LLT 5.5

User guide

ICO-OPE-00116-V09

R&D/Software Engineering/Terminal Security Solutions

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1_Global presentation

The Local Loading Tool (LLT) is a software application intended for data and files exchange between a computer and Ingenico electronic payment terminals.

The LLT application provides the user with an access to the terminal content and details.
This tool allows the browsing of terminal contents, consulting its characteristics, and retrieving the terminal life counters.

LLT 5.5 is supporting the following operating system versions:

	32 bits	64 bits
Windows XP	✅	
Windows Vista	✅	✅
Windows Seven	✅	✅
Windows 8	✅	✅
Windows 8.1	✅	✅
Windows 10	✅	✅
Ubuntu 16		✅
Mac OS X		✅

LLT shall run with other operating system versions not listed in the above table, however no support will be provided for them.

With the present version, only one terminal connection is possible at one time per LLT instance.

1_1 What is new?

From version 5.1, LLT supports all existing Telium terminal ranges, i.e. Telium 1, Telium 2, Telium Tetra and Axium.

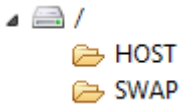
Its design has been reviewed and LLT now features:
- a full integration within IngeDev by means of a dedicated plugin
- a more ergonomic interface standalone tool
- an enhanced command-line mode, allowing easy integration with other software tools requiring capabilities of download / upload
- a new communication stack without any configuration required, that highly improves the user-experience with a “ready to connect” solution

LLT is provided with the Ingenico USB driver and is installed as part of LLT installation. This USB driver is required for communication operation.

1_2 Telium file tree structure

When LLT browses the terminal content, it always works with a sand-box file system.
The Telium Tetra file tree structure is different from those of Telium 1 and 2.
For Axium (on payment terminal side) the file tree structure is the same as on Telium Tetra.

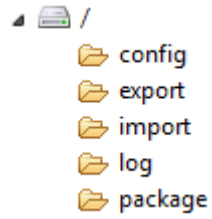
/ Telium 1 and Telium 2 file tree



Directory	Description
/HOST	**The parameters files must be downloaded into this directory.** This directory is called “import” in Telium Tetra terminals.
/SWAP	**The signed applications and components files must be downloaded into this directory.** This directory is called “package” in Telium Tetra terminals.

All the files downloaded in the “/SWAP” directory will be checked after changing the activity or after disconnecting the LLT connection. A “Bad signature” error could appear if the component is not properly signed.

/ Telium Tetra and Axium file tree



Directory	Description
/config	Contains the configuration files of the terminal.
/export	This directory receives the non-sensible files from applications in the terminal. These files aim to be locally uploaded for further analysis.
/import	**The parameters files must be downloaded into this directory.** This directory is called “HOST” in Telium 1 and Telium 2 terminals.
/log	Contains system and applications logs files.
/package	**The application package files must be downloaded into this directory.** This directory is called “SWAP” in Telium 1 and Telium 2 terminals.

All files downloaded in the “/package” directory will be checked after disconnecting the LLT connection.
An “INVALID_SIGNATURE” error could appear if the package is not properly signed.
Thus, this incorrect package must be manually deleted from the “/package” directory.

If the package check passes when the terminal is disconnected, the package is installed into the terminal.

1_3 Declination of LLT modes

The LLT application comes with three running modes:

- standalone application
- command-line mode
- perspective and plug-in integration into IngeDev

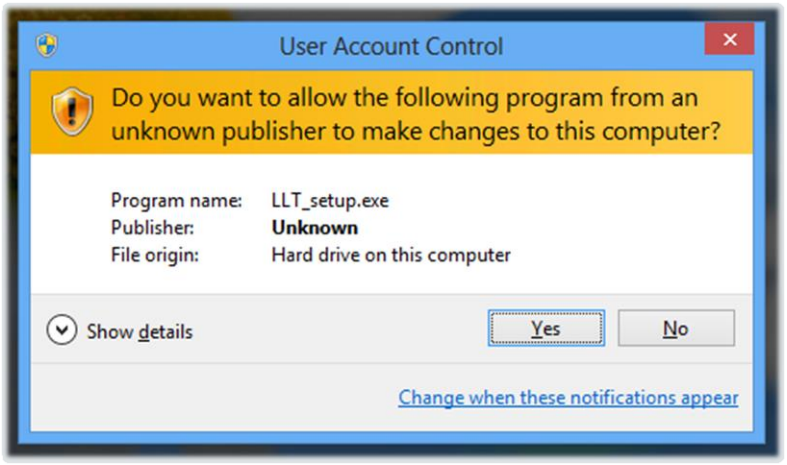
The standalone application and the “Local Loading Tool” perspective in IngeDev are similar.

2_Installation

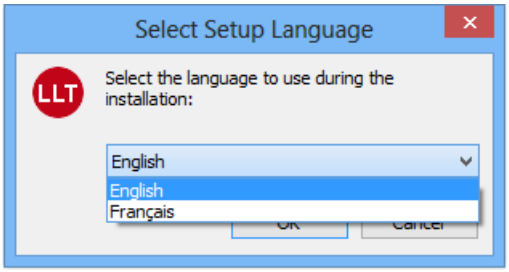
2_1 Under Windows

Launch the “LLT_setup.exe” program and follow the installation steps.

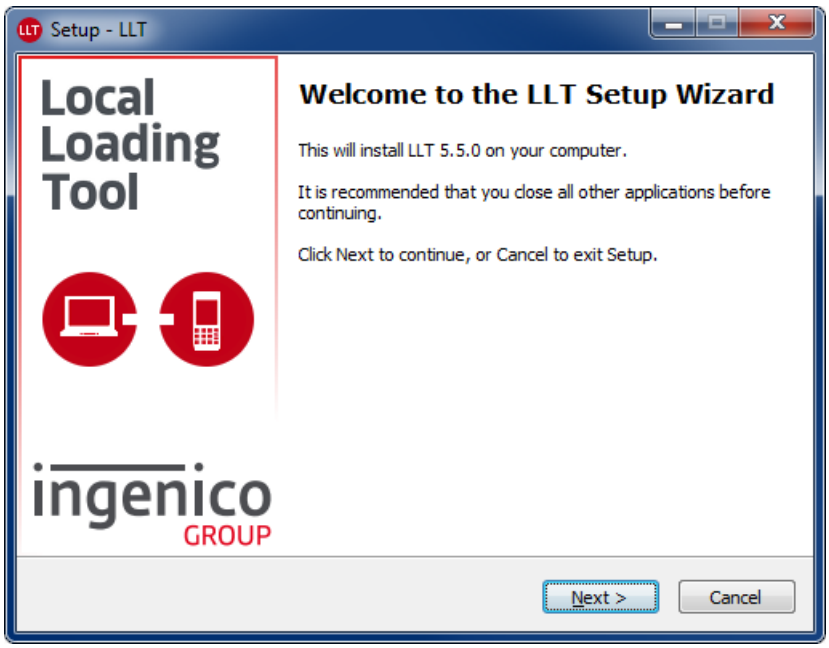
With Windows Vista, Seven or 8, the following message could appear:



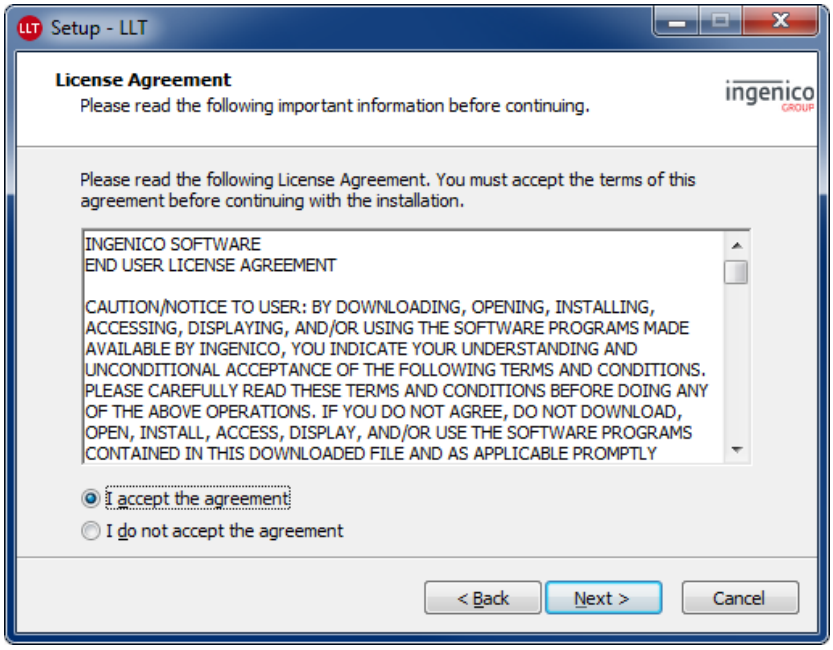
Select “**Yes**”.



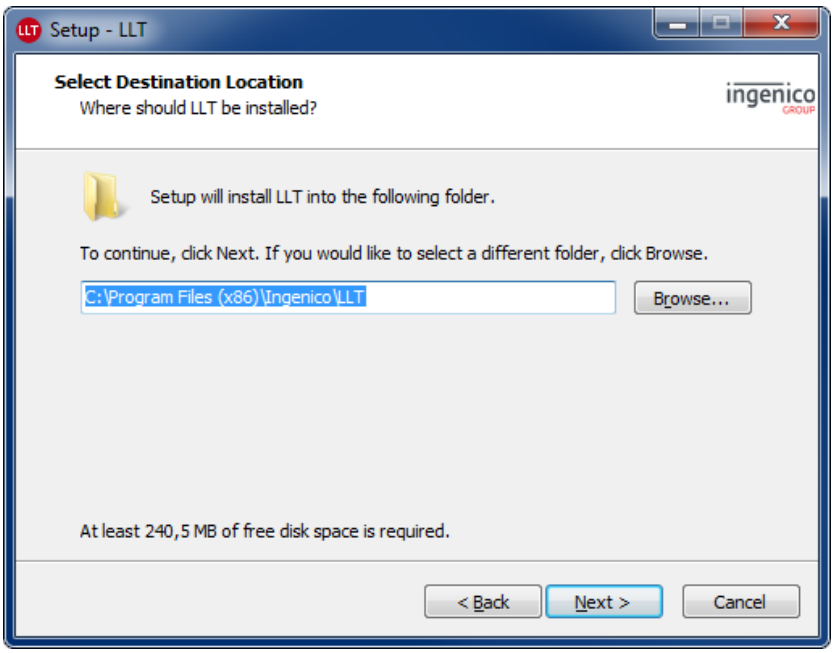
Choose your language in the combo-box and confirm with “**OK**”.



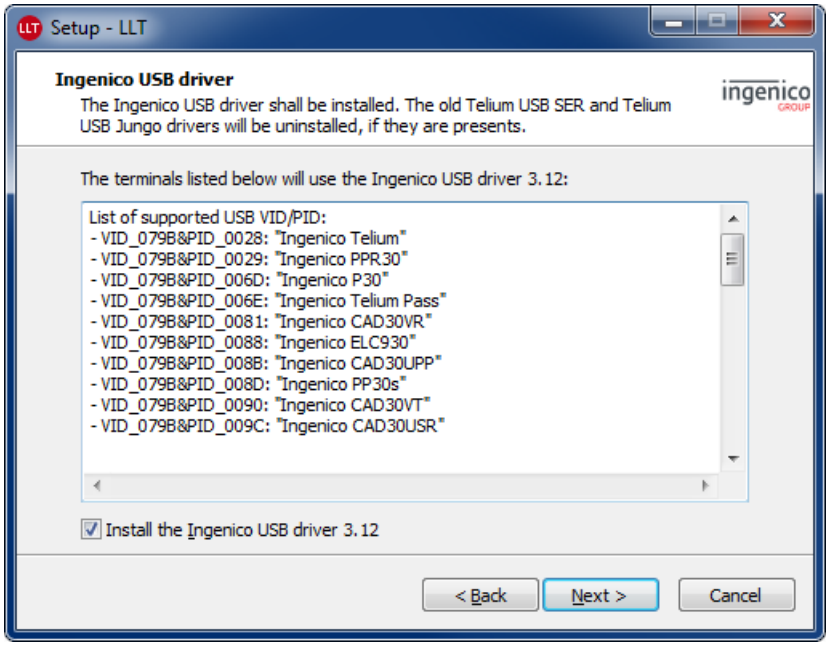
Select “**Next**” to continue.



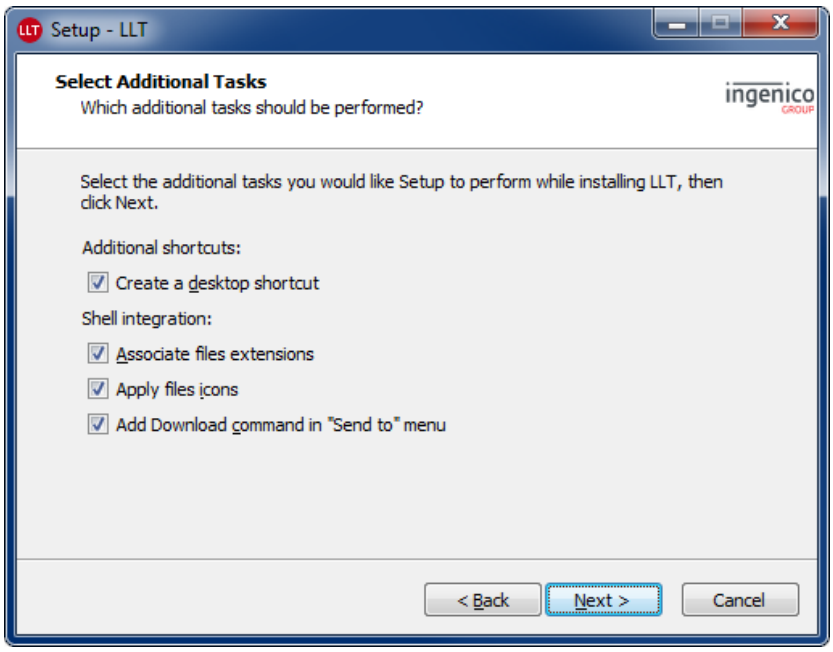
Accept the agreement, and select “**Next**”.



Choose the destination path for the LLT installation and confirm with "**Next**".

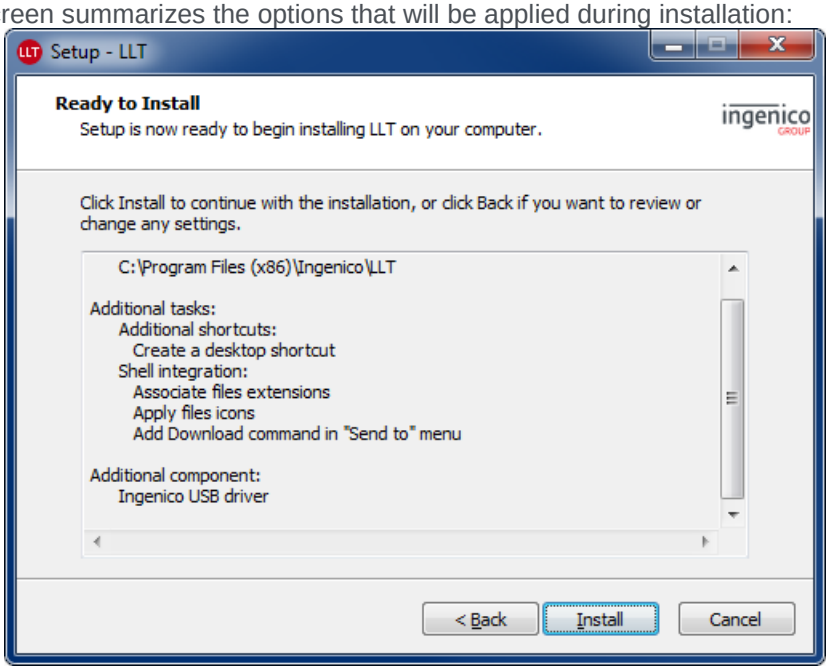


The list of supported terminal by the Ingenico USB driver is displayed for information.
Select the check-box if you want to install this driver (this check-box is unselected by default when at least this version is already installed).
Click "**Next**" to continue.

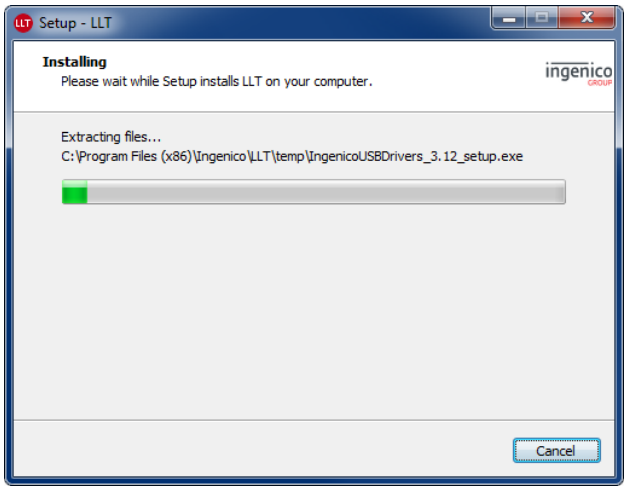


Select whether you want a LLT desktop icon or not, also choose your preferences regarding the shell integration. Then confirm with "**Next**".

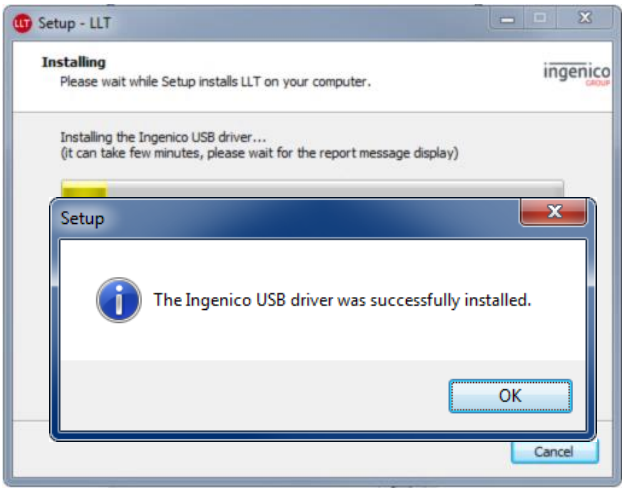
The following screen summarizes the options that will be applied during installation:



Select "**Install**" to start the copy of required LLT files.

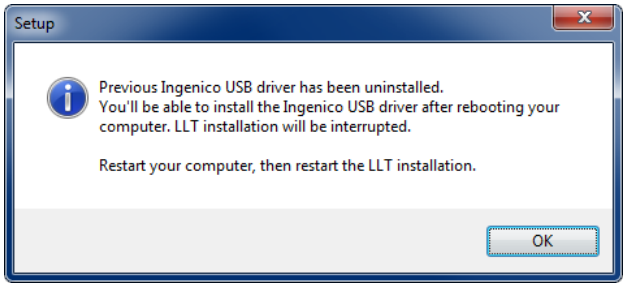


The installer window shows the files copy progression.



The installation of the Ingenico USB driver might take a few minutes. During this period of time, the progress bar may not be updated.

Finally a report message confirms if the driver has been correctly installed.



When you install a new USB driver version over a previous one, the old driver is uninstalled first.
Then you have to reboot your computer and launch the LLT installer again.
In this way, the new USB driver and LLT installation will continue.

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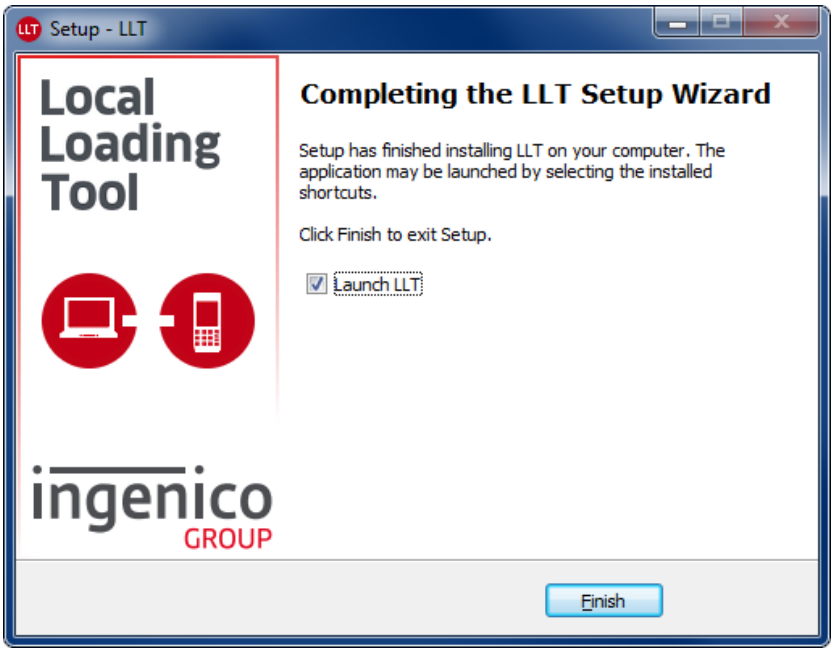
At the end of the installation process, the installer shall confirm that the installation is completed, and proposes to launch LLT.

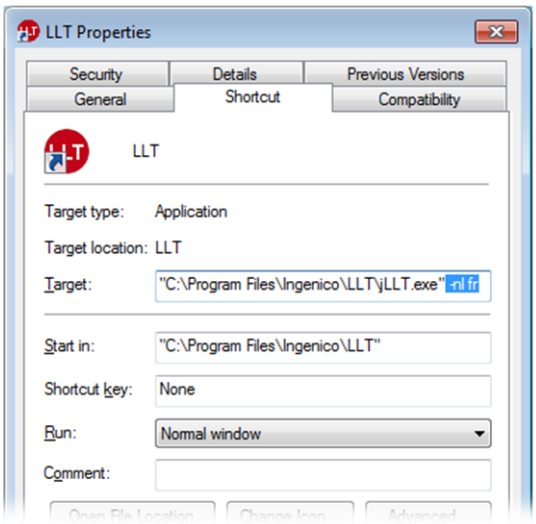


Select "**Finish**" to close the installation program.

2_1_1 Configure the user language

By default, the user interface language is that of the operating system. There are two ways to change the default language.

In the shortcut properties, append to the command-line **`-nl en`** (to force English) or **`-nl fr`** (for French) as shown below:

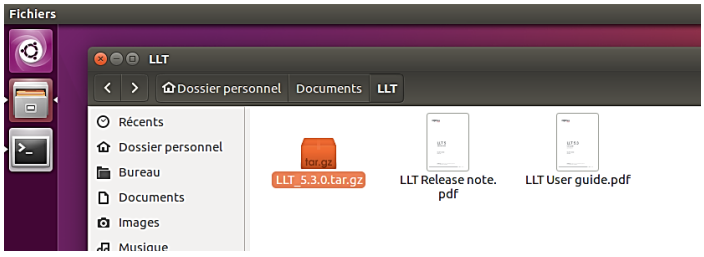


In order to apply the same language for all, create a file named `llt.ini` in the installation directory of the LLT, with the following content:

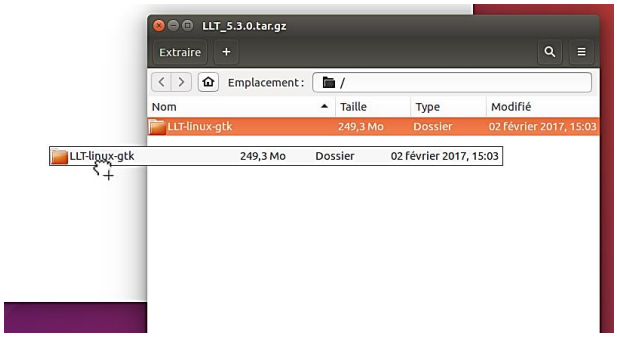
```
-vmargs
-Duser.language=fr
```

2_2 Under Ubuntu

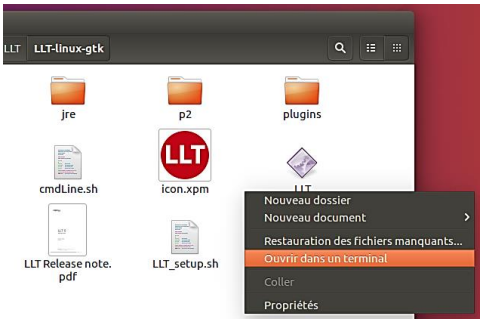
Open the “LLT_5.X.x.tar.gz” archive.



Unpack the archive by drag-and-drop into your desired destination.

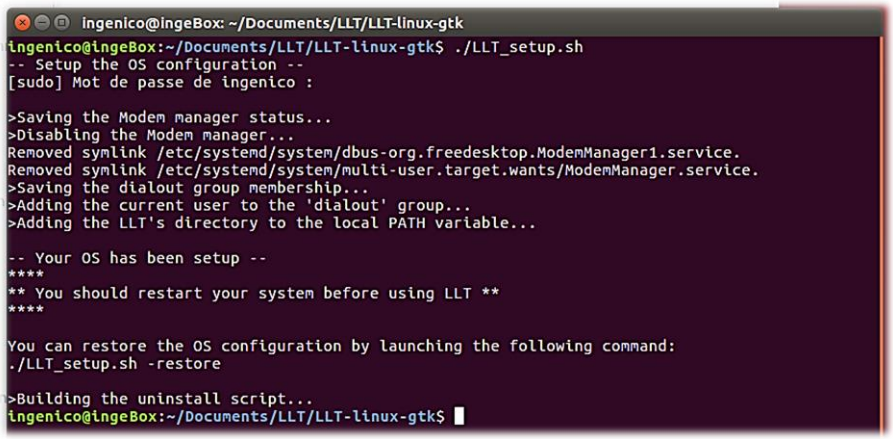


Then, open a terminal from the LLT destination directory, by right-click and "**Open in a terminal**".



Start the installation process with the following command:

```
./LLT_setup.sh
```

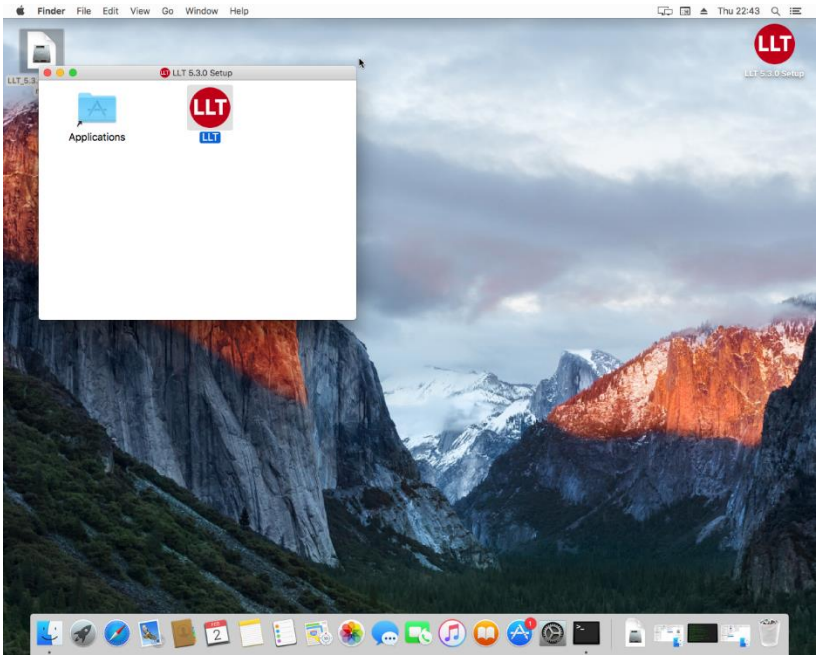


NOTICE

You have to restart your system before using LLT

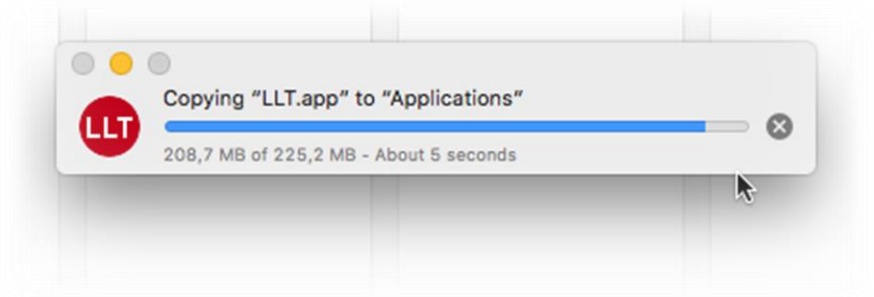
2_3 Under Mac OS

Launch the “LLT_5.X.x_setup.dmg” package.
A panel is displayed with the representation of the LLT application:



Make a drag-and-drop from the “LLT” icon to the “Application” folder.

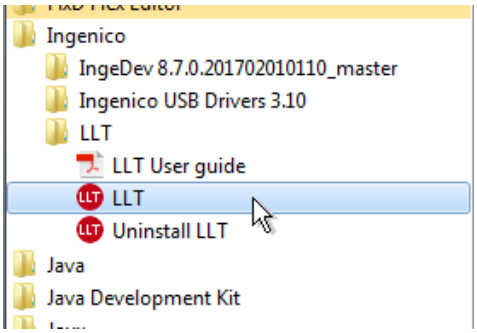
The LLT application is being copied into your Mac.



3_Starting LLT standalone application

3_1 Under Windows

In order to launch LLT in standalone mode, click on the LLT shortcut on your desktop or in the Start menu:



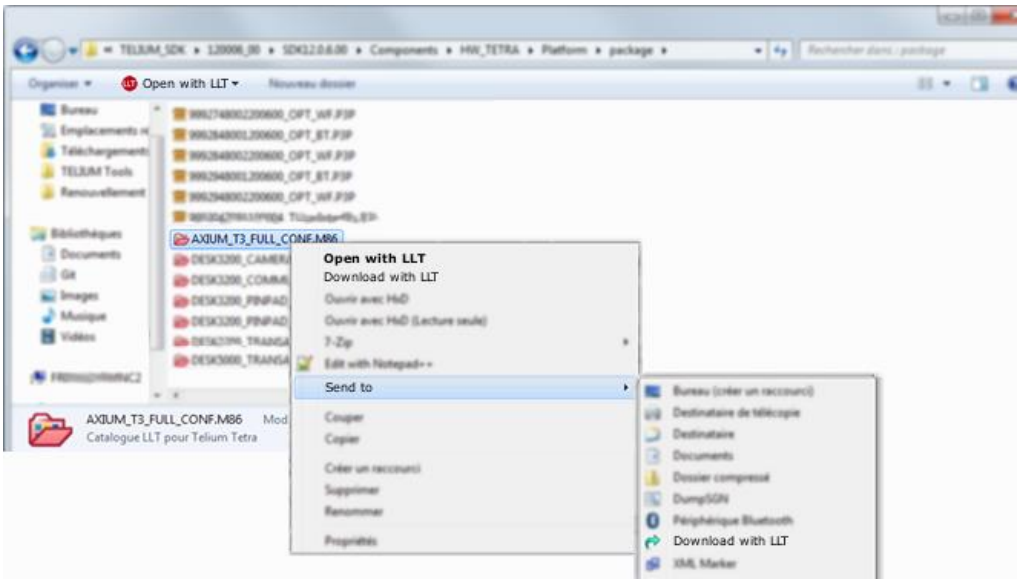
If you use Windows Vista, Windows Seven or Windows 8, you shall be prompted to confirm the LLT execution (by User Account Control). Select "**Yes**" to accept.

3_1_1 Direct access to commands from Windows Explorer

You can download selected files, or files referenced by a selected catalogue, directly from the Windows Explorer. This can be achieved via the contextual menu on selection:

- by clicking on "Download with LLT", for any Telium file or catalogue
- for any file, by clicking on "Send to" then "Download with LLT"

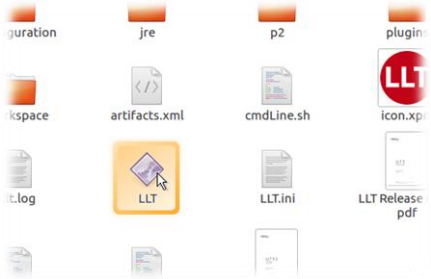
Files to download are appended to an existing LLT connection. If the content to download isn't suitable for the terminal, then a more adapted content is suggested to the user.
But if no terminal is yet connected, a new LLT connection is automatically established with the most suitable available terminal for the content to download.
Finally, LLT connection will be closed automatically at the end of download.



You can also edit a catalogue file, or open a Telium component / package by double-clicking on a file or by using the "Open with LLT" entry of contextual menu.

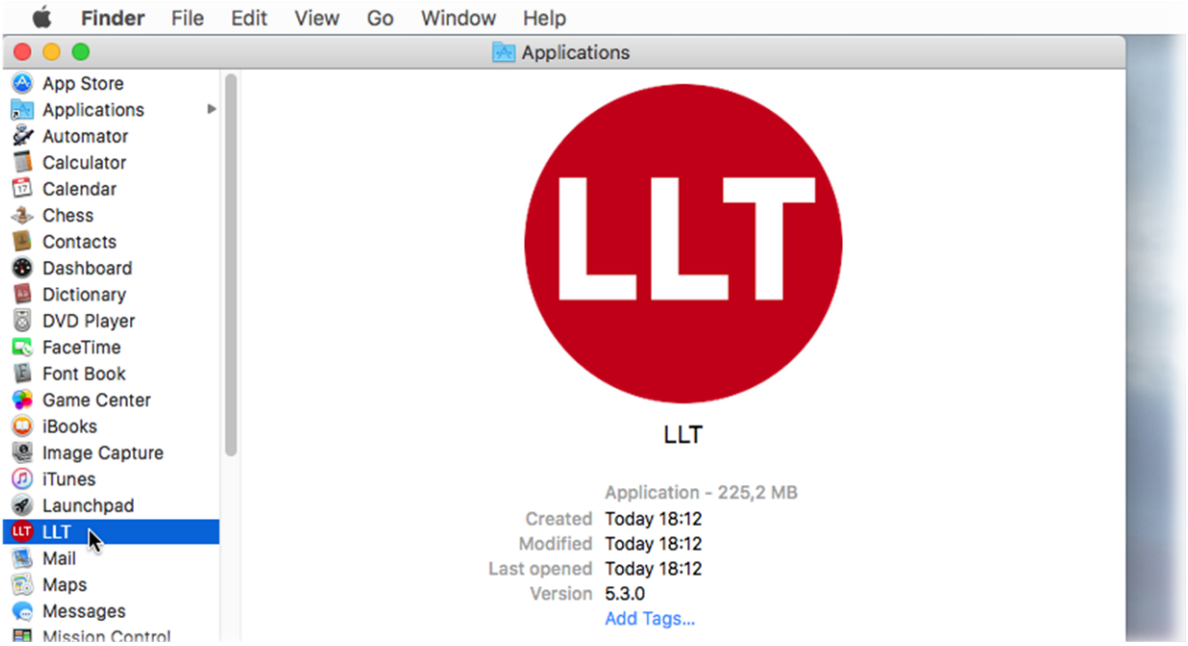
3_2 Under Ubuntu

You can find the LLT application in the Launcher. You can also launch it with the “LLT” application from the installation directory.



3_3 Under Mac OS

LLT is available in the “Applications” list of the Finder. Double-click on it to open the LLT application.



3_4 Shell and remote commands

Under Windows, Linux or Mac OS, you can drive LLT through shell command-line or remote command:

- A **shell command** consists of calling the LLT application with command-line parameters. If no LLT is already running, the first command starts LLT.

- A **remote command** consists of sending a plain string (using a "telnet" tool or with a plain socket connection, for example) to a remote computer on which a LLT instance is running and listening connections on a specified port.

  The listened port can be configured in "`configuration/config.ini`" file (from LLT installation directory) with the following parameter:

  `instancePort=`*`60007`*

  default value is `60007`

  In this same file, you have to precise which allowed remote IP addresses can drive the LLT instance, with this parameter:

  `allowedRemoteIP=`*`11.22.33.44,10.20.30.40`*

  values separated with a comma; default value is empty

Below are available commands for shell and remote:

Shell command	Remote command	Description
`LLT.exe` **`-download "`*`path_to_file`*`"`**	**`-download "`*`path_to_file`*`"`**	Download the file or files referenced in the catalogue. If no terminal is already connected, connection and disconnection is processed on the most suitable plugged terminal.
`LLT.exe` **`-port "`*`serial`*`"`** `-download "`*`path_to_file`*`"`	**`-port "`*`serial`*`"`** `-download "`*`path_to_file`*`"`	Define the terminal serial port to use for the download
`LLT.exe` **`-open "`*`path_to_file`*`"`**	**`-open "`*`path_to_file`*`"`**	Open the file in file-viewer or in catalogue editor

`LLT.exe` **`-multiInstance`** `-open "`*`path_to_file`*`"`
 	
`LLT.exe` **`-multiInstance`** `-download "`*`path_to_file`*`"`
	`-multiInstance` `-open "`*`path_to_file`*`"`
	
	`-multiInstance` `-download "`*`path_to_file`*`"`
		Start an action (open or download) in a new LLT instance

Note that "`LLT.exe`" should be replaced by the LLT application filename depending on the operating system.

By default (without **`-multiInstance`** parameter), a command is launched in the first LLT running instance.

4_Graphical interface presentation

LLT can be used as a standalone application or integrated in IngeDev through the "**Local Loading Tool**" perspective.

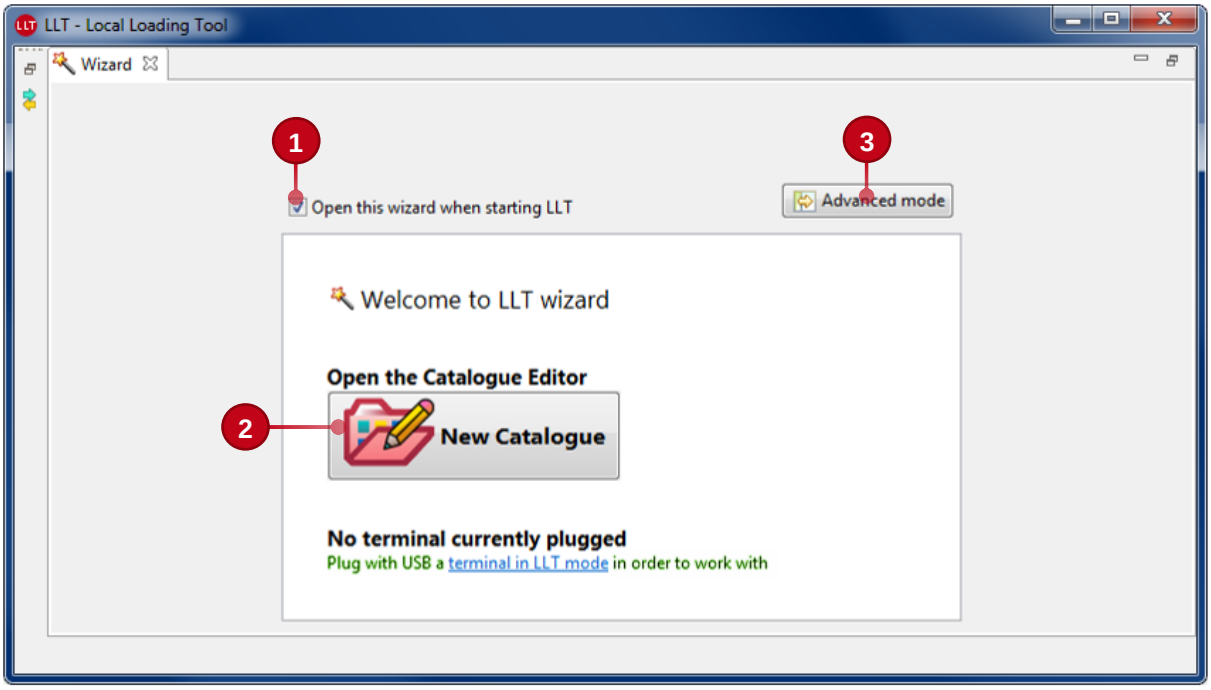
4_1 Wizard page

If the option is enabled (❶), the first page displayed at LLT start is a wizard page. This wizard page allows easily access to all main LLT features:

- Catalogue Editor
- Action on a selected terminal:
  - Transfer contents
  - Show terminal characteristics
  - Show installed component

In order to start working with a terminal, you have to plug it with USB on your computer.

Until no terminal is plugged or recognized by the USB driver, the following screen is displayed:

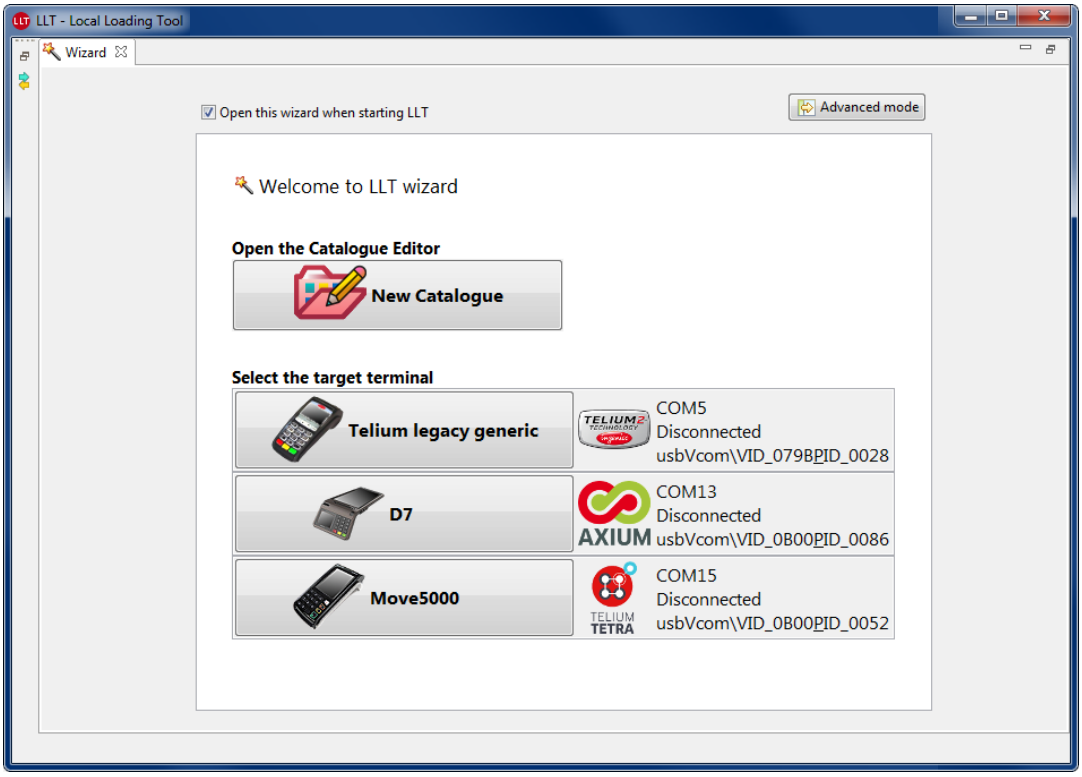


If you just want to create a new Catalogue file, click on "New Catalogue" button (❷) in order to open the Catalogue Editor with an empty catalogue (see 5_2 Catalogue editor).

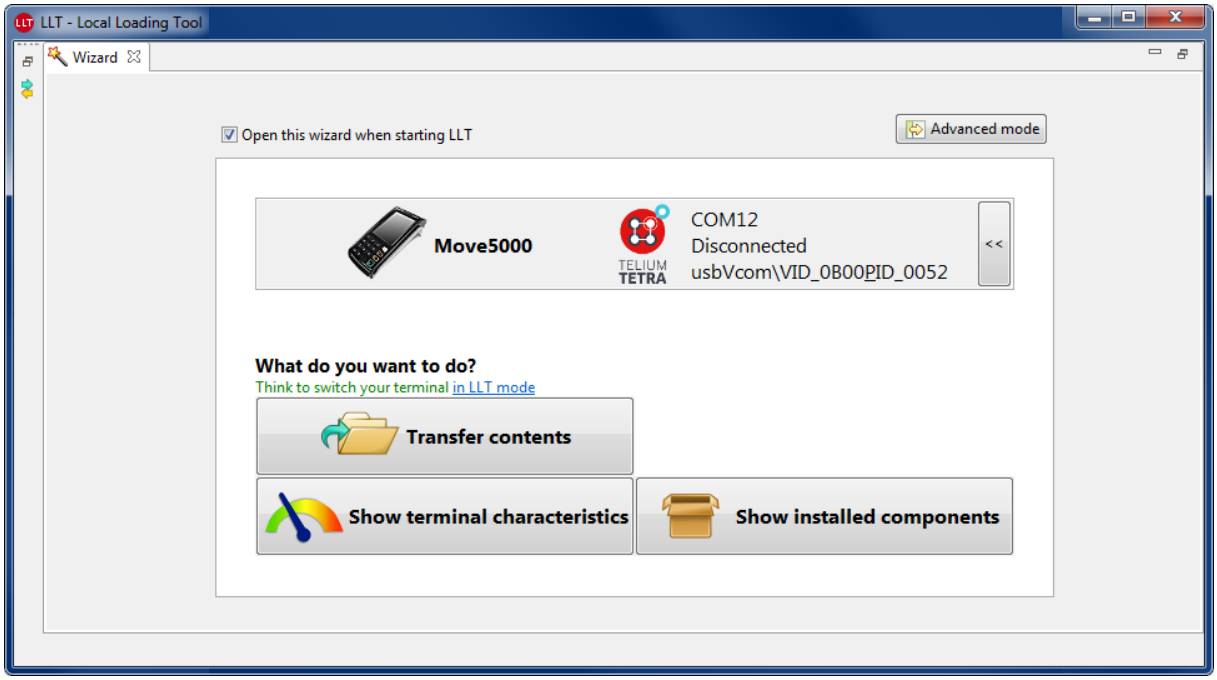
Change the checkbox state depending on if you want to "Open this wizard when starting LLT".

When you click on "Advanced mode" (❸), the LLT perspective is shown to let you starting any LLT activities manually.
From the LLT perspective, you can display the Wizard page by clicking on this button in the browser toolbar: .

All plugged terminals are listed on this screen. Select the terminal you want to work with:



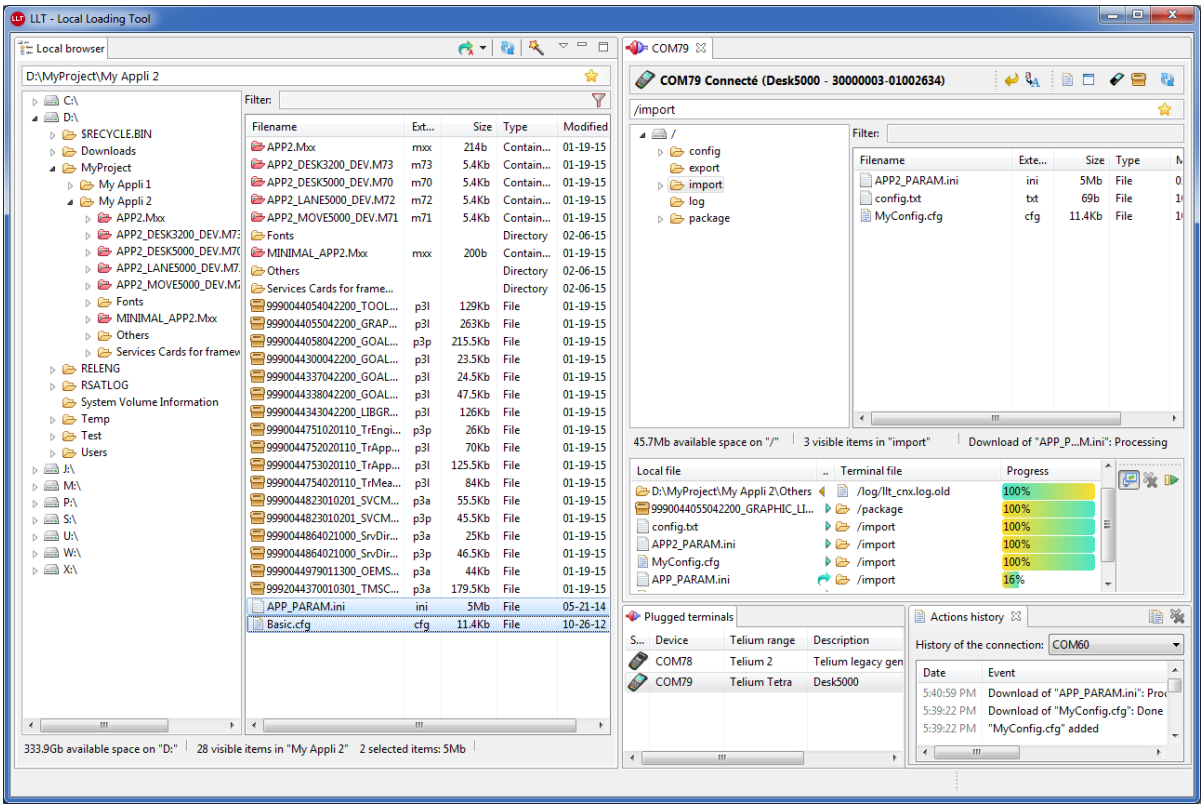
The selected terminal is described at the top panel. A click on this panel returns to the previous screen in order to choose another terminal.
Under selected terminal information, there are direct access buttons to the terminal actions:



If a terminal was previously connected then it will be disconnected first. A warning message is displayed in this situation.

When you click on an action, a connection to the selected terminal is automatically established and the action is launched.

4_2 LLT perspective overview



The main display of the LLT software includes 2 main views:

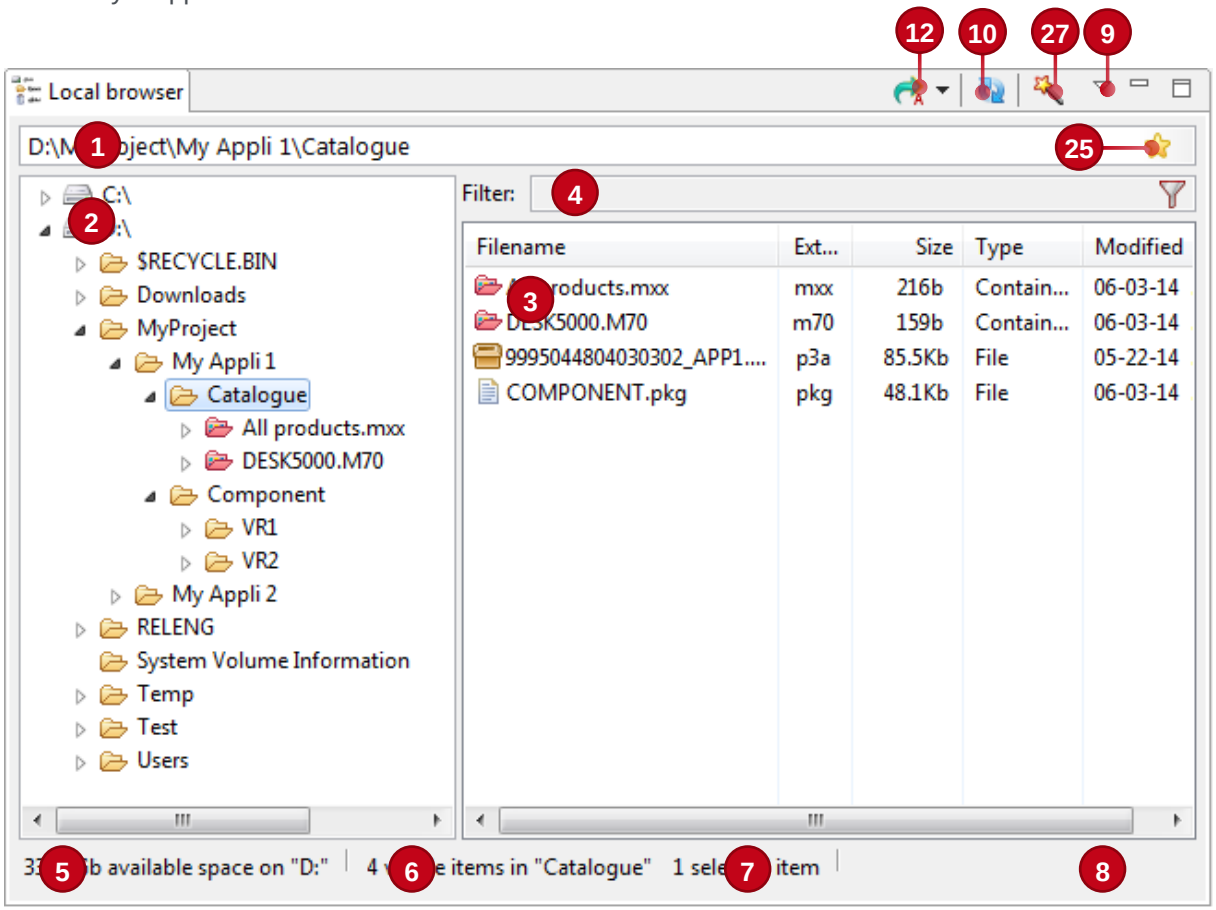
- The left view represents the local computer filesystem
- The right view is mainly related to terminals: it displays the list of available terminal devices, the terminal browser and its corresponding files transfer

4_3 Definitions of terms

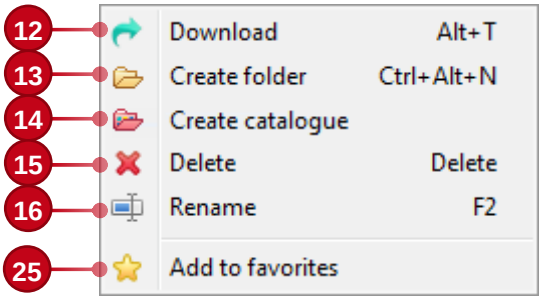
- In this document is mentioned “local browser” and the “terminal browser”. If the single term “browser” is used, it can refer to either the “local browser” or the “terminal browser”.
- An “item” designates a file or a directory in the browser.
- A “catalogue file” refers to a list of files to be loaded. This particular file is used to ease download of files into terminal (see “5_Catalogue files” for more details).
- A “container file” is a file that contains files or refers to a list of files. For the moment, only catalogue files are handled as container files.

4_4 The local browser

The Local browser view is usually displayed on the left side. It displays the computer drives content and eventually mapped network drives.



Full context menu:



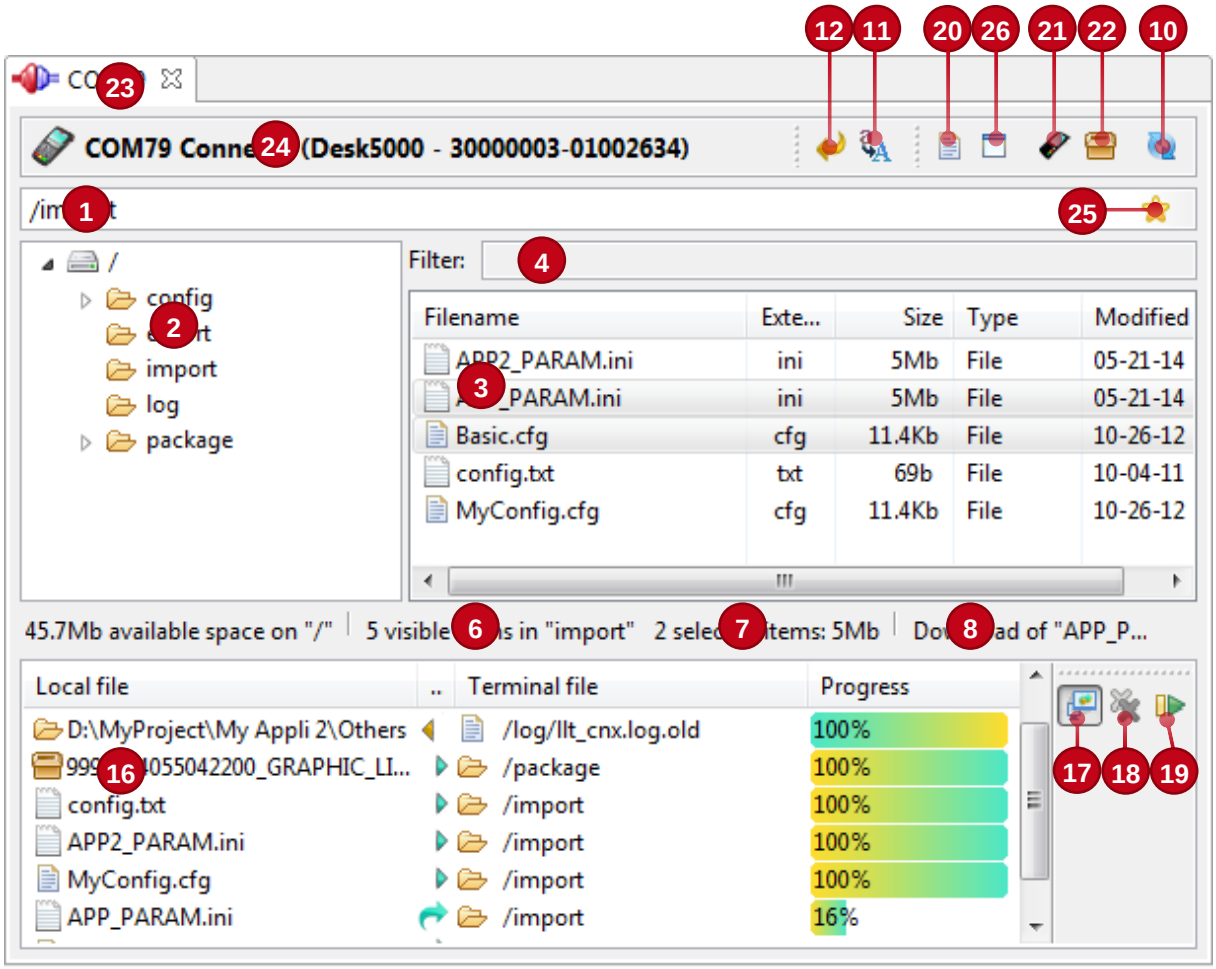
/ Legend

#	Element	Description	Action / details
1	Path bar	Display the path of the current directory displayed in the browser.	Change the path bar value to directly browse the input path. Validate your input by pressing the Enter key, or leave focus from the path bar. The path bar is case-sensitive.
2	Tree panel	The tree panel of the browser displays: • Only the directory and the container files, if the detail panel is shown; • All files and directories, if the detail panel is hidden.	Select a directory or a container file in order to view its content, or to execute an action on it. If files are present, actions on files are also available.
3	Detail panel	The detail panel of the browser provide more information about files of the selected directory or container file (in the tree panel).	Select one (or more) file or directory for details, or to execute an action on it. This panel can be hidden (see #9).
4	Filter	Filter the files and directories in the detail panel.	The filter is applied on the text field value change. In order to view a file or a directory, its filename must contain (anywhere) the value of the filter field. The search is not case-sensitive.
		Funnel button: filter containers according to the terminal's product code.	Click on this icon to enable/disable the automatic filter. When enabled, catalogue files are filtered according to the active terminal connection (product code).
5	Available disk space	Display the available drive space of the selection.	When the mouse pointer passes over this label, the disk space usage is shown and a tooltip specifies the "available space / total space".
6	Number of visible items	Display the number of visible items in the current directory or container file.	
7	Selected items	Display the number of selected items in the detail panel, and the total size.	
8	Last action status	Display the status of the last action. Errors are in red color, warnings in orange and regular messages in black.	A double-click on this label shows the Actions history view.

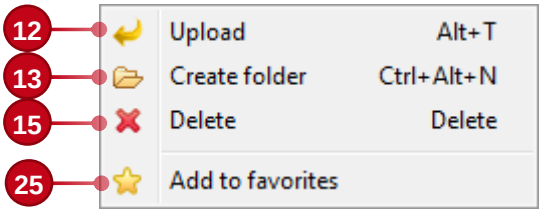
9	Additional commands	Display additional commands.	Additional commands of the Local browser: • Actions history: show the Action history view for the local browser • Switch the details: show or hide the detail panel (see #2 and #3) • Help contents: display the help contents • About LLT: display the current LLT version
10	Refresh	Refresh the browser content, particularly needed when an item has been modified out of the LLT software.	
12	Download	Download the selected item to the terminal.	This action is available from the toolbar, from the contextual menu on a selection (right-click), or by pressing the shortcut key “Alt+T”.
		Arrow menu of the icon: change the download destination mode	Available destination modes: • Manual destination: the destination is the current directory, or for drag & drop the designated directory • Automatic destination: the destination is determined by the extension of files to download. Using the drag & drop will display the predicted destination(s).
13	Create folder	Create a folder in the current directory.	This action is available from the contextual menu (right-click), or by pressing the shortcut key “Ctrl+Alt+N”.
14	Create catalogue	Create a new catalogue file. The catalogue editor is opened, and catalogue file will not exist until saved.	This action is available from the contextual menu (right-click).
15	Delete	Delete the selected files or directories.	This action is available from the contextual menu (right-click), or by pressing the shortcut key “Del”.
16	Rename	Rename the selected file or directory.	This action is available from the contextual menu (right-click), or by pressing the shortcut key “F2”.
25	Add to favorites	Add and open the list of favorite paths.	At click, a popup window is displayed with the list of saved paths (a left-click adds the current path, other buttons only open it). For more details, see 4_6 Favorite paths.
27	Wizard	Display the Wizard page	See details in 4_1 Wizard page

4_5 The terminal browser

The Terminal browser view is commonly displayed on the right hand side. It shows the terminal content.



Full context-menu:



/ Legend

#	Element	Description	Action / details
1	Path bar	Display the path of the current directory displayed in the browser.	Change the path bar value to directly browse the input path. Validate your input by pressing the Enter key, or leave focus from the path bar. The path bar is case-sensitive.
2	Tree panel	The tree panel of the browser displays: • Only the directory and the container files, if the detail panel is shown; • All files and directories, if the detail panel is hidden.	Select a directory or a container file in order to view its content, or to execute an action on it. If files are present, actions on files are also available.
3	Detail panel	The detail panel of the browser provides details on files of the selected directory or container file (in the tree panel).	Select one (or more) file or directory for details, or to execute an action on it. This panel can be hidden (see #26).
4	Filter	Filter the files and directories in the detail panel.	The filter is applied on the text field value change. In order to view a file or a directory, its filename must contain (anywhere) the value of the filter field. The search is not case-sensitive.
6	Number of visible items	Display the number of visible items in the current directory or container file.	
7	Selected items	Display the number of selected items in the detail panel, and the total size.	
8	Last action status	Display the status of the last action. Errors are in red color, warnings in orange and regular messages in black.	A double-click on this label shows the Actions history view.
10	Refresh	Refresh the browser content, particularly needed when an item has been modified out of the LLT software.	
11	Force uppercases	Force uppercases of filename for download.	When this option is selected, the following transformation is applied on downloaded files: • On Telium 1 and Telium 2, the filename and extension are forced in uppercases. • On Telium Tetra and Axium, only the extension is changed to uppercase.

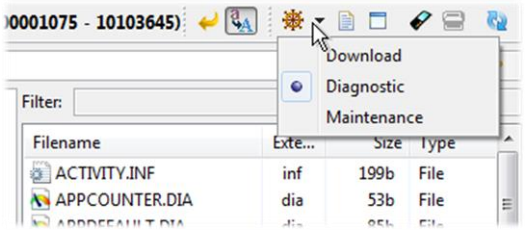
12	Upload	Upload the selected item from the terminal to the selected directory in the local browser.	This action is available from the toolbar, from the contextual menu on a selection (right-click), or by pressing the shortcut key “Alt+T”.
13	Create folder	Create a folder in the current directory.	This action is available from the contextual menu (right-click), or by pressing the shortcut key “Ctrl+Alt+N”.
15	Delete	Delete the selected files or directories.	This action is available from the contextual menu (right-click), or by pressing the shortcut key “Del”.
16	Transfer task panel	List of the download and upload tasks. For each transfer task, the local file or directory, the direction, the terminal file or directory, and the progression are displayed.	In the case of download: • The local file denotes the original file • The direction is a right direction arrow (in turquoise blue if the task is transferring, otherwise in grey) • The terminal file denotes the destination directory In the case of upload: • The local file denotes the destination directory • The direction is a left direction arrow (in yellow if the task is transferring, otherwise in grey) • The terminal file denotes the source file For further details, see the 4_5_2 Transfer tasks section.
17	Bring on top transfer events	If this option is activated, the current transfer task is kept visible.	Clicking this button to enable or disable the option.
18	Clean complete transfers	Clean all terminated transfer tasks and errors	
19	Pause or resume	Toggle the pause of transfer tasks process	The next file will not be transferred until the “pause” button is released.
20	Show the actions history	Show the Action history view for the current terminal connection.	
21	Show the terminal information	Report information regarding the connected terminal.	For more details, see the section 4_4 Terminal observatory.
22	Show the installed components	Show the list of the installed components in the terminal, and allow uninstalling them.	For more details, see the section 4_5 Installed components list.

23	Terminal tab	Each terminal connection appears in a dedicated tab. Its icon reflects the connection state (connected or disconnected) and the label is the serial port name used for the connection.	Closing a terminal tab automatically commit the transfer transaction and close the connection with this terminal.
24	Terminal status	The terminal status bar gives information about the current terminal state, and also some identifiers of this terminal.	A double-clicks on the terminal status bar will toggle its state: switching it to connected, or disconnecting it.
25	Add to favorites	Add and open the list of favorite paths.	At click, a popup window is displayed with the list of saved paths (a left-click adds the current path, other buttons only open it). For more details, see 4_6 Favorite paths.
26	Toggle the details	Show or hide the detail panel (see #2 and #3).	

4_5_1 Terminal activities

When browsing either Telium 1 or Telium 2 terminals, it is possible to switch from one terminal activity to another.

The activities bring different views of the terminal content, depending on the use-case.



The activity menu selection is not available for Telium Tetra and Axium terminals.
Behind the corresponding menu icon, you can check which activity is currently selected or select another one.

4_5_2 Transfer tasks panel

The transfer tasks panel gives an overview of transfer tasks (downloads and uploads) related to the current terminal.

Transfer tasks are collapsed in a summary task if sub-tasks depends on a batch of transfer: download files referenced in a catalogue file, or drag-and-drop operation. You can expand these summary tasks in order to list its sub-tasks.
Files are listed individually when their transfer don't depend on a batch of transfer.

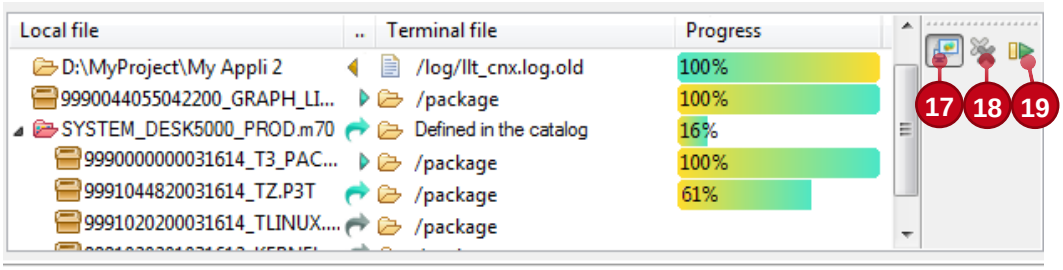
For each transfer task the local file or directory, the direction, the terminal file or directory and the progression are displayed.

In the case of download:

- The local file denotes the origin file
- The direction is a right arrow:
  - pending
  - downloading
  - downloaded
- The terminal file denotes the destination directory

In the case of upload:

- The local file denotes the destination directory
- The direction is a left arrow
  - pending
  - uploading
  - uploaded
- The terminal file denotes the source file

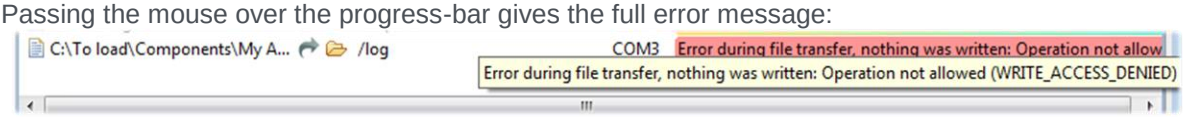


/ Legend

#	Element	Description	Action / details
17	Bring on top transfer events	If this option is activated, the current transfer task is kept visible.	Clicking this button to enable or disable the option.
18	Clean complete transfers	Clean all terminated transfer tasks and errors	
19	Pause or resume	Toggle the pause of transfer tasks process	The next file will not be transferred until the "pause" button is released.

When an error occurs during a transfer, the progress-bar background is in red color, and the reason is displayed.

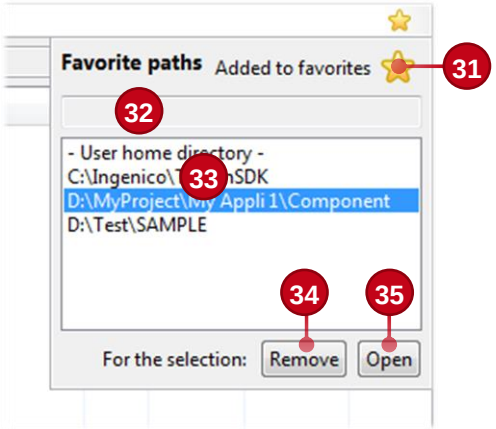
Passing the mouse over the progress-bar gives the full error message:



4_6 Favorite paths

The favorite panel is available for the local file browser and for terminals browsers (dedicated for each port).

Clicking the star at the right hand of the browser's path-bar (a left-click adds the current path, other buttons only open it), or using the contextual menu "Add to favorites" (#25) on a directory or a container, displays the list of favorite paths:



Clicking the biggest star adds or removes the current path from the list (#31).
Double-clicking on a selection in the list opens a favorite path.

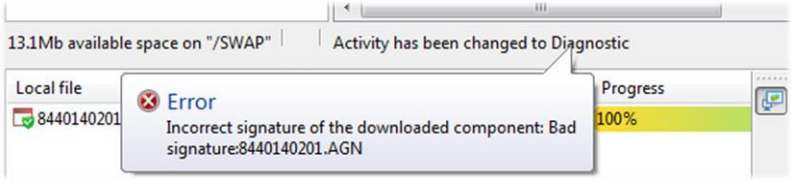
/ Legend

#	Element	Description
31	Favorite switch	Add or remove the current path from the favorites.
32	Filter	Filter the paths in the list. To be listed, the path must contain the value of the filter field. The search is not case-sensitive.
33	Saved paths list	The list of favorite paths. The item "- User home directory -" is related to the current user, for the local browser.
34	Remove	Remove the selected path from the list of favorites.
35	Open	Open and browse the selected path.

4_1 Error message

If any error occurs, a message providing details on the error is shown in the status bar of the browser.

This error is also displayed in an error balloon message. Click on it in order to hide it.



All error messages are logged into the Actions history view (see section 4_6).

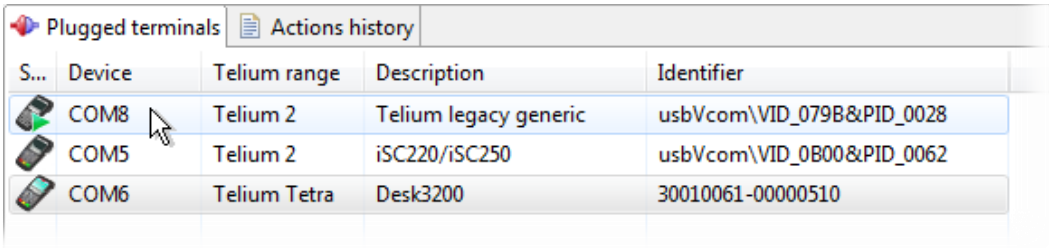
4_2 Hotkeys summary

Command	Windows hotkey	Ubuntu hotkey	Mac OS hotkey
Download / Upload	Alt + T	Alt + T	Opt ⌥ + N
Create folder	Ctrl + Alt + N	Ctrl + Alt + N	Opt ⌥ + Cmd ⌘ + N
Delete	Delete	Delete	Delete ⌦
Rename	F2	F2	F2
Copy property	Ctrl + C	Ctrl + C	Cmd ⌘ + C

4_3 Plugged terminals view

The “Plugged terminals” view provides a list of the plugged terminals to the PC.

The device port identifies the plugged terminal. This device port is displayed on the terminal tab.
The connection state is reflected by a characteristic icon, and the next action appears when the mouse-cursor is over a terminal.
The “Description” column reveals the name of the current connected terminal on this port, and the “Identifier” gives the device or the terminal identifiers (composed by the product number and its serial number).



A double-clicks on a terminal or pressing the Enter key (when selected) toggle its state: switching it to connected, or disconnecting it.

At terminal connection, a new tab is opened with the terminal browser. The current directory is set on the last accessed directory for the device port.

When a tab corresponding to this terminal is already opened, this tab is activated when the terminal is selected in the plugged terminals list.

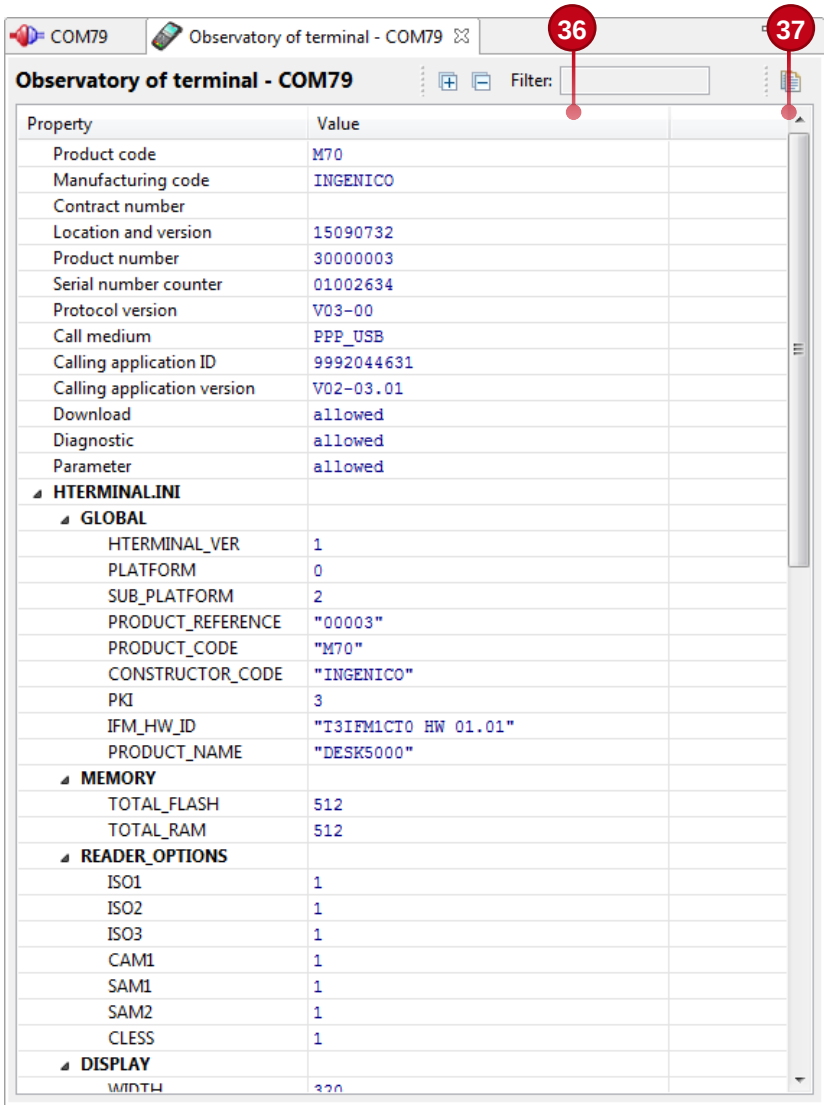
/ Terminal states

Current state		Next action (on mouse-over)	
	Connected		Disconnect
	Disconnected		Connect
	Unavailable	None	

4_4 Terminal observatory

The terminal observatory provides a report page describing all available information about the connected terminal.
Those data are mainly terminal identifiers details and hardware characteristics.

The Observatory of terminal view is called from the icon of the Terminal browser.



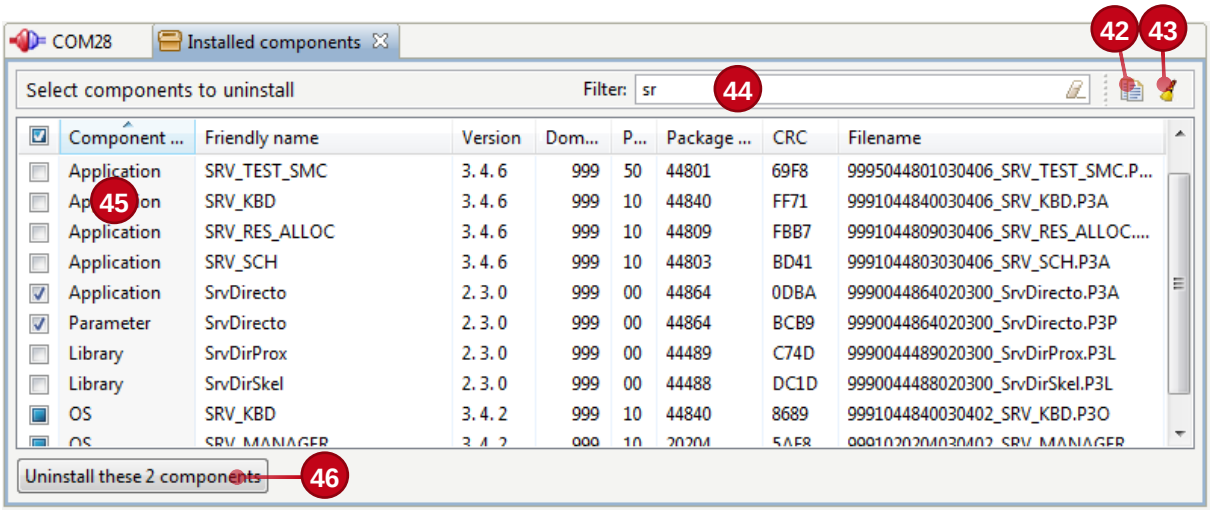
/ Legend

#	Element	Description
36	Filter	Filter the terminal properties
37	Copy	Copy to the Windows clipboard the terminal information.

4_5 Installed components list

The “Installed components” view lists all installed packages and components in the terminal.
This list can be called from the icon of the Terminal browser. Its presentation slightly differs depending on the terminal range:

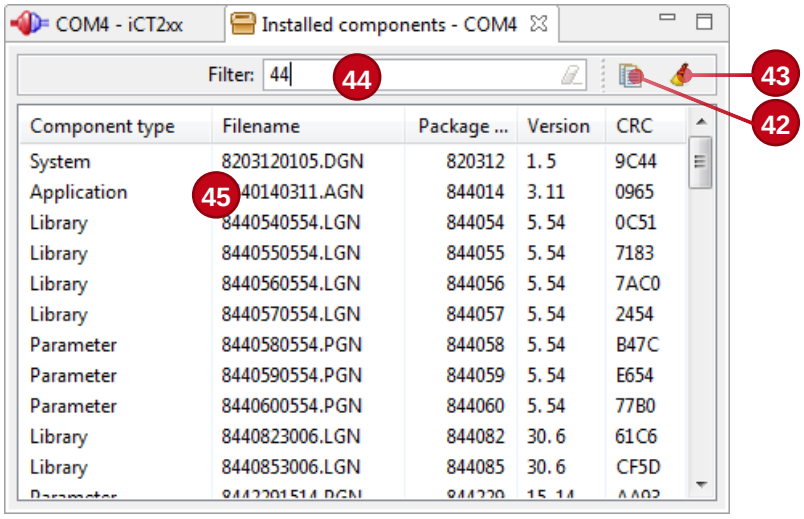
/ Telium Tetra and Axium terminals



At the terminal disconnection, all selected components (including hidden ones by a filter) are marked to be uninstalled.

You can check this operation in the Actions history view of the corresponding terminal connection (see the section 4_6 Actions history view).
In the case of success, each selected component should trace:
`"package_filename" marked for uninstallation`

/ Telium 1 and Telium 2 terminals



The list of installed components is only available in the Download and Maintenance activities.
The uninstallation of components is impossible for Telium 1 and Telium 2 terminals.

/ Legend

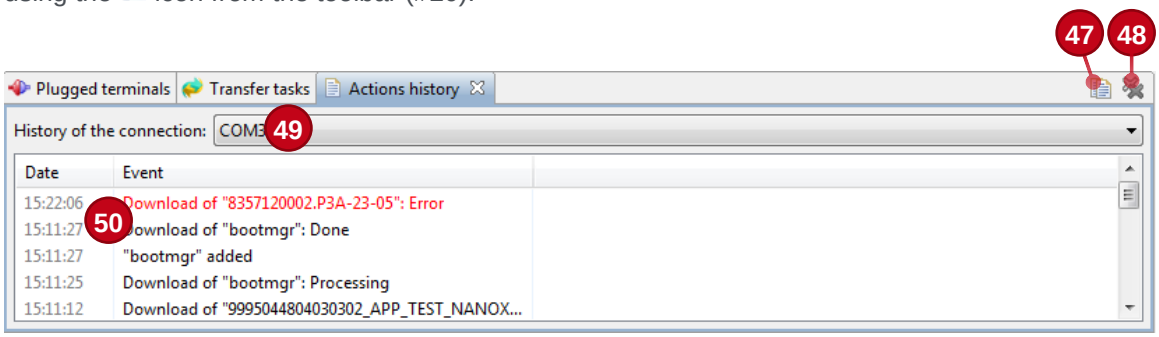
#	Element	Description
42	Copy	Copy to the Windows clipboard the entire components list.
43	Clean terminal	Clean all the terminal content: • Telium 1 and Telium 2: all files in `/HOST/` and all signed components in `/SWAP/` • Telium Tetra and Axium: all files in `/export/`, `/import/` and `/package/`, and select for uninstallation all packages that can be deleted
44	Filter the installed components list	The filter is applied on the text field value change. In order to view an installed component, its Filename, its Friendly name* or its Full identifier must contain (anywhere) the value of the filter field. The search is not case-sensitive.
45	List of installed components	Each row of this list describes the: • Component type*: only Applications, Libraries and Parameters can be selected in order to be uninstalled • Friendly name • Version: composed by Major, Minor and Maintenance revision* values • Domain* • Package range* (known as "Full identifier") • Package identifier • CRC • Filename: the original filename of the component ☐ : This component is not selected* ☑ : This component is selected* ▣ : This component is not selectable for uninstallation* ☑ : Use this icon in order to invert the current selection*
46	Uninstall button*	This button saves the selected components list, in order to uninstall them at the next terminal disconnection. Clicking this button closes the Installed component list. This list can be displayed again and can be modified before the uninstallation. The number of selected components is indicated on the button label. In case no item is selected, this button simply closes the list.

*: theses information are only available for Telium Tetra and Axium terminals.

4_6 Actions history view

This view is reporting the history of past actions.
Errors are in the red color, warnings in orange and regular messages in black.

The Action history view can be called by double-clicking in the status-bar of the file browser (#8), or using the icon from the toolbar (#20).

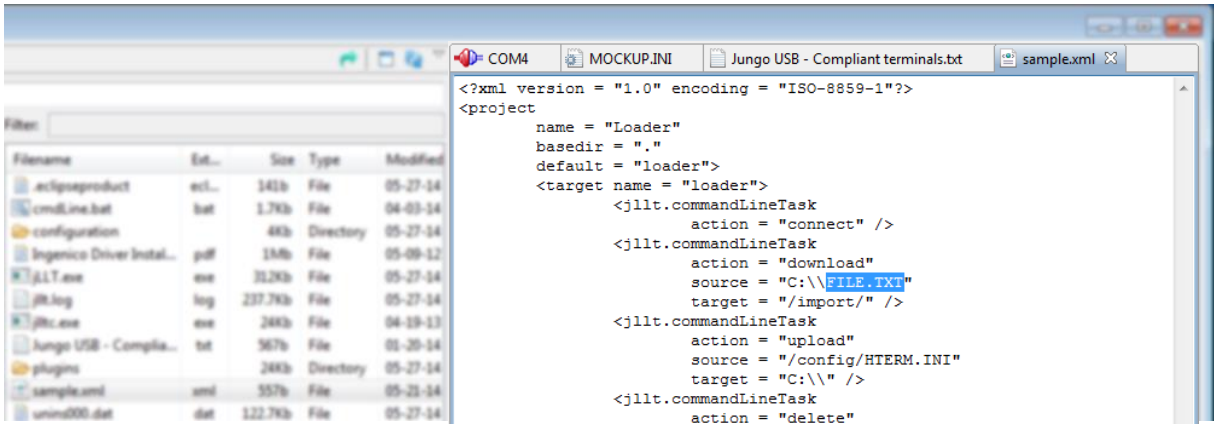


/ Legend

#	Element	Description
47	Copy	Copy the actions history in the Windows clipboard.
48	Clear logs	Clear the logs list.
49	Connection selector	Choose the history connection to display the actions. The “Local actions” is related to the Local browser actions.
50	Events list	Displays the list of past actions, within two columns: the date and the event.

4_7 File viewer

The file viewer allows consulting local and terminal files content.
Double-clicking on a file (or pressing the “Enter” key after selection) in the local browser opens a new tab with the file content.

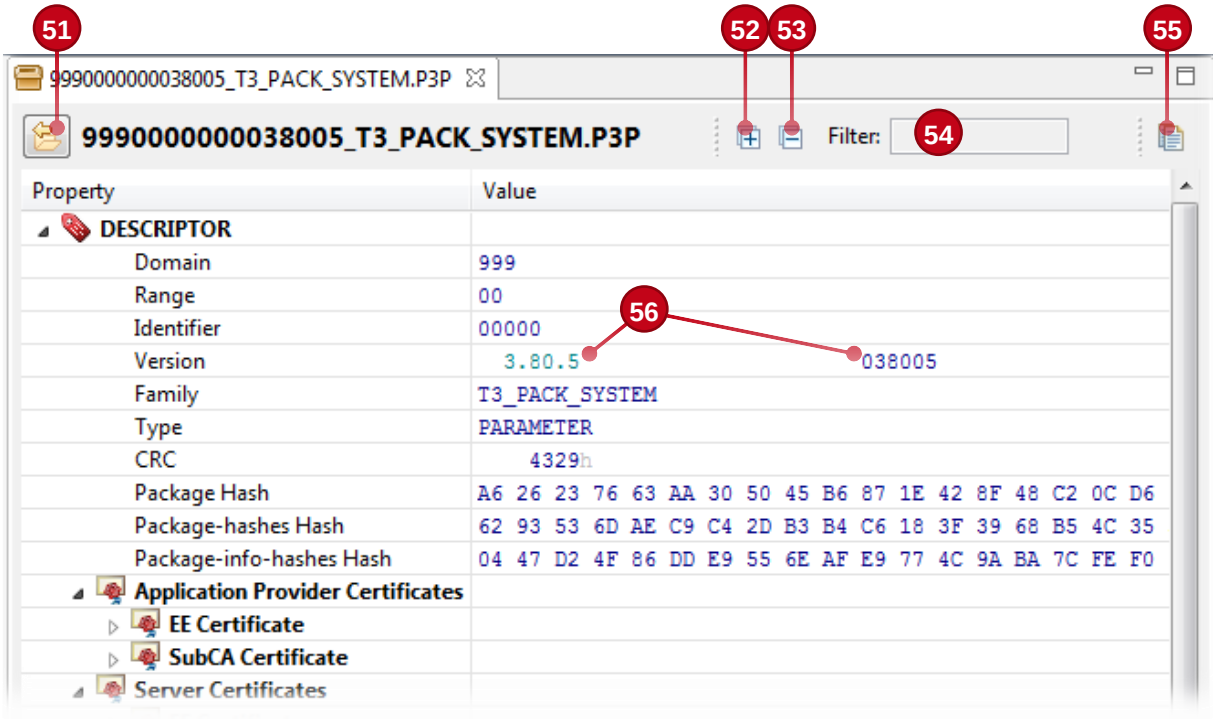


In some files (especially binary files), the null characters are represented by a dot sign (“ . “).

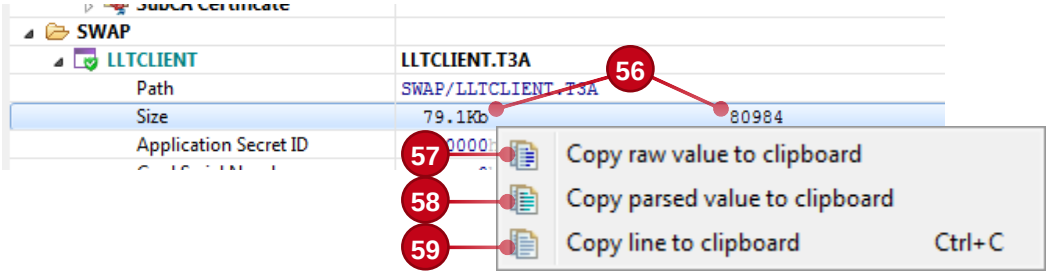
4_7_1 Telium file viewer

The Telium file viewer is intended to ease the reading and analysis of Ingenico proprietary file formats such as Telium 1 and Telium 2 signed components, Telium Tetra and Axium packages or signed components, and other Telium diagnostic files.

If the file format is recognized, then a dedicated file viewer is opened. A Telium file is detailed in a table with some information in a tree.



/ Context menu on a selected line



/ Legend

#	Element	Description
51	Locate file	Browse to this file location in the files-tree.
52	Expand all	Expand all properties in the table
53	Collapse all	Collapse all properties in the table
54	Properties filter	Only list lines matching partially with its property or raw value
55	Copy this list	Copy all properties and corresponding raw values into the clipboard
56	Value	Parsed or interpreted values are in **dark cyan** color, and raw values are in **dark blue**. Hexadecimal values are suffixed with "**h**" character (in **grey** color). Boolean values are represented with a  (true or 1) or  (false or 0). Lines with  icon are clickable and opens the linked resource.
57	Copy raw value	Copy raw value of the selected line to the system clipboard
58	Copy parsed value	Copy interpreted value of the selected line to the system clipboard
59	Copy full line	For the selected line: copy the property, raw value, and parsed value (if any) to the clipboard. If the selected line contains sub-properties, the information from all these sub-properties are also copied. The shortcut key for this command is "Ctrl + C".

5_Catalogue files

The catalogue is a file which references a list of files to be downloaded in the terminal.

5_1 Catalogue files format

A catalogue file extension form is "**.M***nn*" form, where *nn* represents the product code of the target terminals (two digits). These catalogue files can be automatically filtered with the funnel button of the Local browser (see 4_4 section, #4).
All terminals can be targeted using the "**.MXX**" catalogue file-extension.

The syntax is simple: each line points out a file in an absolute or a relative path (either in the Windows or Unix format, depending on the local system). The comments are preceded by a "**;**".

/ Sample catalogue file

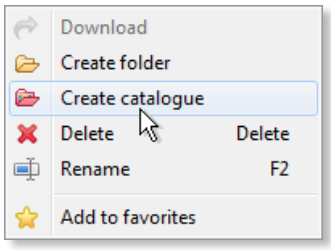
`; Comment of the catalogue file`	← Comment
`C:\absolute PATH\to the\File.txt`	← Download `File.txt` into the current path in the terminal
`-e``SWAP`	← Change the download destination to /SWAP/
`..\8440140201.AGN`	← The file to be downloaded is in the parent directory of the catalogue file
`8440140201.PGN`	← Download this file from the same directory of the catalogue file
`-e``HOST`	← Change the download destination to /HOST/
`D:\APPCONFIG.CFG` `; Custom config`	← File given in absolute path followed by a comment

Generally speaking, the referenced files are downloaded in the default directory of the terminal, but it is possible to denote a destination directory by preceding the absolute path in the terminal by "**-e**" (see default and possible destinations at 1_2 Telium file tree structure).

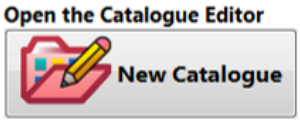
5_2 Catalogue editor

The catalogue editor is opened when:

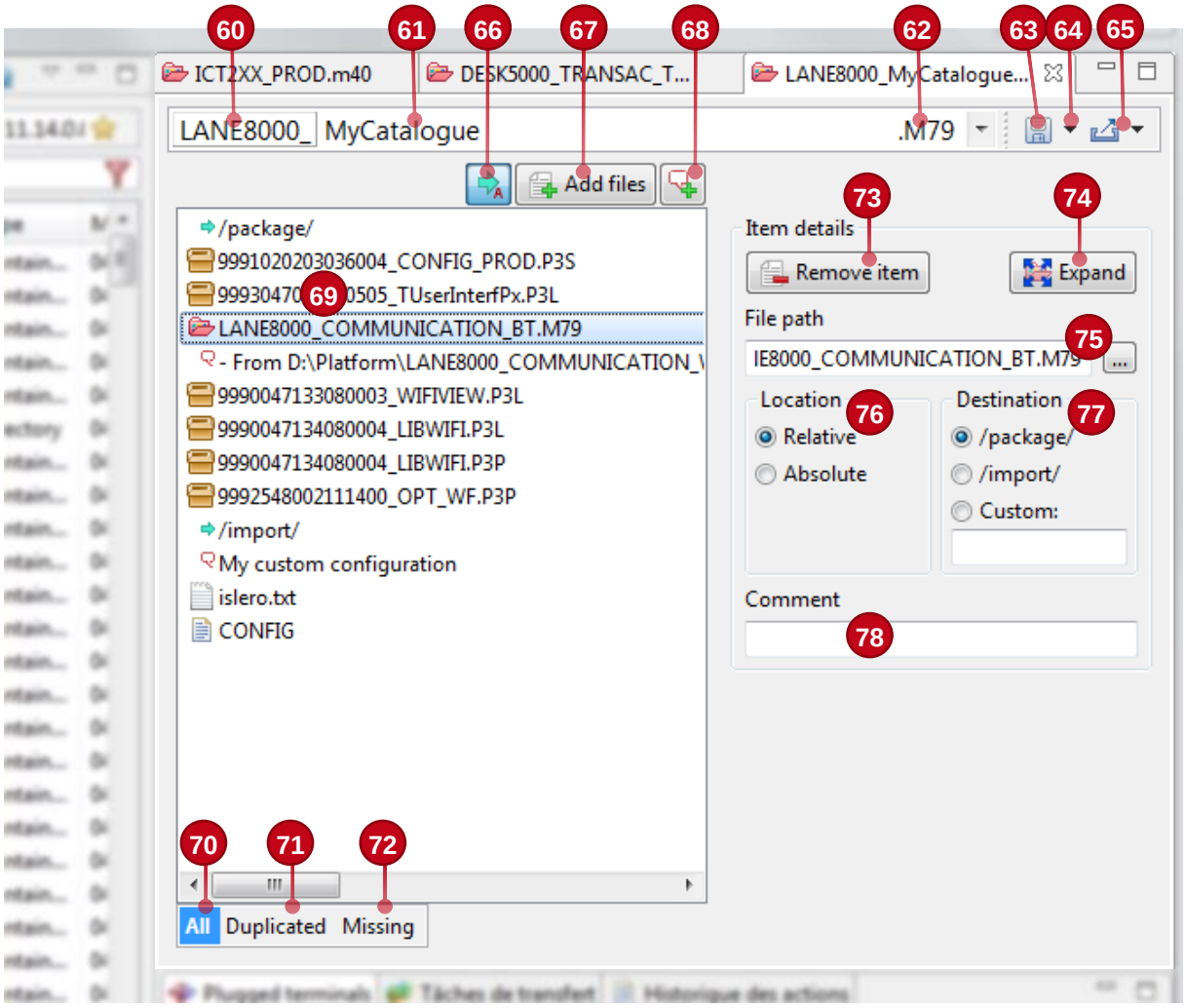
- double-clicking on a catalogue file in the local-file browser or from Windows Explorer
- selecting “Create a Catalogue” in contextual-menu (called with a right-click)
- clicking on “New Catalogue” from the Wizard page (see 4_1 Wizard page)

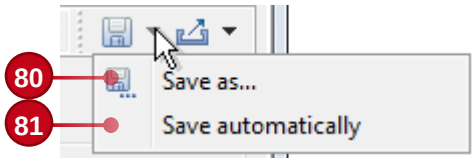


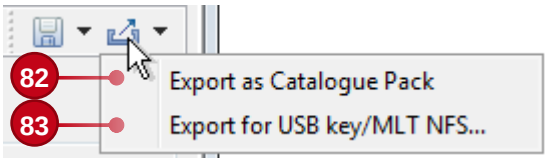
Context-menu in local-file browser



Dedicated button in the Wizard page







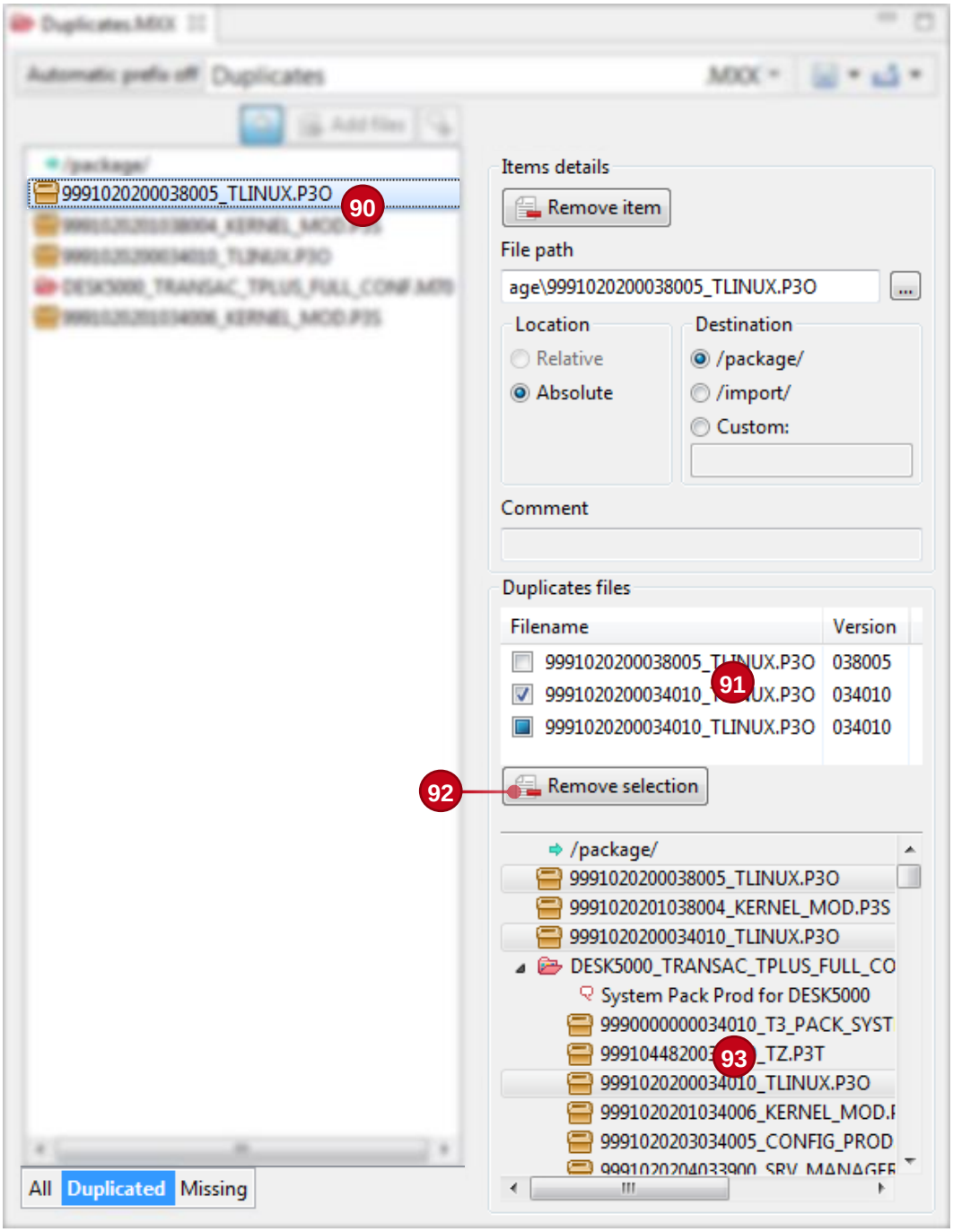
/ Legend

#	Element	Description
60	Automatic filename prefix	Add a prefix on filename depending on the catalogue extension (representing product codes covered by this catalogue). This button can be toggled in order to activate or not.
61	Filename	This field contains the catalogue filename. Changing its value will rename the catalogue file at the next save operation. Any pending change of the filename or extension is represented by a highlight color around the catalogue name.
62	Catalogue extension	The catalogue extension represents product code covered by the catalogue file. Changing its value will rename the catalogue file at the next save operation.
63	Save	Save the catalogue file. If the catalogue filename has been modified (filename fields with a blue border), then the current catalogue file will be renamed according to this new filename. The catalogue editor tab contains the current edited catalogue filename, with a star " * ", whenever a modification has not been yet saved.
64	Save menu	Access to additional save commands and options: • Save as… (see #80) • Save automatically (see #81)
65	Export menu	Access to export commands: • Export as Catalogue Pack (see #82) • Export for USB key/MLT NFS… (see #83)
66	Automatic destination	If this button is activated (icon), then appropriate destination is automatically set for each added file (by drag and drop from the local browser, or via the "Add files" button). Click on this button to switch off the automatic destination (icon).
67	Add files	Select file(s) to add into the referenced files list of the edited catalogue. In the file selection dialog, you can choose a file filter. The default filter displays suitable files and catalogues for the current edited catalogue. Shortcut key for this command: "Ins"
68	Add a comment	Add a comment into files list of the edited catalogue. Shortcut keys for this command: "Alt" + "Ins"
69	Referenced files list	This list enumerates all files (and comments) referenced by the edited catalogue. It can also specify directive that change the terminal destination, for files downloading. You can use drag and drop with your mouse in order to: • Add new references of files from the Local files browser (including comments and files from existing catalogues) • Change the order of files references in the list for the edited catalogue A double-click on a sub-catalogue open this catalogue into editor.

70	Filter All	Displays all referenced files of the edited catalogue, without any filter.
71	Filter Duplicated	Displays only directives and duplicated files (whatever their versions). This mode is detailed at section 5_2_1 Duplicated files filter. Go back to filter “All” in order to fully edit the referenced files list.
72	Filter Missing	Displays only directives and missing files. This mode is detailed at section 5_2_2 Missing files filter. Go back to filter “All” in order to fully edit the referenced files list.
73	Remove item	Remove the selection from the referenced files list. Related shortcut key is “Del”.
74	Expand	Includes into the current edited catalogue all referenced files by the selected sub-catalogue files.
75	File path	Indicate the file path of the selected referenced file. Click on the “…” button (or double-click on the text field) in order to select another file.
76	File location	If possible, the file is referenced in the catalogue by its relative path. The file can also be referenced by its full path (absolute location). Changing this value affects location modification for all selection.
77	File destination	By default, the file will be downloaded into the “/package/” or “/SWAP/” terminal directory (see 1_2 Telium file tree structure). But you can change the file destination into “/import/” or “/HOST/”. Changing this value affects destination modification for all selection.
78	Comment	A comment can be added into the list of files, or for a specific file.
80	Save as…	Save the current referenced files list into another catalogue file.
81	Save automatically	If enabled, this option will trigger saving the current edited catalogue at each modification.
82	Export as Catalogue Pack	Export the current catalogue content to a Catalogue Pack: all referenced files (including from sub-catalogues) will be copied to the chosen destination, and a new catalogue (that references those files) will be created.
83	Export for USB key / MLT NFS…	Adapt and export the current catalogue content to be copied on a USB key, or to be used as input for the MLT NFS tool. See section 5_2_3 Export for USB key or MLT NFS Tool.

5_2_1 Duplicated files filter

Under the “Duplicated” tab, you will find a useful tool allowing you to analyze and identify any file duplication resulting from adding files or sub-catalogues.

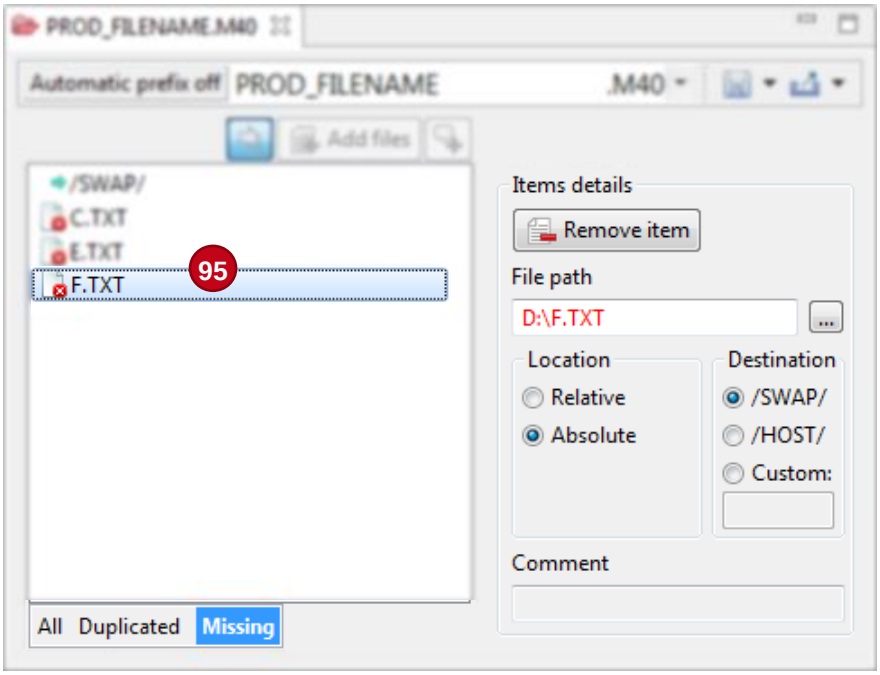


/ Legend

#	Element	Description
90	Filtered list of referenced files	List only the referenced files that are implied in a duplication (directly or via a sub-catalogue). Comments are hidden, but destination directives are shown. Select a file in this list to see all duplicates for this file (see #91 and #93).
91	Duplicated files list	For the current selection in referenced files (#90), list all duplicates whatever the version (based on filename conventions). For each duplicated file from this list, you can: • Double-click on it: reveal and select this file in the duplicated tree (#93) • Check the box in order to change the selection of files to remove (see #92). So, depending on its state:  : This file is not selected  : This file is selected  : This file is referenced through a sub-catalogue. Edit this sub-catalogue in order to solve the duplication, or remove the reference to this sub-catalogue. By default, the earlier version of the file is unselected, and others files references are selected to be removed.
92	Remove duplicates selection	Remove selected files references of the list above (#91)
93	Duplicated files tree	Display duplicated files organization in a files-tree representation

5_2_2 Missing files filter

Using the “Missing” filter, allows you analyzing the missing files directly referenced or at the first depth level of sub-catalogues.

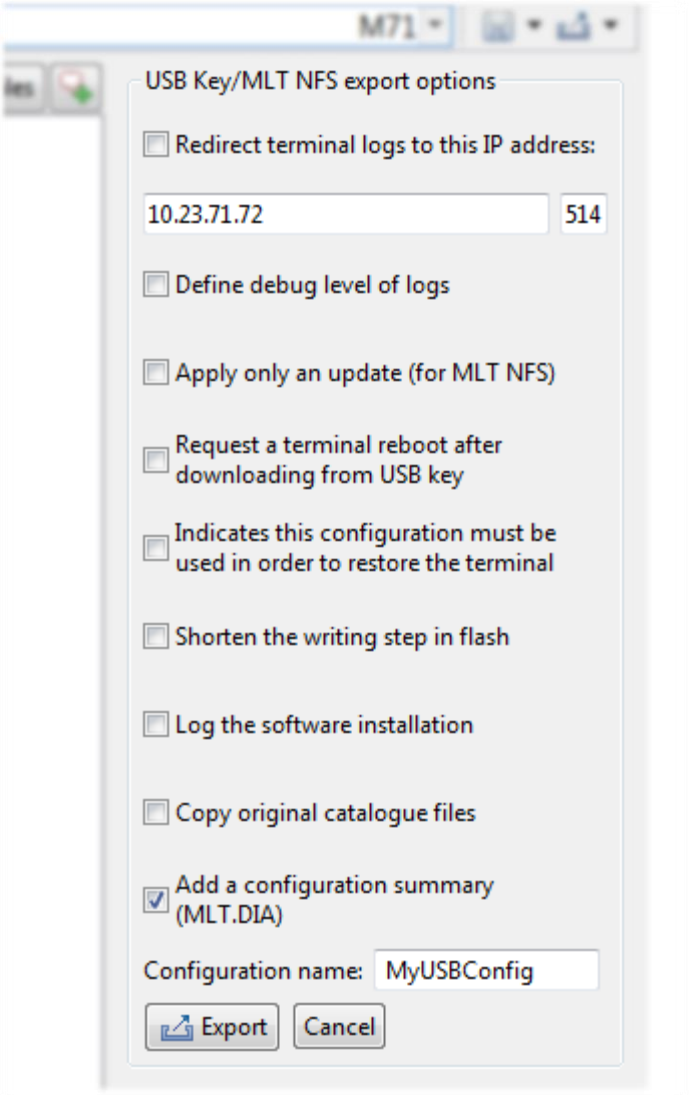


/ Legend

#	Element	Description
95	Filtered list of referenced files	List only the referenced missing files or catalogues which contain a missing file. Comments are hidden, but destination directives are shown.

5_2_3 Export for USB key or MLT NFS Tool

Referenced files of the current catalogue can be copied into a chosen destination (an USB key, or any directory).
Additionally, some options are available for Telium Tetra and Axium products only. They are disabled for other products ranges.



You can input a Configuration name for this export.

Click on Export button in order to generate options files, copy all referenced files (including from sub-catalogues) and create a new catalogue that references exported files.

6_How to start a connection with the terminal

- Please make sure the terminal is properly plugged to the computer: the terminal is connected by the USB cable and must be recognized by your operating system (for Windows: in the Device manager, under COM port devices).
- Launch the LLT software (see 3_Starting LLT standalone application).
- Before connecting the terminal with LLT, the loading session must be started on the terminal. In order to start the LLTCLIENT application on the terminal, depending on the terminal Telium range:
  - For Telium 1 and Telium 2:
    - restart the terminal and keep pressing (usually) the “F3” (or UP) key on the terminal until the word “LLT” appears on the screen
    - or use the graphical menu (press “F” key, then Telium Manager > Evolution > Load > Local)
  - For Telium Tetra and Axium:
    - restart the terminal and keep pressing the “.” (dot) key on the terminal until a folder icon appears on the screen
    - or use the graphical menu (Control panel > Software management > Evolution > Local upgrade)

In the LLT software Plugged terminal view (see 4_3 Plugged terminals view), the terminal must appear. Double-click on the terminal icon start the connection attempt. The terminal state reports the terminal connection status. If the terminal is correctly connected, download or upload can be performed and terminal information can be gathered.

6_1 Perform the disconnection

In order to disconnect a terminal from LLT, double-click on the terminal status label (see #24 in 4_5 The terminal browser) or the corresponding connection in the Plugged terminal view (see 4_3 Plugged terminals view).

The disconnection of LLT is required to validate and install the downloaded files into the terminal. The terminal then restarts in order to take the changes into account.

For Telium 1 and Telium 2 terminal, the validation of downloaded components is also performed at terminal activity change (see 4_5_1 Terminal activities).

7_Command line mode

The command-line mode allows downloading, uploading and deleting files.
To use the command-line, use the "**cmdLine.bat**" script provided at the LLT root installation directory.

UBUNTU AND MAC OS SCRIPT
All presented commands are using the "**cmdLine.bat**" script, designed for Windows.
In Ubuntu and Mac OS platform, please use the command-line script "cmdLine.sh" instead, which has the same functioning as "**cmdLine.bat**".

7_1 Command-line usage

The command-line usage can be consulted when typing:

/ Calling the command-line help

```
C:\Program Files\Ingenico\LLT>cmdLine.bat

Usage:
cmdLine [/q] [/v] [/p port] load_scenario_location [target_name]

  /q: (optional) quiet mode, no pause during the script execution
  /v: (optional) verbose mode, shows additional logs on error
  /p port: (optional) specify the serial port name to use for the terminal
connection, if it is not specified into the scenario
  load_scenario_location: the load scenario file to process
("C:\LLT\MyScripts\load.xml" for example)
  target_name: (optional) the name of the target section of the scenario file
to process. If not present the default target will be executed.

Appuyez sur une touche pour continuer...
```

Note that the ***load_scenario*** uses the ANT standard. Hence, the commands provided with LLT can be extended by other ANT commands and libraries.

You'll find further documentation at the following address: http://ant.apache.org/manual/index.html

/ Calling the "cmdLine.bat"

```
C:\Program Files\Ingenico\LLT>cmdLine.bat "sample.xml"
```

/ Sample script of the loading scenario

```
<?xml version = "1.0" encoding = "ISO-8859-1"?>
<project
      name = "Loader"
      basedir = "."
      default = "loaderT2">
      <!-- For Telium TETRA terminals -->
      <target name = "loaderTETRA">
            <jllt.commandLineTask
                  action = "terminals"
                  target = "C:\\Terminals.txt" />
            <jllt.commandLineTask
                  action = "connect" />
            <jllt.commandLineTask
                  action = "query"
                  property = "Manufacturing Code"
                  target = "C:\\Manufacturing code.txt" />
            <jllt.commandLineTask
                  action = "download"
                  source = "C:\\FILE_TETRA.TXT" />
            <jllt.commandLineTask
                  action = "upload"
                  source = "/config/HTERMINAL.INI"
                  target = "C:\\" />
            <jllt.commandLineTask
                  action = "delete"
                  target = "/import/FILE_TETRA.TXT" />
            <jllt.commandLineTask
                  action = "disconnect" />
      </target>
      <!-- For Telium 2 terminals -->
      <target name = "loaderT2">
            <jllt.commandLineTask
                  action = "connect"
                  device = "COM12" />
            <jllt.commandLineTask
                  action = "terminals"
                  target = "C:\\Terminals.txt" />
            <jllt.commandLineTask
                  action = "download"
                  source = "C:\\FILE_T2.TXT"
                  target = "/HOST/" />
            <jllt.commandLineTask
                  action = "download"
                  source = "..\\MyApp\\8440140201.M40" />
            <jllt.commandLineTask
                  action = "activity"
                  mode = "maintenance" />
            <jllt.commandLineTask
                  action = "upload"
                  source = "/SWAP/APPRESET.DIA"
                  target = "D:\\" />
            <jllt.commandLineTask
                  action = "disconnect" />
      </target>
</project>
```

/ Parameters details

action =	Parameters	Description
"terminals"	target = "*target_file*"	*target_file* is the optional full path of the file that receives the terminals list; for example: target="C:\\Terminals.txt" This command produces for each plugged terminal the following information, separated with tabulation: *Port*\t *Range*\t *Description*\t *State* This command can be called if a terminal is connected or not.
"connect"	device = "*device_name*"	*device_name* is the name of the device to connect; for example: device="COM3" If the device isn't specified, the first plugged terminal is used.
"download"	source = "*source_file*"	*source_file* is the full path with filename of the file to download (from the local browser). It can be, or not, a catalogue file; for example: source="C:\\MyDir\\FILE.TXT"
	target = "*target_file*"	*target_file* is the full path of the directory or the target file that receives the downloaded file; for example: target="/import/" or target="/import/destFile.bin" If the target isn't specified, the destination is automatically predicted depending on the source extension.
"upload"	source = "*source_file*"	*source_file* is the full path with filename of the file to upload (from the terminal); for instance: source="/config/HTERMINAL.INI"
	target = "*target_file*"	*target_file* is the full path of the directory or the target file that receives the downloaded file; for example: target="C:\\" or target="C:\\destFile.bin" If the target isn't specified, the previous specified local target is re-used.
"delete"	target = "*target_file*"	*target_file* is the full path of the file to delete in the terminal, or the filename of the package to uninstall; for example: target="/import/FILE.TXT" or target="9990019010084000_MyApp.P3A"
	option = "uninstall"	Optional parameter that indicates the *target_file* is a package to uninstall. If omitted, the target file is deleted.

"list"	**source = "*source_file*"**	***source_file*** is the full path of terminal directory to list; for instance: `source="/config/"`
	target = "*target_file*"	***target_file*** is the optional full path of the file that receives the file listing (one line per file); for instance: `target = "C:\\Listing.txt"`
	filter = "*filter_pattern*"	***filter_pattern*** is the optional filter apply for files listing. Wildcards are handled (?: any character, *: many characters); for instance: `filter = "*.INI"`
"query"	**property = "*key*"**	***key*** is the property key to request, it is case sensitive. Available keys are listed through the Terminal observatory (see the section 4_4); for instance: `property = "DISPLAY/WIDTH"` In addition, you can use one on those shortcut for the key value: • `Islero Serial Number` • `Terminal Model`
	target = "*target_file*"	***target_file*** is the full path of the file that receives the value of the requested property; for instance: `target = "C:\\Display.txt"`
"parse"	**source = "*source_file*"**	***source_file*** is the full path with filename of the file to analyze. It can be a local file, or a terminal file if the option **terminal source** is used; for instance: `source="/log/LIFECOUNTER.DIA"` or `source="C:\\MyDir\\MYPACKAGE.P3A"`
	target = "*target_file*"	***target_file*** is the full path with filename of the file that will receive the parsed content of the ***source_file***; for instance: `target="C:\\Parsed descriptor.txt"` For each property, output is in the form (separated with tabulation): *<property_label | property_id>***\t** *<raw_value>***\t** *<parsed_value>*
	filter = "*filter_pattern*"	***filter_pattern*** is the optional filter apply for properties listing. Wildcards are handled (?: any character, *: many characters); for instance: `filter = "Application Family"`
	option = "terminal source"	Optional parameter that indicates the ***source_file*** is on the terminal side
	property = "use id"	If specified, the property identifier is outputted instead its readable form (language dependent)
"activity"	**mode = "*activity*"**	***activity*** is the requested terminal activity; available values are (case insensitive): • `download` • `diagnostic` • `maintenance`

"clean"	**option = "uninstall packages"**	This command cleans the terminal content: • Telium 1 and Telium 2: all files in /HOST/ and all signed components in /SWAP/ • Telium Tetra and Axium: all files in /export/, /import/ and /package/ **option = "uninstall packages"** is an optional parameter used in order to uninstall all erasable signed content
"enable"	**option = "*option_name*"**	***option_name*** is the option to enable
"disable"	**option = "*option_name*"**	***option_name*** is the option to disable
"disconnect"		The download transaction is committed for the current terminal connection. Then the terminal is disconnected.

CAUTION

For any value of the load scenario file, the "\" character must be double slashed.
So Windows paths should look like this:
"C:\\MyDirectory\\SubDirectory\\File.ext"

7_1_1 Result file option

Generate a file reporting a code and a message. Only the first error is recorded in the result file, or the success if no error occurred during the current load scenario.

Enabling the **result file** option resets the last error code, even if the **target** parameter isn't specified. Thus the result file can be overwritten with the first next error, or the success of the load scenario.

Enabling option:

```
<jllt.commandLineTask
      action = "enable"
      option = "result file"
      target = "C:\\path_to_result_file.log"/>
```

Disabling option:

```
<jllt.commandLineTask
      action = "disable"
      option = "result file"/>
```

Possible error codes:

Code	Message	Command context
0	OK	All
-1	Missing parameter	All
-2	Catalogue file access problem	download
-3	Target file access problem	terminals, query
-4	Downloadable files access problem	download
-15	Activity badly finished	activity, disconnect
-19	Unknown terminal port	connect
-20	Catalogue file not adapted for this terminal	download
-21	File not intended for this Telium range	download
-22	An error occurs during download	download
-23	An error occurs during upload	upload, parse
-24	The destination on the terminal is unreachable	download
-25	Cannot access to this terminal file	upload, parse
-26	Cannot access to this source file	parse
-27	The target is not a package file	delete
-99	Unexpected error	All

7_1_2 Ignore errors option

This option allow having non-blocking errors during a load scenario. Without this option, any error stops the execution of the next commands.
Enabling this option can be useful for uploading or deleting of probably missing files.

Enabling option:

```
<jllt.commandLineTask
      action = "enable"
      option = "ignore errors"/>
```

Disabling option:

```
<jllt.commandLineTask
      action = "disable"
      option = "ignore errors"/>
```

7_1_3 Force uppercase option

By default, this option is enabled, and letters case of downloaded filenames are forced to uppercase.
Like the ad-hoc command in the graphical mode, the following modification is applied:

- On Telium 1 and Telium 2, the filename and extension are forced in uppercases.
- On Telium Tetra and Axium, only the extension is changed to uppercase.

Enabling option:

```
<jllt.commandLineTask
      action = "enable"
      option = "force uppercase"/>
```

Disabling option:

```
<jllt.commandLineTask
      action = "disable"
      option = "force uppercase"/>
```