFED replaces the device's original recovery partition with Cellebrite's custom forensic recovery partition. The original recovery partition on the Android device can be considered as an alternative boot partition that may also change the user data, while Cellebrite's recovery partition does not affect any of the user data. This extraction method bypasses the user lock from several Samsung Android devices and is forensically sound. It does not support extractions from a memory or SIM card.

For a complete list of supported devices, refer to the UFED Phone Detective Mobile App or the UFED Supported Devices document in MyCellebrite.

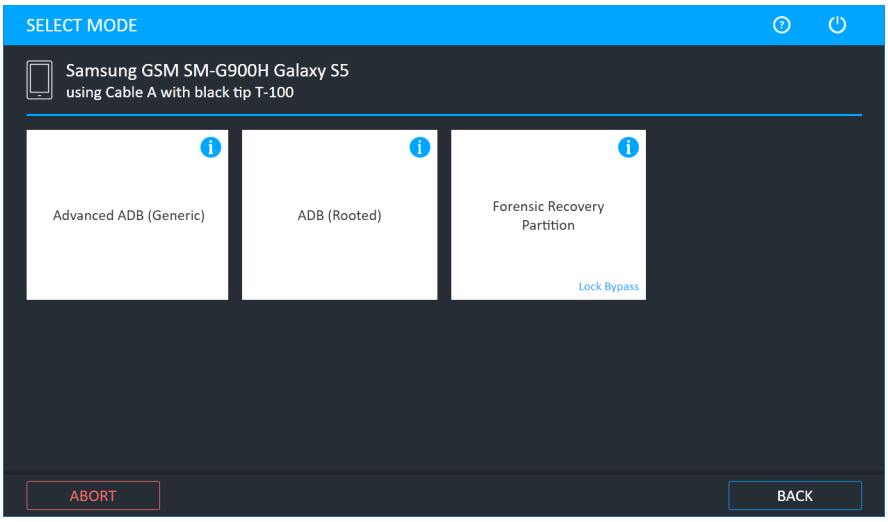
We recommend that you use the Forensic recovery partition method when other physical extraction methods (e.g., Bootloader) are not successful, or not available (e.g., if the Android firmware version is not supported).

If the device does not start correctly after using this extraction method, use the Exit Android Recovery Mode device tool. See Exit Android recovery mode (on page 201).

To perform a forensic recovery partition extraction:

1. Click **Mobile device** and identify the device, then click **Physical**.

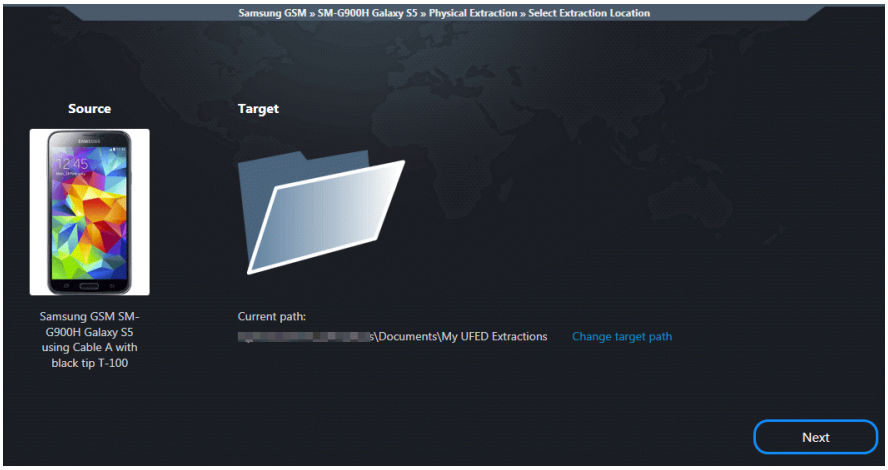
   The Select Mode screen appears.



2. Select **Forensic Recovery Partition**.

For information about using optional timeframe and party filters, refer to the *Overview Guide*.

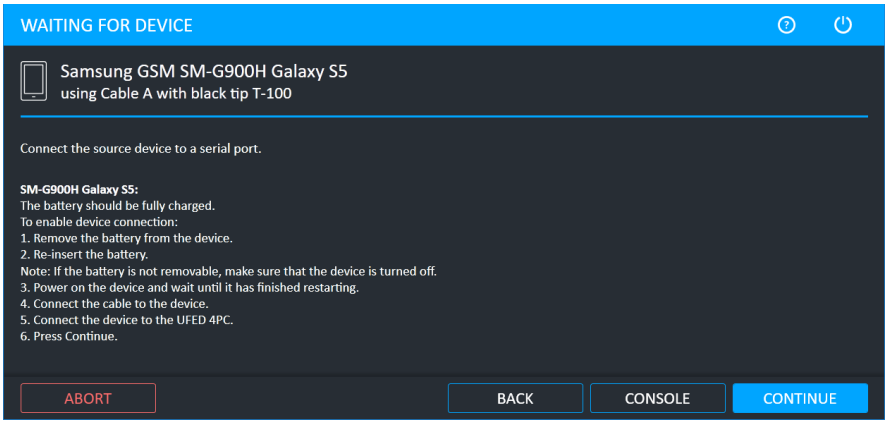
The following screen appears.



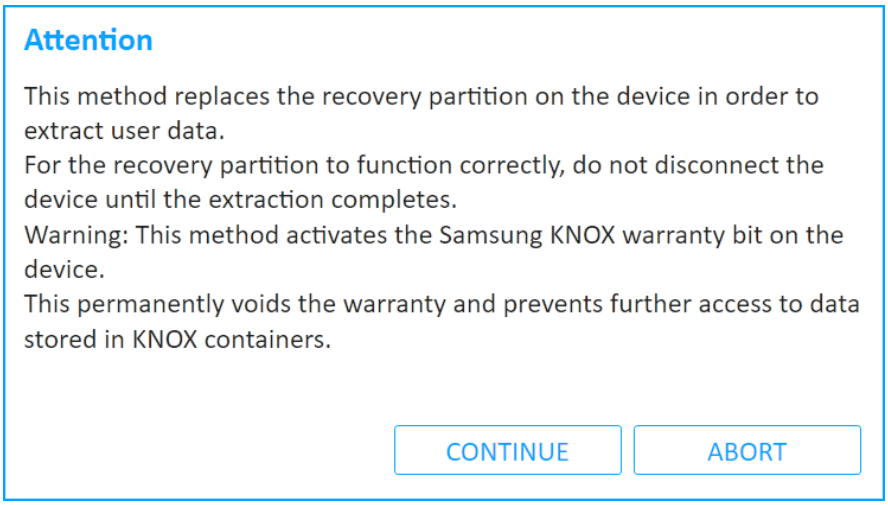
3. Click **Next**.

Depending on whether or not the device requires the UFED Device Adapter, the Waiting for Device or Waiting for Device Adapter screen appears.

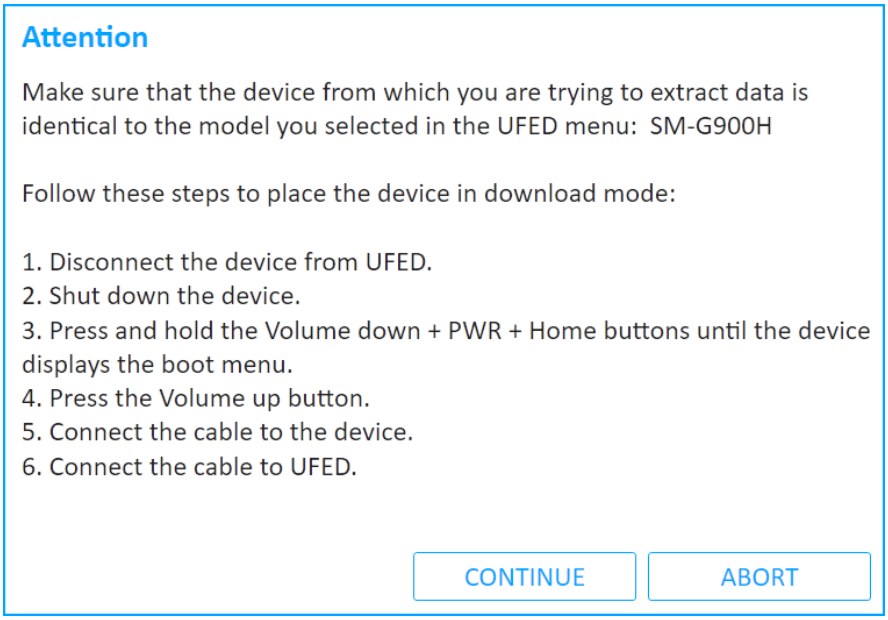
The Waiting for Device screen appears.



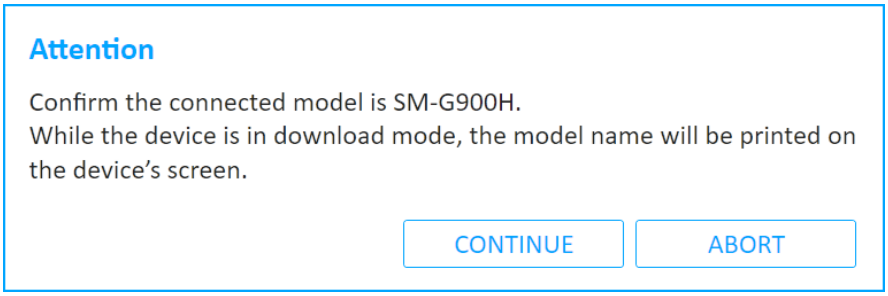
4. Click **Continue**. The following warning is displayed.



5. Click **Continue**. The device is placed in download mode. The following screen appears.



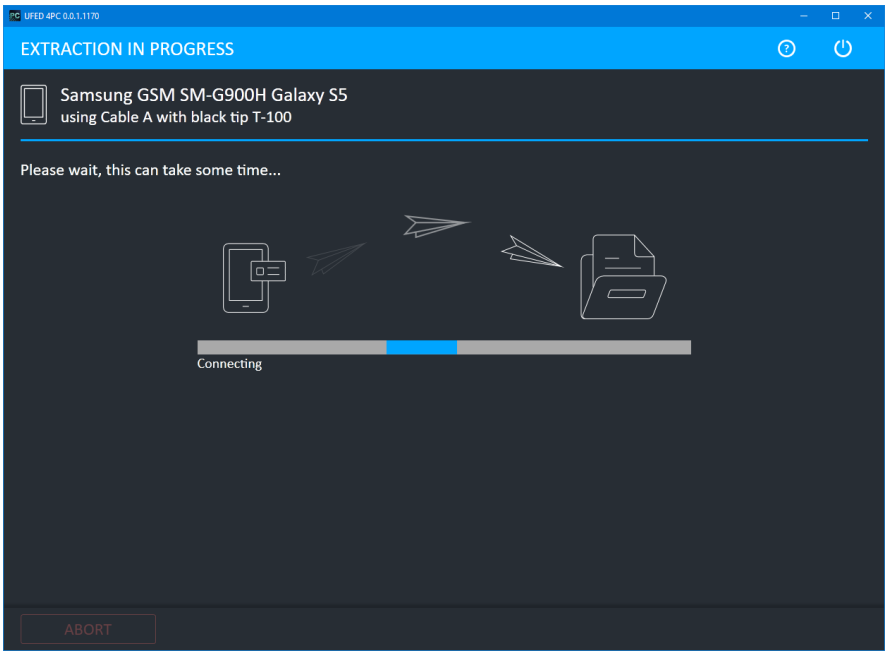
6. Click **Continue**. The following screen appears.



7. Click **Continue**. The following screen appears.

8. Follow the instructions to place the device in Download mode. Force it to restart by pressing the Power and Volume down buttons. When the device restarts, quickly press the Volume up, Home and Power buttons. Click **Continue** when **Downloading** appears on the device's screen (this can take a few minutes).

   The Extraction in Progress screen appears.



9. Follow any on-screen instructions.

   When the extraction completes, the Extraction completed successfully window appears.

10. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

7.7. Smart ADB

The Smart ADB extraction method enables you to perform physical extractions on Android devices that include the `November 2016` security patch. This method is supported by OTG compatible devices, with OS versions 6.0 and above. Only security unlocked devices are supported.

On some devices, you may need to enable the OTG option.

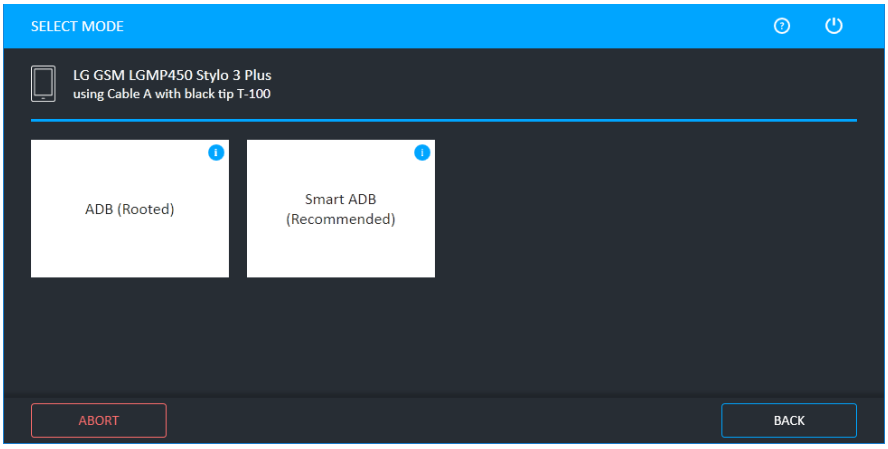
We recommend that you place the device in Flight mode.

If a specific device is not supported, we recommend that you use a similar model or any generic Advanced ADB profile.

To perform a Smart ADB extraction:

1. Click **Mobile device** and identify the device, then click **Physical**.

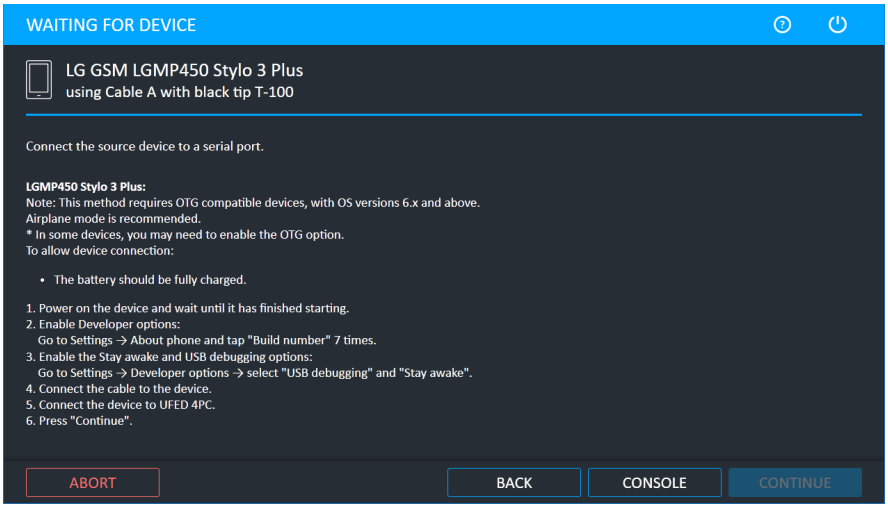
   The Select Mode screen appears.



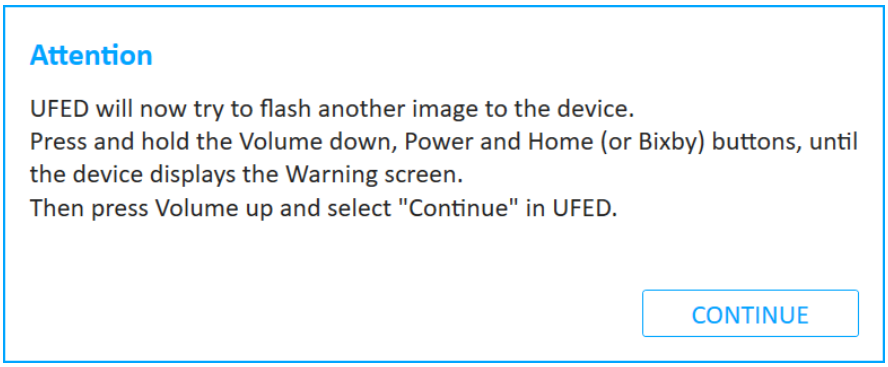
2. Click **Smart ADB**.

   For information about using optional timeframe and party filters, refer to the *Overview Guide*.

   The Waiting for Device screen appears.



3. Follow the on-screen instructions then click **Continue**. The following window appears.



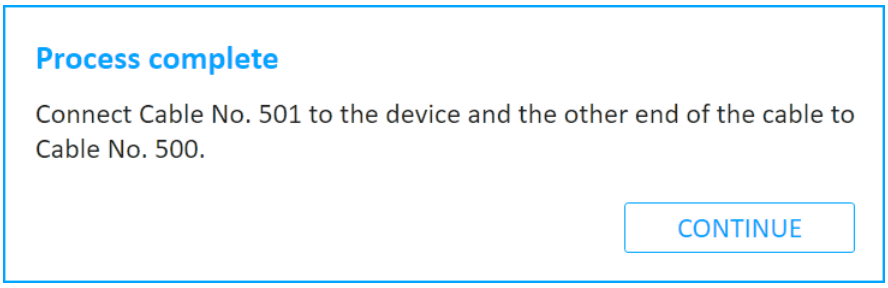
4. Click **Continue**. The following window appears.

5. Disconnect the device and connect Cable No. 500 (side A) to UFED, then click **Continue**.

The initializing stage can take up to 30 minutes.

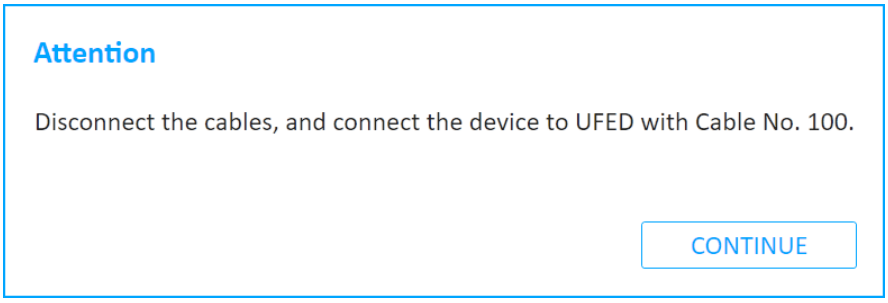
If required, this process flashes new firmware to the cable. You can also use the Flash Cable 500 Firmware (on page 204) tool.

The following window appears.

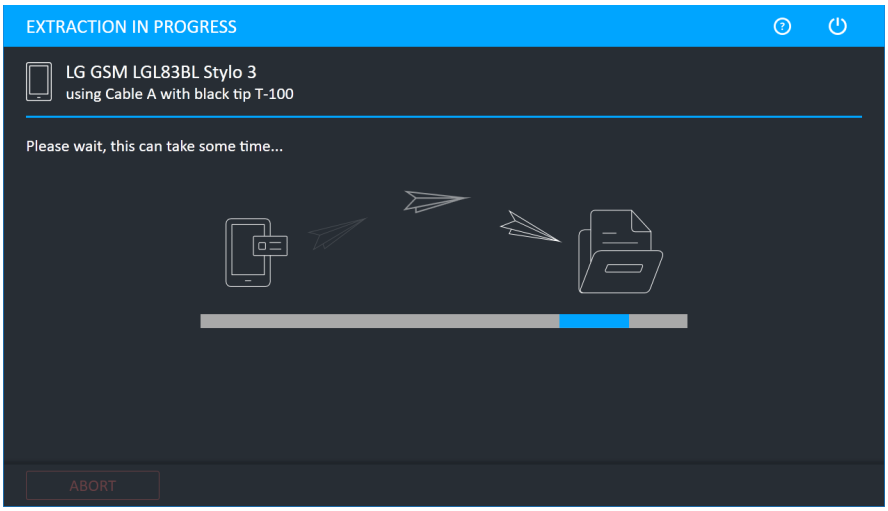


6. Connect Cable No. 501 (or other specified cable) to the device and the other end of the cable to Cable No. 500, then click **Continue**. The initialization process starts.

   The following window appears.

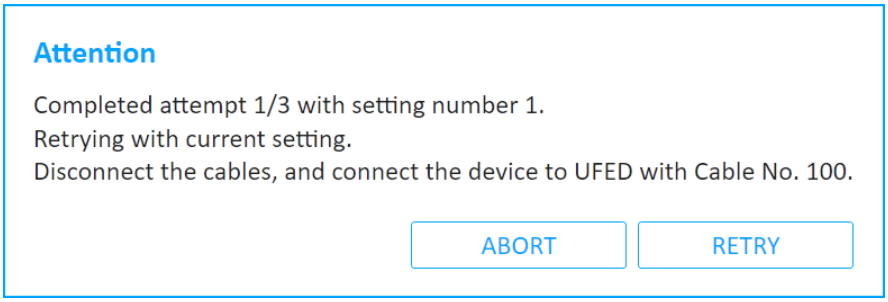


7. Disconnect Cable No. 500 and reconnect the device using Cable No. 100 (or other specified cable). Click **Continue** to start the extraction. The following window appears.



   When the extraction completes, the Extraction completed successfully window appears. If Cellebrite UFED could not find a setting for the specific device, UFED can attempt other potential settings. This process requires user interaction and takes time to complete.

8. Click **Continue** to try the extraction with other settings. The following window appears.



9. Disconnect the cables and connect the device to UFED with Cable No. 100 (or specified cable), then click **Retry**.

   When the extraction completes, the Extraction completed successfully window appears.

10. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

8. Extracting Android devices

This chapter covers the pros and cons of each Android extraction method, and provides answers to frequently asked questions about the extraction methods.

8.1. Android extraction methods

Many different devices run the Android operating system: phones, MP3 players, tablets, eBook Readers, and more.

There are two main extraction methods for Android devices:

- ADB debugging - extraction using a built-in protocol that runs within the operating system. This method uses the Android Debugging Bridge (ADB), which is active when USB Debugging is enabled. Using this method, you can perform a physical or file system extraction on almost any Android device, provided that device USB debugging is enabled. All currently available Android OS versions are supported. For more information, see Android debugging bridge method (below).
- Bootloader extraction - extraction that takes place before the Android operating system starts running (several variations of this method are available). This method can be performed on locked devices. For more information, see Bootloader extraction (on page 170).

8.1.1. Android debugging bridge method

Q: How does ADB work?

A: ADB is a built-in protocol within the Android operating system. Every Android-based device has this protocol, which enables developers to connect to an Android-based device and perform low-level commands used for development. Cellebrite utilizes this protocol to extract data from Android devices.

Q: Can ADB be used to extract any Android device?

A: In theory, data can be extracted from every Android device using ADB. However, there are some limitations:

- **USB debugging** must be enabled on the device
- Access to the device must be with administrator permissions.

Q: How do I turn on USB debugging?

A: On most Android devices: go to **Menu** > **Settings** > **Applications** > **Development** and then click **USB debugging**.

Q: Does this method bypass the unlock password or pattern? Will I be able to retrieve the code?

A: Device USB debugging must be turned on before it is possible to attempt an extraction. For locked devices, you can perform an extraction if the user enabled USB debugging before locking the device.

For selected Android devices, you can perform a physical extraction, where there is greater support for extraction from locked devices (pattern lock, PIN, or password). Following a successful physical extraction, you can view the numeric password or pattern lock protecting the device in Physical Analyzer, and use it to unlock the device.

Q: How do I get Administrator (root) permissions on the device?

A: When USB debugging enabled, Cellebrite UFED automatically detects the Android OS version, and whether or not access is at administrator level. If it is not, Cellebrite UFED automatically gains root permissions.

You can gain access at administrator level manually using third-party tools, but gaining access this way may harm the integrity of the data on the device, or has the potential to render the device useless.

Q: I turned on USB debugging. What extraction types can I perform?

A: If USB debugging is enabled, you can perform either a physical extraction which extracts all the data on the device, or a File System Extraction which extracts only relevant files.

The advantage of a physical extraction is that it retrieves more data from the device, making it possible to recover deleted files such as photos that were saved on the device. The disadvantage is that it takes more time, and that file system reconstruction is not supported for all devices.

The advantage of a file system extraction is that it takes less time. You are able to view all vital information including deleted records (but excluding deleted files), even if file system reconstruction is not supported.

Q: When selecting the Generic Profile on Cellebrite UFED, what are Method 1 and Method 2? Which should I choose?

A: Methods 1 and 2 are different connection configurations. You cannot tell which Android devices requires which method. Try one method, and if unsuccessful, try the second method.

Q: Does the ADB extraction method change any of the data on the device?

A: When extracting using the ADB method, a few client applications are written to the device **/data/local/tmp** folder.

8.1.2. Bootloader extraction

Q: What is bootloader extraction?

A: The bootloader extraction method performs a physical extraction when the device is in bootloader mode. In this extraction method, the Android operating system is not running, so the device cannot connect to the mobile network.

Q: Does this method bypass the unlock password or pattern? Will I be able to retrieve the code?

A: Using this method, you are able to bypass any type of lock, and can retrieve a numeric PIN lock or unlock pattern.

Q: Does this extraction method change any of the data on the device?

A: No, this method is completely forensically sound.

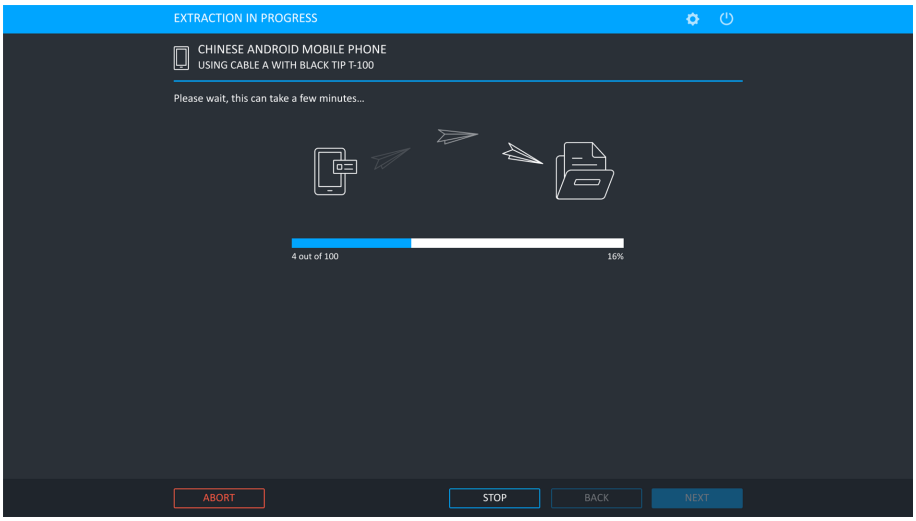
Q: Which devices are supported by this method?

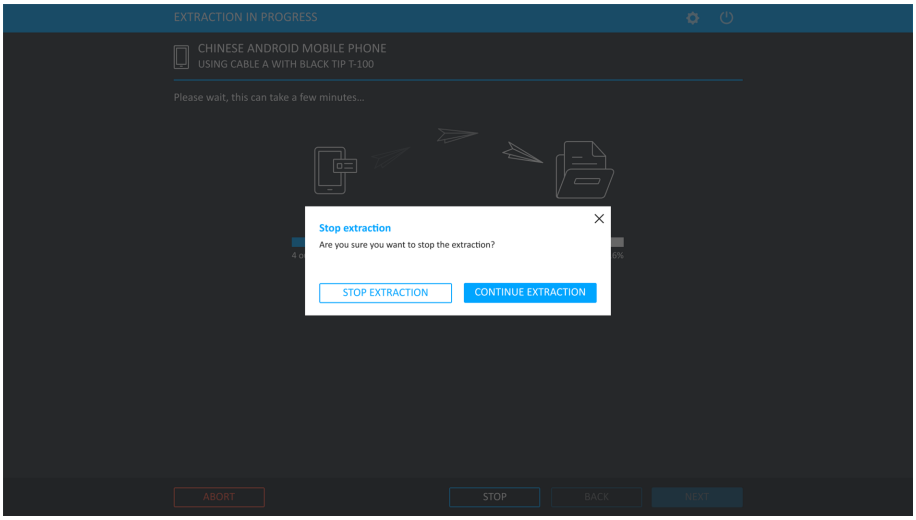
A: Currently most Motorola Android devices, and selected Samsung Android, Qualcomm, LG GSM, and LG CDMA are supported.

8.1.3. smartStopping an extraction

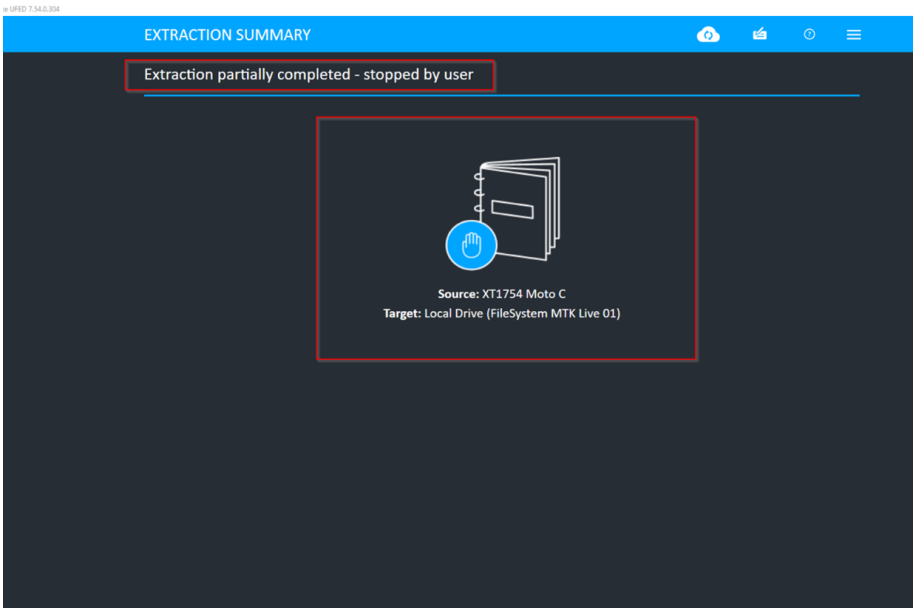
You can now stop Android File System extractions (not including Android Backup and APK downgrades) before they complete and save the (partial) extraction to that point.

1. To stop an extraction in progress, clickthe STOP button in the screen labeled "Extraction in progress".
   A confirmation message displays.
2. Click "Stop Extraction" (the exact wording might change).
   The extraction procedure will finish extracting the current file and stop.

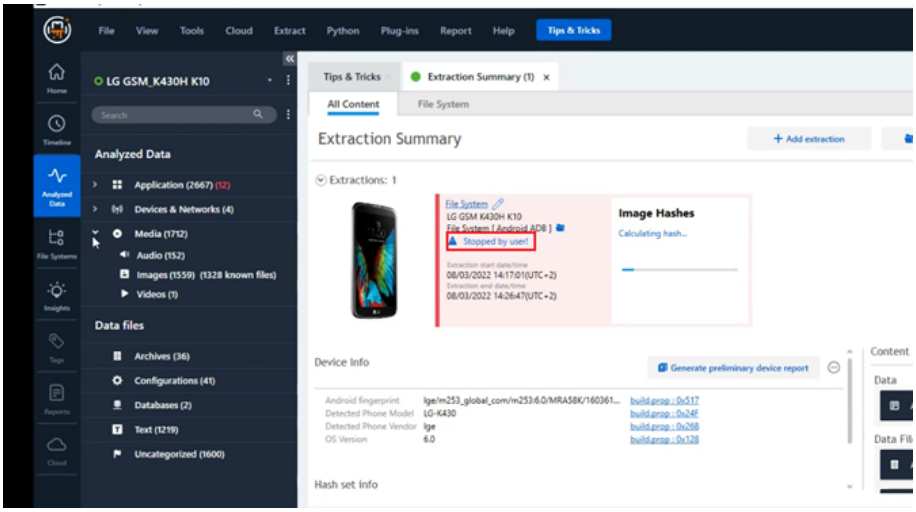




The partial extraction can be opened in Physical Analyzer.



A message stating that the extraction is partial and was stopped by the user displays in Physical Analyzer v7.54 and above.



To continue with the extraction and **not** stop the current extraction), click **Continue extraction** (the exact wording might change). The extraction continues uninterrupted.

8.2. Technical terms

Android: Google's mobile operating system. You can find a list of Android devices here: *http://en.wikipedia.org/wiki/List_of_Android_devices*. Another very helpful resource is *http://pdadb.net*.

Brick: A device that cannot function in any capacity (such as a device with damaged firmware). Refer to *http://en.wikipedia.org/wiki/Brick_%28electronics%29*.

Client: A program written by Cellebrite that runs on the Android operating system itself.

Root / rooting: A process that allows users of cell phones and other devices running the Android operating system to attain privileged control (*root access*) within Android's Linux subsystem, similar to jailbreaking on Apple devices running the iOS operating system, overcoming limitations that the carriers and manufacturers put on such phones. (*http://en.wikipedia.org/wiki/Rooting_%28Android_OS%29*).

9. Drone extractions

UFED enables you to extract flight data and multimedia files from supported drones. You can perform physical extractions, as well capture images of drones. For a complete list of supported drones, refer to the UFED Supported Devices file in MyCellebrite.

1. When the extraction completes, the Extraction completed successfully window appears.

10. Capture images and screenshots

The Cellebrite UFED camera enables you to collect evidence by taking pictures or videos of a device . You can also use a Screenshot feature to capture internal screenshots directly from a Blackberry, Android or iOS device. Both these options can be useful as complimentary evidence or in instances when data cannot be extracted from a device. You can add notes, categories and bookmarks to the pictures and videos, which will be visible in Physical Analyzer and Logical Analyzer.

The collected evidence can be shown within a standalone custom report or in addition to the extracted information. The report includes information about the device, connection type, Cellebrite UFED version, and serial number. Image information includes file name link, file size, date and time, MD5 and SHA256 hash information. The images are located in a folder called Snapshots and are in PNG format. Video information includes file name, file size, date and time, and a link to the file. The videos are located in a folder called Videos and are in AVI format.

10.1. The Cellebrite UFED camera

The Cellebrite UFED camera is offered as an add-on that is controlled by the Cellebrite UFED. All necessary drivers are preinstalled with the application. The Cellebrite UFED camera includes a camera stand, which enables you to adjust the height and the angle of the Cellebrite UFED camera, a pad to place the device, and an anti-glare pad to prevent glare when taking pictures. Connect the camera to an available USB port of the computer.

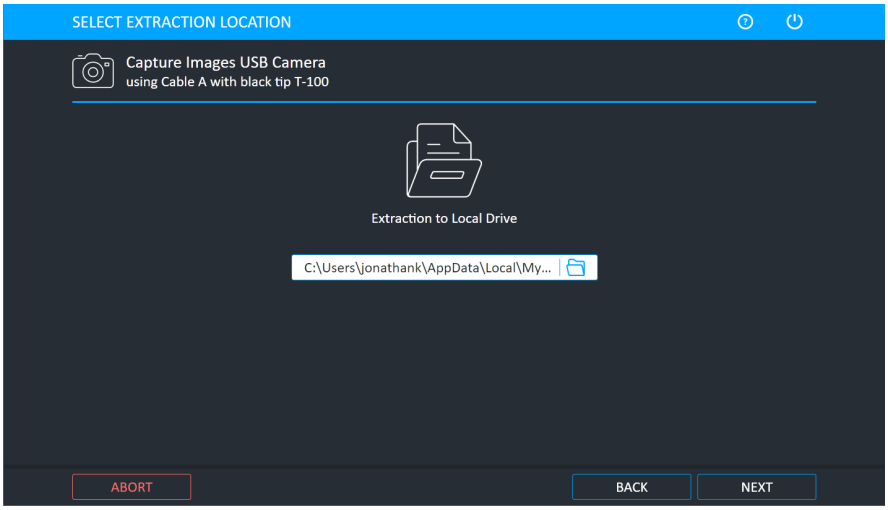
10.2. Capturing images

You can take pictures or videos of a device.

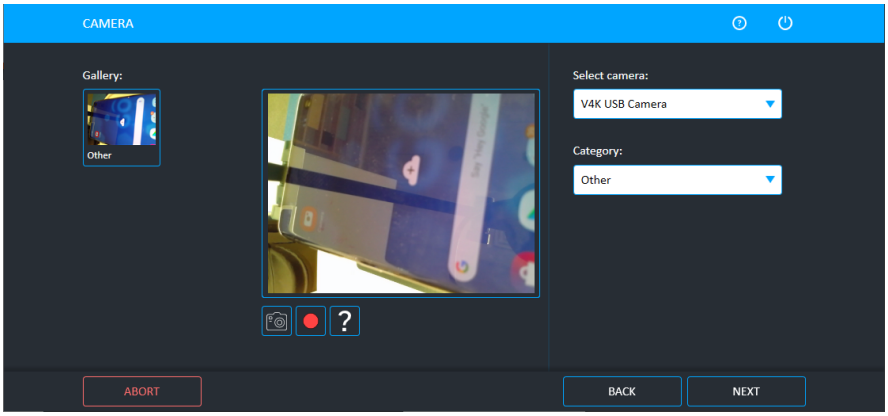
To capture images or videos:

1. Click **Camera**.

   The Select Extraction Location screen appears.



2. To select an alternate save location, click **Change** target path . A folder for this extraction is created in this location and includes the images (snapshots), videos, UFD file, index file, and report file.
3. Click **Next**.
4. Connect the Cellebrite UFED camera to a USB port on the computer. The following window appears.

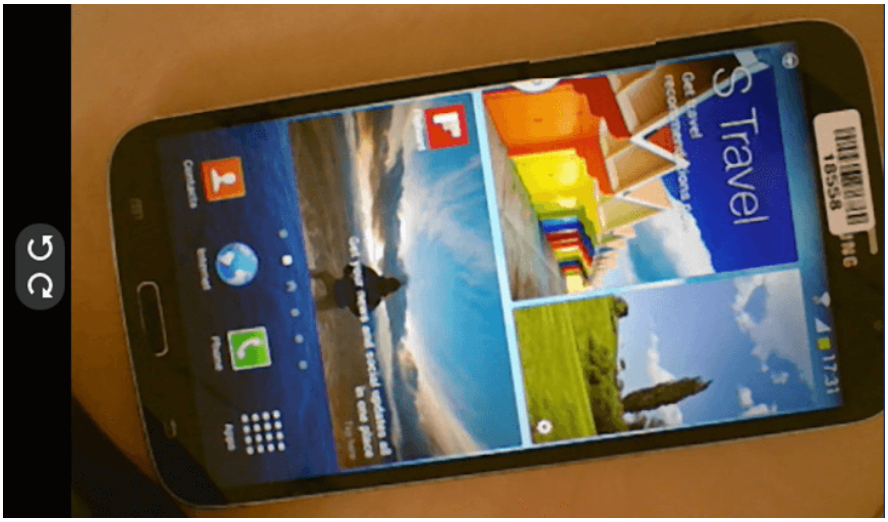


   If you have multiple cameras, you can choose the required camera in Select camera field.

5. Do one of the following:

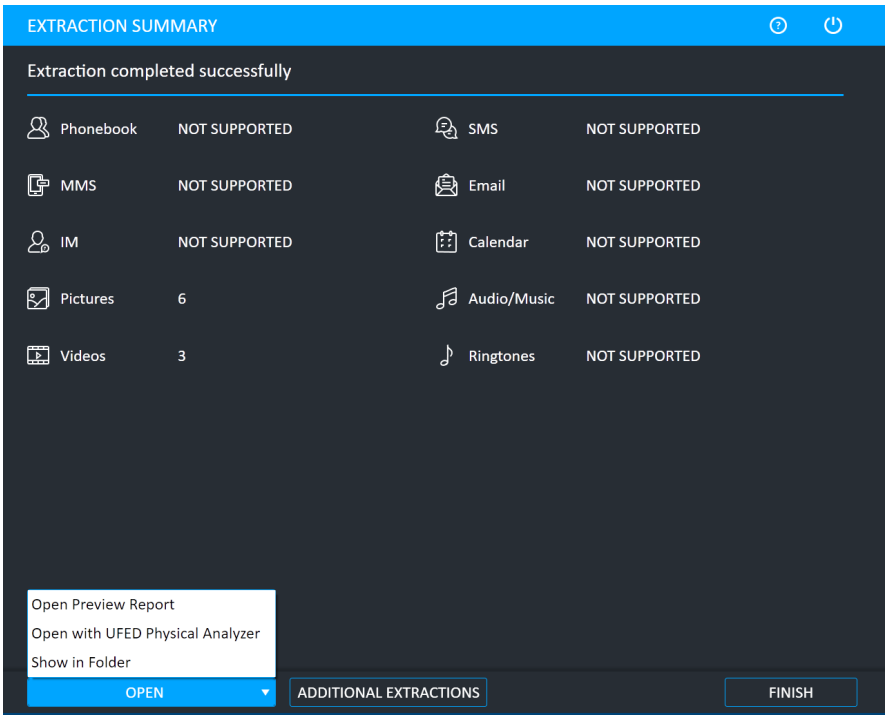
- Click  to start a video recording and click  to stop the video recording.
- Click  to take a picture.
- Click **Other** to change the default category. Images and videos are displayed in Physical Analyzer and Logical Analyzer under these categories.
- Click an image or video, to add notes, bookmarks (), categories (), or delete the file (). Click  to move back to live view.

To rotate a picture or video, or play a recorded video, click the picture or video, and then click the picture or video in the leftmost screen. Use the rotate buttons  or video buttons  . See the following examples.



6. Click **Next** to continue.

   When the extraction completes, the Extraction completed successfully window appears.



7. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

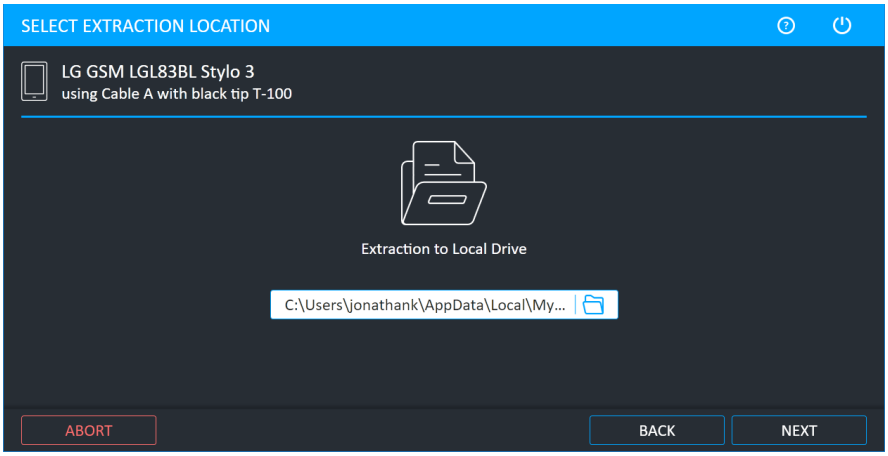
10.3. Capturing screenshots

The Screenshot feature captures internal screenshots directly from a Blackberry, Android or iOS device.

To capture screenshots from the devices:

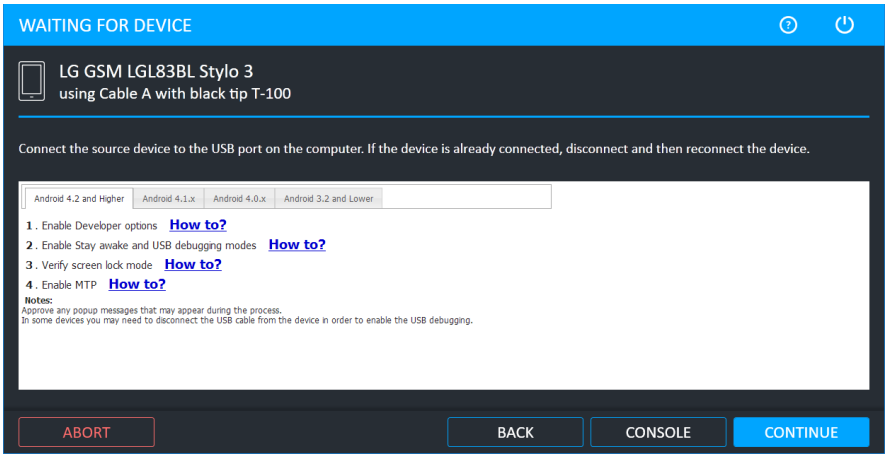
1. Click**Mobile device** and identify the device, then click**Screenshots**.

   The Select Extraction Location screen appears.



2. If required, select an alternate save location, and click **Next**.

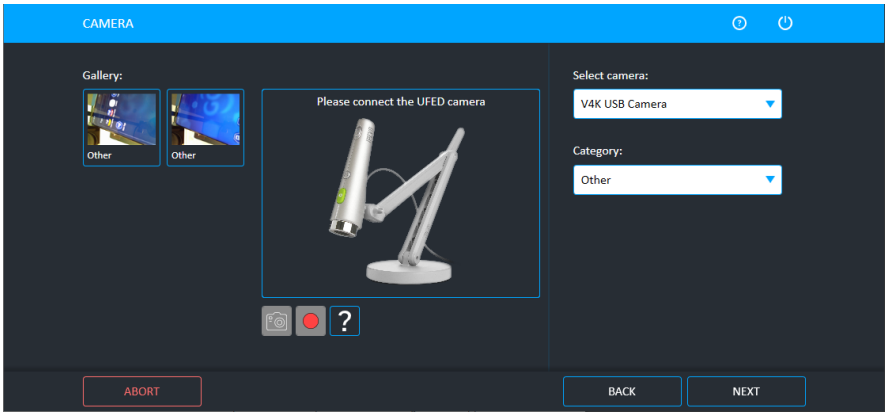
   The Waiting for Device screen appears.



3. Follow the instructions to connect the device.

4. Click **Continue**.

   The Screenshots screen appears.



If you have multiple cameras, you can choose the required camera in Select camera field.

5. Capture the desired screenshots and click **Next**. The Capture Screenshots Summary screen appears.
6. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

11. SIM card functionality

The **SIM Card** functions enableS you to perform various SIM card related functions:

- SIM data extraction
- Clone SIM

11.1. SIM data extraction

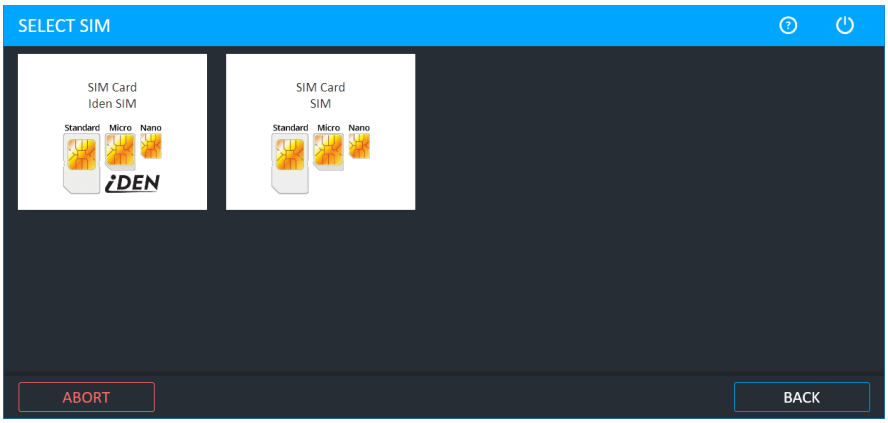
The SIM Data Extraction function enables you to perform logical extraction from a SIM or USIM card.

11.1.1. Performing SIM data extraction

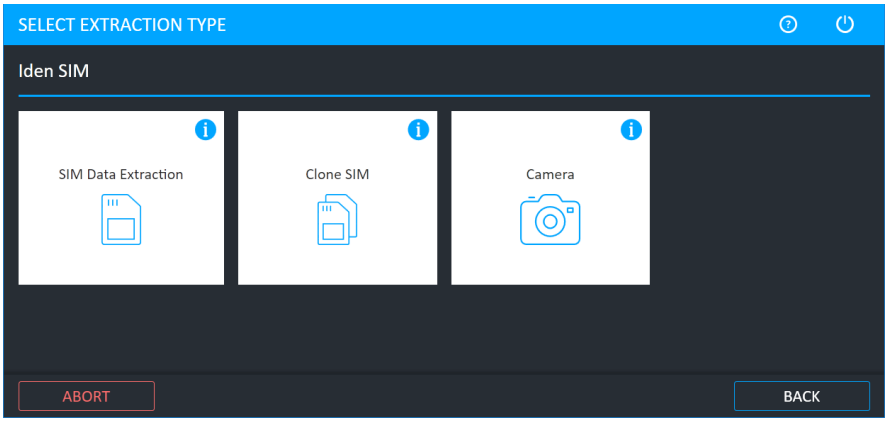
The following example is performed using a SIM Card.

To perform the SIM Data Extraction:

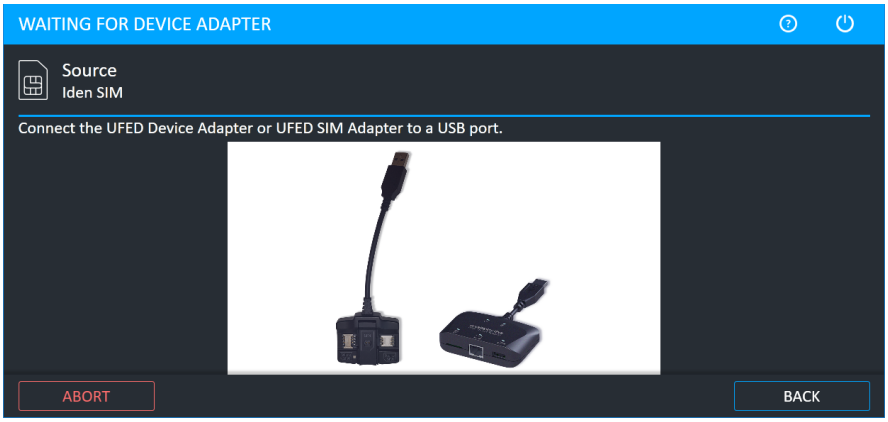
1. Click **SIM Card**. The following window appears.



2. Click either **SIM** or **Iden SIM**. The Select Extraction Type window appears.

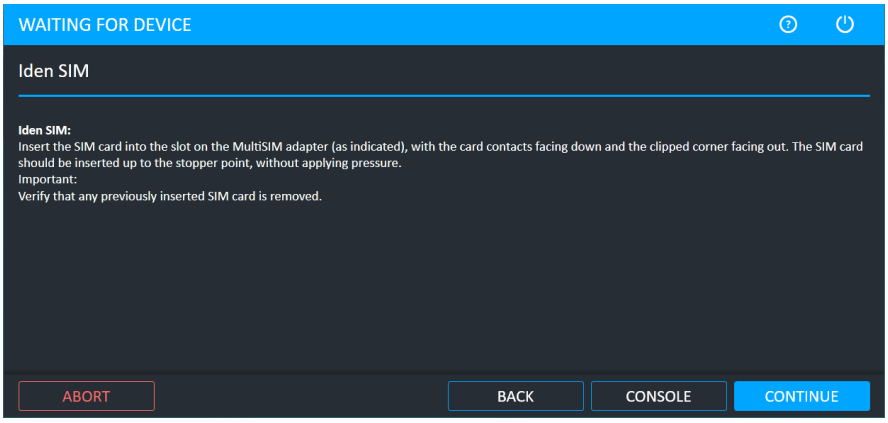


3. Click **SIM Data Extraction**. The Select Extraction Location window appears.
4. Select the extraction location and tap **Next**. The following window appears.

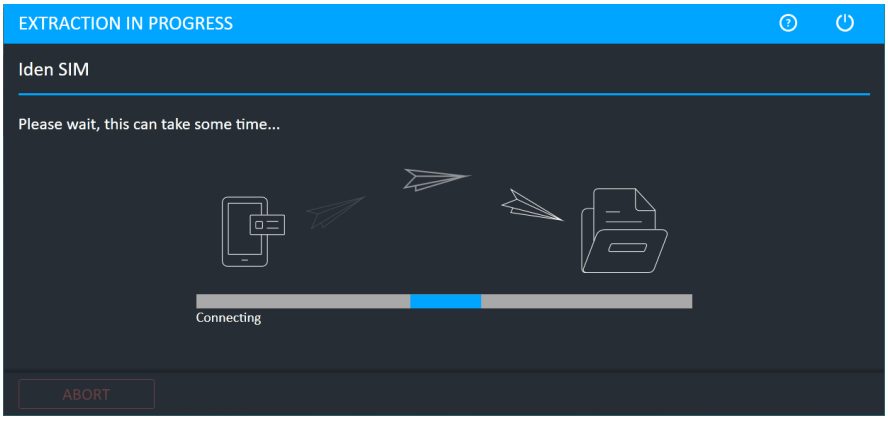


5. Connect the UFED Device Adapter or UFED SIM Adapter to a USB port.

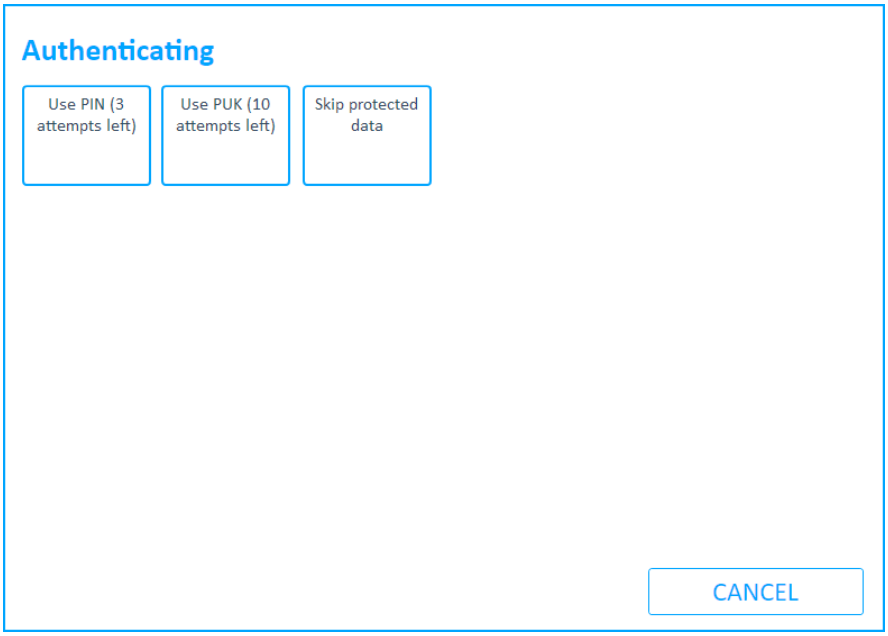
   The Waiting for Device screen appears.



6. Insert the SIM card into the SIM card slot.
7. Click **Continue**. The extraction begins.

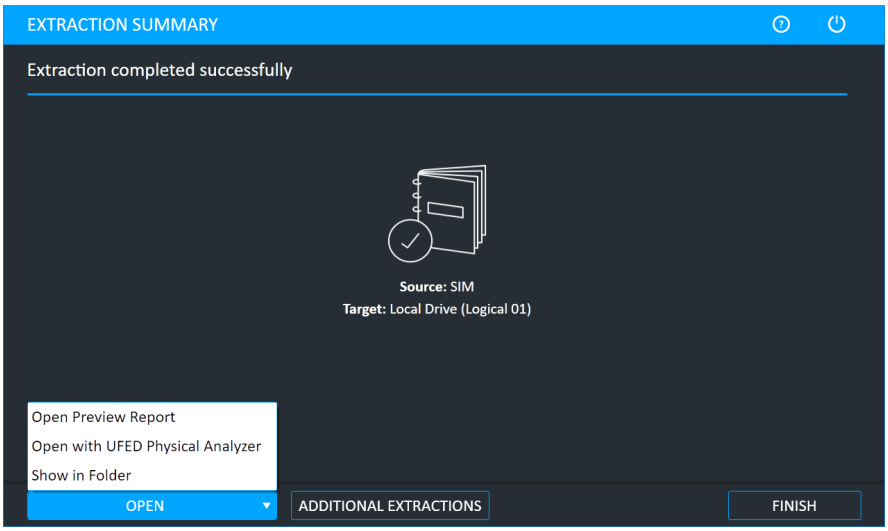


   The following window appears.



8. Click **Use PIN**, **Use PUK**, or **Skip protected data**.

   When the extraction completes, the Extraction completed successfully window appears.



9. Click **Open Preview Report** to view an HTML preview report (Logical extractions only) that includes information about the device and the extraction, click **Open with Physical Analyzer** to open the extraction in Physical Analyzer, click **Show in Folder** to open the folder where the UFD extraction file is located, click **Additional Extractions** to add additional extraction types for the same device, or click **Finish** to end the process and return to the Home screen.

11.1.1.1. The extracted SIM data folder

At the end of the SIM data extraction process, the extracted SIM data is saved in the location you selected previously.

The extracted SIM data folder is named **UFED SIM card** with the extraction date and counter: **UFED SIM card SIM card <DATE> (001)**

If you selected to extract to the local drive, the extracted SIM data folder is located inside the application's Backup folder.

The extracted SIM data folder contains a forensic report of extracted data in both HTML and XML formats and call log file (*.clog).

11.2. Clone SIM

The Clone SIM ID function enables you to copy the SIM ID from one SIM card to a UFED SIM ID Access Card.

Cloning the SIM ID provides a suitable solution to several problems facing forensic examiners, by allowing extraction of the device data:

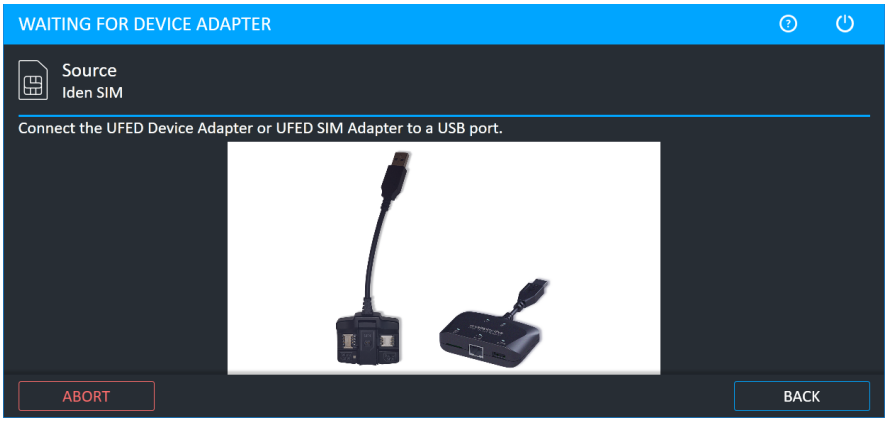
- While preventing the cellular device from connecting to the network, rendering the device invisible to the network without the ability to send or receive calls or SMS messages, and thereby preserving the device's current information. (No Faraday Bag is required to block RF signals).
- When the original SIM is not available, by manually programming the ICCID or IMSI into the Cloned SIM ID Card to mimic the original missing card.
- When the SIM card is PIN locked, by cloning the identification of the original SIM, which allows extraction of the device data without losing critical data including call history and SMS messages.

There are three different ways that a SIM card can be cloned:

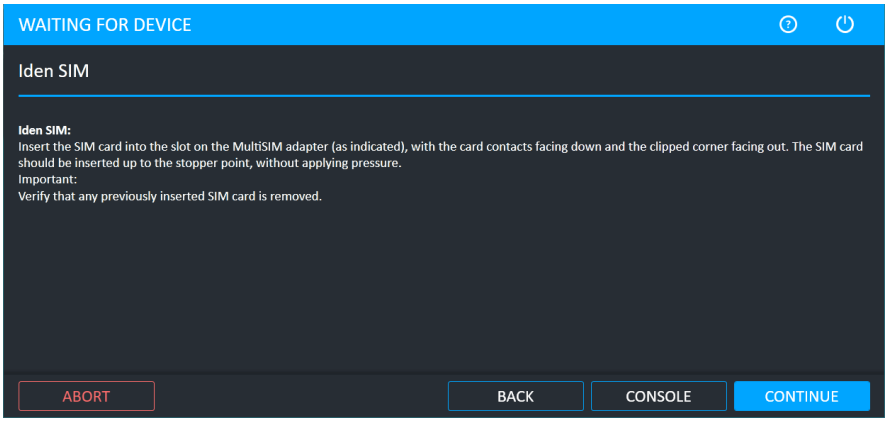
- Clone an existing SIM card - to create a cloned SIM to use to extract device data without a network connection. See Cloning an existing SIM card ID (on the facing page).
- Manually enter SIM data - to manually program the ICCID and IMSI to the cloned SIM card. See Entering SIM data manually (on page 191).
- Create GSM Test SIM - The GSM test SIM card is used to extract device data when the original SIM is not available – a default ICCID and IMSI are programmed into the Cloned SIM ID Card to mimic the original missing card. See Creating a GSM test SIM (on page 195).

11.2.1. Cloning an existing SIM card ID

1. Click **Clone SIM**. The Waiting for Device Adapter screen appears.



2. Connect the UFED Device Adapter or UFED SIM Adapter to a USB port on the computer.



3. Follow the steps below depending on the adapter you are using.

If you are using the UFED Device Adapter:

These instructions are for the previous version of the UFED Device Adapter. As displayed in the picture below:

1. Insert the MultiSIM adapter into the port marked SIM.
2. Insert the SIM card into the slot on the MultiSIM adapter, as indicated on the adapter.

IMPORTANT:
Verify that any previously inserted SIM card is removed **before** attempting to insert a SIM.

3. Insert the SIM card up to the stopper point, without applying pressure.

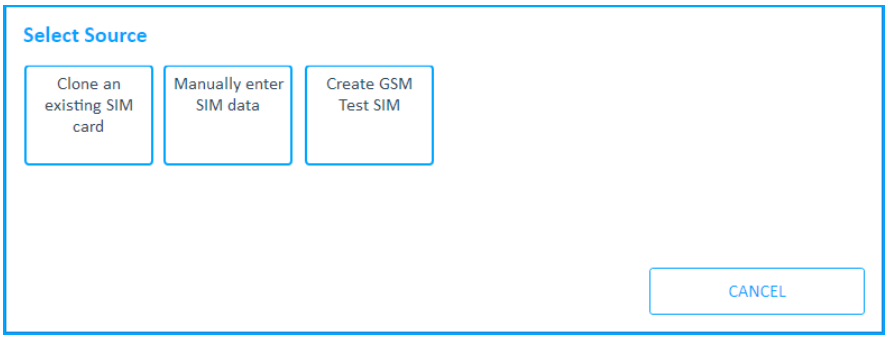
4. Tap **Continue** and follow the instructions (To select the source and clone the SIM card: (on page 189))

If you are using the UFED SIM Adapter:

These instructions are for the UFED SIM Adapter. As displayed in the picture below:

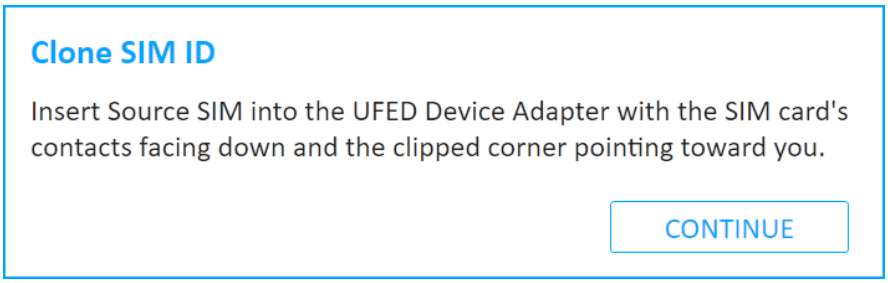
To select the source and clone the SIM card:

The **Select Source** screen appears.

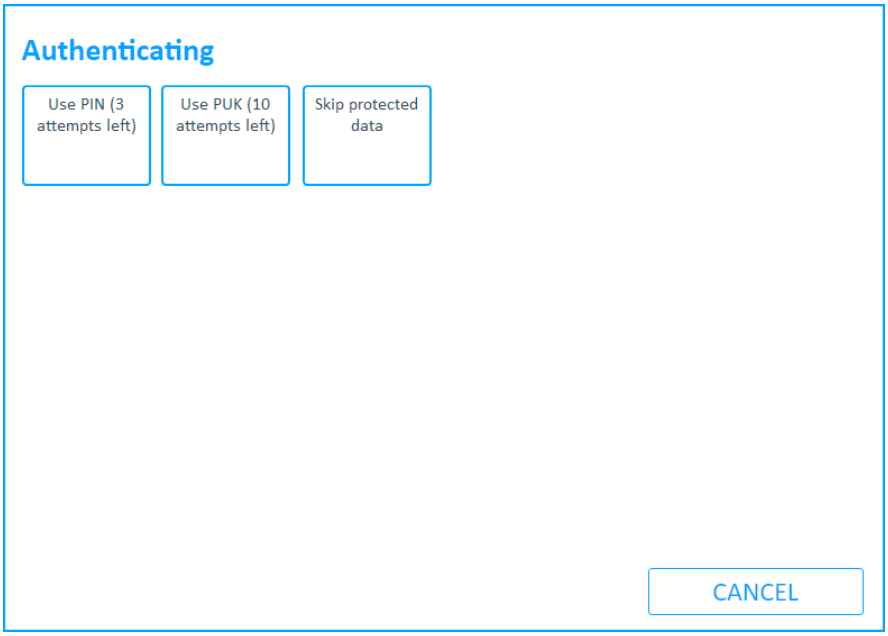


1. Click **Clone an existing SIM card**.

   The Clone SIM ID prompt appears.

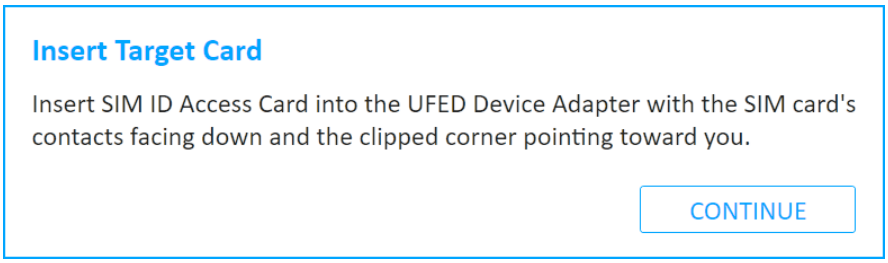


2. Check that the right SIM was inserted into the SIM card reader slot.
3. Click **Continue**. The following window appears.



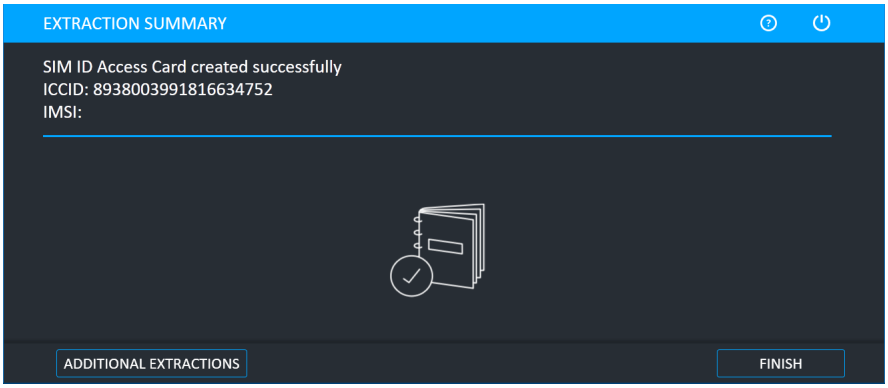
4. Click **Use PIN**, **Use PUK** or tap **Skip protected data**. The Extraction in Progress Source screen appears.

When the information has been extracted from the SIM, the Insert Target Card prompt appears.



5. Remove the original SIM card from the SIM card reader.
6. Insert a UFED SIM ID Access Card into the SIM slot.
7. Click **Continue**.

   At the end of the data process, a summary of the SIM cloning process is displayed, detailing the ICCID and IMSI information of the cloned SIM card.



8. To end the process and return to the home screen, click **Finish**.

11.2.2. Entering SIM data manually

1. In the home screen, click **Clone SIM**.

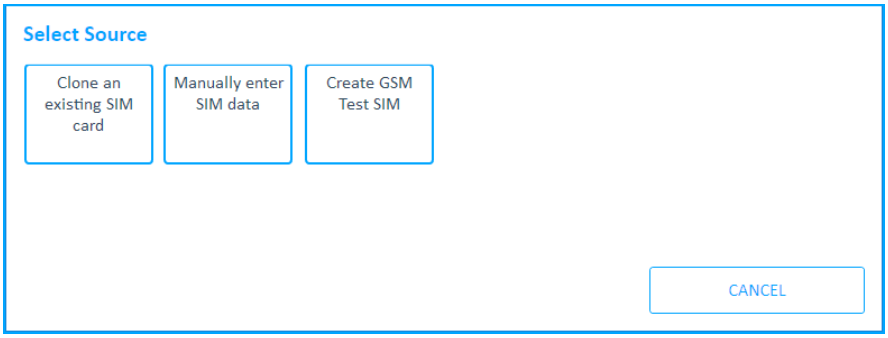
   The Waiting for Device screen appears.

   Connect the UFED Device Adapter to a USB port.

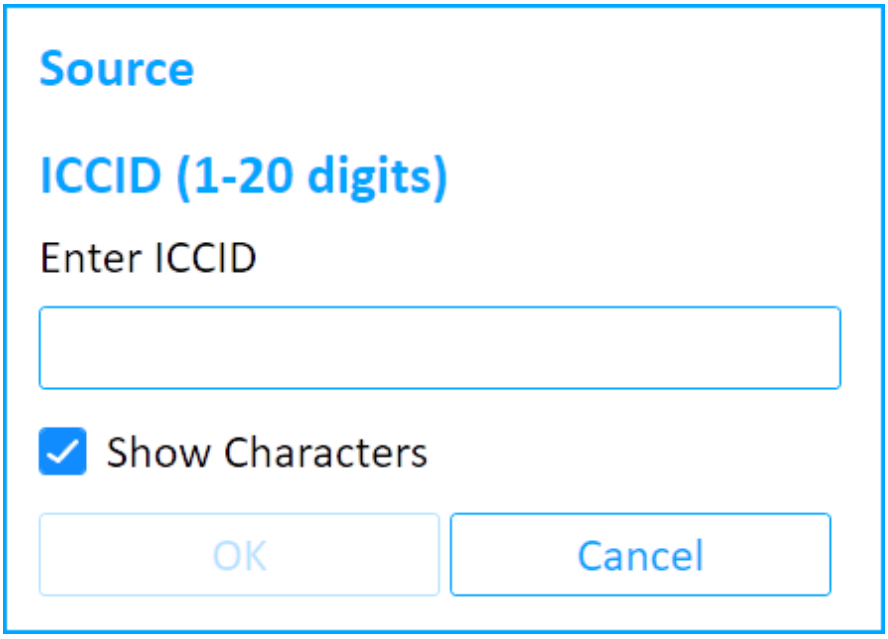
2. Insert the UFED SIM ID Access card into the UFED Device Adapter.

3. Click **Continue**.

   The Select Source screen appears.

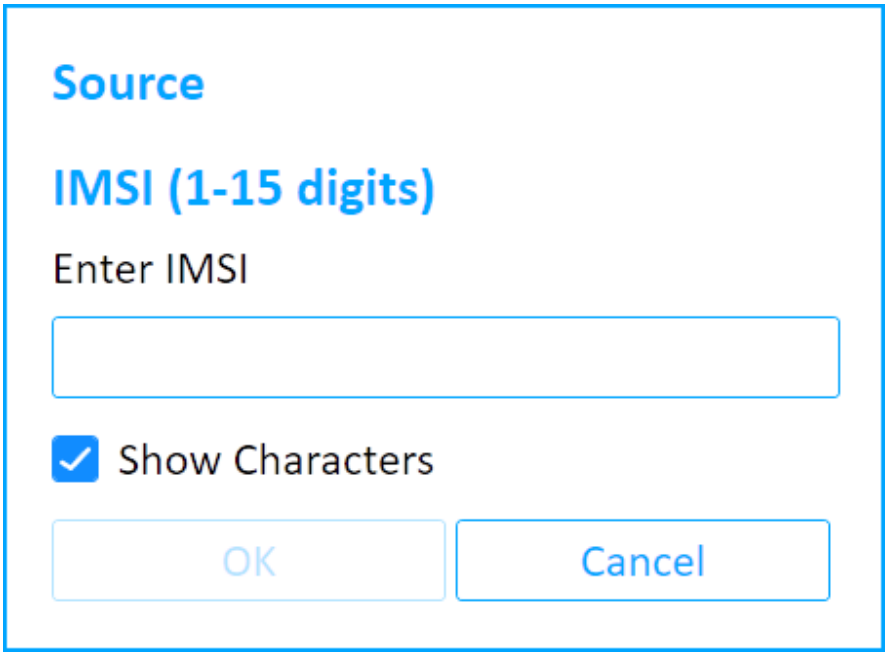


4. Click **Manually enter SIM data**. The following screen appears.



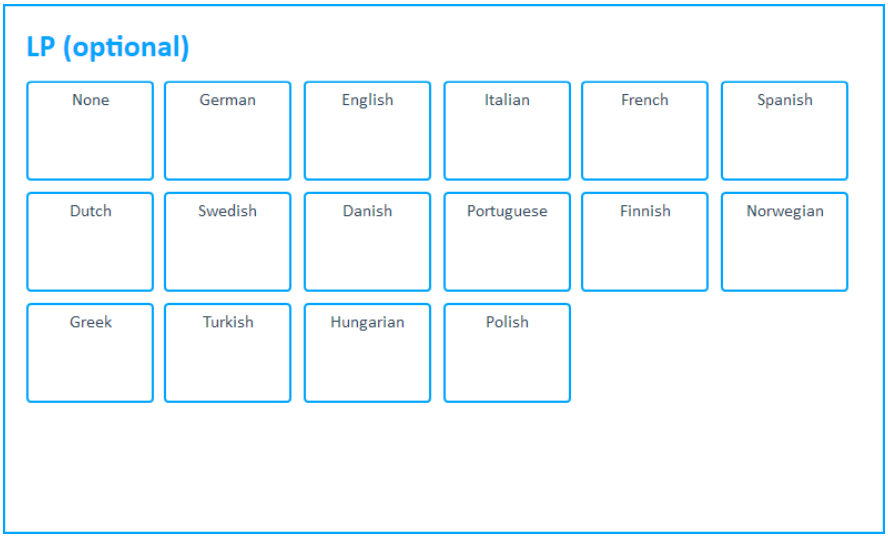
5. Enter the SIM ICCID number (up to 20 digits).

6. Click OK. The following screen appears.

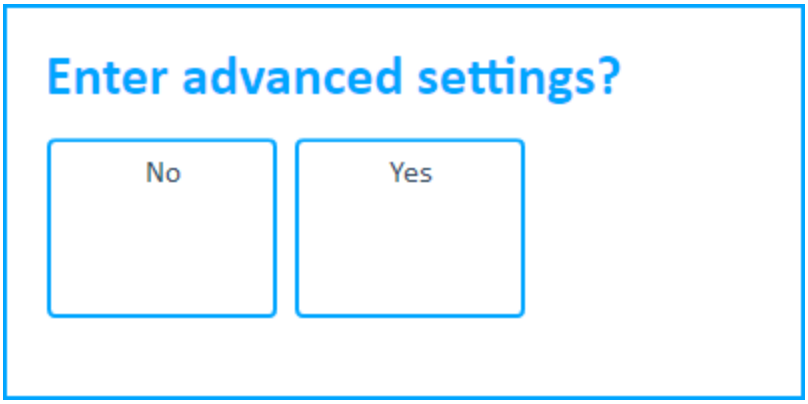


7. Enter the SIM IMSI number (up to 15 digits), then click OK.

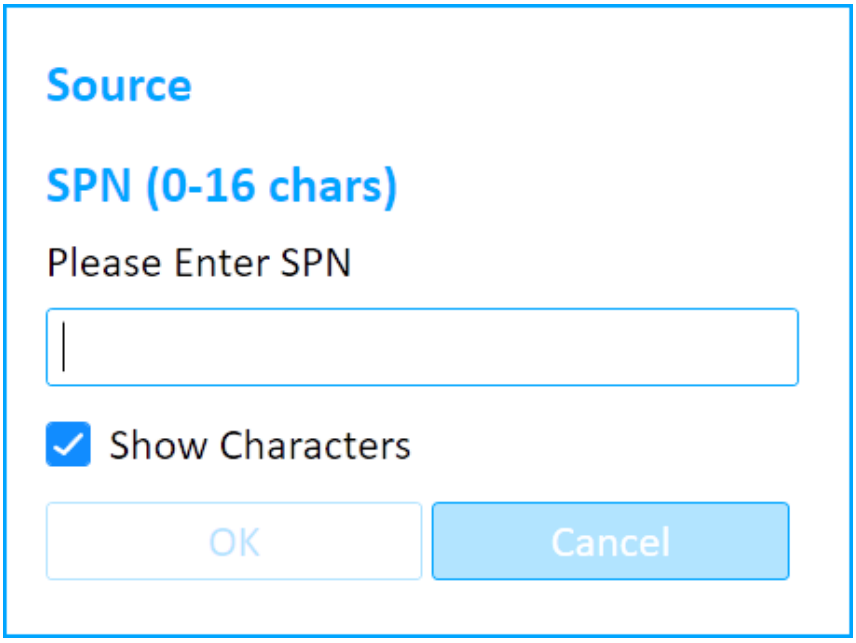
   The Select Language screen appears.



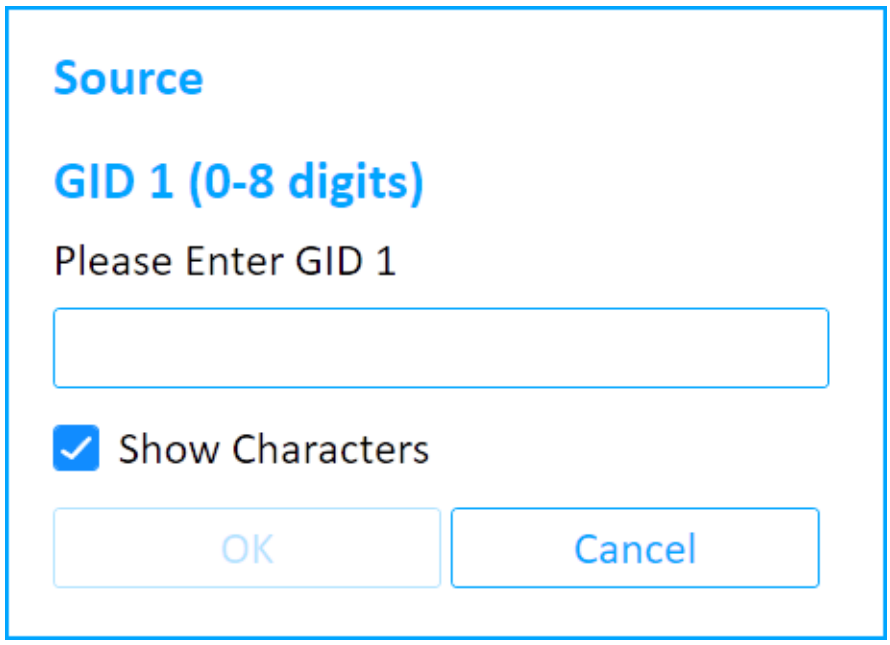
8. If required, select either a language or click **None**. The Enter advanced settings screen appears.



9. Click **No** or **Yes** to continue.
   - Click **No** to continue. Proceed to step 15.
   - Click **Yes** to display the advanced settings. Extraction in Progress > Enter SPN screen appears.



10. Enter the **SIM SPN** number (up to 16 digits), then click OK. The following screen appears.



11. Enter the **SIM GID 1** number (up to 8 characters) and click OK. The **Extraction in Progress > Enter GID 2** screen appears.
12. Enter the **SIM GID 2** number (up to 8 characters).
13. Click OK. The Insert Target Card prompt appears.
14. Insert the UFED SIM ID access card into in the UFED Device Adapter SIM card reader.
15. Click **Continue**.

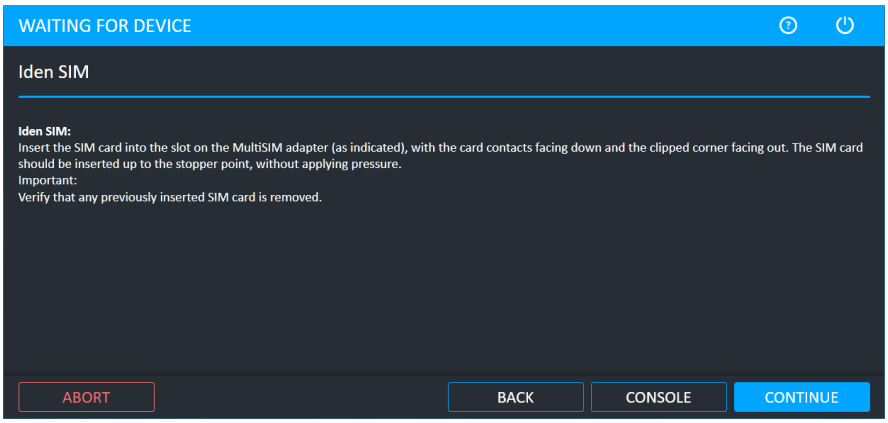
    The Extraction in Progress screen is displayed throughout the data writing process.

    At the end of the data writing process, a summary of the SIM cloning process is displayed, detailing the ICCID and IMSI information programmed to the SIM card.
16. To end the process and return to home screen click **Finish**.

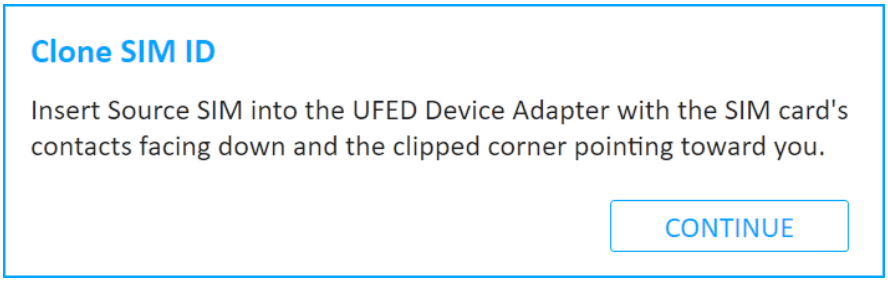
11.2.3. Creating a GSM test SIM

1. Click **Clone SIM**.

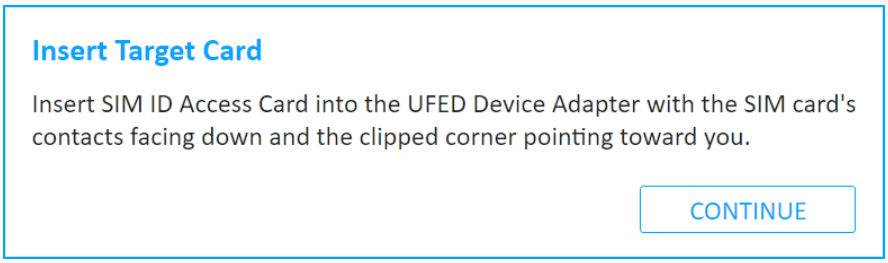
   The Waiting for Device screen appears.



   The SIM port on the Device Adapter continues to flash even after you insert the SIM card into the SIM reader slot.



2. Insert the SIM card into the SIM card reader slot located in the left of the front panel.
3. Click **Continue**. The Select Source screen appears.
4. Click **Create GSM Test SIM**. The following screen appears.

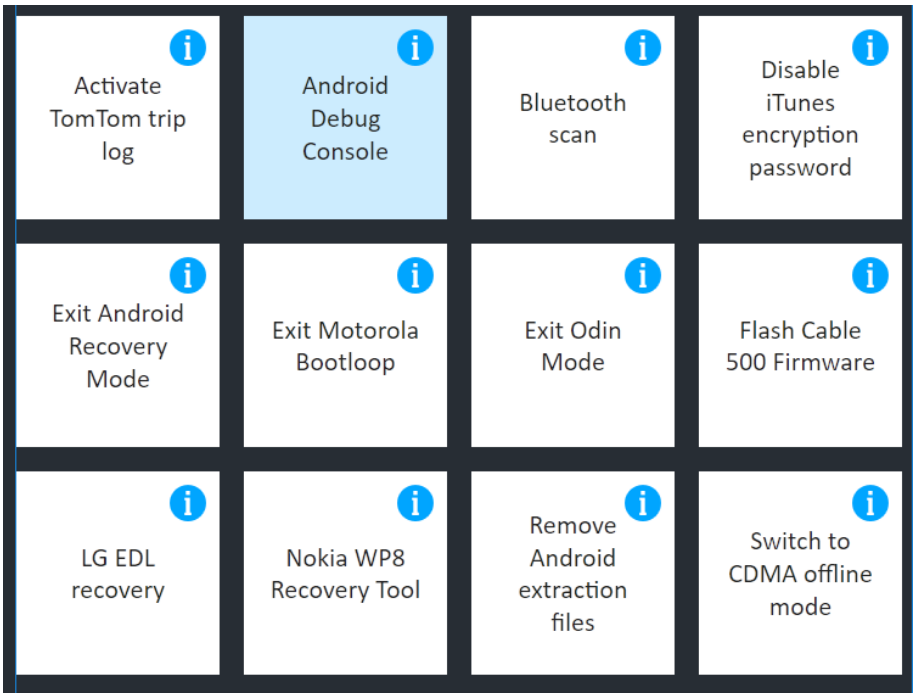


5. Make sure that the target SIM card is inserted correctly into the SIM card reader slot, then click **Continue**. The Extraction in Progress screen is displayed throughout the data reading process. At the end of the data writing process, a summary of the SIM cloning process is displayed, detailing the ICCID and IMSI information programmed to the SIM card.
6. To end the process and return to the home screen, click **Finish**.

12. Device tools

To access the device tools:

» From the Home screen, click **Device tools**. The following window appears.



The **Device Tools** screen provides access to the following tools:

12.1. Activate TomTom trip log

This tool enables you to activate or deactivate the trip log logging feature of a connected TomTom device, which is often disabled by the user

To activate TomTom trip log:

1. Click **Tools** and then click **Activate TomTom trip log**.
2. Connect the UFED Device Adapter.

   The **Select Mode** prompt appears.
3. Select the desired mode.

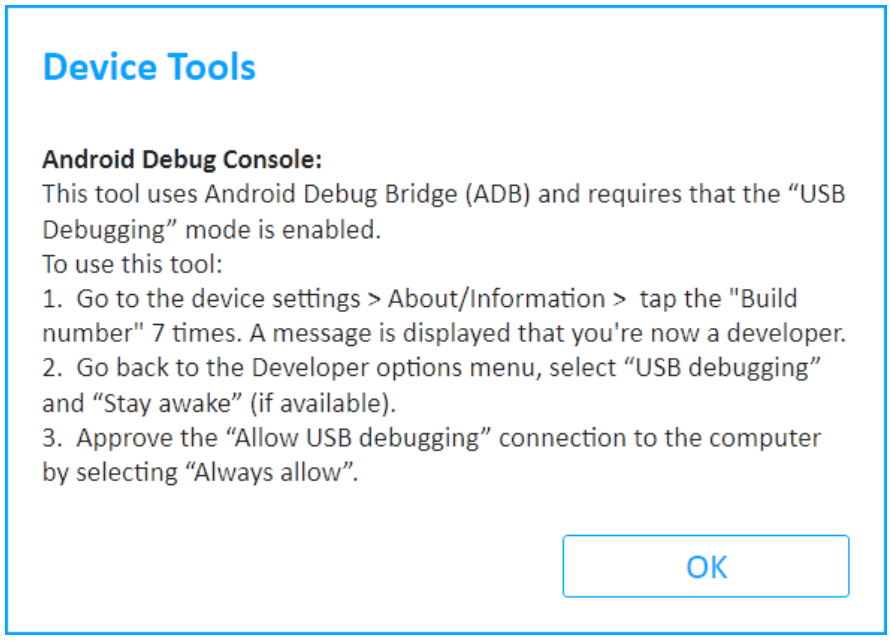
   A prompt labeled **Attention** appears requesting to connect the device to Cellebrite UFED.
4. Connect the device to Cellebrite UFED.
5. Click **Continue**.

12.2. Android Debug Console

This tool retrieves device information using Android Debug Bridge (ADB).

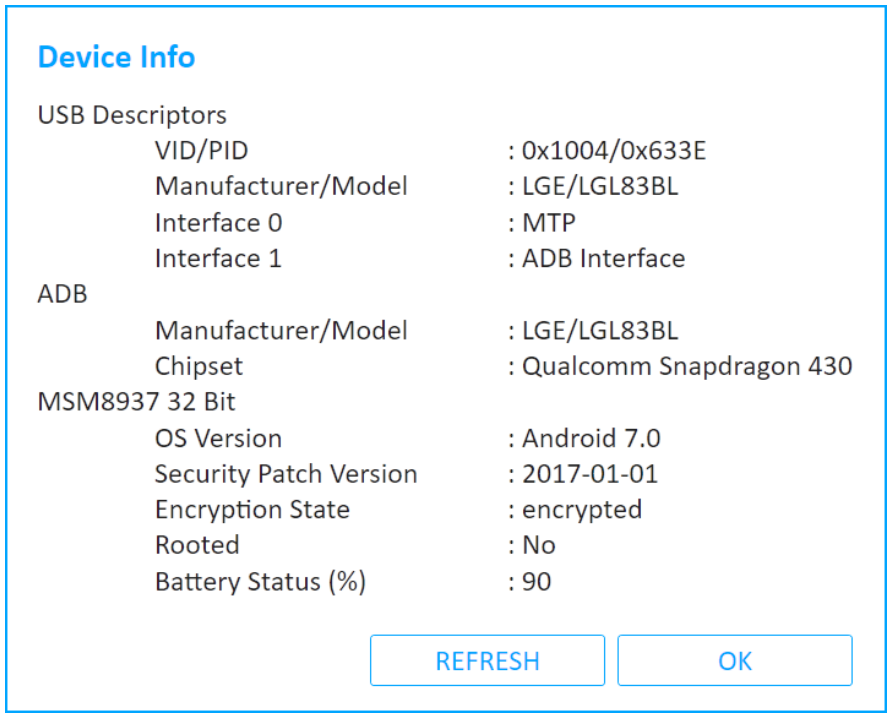
To use the tool:

1. Click **Tools** and then click **Android Debug Console**.
2. If required, you are prompted to connect the Cellebrite UFED Device Adapter to a USB port (UFED and non-kiosk platforms only). The following window appears.



3. Follow the on-screen instructions.

4. Tap **OK** to receive the device information. The following window appears.

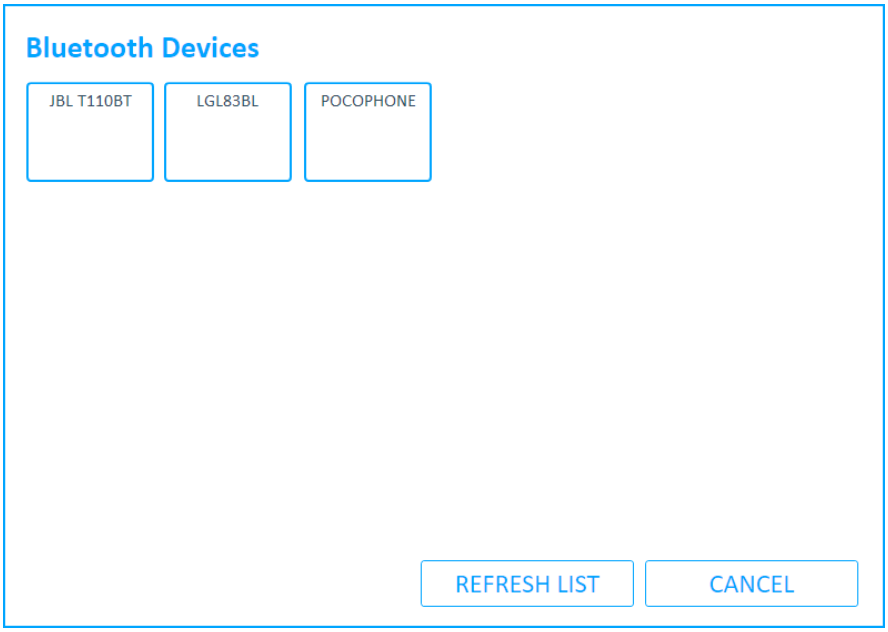


12.3. Bluetooth scan

This tool enables you to scan for available Bluetooth devices in your proximity and to pair with them. Make sure that Bluetooth is enabled on the device.

To perform a Bluetooth scan:

1. Click **tools** and then click **Bluetooth scan**.
2. Connect the Cellebrite UFED Device Adapter (UFED and non-kiosk platforms only).
3. A list of Bluetooth devices in the vicinity appears. Select one or the following options:
   - Click one of the devices: The Device summary window appears.
   - Click **Continue**: Device summary window appears
   - Click **Refresh list**: Device tool in progress window appears and Cellebrite UFED tries to find additional devices.



12.4. Disable iTunes encryption password

If you select to enable backup encryption during an iOS File system extraction (Full or Backup modes), and for any reason the extraction was stopped in the middle, the device may remain encrypted. **Disable iTunes encryption password** resets the encryption on the device.

12.5. Exit Android recovery mode

This tool includes two options related to physical extractions using the Forensic Recovery Partition method on Android devices.

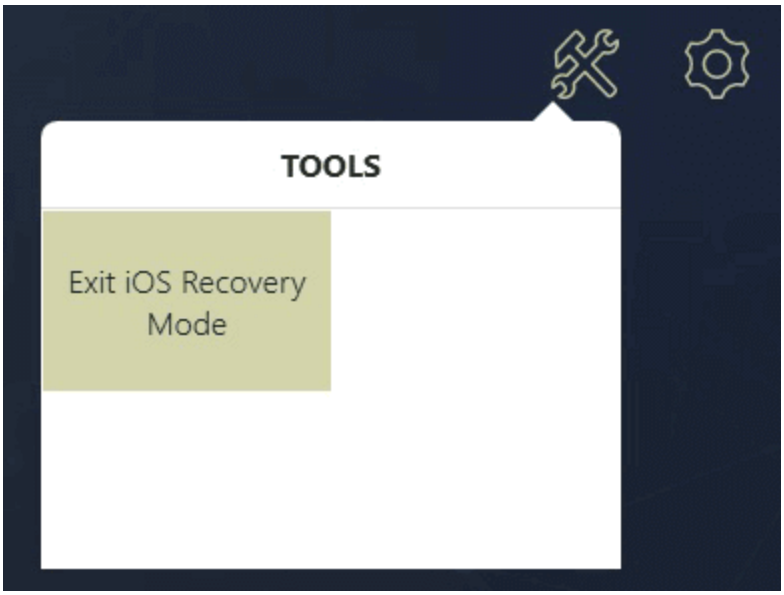
- Exit recovery mode: In some cases, due to device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the mobile device remains in recovery mode. Takes the device out of recovery mode.
- Exit bootloop: In some cases, due to device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the mobile device keeps rebooting instead of entering the normal mode. Takes the device out of this bootloop.

12.6. Exit iOS recovery mode

Occasionally, a mobile device may remain in recovery mode following exploitation. This generally happens due to device failure, or when the mobile device was improperly disconnected from Cellebrite UFED. This tool enables the investigator to take the device out of recovery mode manually.

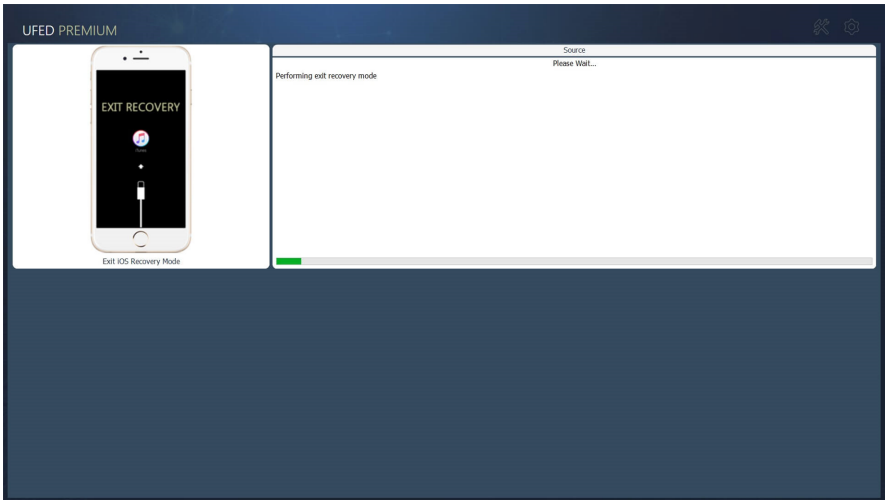
To use the tool:

1. Select **Tools** > **iOS Exit Recovery Mode**.

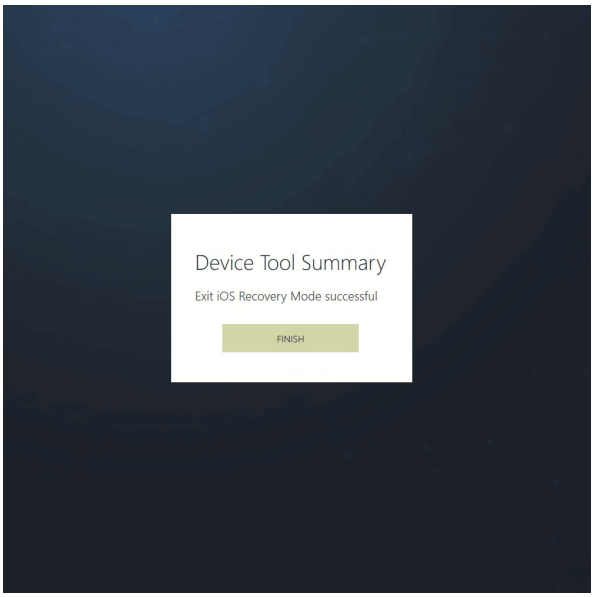


2. Connect the device to Cellebrite UFED.

3. The process is initialized. The following window appears.



The device is released from recovery mode and restarts automatically.



12.7. Exit Motorola Bootloop

In some cases, due to device failure, or if the Motorola mobile device was improperly disconnected from Cellebrite UFED, the mobile device keeps rebooting instead of entering the normal mode. **Exit Motorola Bootloop** takes the device out of this bootloop.

12.8. Exit Odin mode

To perform physical extractions on some Samsung devices, the device is placed in Odin mode. In some cases, due to device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the mobile device remains in Odin mode. **Exit Odin mode** takes the device out of Odin mode.

12.9. Flash Cable 500 Firmware

When using the Smart ADB method, the firmware on Cable No. 500 is changed and no longer supports the Cellebrite UFED User Lock Code Recovery Tool. The Flash Cable 500 Firmware tool flashes the required firmware to the cable to support either the Smart ADB method or the Cellebrite UFED User Lock Code Recovery Tool.

In the Smart ADB method, Cellebrite UFED verifies the cable firmware and flashes it if required. Cellebrite UFED User Lock Code Recovery Tool does not include cable verification.

To flash the firmware for the Smart ADB extraction method:

1. Click **Tools** and then click **Flash Cable 500 Firmware**.
2. Connect the Cellebrite UFED Device Adapter to a USB port (UFED and non-kiosk platforms only).
3. Connect Cable No. 500 (side A) to the USB port.
4. Tap **Smart ADB Firmware** and wait for the process to finish.

12.10. LG EDL recovery

In some cases, due to device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the LG device remains in emergency download (EDL) mode and appears off. **LG EDL recovery** takes the device out of EDL mode.

To use the tool:

1. Click **Tools** and then click **LG EDL recovery**.
2. If required, you are prompted to connect the Cellebrite UFED Device Adapter to a USB port (UFED and non-kiosk platforms only).
3. Follow the on-screen instructions.
4. Tap **Continue** and wait for the tool to finish running.

12.11. Nokia WP8 recovery tool

To perform physical extraction on some Nokia Windows Phone 8 devices, the device is placed in recovery mode. In some cases, due to device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the mobile device remains in recovery mode. **Nokia WP8 recovery tool** takes the device out of recovery mode.

12.12. Remove Android extraction files

When performing extractions of devices with Android operating systems, a client is installed and some files are written to the mobile device. In some cases (e.g., due to a failure, or if the mobile device was improperly disconnected from Cellebrite UFED) the client and the files remain on the mobile device. This tool uninstalls the client and removes the files from the device.

12.13. Samsung Exynos Recovery

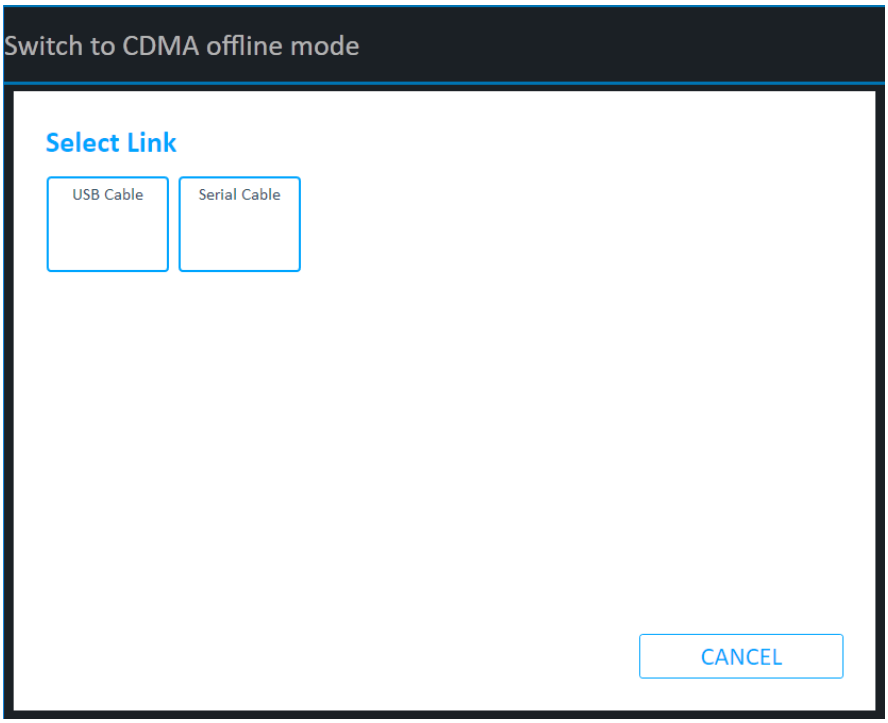
In some cases, due to device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the device remains off and the Android OS does not start. Samsung Exynos Recovery attempts to resolve this issue.

12.14. Switch to CDMA offline mode

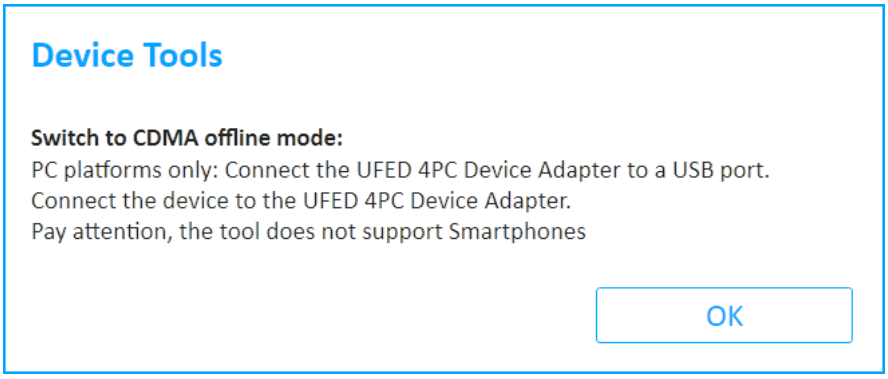
This tool enables you to switch radio on CDMA devices to offline mode.

To switch to CDMA offline mode:

1. Click **tools** and then click **Switch to CDMA offline mode**.
2. Connect the Cellebrite UFED Device Adapter (UFED and non-kiosk platforms only). The Select Link prompt appears.



3. Select the link type (**USB Cable** or **Serial Cable**). The Device Tool in Progress window appears.



4. Tap OK.

   Upon completion, the Device Tool Summary appears.

12.15. Uninstall Windows mobile client

To perform logical extractions on devices with Windows Phone operating systems, a client is installed on the device. In some cases, due to a device failure, or if the mobile device was improperly disconnected from Cellebrite UFED, the client remains installed on the mobile device. **Uninstall Windows mobile client** enables the client to be manually uninstalled.

13. Settings

The settings screen provides access to a set of functional and behavioral setup options used to control the functionality and usability of Cellebrite UFED.

To access the settings screen, click the menu icon in the application taskbar and select Settings.

The settings are grouped in the settings screen in the following tabs:

- General settings (on the next page)
- Report settings (on page 217)
- System settings (on page 223)
- License settings (on page 224)
- Version details (on page 233)
- Activity Log (on page 242)

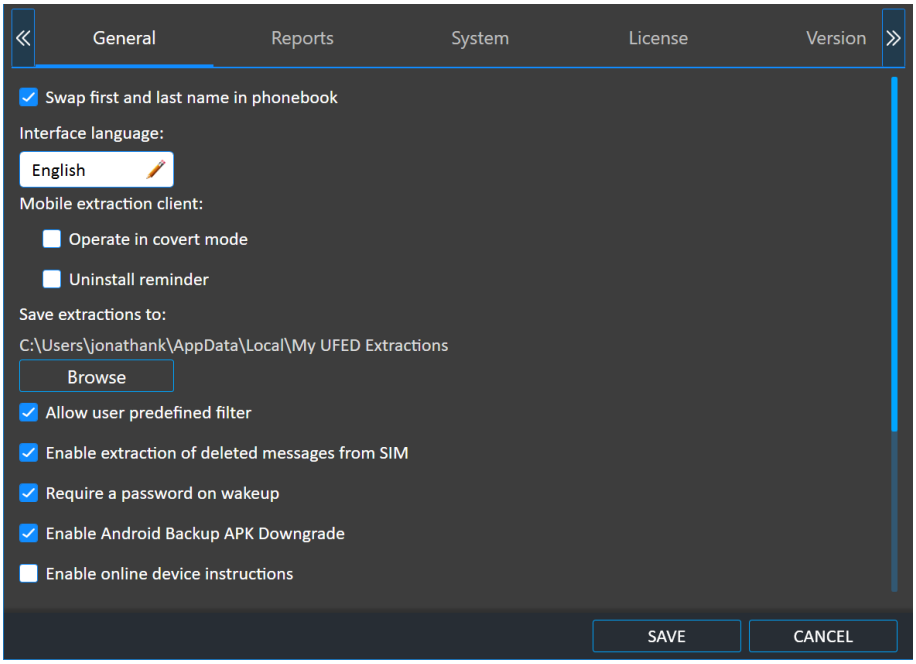
The settings screen opens on the **General** tab.

When using the Cellebrite Commander, these settings may be managed by Cellebrite Commander.

Changes that are made to the settings via Cellebrite Commander or manually by a user, affect all users on the same machine.

13.1. General settings

The settings screen opens on the **General** tab.



The **General** tab provides access to the functions and settings listed in the following table.

Setting	Description	Default
Swap first and last name in phonebook	Swaps the first and last name in phone book entries.	Selected
Interface language	Changes the interface language. For more information, see Changing the application interface language (on page 213)	English
Operate in covert mode	Renames the application client name from `Cellebrite.sis/exe` to `AAA.sis/exe`.	Selected
Uninstall reminder	When enabled, the Cellebrite UFED prompts you to uninstall the client from the examined device.	Selected

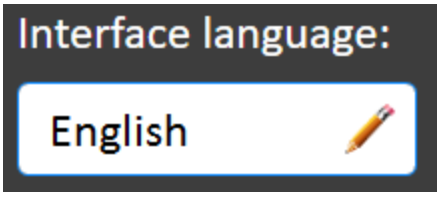
Setting	Description	Default
Save extractions to	Sets the location where extractions are saved. For more information, see Changing the extraction location (on page 216)	
Allow user predefined filter	Displays the timeframe and select parties windows during an extraction. For more information about the User predefined filter, see User predefined filter (on page 59).	Cleared
Enable extraction of deleted messages from SIM	Extracts deleted messages from a SIM.	Selected
Require a password on wakeup	Requires the user to enter a password when Cellebrite UFED is in sleep mode.	Selected
Enable Android Backup APK Downgrade	Enables the Android Backup APK Downgrade method.	Selected
Enable online device instructions	Displays the online device instructions instead of the offline device instructions.  This setting is for the Waiting for Device instructions, which explains how to connect a source device to Cellebrite UFED. If you have network performance issues when using the online device instructions, clear **Enable online device instructions**.	Cleared
Show device restart alerts	Displays device restart alerts during the extraction process.	Cleared

Setting	Description	Default
Cable and Tip mode	Indicates the cable or tip to be used during the extraction.	Tip
Include Case details screen	Displays the Case details window during the extraction process. For more information, see Case details (on page 51). If selected, you can also display the extraction folder name according to the case details. The default is according to the device model name.	Cleared
Show investigation notes	Displays the Investigation notes widget, which enables you to add pictures, screen shots and text to document the investigation. See Investigation notes (on page 51).	Cleared
Include camera screen	Displays the camera window during the extraction process.	Cleared
Automatically open extractions with Physical Analyzer	If installed, the extraction is opened automatically in Physical Analyzer.	Cleared
Choose additional logo	Select an additional logo that is displayed in the title bar of the home screen.	

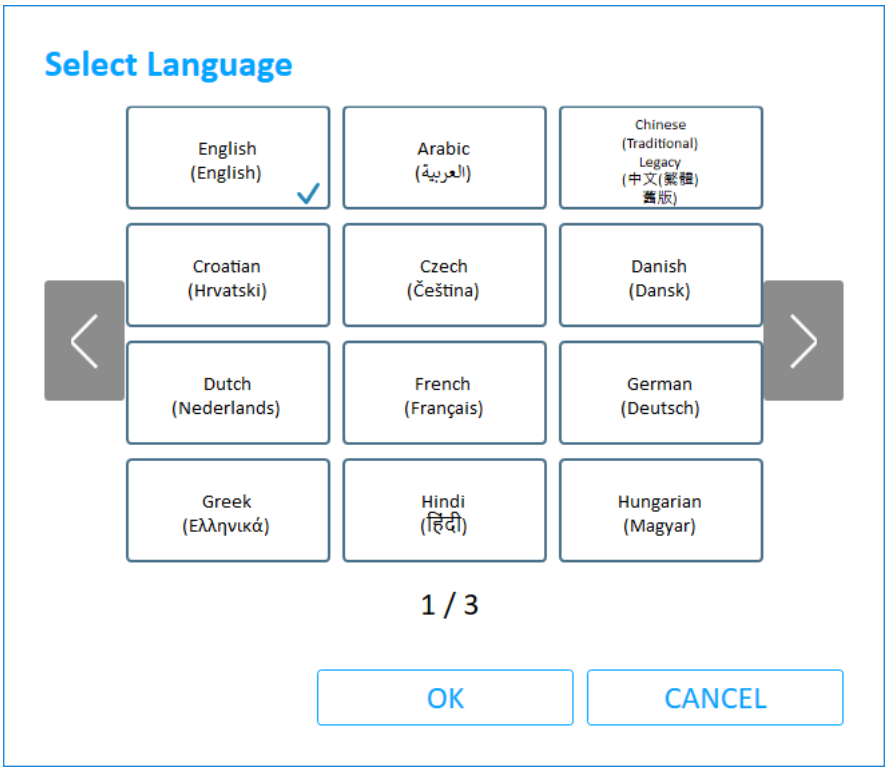
Setting	Description	Default
Video quality	Set the video quality of the Cellebrite UFED camera to Best (1920 x 1280), Normal (1024 x 1280 default) or Low (640 x 480).	Normal
Enable device info (Advanced logical)	Displays the Device Info window during the Advanced Logical extraction. This window provides information about the device data, before performing an Android extraction.	Selected

13.1.1. Changing the application interface language

1. Click the language field.

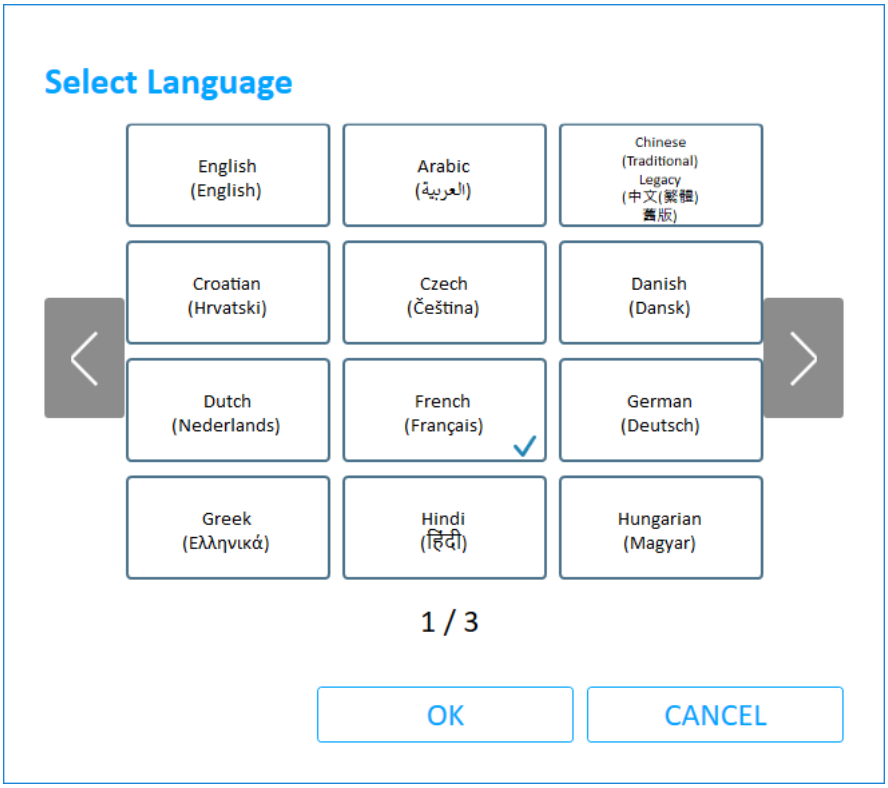


The Select Language screen appears with the current language selected. (In this case, **English**).

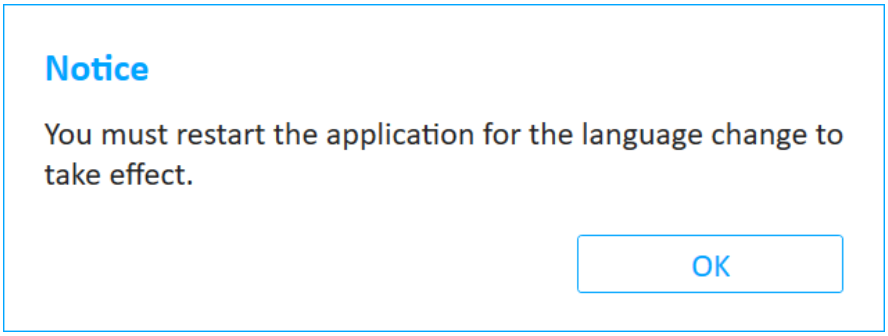


Use the arrows to scroll through the list of available interface languages.

2. Click the required language.



The following message appears (in the selected language).



3. Click **OK**.

   The **General** tab appears with the language of choice in the Interface language field.

4. Click **Save** to close the Settings panel.

5. To restart the application:

a. To close the application, click  in the application taskbar.

b. To restart the application, do one of the following:

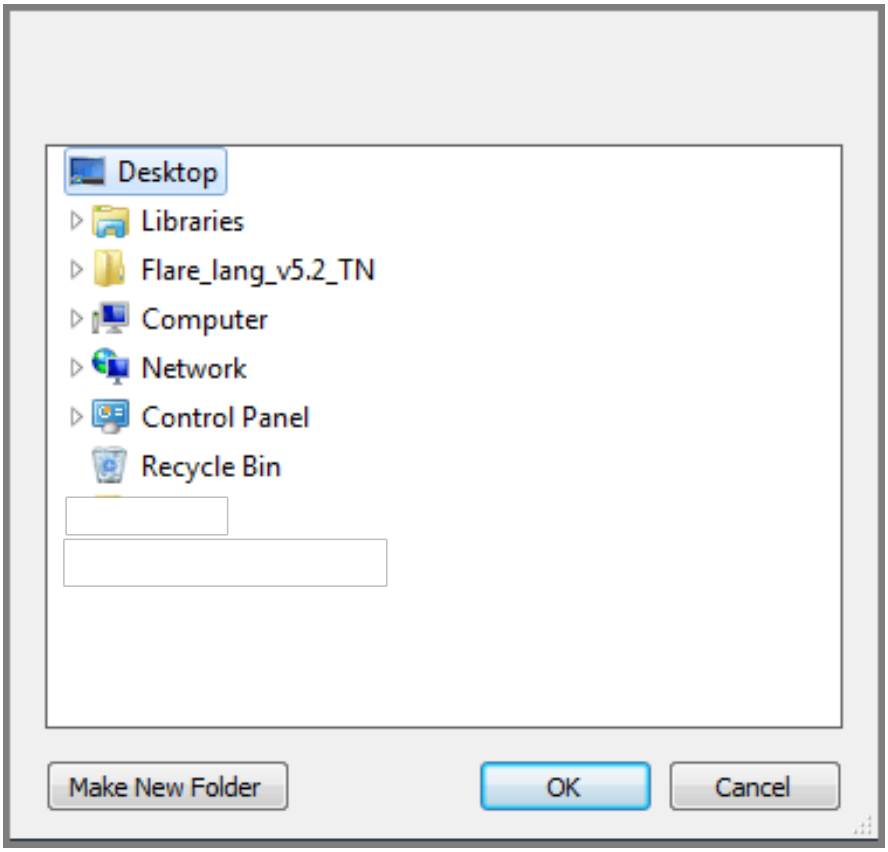
- Click the application shortcut icon located in the UFED shortcuts panel at the right of the screen.
- Double- click the Cellebrite UFED icon located on the Desktop.
- Click **Start** > **Cellebrite UFED**
- Click **Start** > **All Programs** > **Cellebrite Mobile Synchronization** > **Cellebrite UFED**.

Cellebrite UFED starts in the selected language.

If Simplified Chinese is added to the Cellebrite UFED license, you must restart the application before the change takes effect.

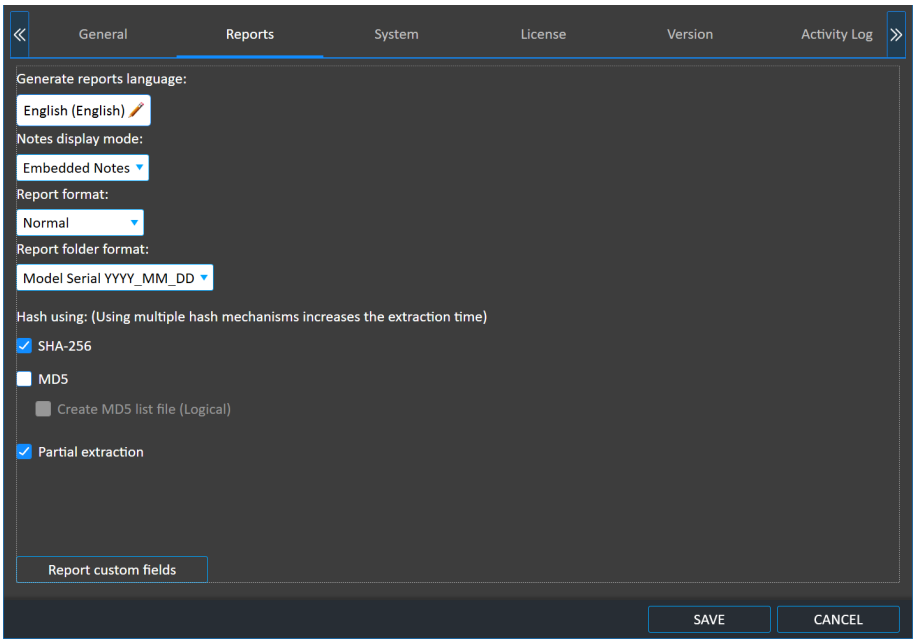
13.1.2. Changing the extraction location

1. In the **Save extractions to** area, click **Browse**. The Browse for folder dialog box appears.



2. Select the folder where you want to save the extraction files, and click OK.

13.2. Report settings



To set the report settings:

1. Access the **Settings** > **Reports** tab.
2. To set the generated reports language, click  next to **Generate Reports Language**, and select the desired language.
3. To set how the known issues notes about the extracted device are logged in the generated report, click  next to **Note display modes**, and select one of the following:
   - **Disable** – Do not include device specific notes in the report.
   - **Separated Notes** – Add all the device specific notes at the end of the report.
   - **Embedded Notes** – Device-specific notes follow the content type they refer to in the report.
4. To set the generated reports visual formats, click  next to **Report format**, and select one of the following:
   - **Normal** – The standard report structure, suitable to standard display screens.
   - **Compact** – A compact report structure, suitable for devices with a small display area.

5. To set the generated reports folder name formats, select  next to **Report folder format**, and select one of the following:

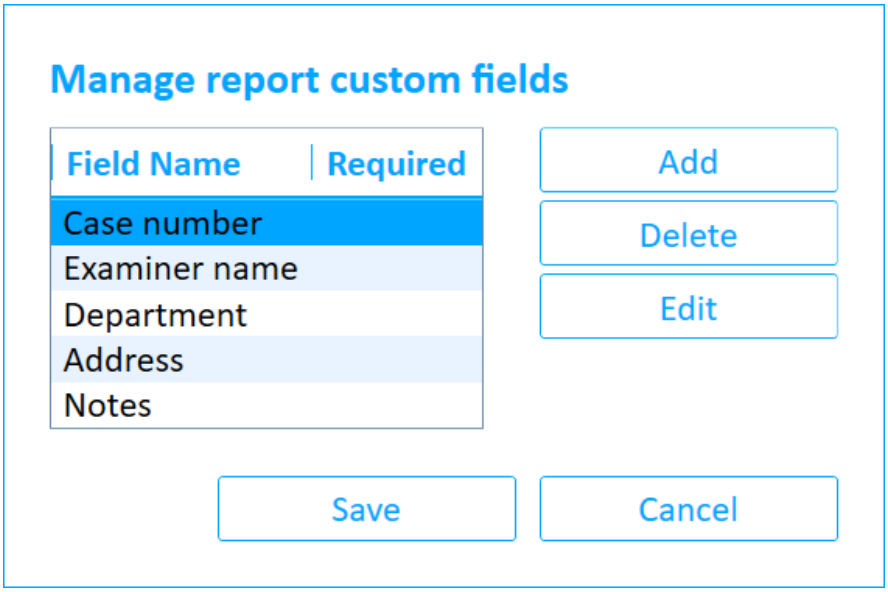
- Model Serial YYYY_MM_DD – The folder name is constructed from <the model name> <the model serial> <the year in 4 digits>_<the month in 2 digits>_<the day in 2 digits>

- YYYYMMDD Model Serial – The folder name is constructed from <the year in 4 digits><the month in 2 digits><the day in 2 digits> <the model name> <the model serial>

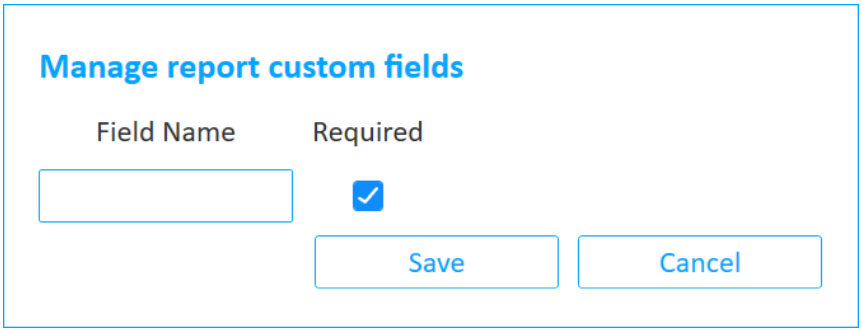
6. Select or clear **Hash using MD5** to toggle the display of the MD5 values which are generated for each file in the extracted data. This increases the time required to complete the extraction.
7. Select **Create MD5 list file** to generate a Checksums.md5 file that contains all the generated MD5 values of the extracted data.
8. Select or clear **Hash using SHA-256** to toggle the display of the SHA-256 values which are generated for each file in the extracted data.
9. Select or clear **Partial Extraction**, in the event of an extraction error, whether or not to include the partially extracted data up to the error point in the generated report.
10. Click **Report custom fields** to add, remove and edit report fields. For more information, see Managing report fields (on the facing page).
11. To set a field as required, click the field in the **Required** column.
12. Click **Save**.

13.2.1. Managing report fields

1. Click **Report custom fields** to customize the report by defining additional fields that are filled at the end of the extraction.



2. To add a new field:
   a. Click **Add**.



   b. Enter the field name in the **Field Name** field.

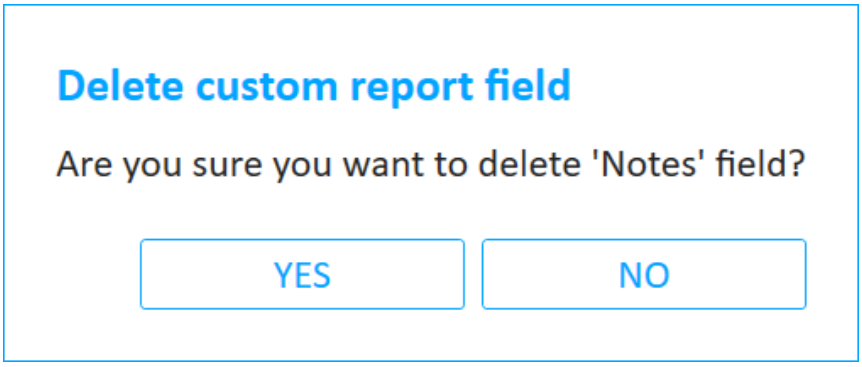
> To display the keyboard, click **Keyboard**.

   c. To set the field as mandatory, select **Required** next to the field name.
   d. Click **Update**, or to exit without saving, click **Cancel**.
3. To add additional fields, repeat step 2.
4. To edit an existing field:

a. Click the field in the list, and click **Edit**.
b. Repeat steps 2b-2d.

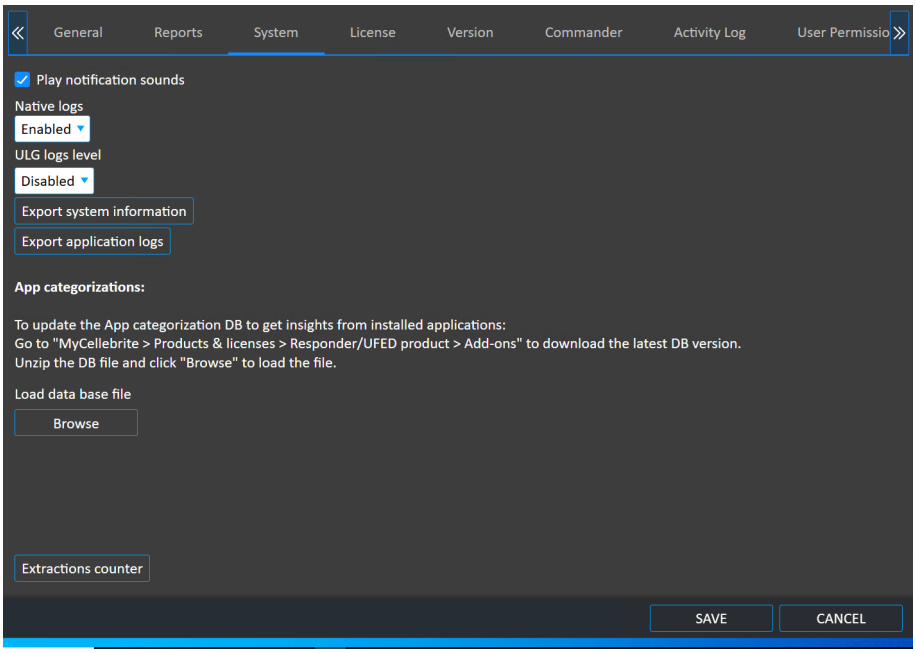
> You cannot edit the field name of a default custom field.

5. To delete a field:
   a. Click the field in the list, and click **Delete**.



   b. In the confirmation message, click **Yes**.
6. Click **Save** in the **Reports** tab.

13.3. System settings



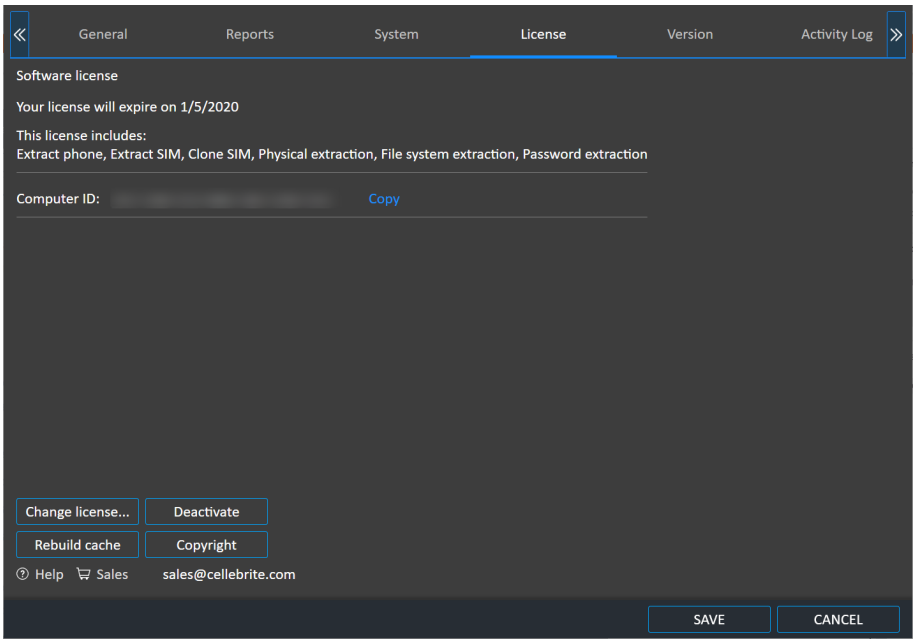
Define the following additional settings in the System tab:

- To set Cellebrite UFED to alert you when your attention is required, such as when it is waiting for your input or when an extraction fails, select **Play notification sounds**.

13.4. License settings

Change the license type in the **License** tab.

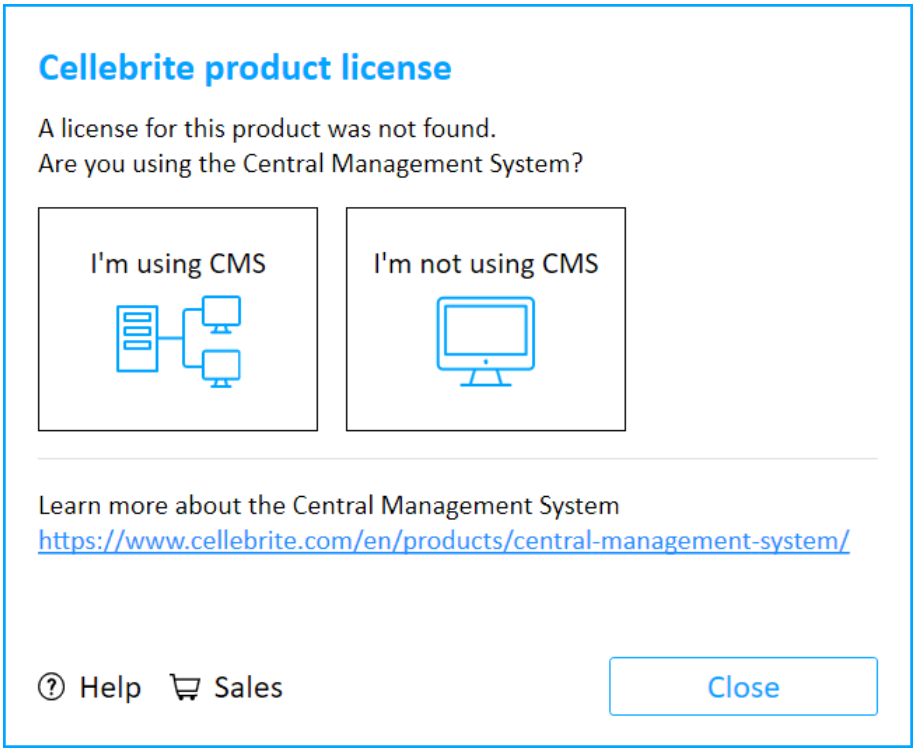
The current license type is displayed.



To change the license type, follow the instructions in Activating the license (on page 25).

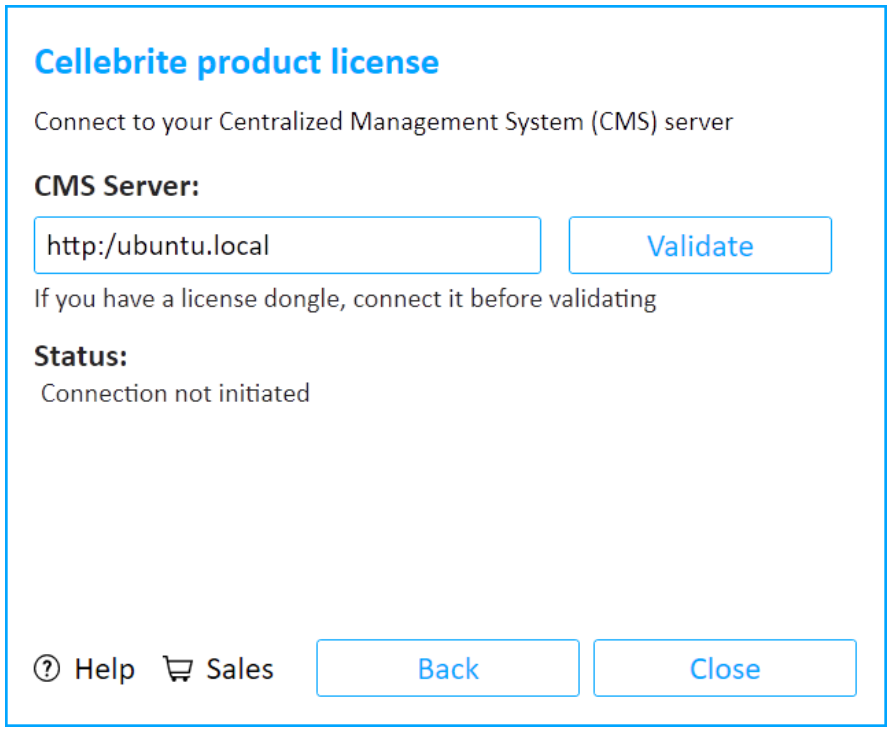
13.4.1. License not found

If a license cannot be found the following window appears.



If you are using Cellebrite Commander:

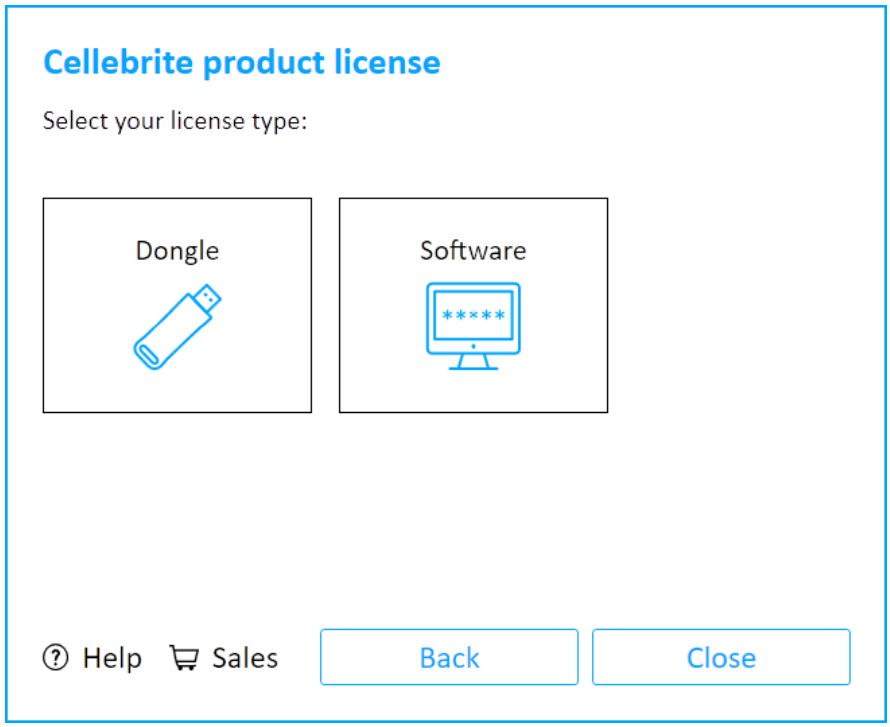
1. Click **I'm using Cellebrite Commander**. The following window appears.



2. Connect the license dongle before validating.
3. Enter the Cellebrite Commander Server information. For more information about entering the information in this window, see Connect a Cellebrite UFED device to Cellebrite Commander (on page 234).
4. Click **Validate**.

If you are not using Cellebrite Commander:

1. Click **I'm not using Cellebrite Commander**. The following window appears.



2. Select your license type.

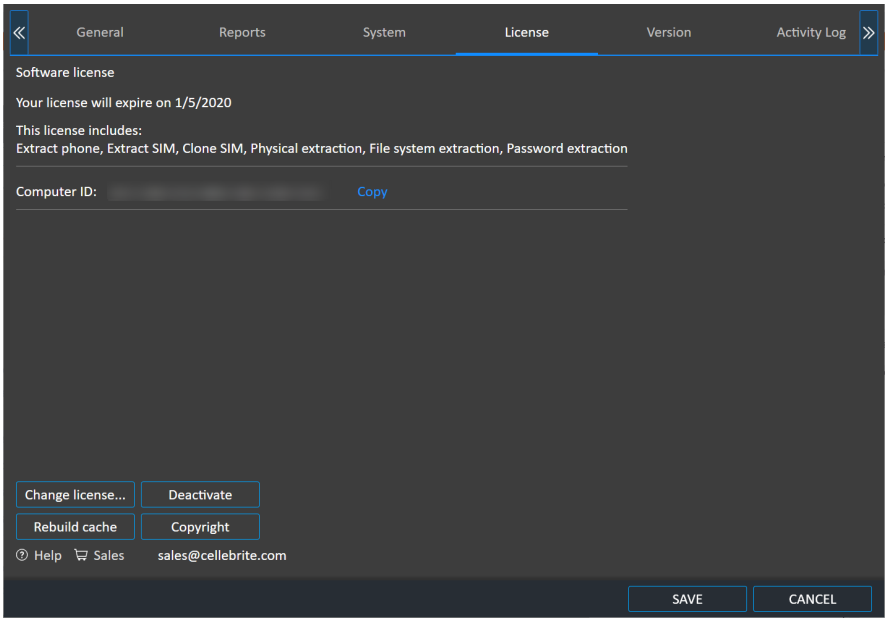
13.4.2. Updating a dongle license online

When an Internet connection is available, you can update the dongle license directly from Cellebrite UFED.

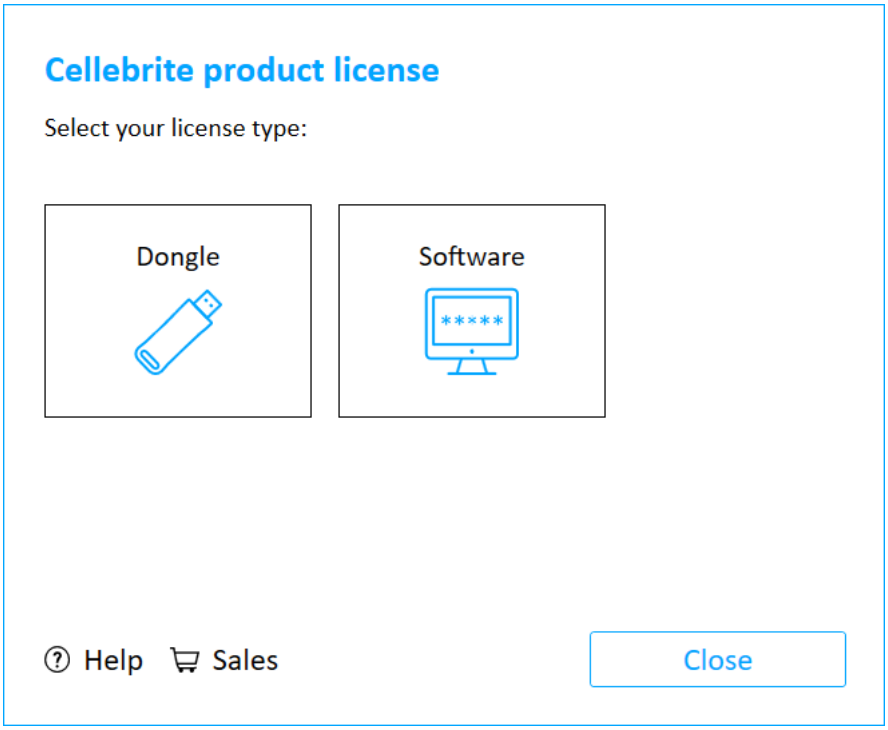
To update a dongle license online:

1. Contact your Cellebrite sales representative to renew or update the dongle license. After the license is approved, you can proceed with the following steps.

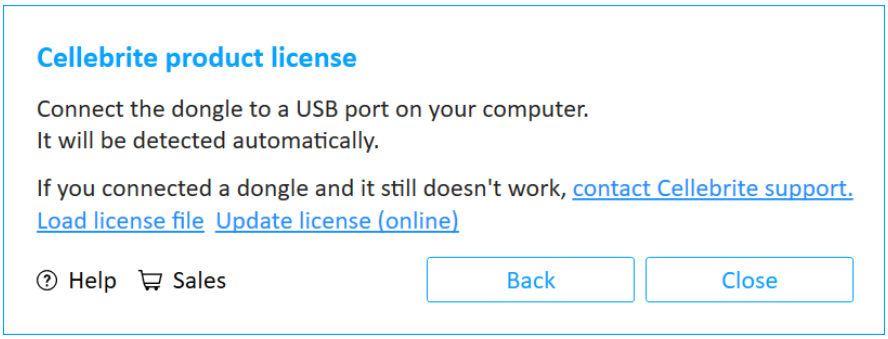
2. From the Home screen, click  and then click the License tab. The following window appears.



3. Click **Change license**. The following window appears.



4. Click **Dongle**. The following window appears.



5. Click **Update license (online)**.
6. Click OK to complete the process.

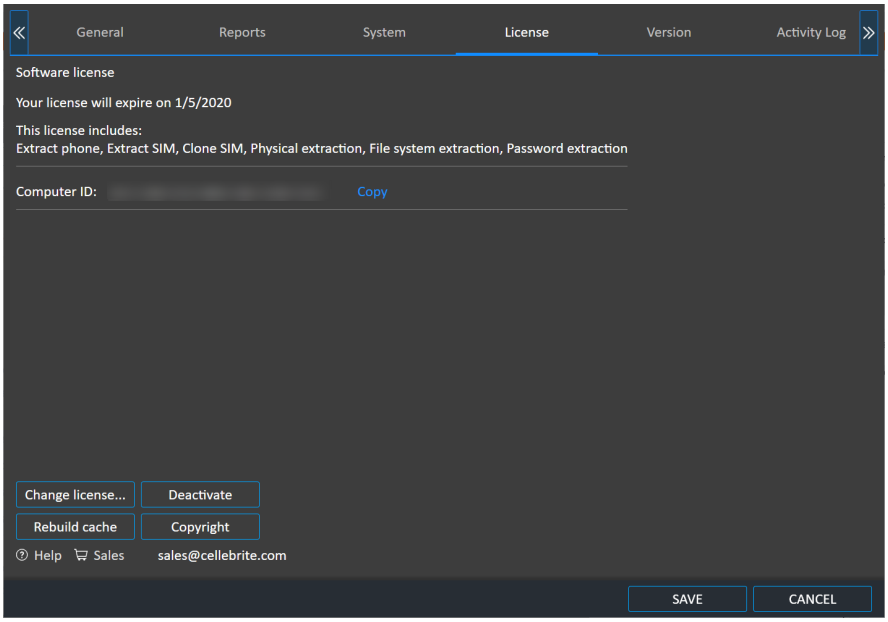
13.4.3. Updating a software license online

When an Internet connection is available, you can update a software license directly from Cellebrite UFED.

To update a software license online:

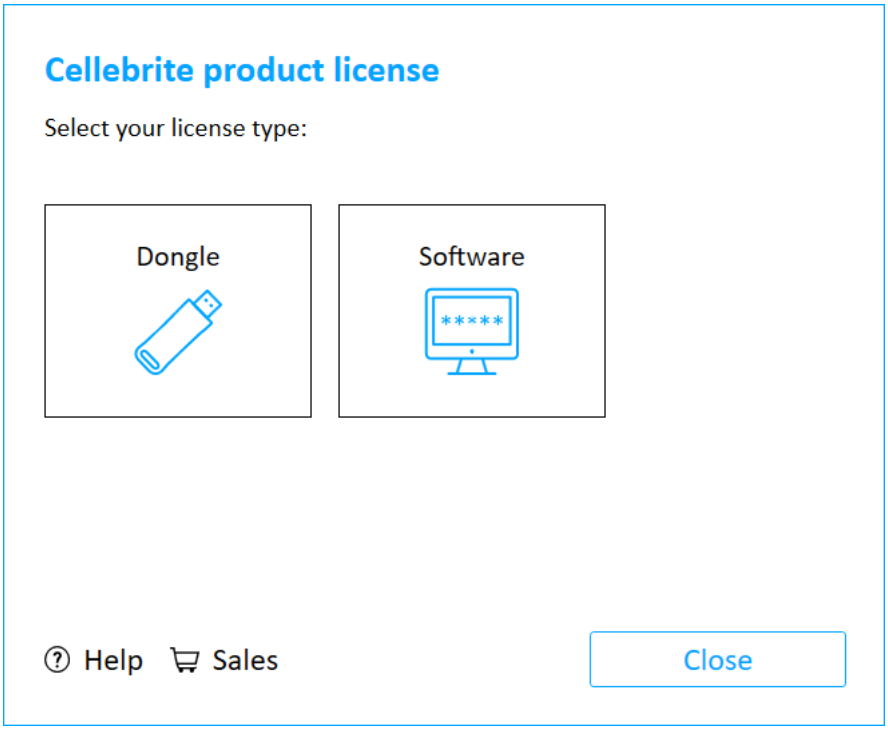
1. Contact your Cellebrite sales representative to renew or update the dongle license. After the license is approved, you can proceed with the following steps.

2. From the Home screen, click  and click the **License** tab. The following window appears.

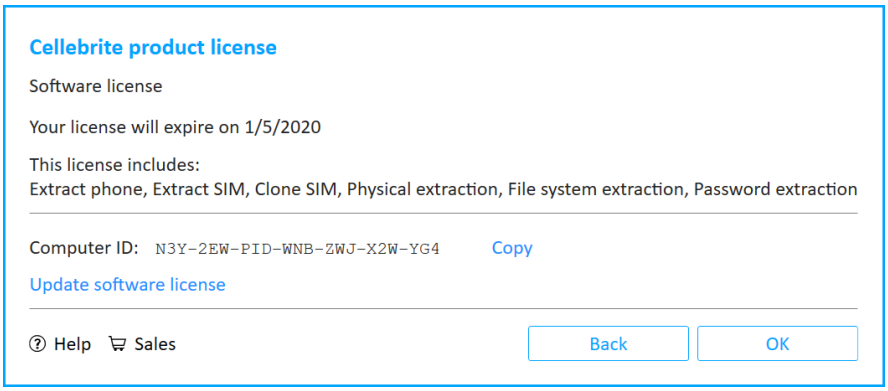


3. Click **Change license**. The following window appears on Cellebrite UFED.

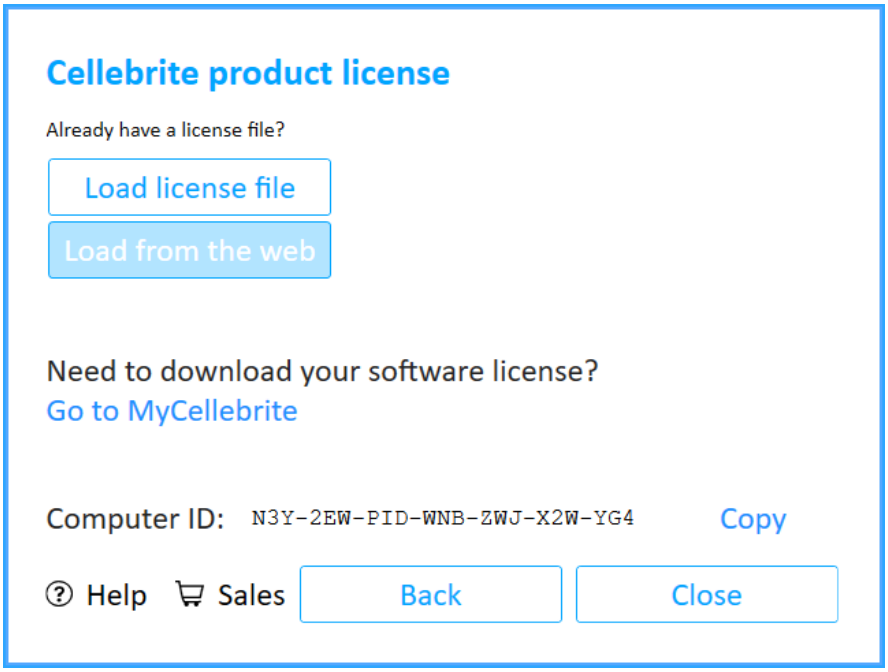
> For Cellebrite UFED Touch, accept the Cellebrite UFED License Agreement and skip to step 6.



4. Click **Software**. The following window appears.



5. Click **Update software license**. The following window appears.

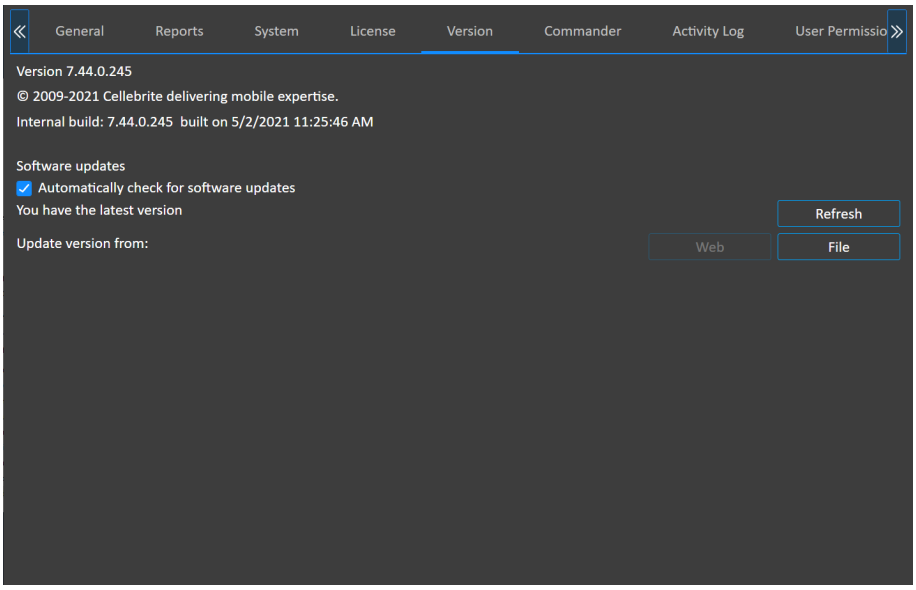


6. Click Load from the web.
7. Click OK in the Cellebrite product license window to complete the process.

13.5. Version details

The version tab displays information about the Cellebrite UFED version and build.

Under **Software updates**, select **Automatically check for software updates**.

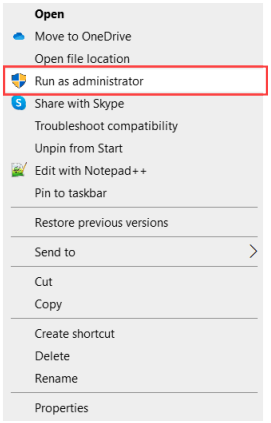


13.5.1. Connect a Cellebrite UFED device to Cellebrite Commander

Cellebrite UFED devices automatically detect when a new Cellebrite Commander server is added to their subnet and prompt the user to connect automatically. If necessary, you can also connect a Cellebrite UFED device to Cellebrite Commander manually.

To connect a Cellebrite UFED device to Cellebrite Commander automatically:

1. Right-click on the application shortcut and select **Run as Administrator**



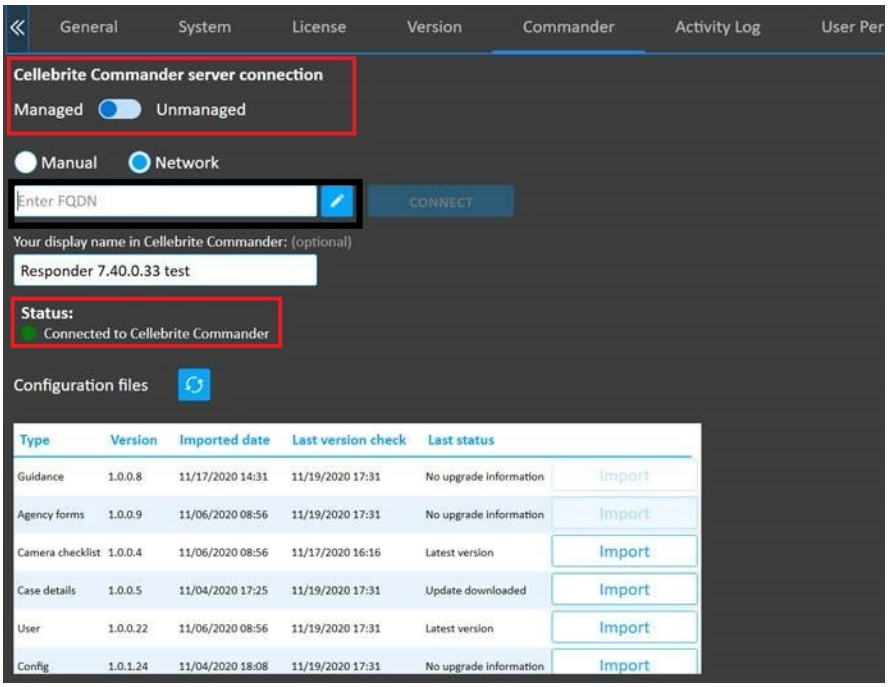
> Enable Admin permissions to enable the Cellebrite UFED device to automatically download the SSL certificate. This ensures secure SSL communication between a managed Cellebrite UFED unit and Cellebrite Commander server.
> To enable downloading of certificates, make sure the setting is enabled in Cellebrite UFED Settings.

2. Restart the Cellebrite UFED unit.
3. The unit automatically detects the Cellebrite Commander server and prompts the user to connect.
4. After the unit connects to the Cellebrite Commander server, it automatically switches to managed mode and downloads the secure SSL certificate.

> If more than one Cellebrite Commander is detected, the user can choose from the list of servers.

To connect a Cellebrite UFED device to Cellebrite Commander manually:

1. Go to **Settings** > **Commander**. The following window appears.



2. Select **Managed mode**.
3. Enter the Commander's FQDN (fully qualified domain name). **Example**: qas99.cellebrite.wxyz
4. Click **Connect**. If the validation is successful, the status changes to **Connected to Cellebrite Commander**.
5. Click **Save**.

13.5.2. Updates and versions

When Cellebrite UFED is connected to the Internet, automatic notifications appear in the event of updates and new versions of the application.

» Click **Refresh** in the Settings > **Version** tab to update the information available on the screen.

To install a newer version of the Cellebrite UFED application via the web:

1. Ensure that the unit is connected to the network.
2. In the **Settings** > **Version** tab, in the **Version** area, click **Web**.

   The application is upgraded to the latest version available on the Cellebrite Commander (if relevant) or Cellebrite download server.

To install a newer version of the Cellebrite UFED application using the file option:

1. Download the latest application version from your account in MyCellebrite, and save it to the specified directory on the PC or external device.
2. In the **Settings** > **Version** tab, in the **Version** area, click **File**.
3. Select the directory where you saved the file and then click **Open**.

13.5.3. Importing settings and configuration files

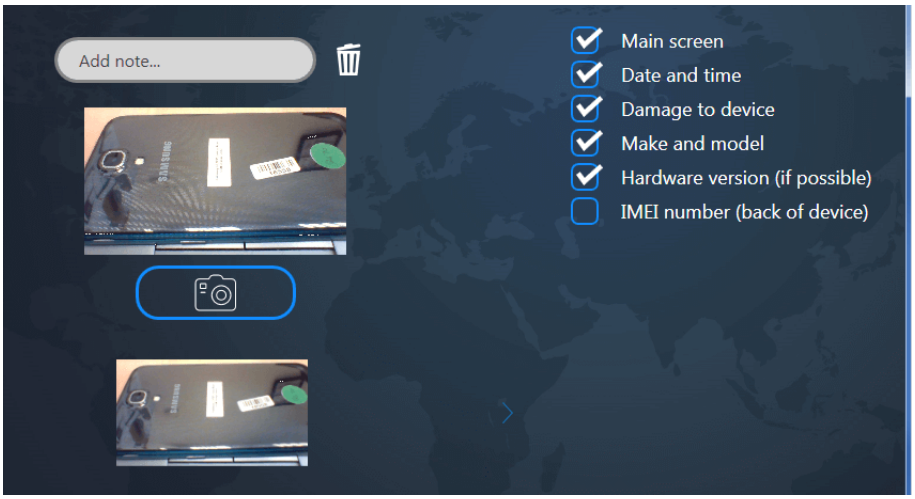
You can use Cellebrite Commander to download initial export files, which can then be edited if necessary and manually imported into Cellebrite UFED. These files can also be set using Cellebrite Commander. For more information, refer to the Cellebrite Commander manual.

Cellebrite UFED can import the following type of settings and configuration files:

- Importing a camera checklist (on the next page)
- Importing case details (on page 239)
- Importing user management (on page 241)
- Importing configuration files (on page 242)

13.5.3.1. Importing a camera checklist

The camera checklist enables you to upload an XML file that the user can use as a reference as to what pictures are required of the device. As the user completes each step, they can place a check mark next to the completed items.



To manually import a Camera checklist file:

1. In the **Version** tab, click the **Import** button next to the setting file you would like to import. The following window appears.
2. Browse to the relevant file and click **Open**.
3. Click **OK** to update the application.

The following example shows the structure of the XML file.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<CheckListData>
    <Version>1.0.0.48</Version>
    <CheckListItems>
        <CheckListItem>Main screen</CheckListItem>
        <CheckListItem>Date and time</CheckListItem>
        <CheckListItem>IMEI number</CheckListItem>
    </CheckListItems>
</CheckListData>
```

13.5.3.2. Importing case details

You can import an XML file to change the options that appear in the Case Details window (see Case details (on page 51)).

To manually import a case details file:

1. In the Version tab, click the **Import** button next to the setting file you would like to import.
2. Browse to the relevant file and click **Open**.
3. Click OK to update the application.

The following example shows the structure of the XML file.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<CaseDetails>
    <Version>1.0.0.38</Version>
    <Fields>
        <Field>
            <Type>String</Type>
            <Caption>Case ID</Caption>
            <Mandatory>true</Mandatory>
            <AutoFill>true</AutoFill>
            <IsDefaultFolderName>true</IsDefaultFolderName>
        </Field>
        <Field>
            <Type>String</Type>
            <Caption>Seized by</Caption>
            <Mandatory>false</Mandatory>
            <AutoFill>false</AutoFill>
            <IsDefaultFolderName>false</IsDefaultFolderName>
        </Field>
        <Field>
            <Type>String</Type>
            <Caption>Crime type</Caption>
            <Mandatory>false</Mandatory>
            <AutoFill>false</AutoFill>
            <IsDefaultFolderName>false</IsDefaultFolderName>
            <Values>
                <Value>Armed Robbery</Value>
                <Value>Attempted Murder</Value>
                <Value>Child Exploitation</Value>
            </Values>
        </Field>
        <Field>
            <Type>String</Type>
            <Caption>Device owner</Caption>
            <Mandatory>false</Mandatory>
            <AutoFill>false</AutoFill>
            <IsDefaultFolderName>false</IsDefaultFolderName>
            <Values>
                <Value>Victim</Value>
                <Value>Suspect</Value>
                <Value>Witness</Value>
            </Values>
        </Field>
    </Fields>
</CaseDetails>
```

13.5.3.3. Importing user management

Cellebrite Commander enables user authentication ensuring that only users with the right credentials can access the application. Access rights are further enforced by defining permission levels per profile.

To manually import a user management file:

1. In the **Version** tab, select the **Import** button next to the setting file you would like to import.
2. Browse to the relevant file and click **Open**.
3. Click **OK** to update the application.

13.5.3.4. Importing configuration files

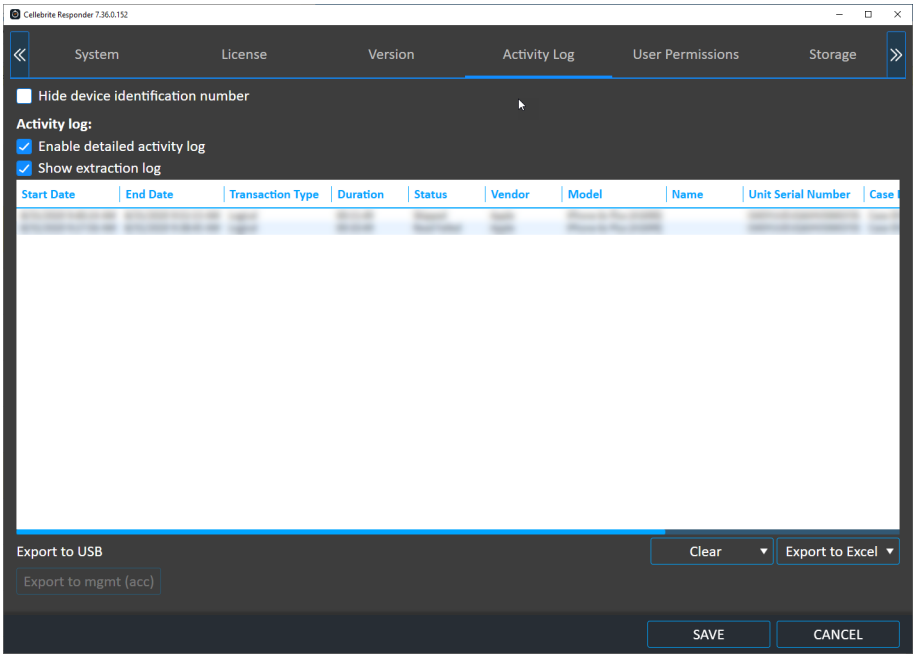
Configuration files enables you to import various settings into the system.

To manually import a configuration file:

1. In the **Version** tab, select the **Import** button next to the setting file you would like to import.
2. Browse to the relevant file and click **Open**.
3. Click **OK** to update the application.

13.6. Activity Log

The Activity Log lists all transactions performed by Cellebrite UFED. It includes information such as when the extraction started and ended, transaction type, duration, status, device vendor, device model, name, serial number of Cellebrite UFED, case ID, crime type, device owner, and who seized the device. You can also clear the activity log, export the activity data to a CSV file and show or hide the activity data.



13.6.1. Exporting metadata to Cellebrite Commander

If a Cellebrite UFED unit is used in an offline environment, you can export the usage metadata file. This file contains the following: Cellebrite UFED device information (e.g., MAC address, serial number, software version number), transaction start times and end times, source phone information (e.g., vendor, model name, IMEI, and operating system), and type of information extracted (e.g., Phone memory, SMS memory, MMS, pictures, videos, audio). The exported Zip file can then be manually imported into Cellebrite Commander. For more information, refer to the Cellebrite Commander manual.

To export the metadata:

1. Connect or reconnect a USB flash drive to the Cellebrite UFED unit. The button is only available when a USB drive is connected.
2. Click the **Export to mgmt (acc)** button. The metadata can now be imported into Cellebrite Commander.

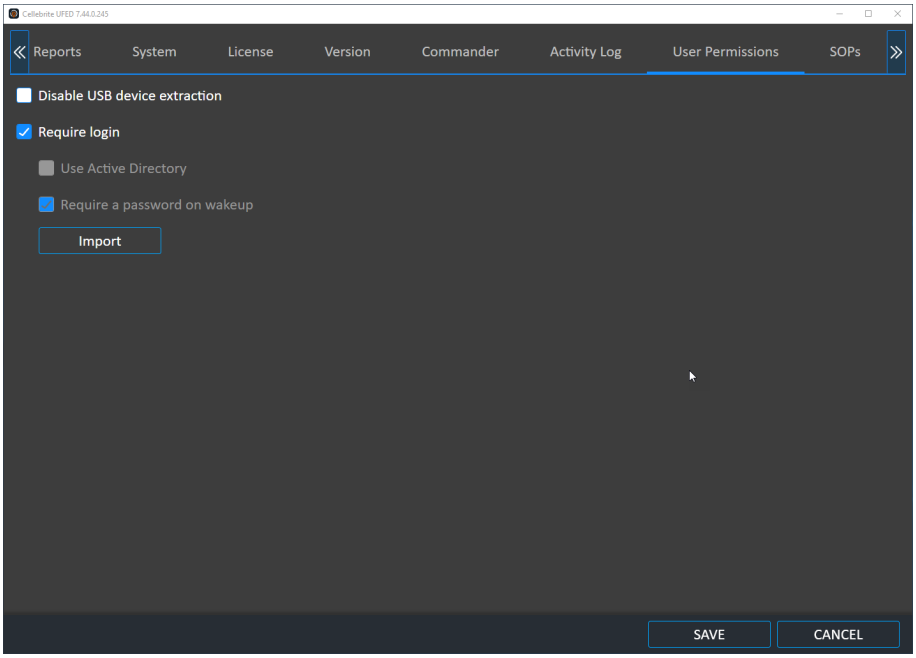
This button is only displayed if you are using the Managed mode (see Version details (on page 233)).

Exported data is removed from the Cellebrite UFED device and is not available for export again.

13.7. Users permissions

Define and configure user authentication settings to ensure that only users with the right credentials can access the application. Access rights are further enforced by defining permission levels per profile.

User permissions can be set using Cellebrite Commander (refer to the Cellebrite Commander *manual*) or the UFED Permission Manager (see Permission management (on page 254)).

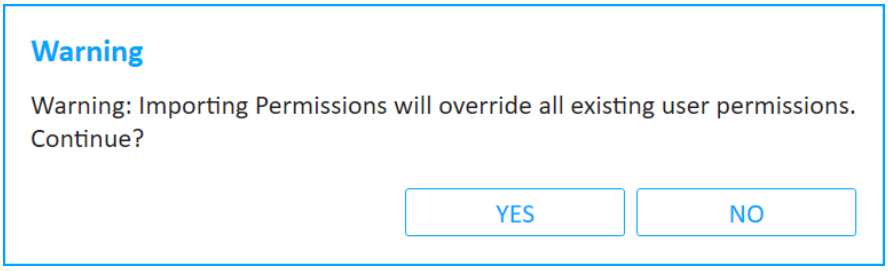


To disable USB device extraction:

» Select **Disable USB device extraction**. This option is not available on the home screen.

To import user permissions:

1. Run the Cellebrite UFED as an administrator.
2. Click Import. The following warning appears.



3. Click **Yes** and navigate to the directory where the permission management file (*.cp) is located. For information about creating a permission management file, see Using the Cellebrite UFED Permission Manager (on page 254).
4. Click **Open** and then click **Save**.
5. Restart the Cellebrite UFED application, which now prompts for login credentials.
6. Use one of the login credentials configured in the permission management file. For more information, see Permission management (on page 254).

Select the checkbox to require password on wakeup.

13.7.1. Active Directory integration

Active Directory is a Microsoft product providing a range of directory-based identity-related services. It authenticates and authorizes all users and computers in a Windows domain type network, assigning and enforcing security policies for all computers and installing or updating software.

When a user logs in to the system, Active Directory checks the submitted password and determines whether the user is a system administrator or normal user before allowing the user to log in. Active Directory also enables the management and storage of information at the admin level and provides authentication and authorization mechanisms.

Use the Windows Active Directory account to enable *quicker and easier* log in to your Cellebrite UFED applications. Cellebrite UFED can manage the permissions with two permissions levels:

- Active Directory Groups
- Active Directory Users with Commander roles

13.7.1.1. Determining the Active Directory groups

When using the **Groups level**, the permissions are applied according to the Active Directory groups of which the users are members (directly and indirectly). When

using the **Users level**, you must map the users to Cellebrite Commander and then to the permissions applied according to the selected profile in Cellebrite Commander. For more information, see To enable Active Directory (on page 248).

You can use the following procedure to determine all the Active Directory groups for a specific user.

1. To get a list of groups for a specific user, replace `<user name>` with the actual user name

   Open a command prompt (cmd.exe) and run:

   ```
   gpresult /V /user <user name>
   ```

2. The output looks like this (truncated with only the group information):

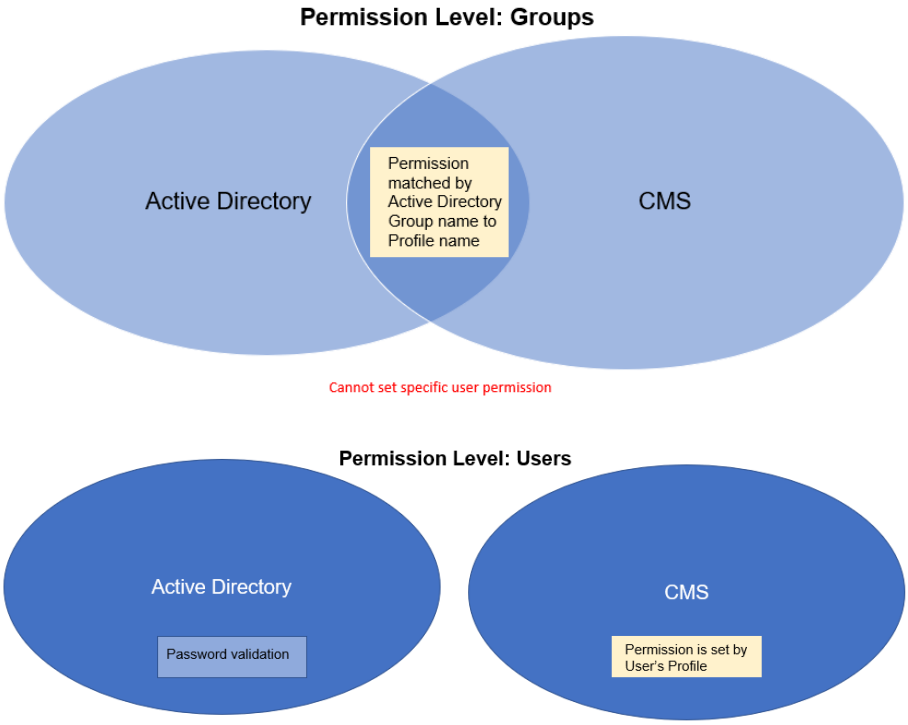
```
The user is a part of the following security groups

---------------------------------------------------

    Domain Users

    Everyone

    BUILTIN\Users

    NT AUTHORITY\INTERACTIVE

    CONSOLE LOGON

    NT AUTHORITY\Authenticated Users

    This Organization

    LOCAL

    Marketing
    Platforms Dev Team
```

In the above example, you can see that this user is a member of several Active Directory (security) groups. In the following example we use the **Platforms Dev Team** security group.

If a group is contained within another group, other commands (such as `whoami /groups`) only display the groups of which the user is a direct member. Therefore, we recommend that you avoid `whoami` as an indicator.

13.7.1.2. Using Cellebrite Commander

When using Cellebrite Commander, the system administrator must decide the permission management level. The possible levels are presented below:



13.7.1.3. Initial setup

When Cellebrite Commander is used in conjunction with Active Directory, the following procedures are required for initial setup.

13.7.1.3.1. Permission Level – Groups

The Cellebrite Commander administrator must:

1. Create *profiles* with the exact same name of the relevant Active Directory groups.
2. Publish the users and permissions to all the relevant Cellebrite UFED units.

   After Active Directory is set up, each login request via a Windows user is sent to Active Directory before approval. Active Directory checks the user permissions and notifies the Cellebrite UFED unit whether to approve or deny the login request based on the user profile permissions.

   If the Cellebrite UFED units are offline, you cannot log in to the Cellebrite UFED unit. However, an ongoing session is not disconnected if a disconnection occurred.

Should you choose not to work with Active Directory, the Cellebrite Commander administrator can regulate the users and permissions via Cellebrite Commander or the Cellebrite UFED Permission Manager.

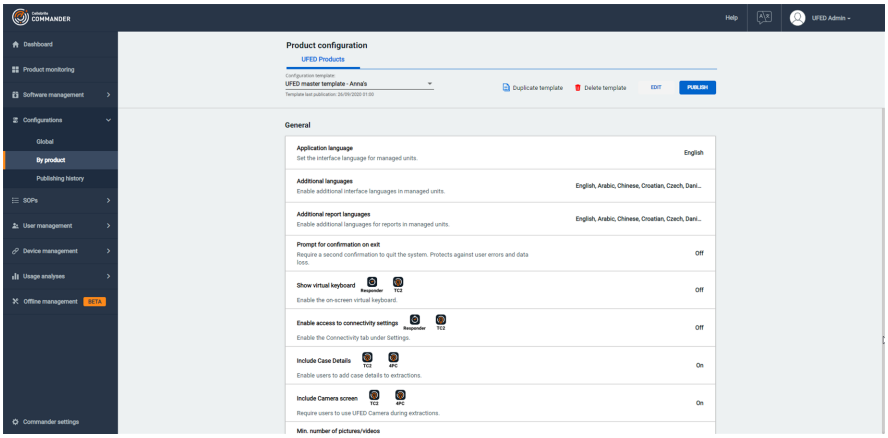
13.7.1.3.2. Permission Level – Users

The Cellebrite Commander administrator must:

1. Create *profiles* and set the permissions for each profile.
2. Import a CSV list of relevant *users* that matches the Users and Profiles settings in Cellebrite Commander.
3. Publish the users and permissions to all the relevant Cellebrite UFED units.

13.7.1.4. To enable Active Directory

1. In Cellebrite Commander select **Configurations > By product**. The following window appears.



2. Click **Edit**, to enable the following under the Access Control section:
   a. **Require login**.
   b. **Enable Active Directory integration**.
3. Under **Permissions level**, select one of the following options:
   - **Active Directory groups**: Manage permissions at the Active Directory groups level. The match is performed by Active Directory group names.
   - **Active Directory users with Commander roles**: Manage permissions per user independently from Active Directory groups.
4. Click **Save** to save the configuration template.
5. Publish the configuration template to the relevant product.

Next you must add the Active Directory profile and select the required permissions.

13.7.1.4.1. To add a role and select permissions

Adding roles and selecting permissions are managed in the User Management System. For more information, see the Managing Roles section in the User Management System manual.

13.7.1.4.2. Adding Users

Adding users is managed in the User Management System. For more information, see the Managing Users section in the User Management System manual.

13.7.1.5. Logging in to Cellebrite UFED

After Active Directory is enabled, the following occurs depending on the Cellebrite UFED device you are using.

- In PC applications such as Cellebrite UFED and Cellebrite Responder, the login occurs automatically when you start the Cellebrite UFED application.
- In closed systems such as Cellebrite UFED Touch and Kiosk, Cellebrite UFED tries to locate the domain and display the following login screen.

  - Enter the Active Directory credentials.
  - Verify the Domain field.

    If the text in the Domain field (that is, `domain controller host`) is missing or incorrect, contact your IT department.

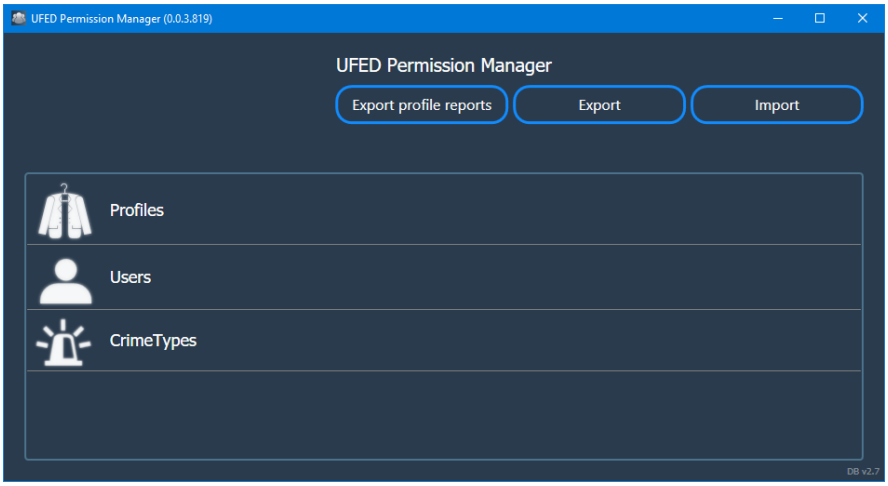
13.7.1.6. Cellebrite UFED Permission Manager

If you are not using Cellebrite Commander, use the following procedures in the Cellebrite UFED Permission Manager and Cellebrite UFED application to enable Active Directory.

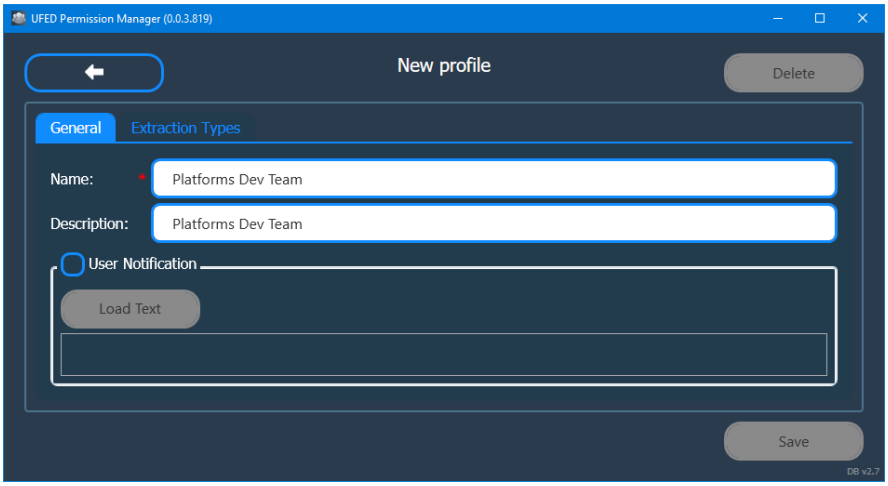
To configure Active Directory in the Cellebrite UFED Permission Manager:

In the Cellebrite UFED Permission Manager, create a profile that corresponds to the required Active Directory group.

1. Run the Cellebrite UFED Permission Manager. The following window appears.

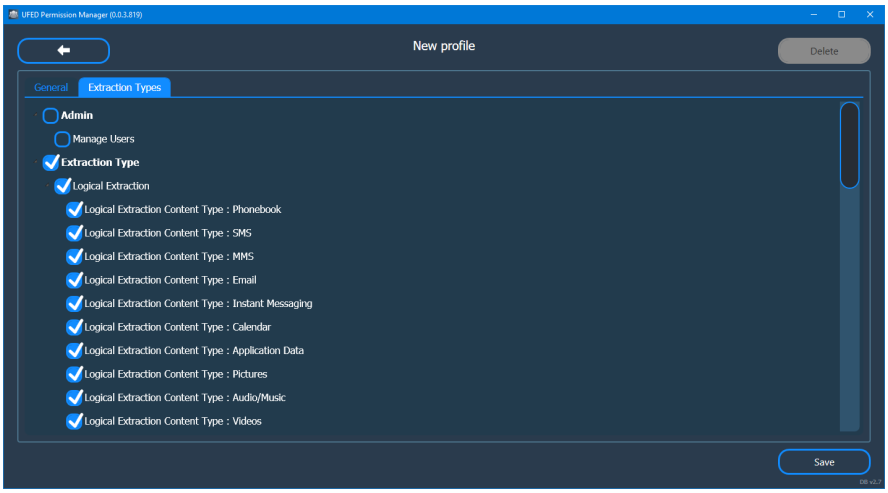


2. Click **Profiles** > **New Profile**. The following window appears.



3. In the Name field enter the name of the Active Directory group (for example, Platforms Dev Team).
4. (Optional) Enter a description.

5. Click **Extraction Types** and enter all the required permissions for the profile. The following window appears.

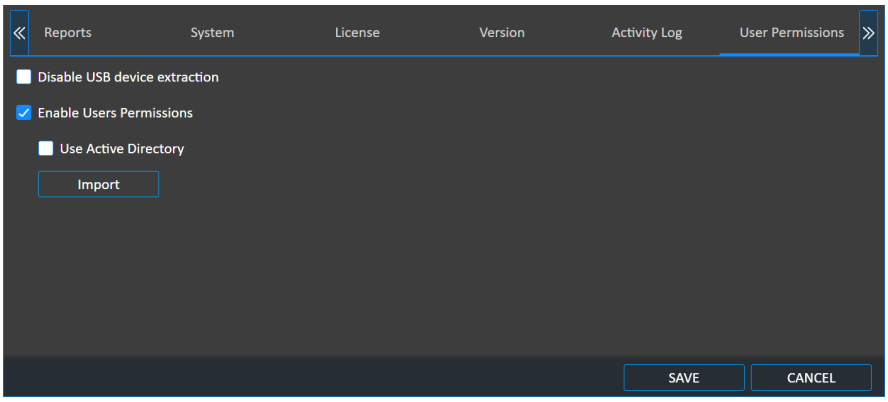


6. Click **Save**.

To enable Active Directory in the Cellebrite UFED application:

This step is not required if you are using Cellebrite Commander.

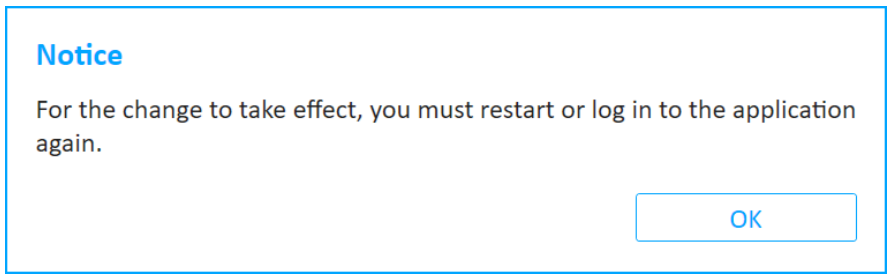
1. In Cellebrite UFED go to **Settings** > **User Permissions**.



2. Select **Use Active Directory**.

You can only log in to the application using Active Directory users, there are no longer Cellebrite UFED users such as Manager and Investigator. After activating Active Directory either in Cellebrite Commander or Cellebrite UFED application.

3. Click **Save**. The following window appears.

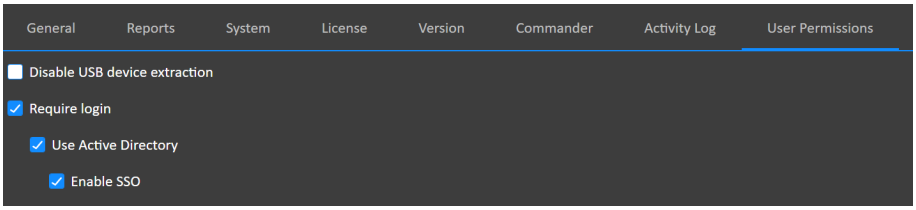


4. Click OK and restart the Cellebrite UFED application.

For information about logging in to the Cellebrite UFED devices, see Logging in to Cellebrite UFED (on page 250).

13.7.1.7. Turning off default SSO when using Active Directory

This feature enables you to turn off the default permissions for SSO when using Active Directory authentication.



13.7.2. Enabling Active Directory in Cellebrite UFED application

Active Directory is a Microsoft product providing a range of directory-based identity-related services. It authenticates and authorizes all users and computers in a Windows domain type network, assigning and enforcing security policies for all computers and installing or updating software.

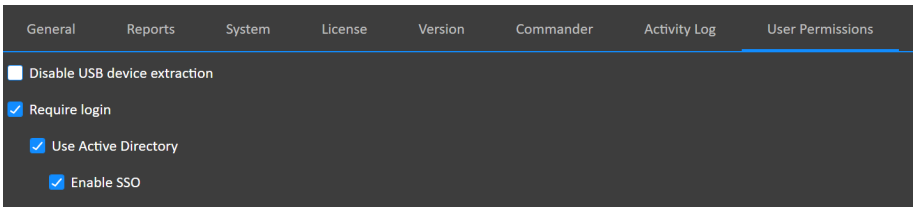
When a user logs in to the system, Active Directory checks the submitted password and determines whether the user is a system administrator or normal user before allowing the user to log in. Active Directory also enables the management and storage of information at the admin level and provides authentication and authorization mechanisms.

Use the Windows Active Directory account to enable quicker and easier login to your Cellebrite UFED applications. Cellebrite UFED can manage the permissions with two permissions levels:

- Active Directory Groups
- Active Directory Users with Commander roles

13.7.2.1. Turning off default SSO when using Active Directory

This feature enables you to turn off the default permissions for SSO when using Active Directory authentication.



13.7.3. Permission management

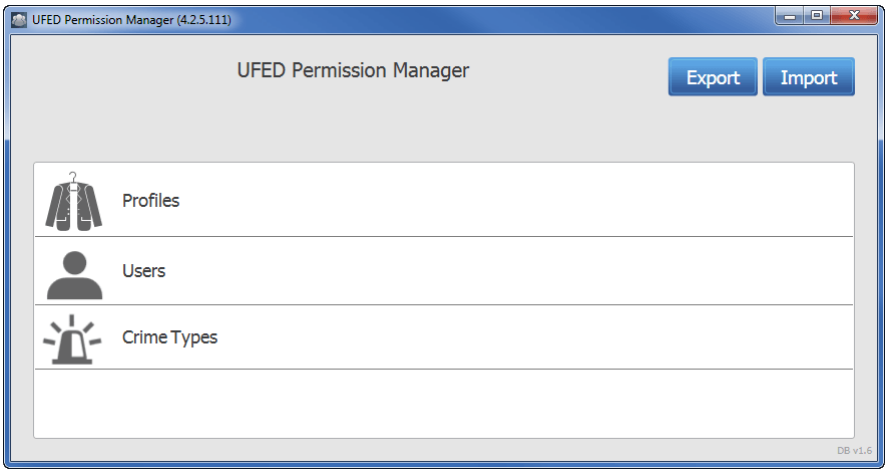
Permission management can be performed via Cellebrite Commander or the Cellebrite UFED Permission Manager standalone application.

The Cellebrite UFED Permission Manager standalone application is available from MyCellebrite. Each profile contains access permissions, including operation rights per extraction type and content types. A single profile can be assigned to multiple users. The users and profiles can be exported into an encrypted permission management file, which can be imported into multiple Cellebrite UFED applications.

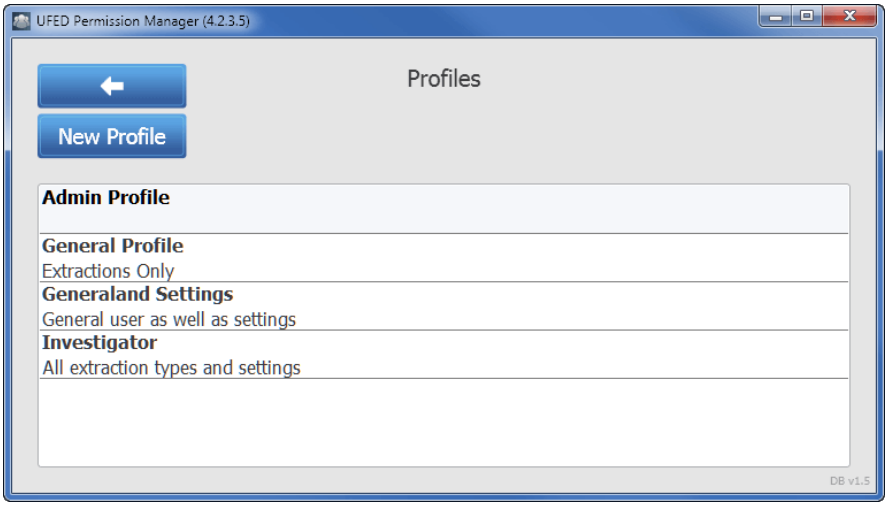
13.7.3.1. Using the Cellebrite UFED Permission Manager

To create a new profile:

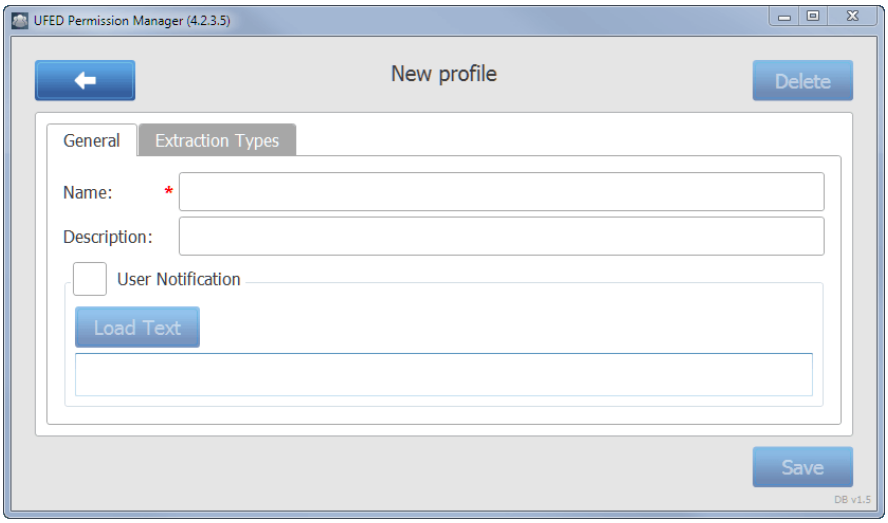
1. Download the latest Cellebrite UFED Permission Manager application from your account in MyCellebrite, and save it to a directory on a computer or external device.
2. Run the Cellebrite UFED Permission Manager and follow the setup instructions. The Cellebrite UFED Permission Manager screen appears.



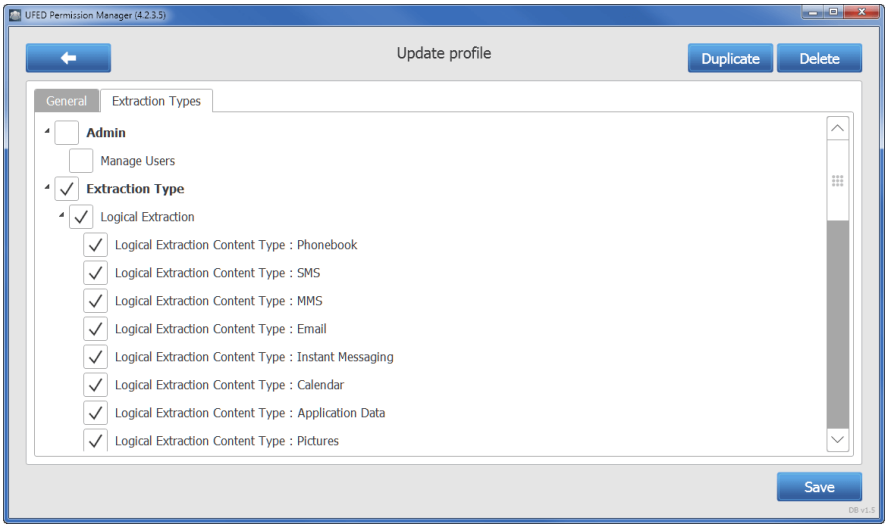
3. Click **Profiles**.



4. Click **New Profile**. The following screen appears.



5. Enter a name and description for this profile.
6. If required, select **User Notification**, which enables you to load a RTF file with text and graphics for the profile.
7. Click the **Extraction Types** tab.



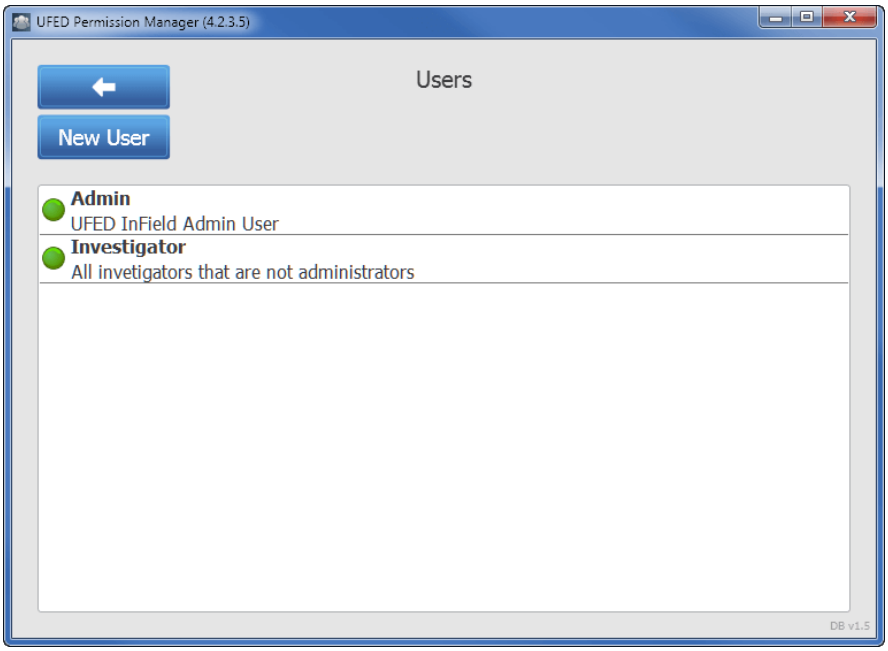
8. Select the options for this profile, such as Admin who can manage users, the Extraction Type (Logical Extraction, SIM Data extraction, Password extraction etc.) and UFED Settings (Activity Log).

> At least one of the enabled users must be an Administrator (Admin).

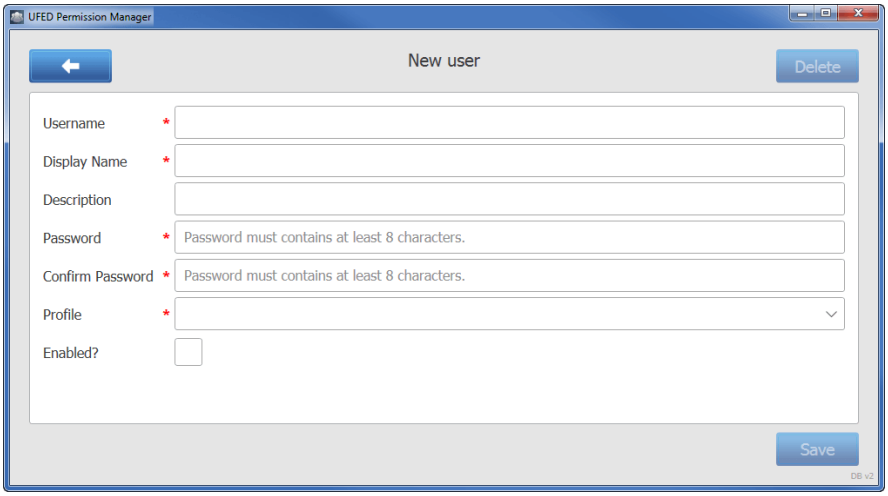
9. Click **Save** and proceed to create a new user.

To create a new user:

1. In the Cellebrite UFED Permission Manager screen, click **Users**. The following screen appears.



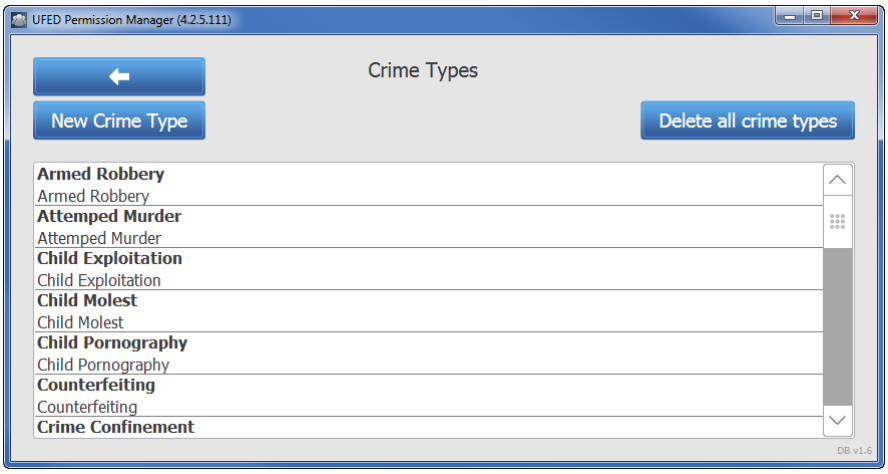
2. Click **New User**. The following screen appears.



3. Enter the details for the new user including Username, Display Name, Description, and Password.
4. Select a profile for the user.
5. Select **Enabled** to enable the user.
6. Click **Save**.

To manage crime types:

1. Click **Crime Types**. The following screen appears.

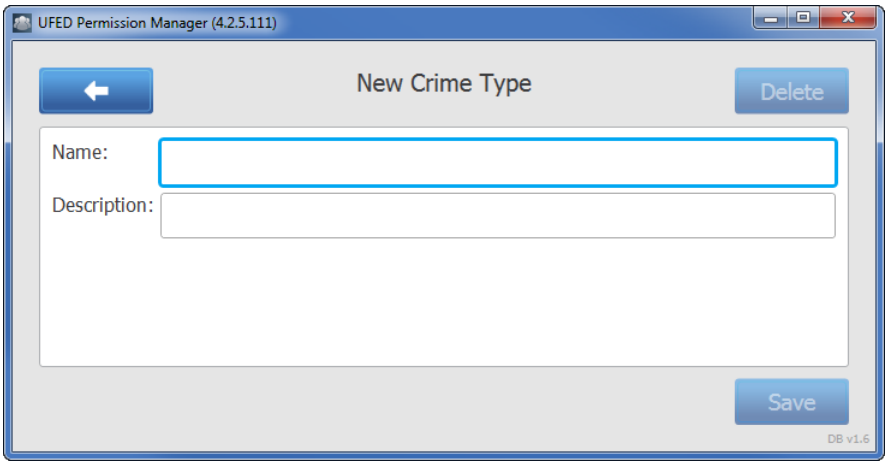


The crime types are only relevant for Cellebrite Responder.

You can delete all crime types; however you must add at least one crime to be able to export a permission management file.

To edit a crime type, click the crime type and edit the Name.

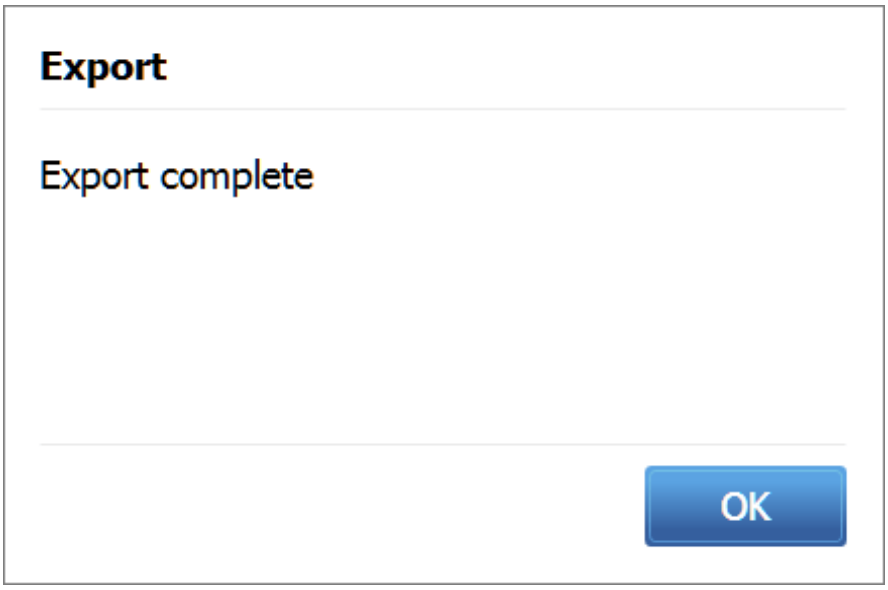
2. Click **New Crime Type**. The following window appears.



3. Enter a name for the crime type and (optional) description.
4. Click **Save**.

To export an encrypted permission management file:

1. In the Cellebrite UFED Permission Manager screen, click **Export**, specify a directory for the file and click **Save**. The following screen appears.



2. Click OK. The permission file must be imported into Cellebrite UFED via the User Permissions tab in the Settings window.

> The next time you run the Cellebrite UFED Permission Manager, you are prompted for your user credentials to access the application.

14. Special cables

Cellebrite UFED requires a special cable for certain functions:

Device power-up cable (below)

Active extension cable (on the next page)

USB extension cable (on the next page)

USB cable for Cellebrite UFED Device Adapter V2 PowerUP (on page 262)

14.1. Device power-up cable

If the battery is drained or absent, the device power-up cable powers the device instead of the battery while performing an extraction.

The device power-up cable contains four parts marked as: Data, Extra power, -, +.

Phone power-up cable

To connect the device power-up cable:

1. Connect the Extra Power connector to the Cellebrite UFED USB Port extension.
2. Connect the Data connector to the Cellebrite UFED USB Port extension.
3. Identify the device's battery contacts:
   a. Open the device battery cover.
   b. Locate the positive (+) and negative (–) pole markings of the battery, usually found next to the contacts area.
   c. Make sure that the battery contacts are marked clearly on the device's body.
   d. Remove the battery to gain access to the device's battery contacts.

TIP: For battery contacts which are not clearly marked on the device's body, use the pole markings on the battery body to identify them. To do that, flip the battery along its contacts edge, and place it along the edge of the battery housing, then mark the device's contacts according to those on the battery.

Use a multimeter to identify the positive and negative poles of an unmarked battery.

4. Connect the **RED** alligator clip to the device's positive pole (+), the Primary **Black** alligator clip to the negative pole (–) and the secondary **Black** alligator clip to the middle pole if there are three poles or to the one next to the (-) if there are four poles. Make sure the alligator clips are not closing a circuit by touching each other.
5. Connect the source device to the **phone power-up cable** using the references cable from the cable organizer kit as listed in the Cellebrite UFED menu.

14.2. Active extension cable

This cable is 150 cm in length and allows for the easy and accessible placement of the Cellebrite UFED Device Adapter with USB 3.0. For more information about the adapter, see Cellebrite UFED Device Adapter with USB 3.0 (on page 14).

The USB Device Adapter Active extension cable is a custom made, high grade cable with an active USB 3.0 extension. It is a bus-powered extension cable that can be used to increase the length of the Cellebrite UFED Device Adapter without any signal loss or performance issues. It contains active electronics, which boost the USB signal for maximum reliability and performance over extended distances.

Only use the previous USB extension cable (USB Extension cable for Cellebrite UFED Device Adapter) with the Cellebrite UFED Device Adapter with USB 2.0.

14.3. USB extension cable

This USB extension cable is 150 cm in length and allows for the easy and accessible placement of the Cellebrite UFED Device Adapter V2. In a desktop environment where the computer is mounted in a difficult to access or distant location use the USB Extension cable.

The USB Extension cable is a custom made high grade cable. This high grade cable prevents voltage fluctuation and is shielded from EMI interference which would cause signal degradation or loss.

If you need an extension cable, you **must** use the provided USB Extension cable. Use of third-party cables affects performance of your Cellebrite UFED and may prevent some functions from starting or completing.

14.4. USB cable for Cellebrite UFED Device Adapter V2 PowerUP

The following USB PowerUP cables are applicable to the Cellebrite UFED Device Adapter V2. These cables are **no longer required** with the Cellebrite UFED Device Adapter V3.

- The **USB Cable for Cellebrite UFED Device Adapter PowerUP S** for use with your Cellebrite UFED. It is 75cm in length.
- The **USB Cable for Cellebrite UFED Device Adapter PowerUP L** for use with your Cellebrite UFED. It is 150cm in length.

Both cables provide the same functionality and differ only in length.

The PowerUP cable has a miniUSB male end which plugs into the Cellebrite UFED Device Adapter V2 and a USB-A connector that can be plugged into any available powered USB port - including A/C powered USB chargers and car chargers.

The PowerUP cable doubles the power capacity of the Cellebrite UFED Device Adapter V2. This ensures that all devices with excess power requirements function correctly and allows Cellebrite UFED to provide all functions. In addition devices that are fully discharged may need the additional power that the PowerUp cable provides.

In the laptop environment, we recommend that you use the PowerUp cable when Cellebrite UFED indicates that the extra power is required.

The PowerUp cable is NOT required for smooth operation of the Cellebrite UFED for most devices, but is provided for those cases where power consumption is above the capacity of the unpowered Cellebrite UFED Device Adapter V2.

15. Index

F

G

H

I

J

L

M

N

V

W