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**GRUAN Technical documentation****User Guide of GRUAN RsLaunchClient**

DRAFT

Summary

This user guide describes the use of software program 'GRUAN RsLaunchClient' for collecting meta-data and transmitting these and related raw data to the GRUAN lead centre.

Important note:

This version of document is a DRAFT version and currently under construction!

Document Info



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<i>Author:</i>	Michael Sommer
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Abstract

This user guide describes the use of software program 'GRUAN RsLaunchClient' for collecting meta-data and transmitting these and related raw data to the GRUAN lead centre.

Important note:

This version of document is a DRAFT version and currently under construction!

This program RsLaunchClient are beta-version. The program has bugs and is not optimised at all. Please contact the lead centre (gruan.lc@dwd.de), if

- **any bug is occurred**
- **a question about the use is appeared**
- **a comment or a suggestion is appeared**

Thank you for your cooperation.

Michael Sommer

History

Version	Author	Description
0.4 draft (2011-02-16)	Michael Sommer	<i>First published version of this user guide</i>

List of Technical Documentations

Code	Version	Title
GRUAN-TD-1	v0.4	Manual for the Data Management in GRUAN
GRUAN-TD-2	v0.1	Manual for the Data Management of Radiosonding in GRUAN
GRUAN-TD-3	v0.4	User Guide of GRUAN RsLaunchClient

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1 Aim and Scope

RsLaunchClient (RLC) is the tool for manual collecting all relevant meta-data and data files for measuring events (e.g. radiosonde launches) in GRUAN. At start of GRUAN data flow using is very recommend.

2 Preparatory work

Previously a consultation is necessary with the lead centre. All potential and equipment should be comprised of your station with respect to radiosonde launches, particularly:

- used transient equipment: sondes, balloons, parachutes, unwinders, ...
- used permanent equipment: data processing systems (like DigiCoraIII), ...
- typical bundles to launch (in Lindenberg we have 3 bundles: ROUTINE, RESEARCH, OZONE)
- list of alias names (or in addition original names) of staff members → required for the indication of the operator of launches

The lead centre inserts all that information in our GRUAN Meta-data database and create a meta-data file, which is one base of the RsLaunchClient.

3 Installation

System requirements for running RsLaunchClient:

- any operating system (like Windows, Linux, Mac OS, ...)
- installed Java (JRE) – version 6 Update 10 or newer
- display size min. 1024 x 768 px

Download and install Java

A current Java Runtime Environment (JRE) have to run on used operating system. If no or an too old JRE are installed you can download a current version from Java homepage (www.java.com) and install on your operating system.

Download and install RsLaunchClient

A current version of the RsLaunchClient is always on our ftp server. You can download the archive file of last (current) version **RsLaunchClient-vXXXX.zip** (*XXXX means version number*) from our ftp server.

- *Server:* ftp://ftp-outgoing.dwd.de
- *Path:* /software/RsLaunchClient/
- *User:* gruan
- *Password:* (is given by email)

Please unpack the archive file (ZIP) to an user-defined install path.

Download current meta-data file

Since version 0.3 the RsLaunchClient can automatically update the required meta-data file. The only requirement is, that it can use an online connection to our ftp server.

A current version of necessary meta-data file **RsLaunch-datagram.gdz** is also located on our outgoing ftp server at path: /metadata/current/. You can manually copy this file to sub-directory data/ in the install directory.

4 Update

Irregularly a new version of the program is developed. An email is sent by lead centre to all stations which uses this program.

In this case an update of our installed version is recommended. You can download latest version from our outgoing ftp server (see Installation). Please download only file **GruanRsLaunchClient.jar** and copy it to sub-directory bin/ of your install directory. The email incloses additional instructions if other things are to do.

An update of the meta-data file is also recommended from time to time. Since version 0.3 an automatically procedure is implemented and tests if a new version is available at every start of program. You can switch off this manner (see chapter 8 ; *set in file 'config/RsLaunchClient_gruan.properties' the property `autoUpdate` to 'false' and activate the line via removing '#'*).

5 Start

Please contact the lead centre, if the start of the software program is not possible (error) or a suitable instruction is not found here.

Windows (2000 / XP / Vista / 7)

Start the RsLaunchClient with a simple click to **StartRsLaunch.jar**. If it does not work, you can use the batch-script 'win-start.bat'.

Linux (KDE, Gnome, ...)

Start the RsLaunchClient with Bash-script **linux-start.bash**. Enter './linux-start.bash' on console. Make sure that the script is executable.

Mac OS X

Start the RsLaunchClient with a simple click to **StartRsLaunch.jar**.

6 First Steps

First you see the list of all recorded measuring events (at start an empty list). Every time if you want to go to this general list, you can use the button **<Event list>** in the side bar.

You can create a new event by click on the button **<New...>** at the bottom of the list. An assistant is opened, which helps to collect all required meta-data and data of a radiosonde launch. In chapter 7.3.2 you find a description about creation of new event that includes a short pointed guide through all pages of assistant. You can close (and so save) opened events with a click to button **<Close>** at bottom or **<X>** at tab head.

You can exit the program with a click to button **<Exit program>** in the side bar. Please answer **<Yes>** following question.

7 Handling

to do → general overview coming soon ...

7.1 Main Window – Generally Program Design

The main window is showed in Figure 1. It is structured in several parts. On the left side is located a sizeable sidebar. This bar is subdivided in two panels *Info* and *Navigation*. Second part of the main window is a so called Main Panel which allows to handle multiple internal frames in a tab bar.

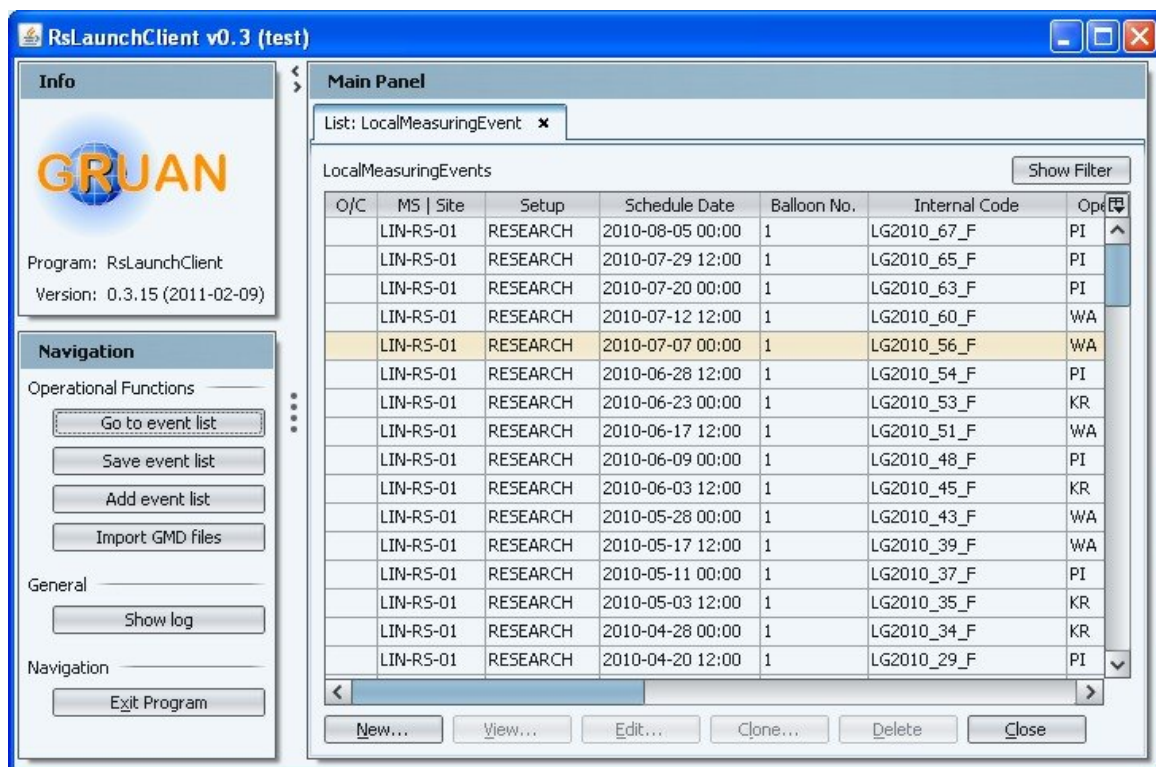


Figure 1: Main window of RsLaunchClient

7.2 Sidebar

The site bar includes general information in panel *Info* and several buttons for action and navigation in panel *Navigation*.

7.2.1 Panel: Info

At the moment in this panel are only shown two facts name and version of program.

7.2.2 Panel: Navigation

In this panel general actions and navigation commands are shown which are separated in three groups *Operational Functions*, *General* and *Navigation*.

Operational Functions

- *Go to event list* – open and show the tab with the event list (see chapter 7.3.1)
- *Save event list* – save the event list now (*All opened tabs will be closed before.*)
- *Add event list* – add an event list from an external source (maybe an other installation)
- *Import GMD files* – import (add) several GMD files to the event list

General

- *Show log* – open the internal log window (see chapter 7.4)

Navigation

- *Exit Program* – exit program (see chapter 7.5)

7.3 Main Panel

The main panel is a container for internal frames of any kind (e.g. event list, assistants, log list, ...). They are ordered in a tab bar. Each tab is titled and has a button to close itself. There is also a pop-up menu with actions to manage the tab bar (e.g. close all tabs).

Every tab can be activated. Then it comes in front of all internal frames.

7.3.1 Event list

The frame of the event list is divided in three parts a title line, a table and a button bar at bottom.

The table shows all events in a user-defined order. A click of a column header activate or switch the sorting for this column. Following columns are included in the table:

- *O/C* – current status of event in the program (closed [C] or opened [O] in an assistant for edit/view)
- *MS | Site* – measuring system and/or site of event
- *Setup* – measurement set-up of event
- *Schedule Date* – scheduled date of event (like 00, 06, 12, 18 UTC of any day)
- *Balloon No.* – ballon no. (also named 'code') of event
- *Internal Code* – site-internal code of event
- *Operator* – alias of main operator of event
- *Status* – status of event (UNDEFINED, STARTED, COMPLETED)
- *Version* – last version of event
- *Issue Date* – date of last change of event
- *GmdFile* – relative path to the gmd-file of event

You can do an action with buttons at the bottom of the list. Following a short list is showed:

- *New...* – Create a new event (a radiosonde launch)

- **View...** – View the selected event (*closing of tab does not save changed state*)
- **Edit...** – Edit the selected event (*closing of tab save changed state*)
- **Clone...** – Clone the selected event and create a new event based on selected one
- **Delete** – Delete the selected event from list
- **Close** – Close the tab of list

In following paragraphs all these actions are described in detail.

Create new event

An assistant is opened for collecting meta-data about a radiosonde launch (see chapter 7.3.2).

View/Edit selected event

An assistant is opened with selected event for collecting meta-data about a radiosonde launch (see chapter 7.3.2 for a detailed description of the assistant). If **view** is used, then all changes are not saved at closing the assistant. If **edit** is used, it will be saved.

If an already finished event (status is COMPLETE) is opened for editing, a question dialogue will be shown:

You want to open a COMPLETED event. Would you create a new version or open it only in view mode?

Two options are possible:

- **Create New** – A new version of this event will be created and the status will be changed to STARTED again. This allows any correction/changing of the event and at end a new upload to the lead centre.
- **View Mode** – The event will be opened in the view mode (same as using button **view**).

Clone selected event

The selected event will be used as a template and a new event will be created using it. A dialogue appears which is shown in Figure 2.

Firstly you have to change the **Schedule Date** and/or the **Code (Balloon No.)**. Then you can choose which parts of template should be used for cloning:

- **Parts/Instruments** – all equipment will also be used in new event (passive parts, active instruments, data processing systems)
- **Processings** – all links of data flow will also be used in new event (from active instruments to data processing systems)
- **Properties** – all properties of all parts, checks, and so on will also be used in new event
- **Operators** – all operators will also be used in new event
- **Comments** – all comments will also be used in new event
- **Checks** – all checks will also be used in new event

- **Files** – all files will also be used in new event
- **Leftovers** – all other things will be cloned also (if this and all other item are activated the new event will be same like the old)

Please be careful when using the clone tool. Cloning boosts to create incorrect events, because you have to check all things (parts, properties, checks, ...) are still correct for the new event.

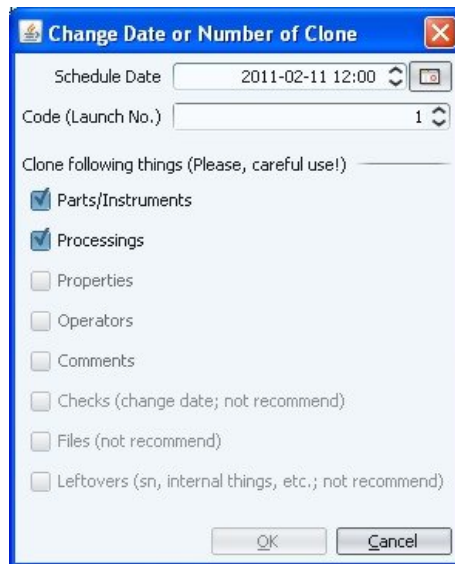


Figure 2: Dialogue for cloning an event

Delete selected event

The selected event will be deleted from the list. This has no effect on already uploaded events at the lead centre.

Close tab

The internal frame with the event list will be closed. You can open it again with a click on the sidebar button **Go to event list**.

7.3.2 RsLaunch – Assistant for collecting meta-data about a radiosonde launch

An assistant is opened with six steps, which helps to collect all required meta-data and data of a radiosonde launch.

On bottom you see a button bar with following buttons:

- **< Prev** – go back to previous page
- **Next >** – go to next page (it is disabled while a problem is occurred → see the coloured message above this button bar)
- **Finish** – is enabled only at end of assistant (same as **close**)
- **Close** – close the assistant (with **EDIT** mode] or without **VIEW** mode] saving changes)

Page 1: Observation – define basics of launch event

On first page basics of a event (e.g. a radiosonde launch) can be defined. This page is shown in Figure 3.

Figure 3: Page 1 – Observation

to do → describe in detail all parts of this page

Following fields are available at this page:

- *GRUAN Station* – GRUAN site
- *Measuring System* – measuring system, like a radiosonde launch site
- *Observation Type* – typical launch set-up/bundle/... (e.g. ROUTINE)
- *Scheduled Date (UT)* – scheduled date (e.g. 00:00, 06:00, 12:00, 18:00, 21:00 UTC)
- *Balloon No.* – always one (1) except you have more than one launch at same scheduled date
- *Site-internal Code* – number or code of launch
- *Main Operator* – operator of this launch
- *Comments* – only if special comments to this launch are necessary
- *Version* – (not editable)

Page 2: Instruments – add all used instruments and sounding equipment

On second page all used equipment can be managed. This page is shown in Figure 4.

Figure 4: Page 2 – Instruments

to do → describe in detail all parts of this page

- please add the equipment in a sequence:
 - ground equipment – used data processing systems (DPS) and check tools
 - passive launch equipment – balloon, parachute, unwinder, rig
 - active launch equipment – sondes
- every device can be described in detail:
 - Serial Number – is only required by measuring instruments
 - Operator – only if is different to the main operator
 - Processing – the used data processing system (telemetry, ...); is only required by measuring instruments
 - Comments – special comments to this device on this launch
 - Property list – special properties to this device on this launch (only red-coloured properties are required)

Page 3: Instrument checks – add all instrument checks for used instruments

On page 3 all relevant instrument checks (e.g. ground checks) can be managed. This page is shown in Figure 5.

Steps

1. Observation
2. Instruments
- 3. Instrument checks**
4. Launch conditions
5. Attach files
6. Upload

Instrument checks

Instruments ground checks

Add a check

GroundCheck RS92 | RS92-SGPD (test4567) --> 2011-02-16 05:00

Description

Check: GC-RS92 | GroundCheck...

Instrument: RS92-SGPD (test4567)

Check Tool: DC3-GC25 (lin-gc25-2)

Check Date: 2011-02-16 05:00

Operator:

Comments:

Name	Value	Unit
CorrPressure		[hPa]
CorrRelativeHumidity1		[%]
CorrRelativeHumidity2		[%]
CorrTemperature		[°C]
RefPressure		[hPa]
RefRelativeHumidity		[%]
RefTemperature		[°C]

< Prev Next > Finish Close

Figure 5: Page 3 – Instrument checks

to do → describe in detail all parts of this page

- please add instrument checks
- every instrument check can be described in detail:
 - Check – type of check
 - Instrument – instrument to check
 - Check Tool – instrument/device used as checker
 - Check Date – date and time of checking
 - Operator – only if is different to the main operator
 - Comments – special comments to this check
 - Properties – special properties to this check

Page 4: Launch conditions – additional information about launch

On page 4 additional information about the event can be filled in. This page is shown in Figure 6.

to do → describe in detail all parts of this page

- Comments – special comments to this launch
- Properties – special properties to this launch

Steps

1. Observation
2. Instruments
3. Instrument checks
- 4. Launch conditions**
5. Attach files
6. Upload

Launch conditions

Comments: this is a test

Properties

Name	Value	Unit
WeatherCondition.CloudsText		[-]
WeatherCondition.Comment		[-]
WeatherCondition.Pressure		[hPa]
WeatherCondition.RelativeHumidity		[%]
WeatherCondition.Temperature		[°C]
WeatherCondition.WindDir		[°]
WeatherCondition.WindSpeed		[m/s]

< Prev Next > Finish Close

Figure 6: Page 4 – Launch conditions

Page 5: Attach files – attach files to instruments

On page 5 related files can be attached. This page is shown in Figure 7.

Steps

1. Observation
2. Instruments
3. Instrument checks
4. Launch conditions
- 5. Attach files**
6. Upload

Attach files

Instruments and Sounding Components

- 0 - DC3-RESEARCH-1/DPS (A42102) --> 1 of 1
- 1 - GC25-RESEARCH-1/CheckTool (lin-gc25-2)
- 2 - TA1200/Balloon
- 3 - TP-160-05/Parachute
- 4 - UW1/Unwinder
- 5 - SOLO/Rig
- 6 - RS92-SGPD/Sonde (test4567)

Attached Files of DC3-MW31

File list: Add Files Remove Files

Lindenberg_20100817_230034.dc3db (data)

1 - DC3DB - Vaisala DC3
 0 - FLEDT - Vaisala DigiCoraIII (optional)
 0 - FRAWPTU - Vaisala DigiCoraIII (optional)
 0 - LAS - Vaisala DigiCoraIII (optional)
 0 - Log - Vaisala DigiCoraIII (optional)
 0 - DC3COMBINED - Vaisala DigiCoraIII (optional)

☐ This instrument has corrupt or missing data files.

< Prev Next > Finish Close

Figure 7: Page 5 – Attach files

to do → describe in detail all parts of this page

- please attach required data files to DPS (e.g. dc3db file in case of RS92)
 - You can mark an instrument as '*corrupt*' that means no or less data files.

- it is possible to attach additional files to every instrument/device
 - e.g. images, protocols, additional measuring data, ...

Page 6: Upload – upload and finish event

On page 6 the event can be uploaded and finished. This page is shown in Figure 8.

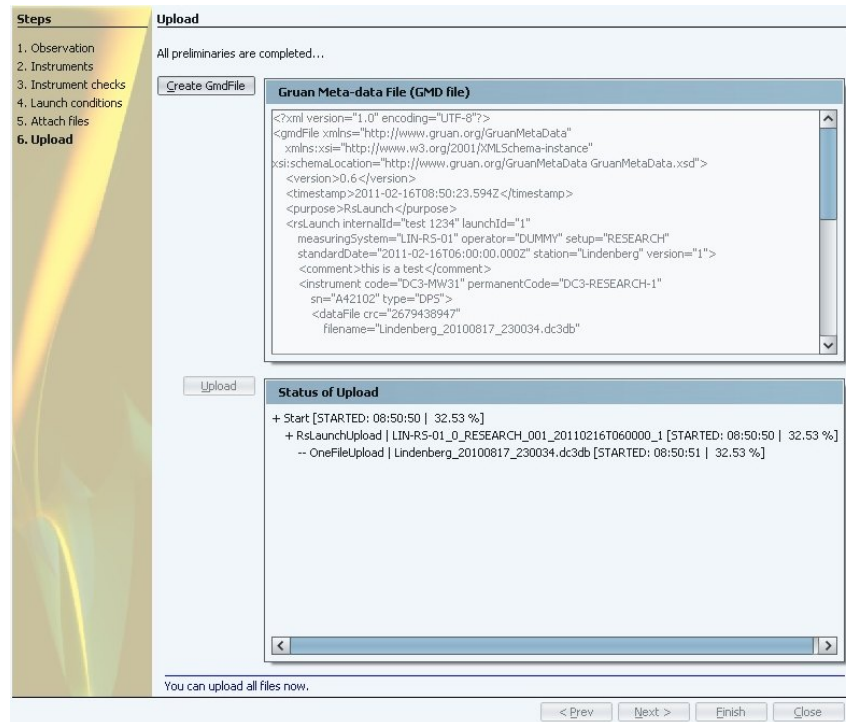


Figure 8: Page 6 – Upload

to do → describe in detail all parts of this page

- Create GmdFile – create a XML file that describe the launch
- Upload – upload all attached files and the GmdFile to GRUAN (this needs an online connection)

7.4 Logging

The logging frame is shown in Figure 9. Program-internal things (e.g. progress, warnings, ...) are logged in a log list. This list can help to find the relevant issue if anything going wrong.

The logging and the view can be tuned. Therefore you find a bar with several fields at the top.

- **L** – Level of logging
- **C** – Cache of logging
- **FS** – Font size of list items
- **F** – Level filter of view

The most important property is the level of logging (*L*). Only messages are logged which have such a level at minimum. The default level is defined in the property file (see chapter 8 , property *fileLogLevel*).

The cache size (*C*) describes how much log entries (messages) are buffered internally.

The list items are formatted with the given font size (*FS*).

The level filter of view (*F*) define which log entries (messages) are shown in the log list.

At the bottom of the logging frame a button bar is located containing following buttons:

- *Dialog/Tab* – change between log list as a tab or a separate dialogue
- *Scroll Lock* – lock/unlock the log list at current position
- *Clear* – cache of log entries will be cleared
- *Close* – tab/dialogue will be closed

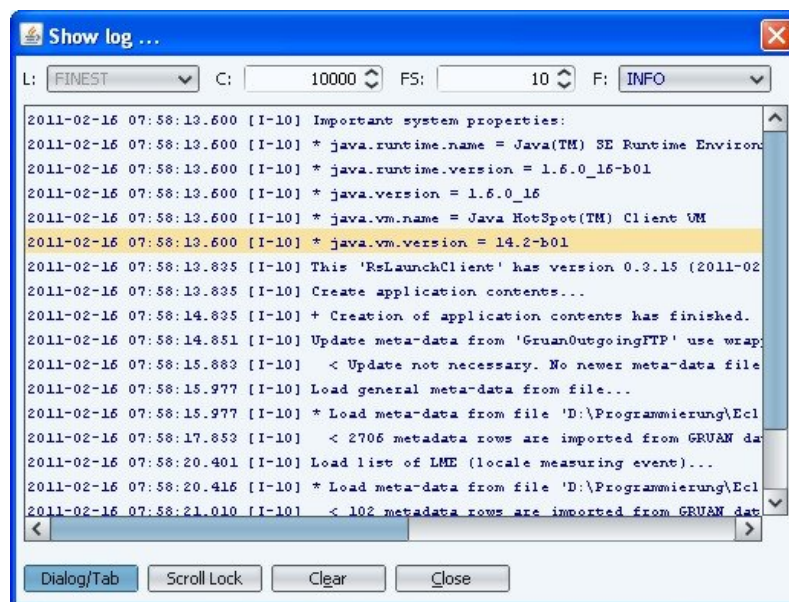


Figure 9: Logging frame

7.5 Exit Program

There are two possibilities to exit the program

- a click of main window closing button
- a click of the button Exit Program in the sidebar

In both cases a dialogue with following message will be shown:

Do you want to save current session?

Normally please always save the current session. Then the event list will be saved in current status with all changes which have happened.

If the current session is not saved all open tabs of assistants and the event list will not be saved.

8 Properties files

It is possible to customise the RsLaunchClient with the properties-files in sub-directory config/. Inside you find several files:

- GruanIncomingFTP.properties – properties of ftp connection to GRUAN data flow entry point. This is the destination for uploading data. Please only change this file if necessary (e.g. firewall).
- GruanOutingFTP.properties – properties of ftp connection to GRUAN dissemination point. This is the source of current meta-data. Please only change this file if necessary (e.g. firewall).
- RsLaunchClient_gruan.properties – general and special properties of client functioning. Please use this file to customise the client for your station.

All lines starting with '#' are comments. If you want to change (and activate) a property you have to delete the '#'.

Table 1: Properties of file RsLaunchClient_gruan.properties

Property	Default	Description
Specific Properties for RsLaunchClient		
cachePath	cache/	path for cached files (like GMD files)
dataPath	data/	path for used datagram files
lmeListDatagram	LmeList-datagram.gdz	file name (or absolute path) of event list file
rsLaunchDatagram	RsLaunch-datagram.gdz	file name (or absolute path) of meta-data file
autoLoad	true	automatic load of meta-data and event list at program start
autoLoadLmeList	true	automatic load of event list at program start (only if autoLoad=true)
autoUpdate	true	automatic update of meta-data at program start (only if a upload is defined)
useFtp	true	use FTP connections for upload and update
uploadConn	GruanIncomingFTP	name of the FTP connection for upload need a properties file, e.g. GruanIncomingFTP.properties
uploadPath	upload/	path for upload in a local directory (in case of faulty FTP connection)
updateConn	GruanOutgoingFTP	name of the FTP connection for update
updatePath	[no default]	not in use
Defaults for RsLaunch Assistant		
defaultStation	[no default]	code for pre-selected station (e.g. LIN for Lindenberg)

Property	Default	Description
defaultMeasuring-System	[no default]	code for pre-selected measuring system (e.g. LIN-RS-01 for radiosonde launch site 1 at Lindenberg)
defaultMeasuring	[no default]	code for pre-selected measuring set-up (e.g. ROUTINE)
calcScheduledDate	NO	calculate scheduled date of new event, choose <ul style="list-style-type: none"> • NO – [variable] • LAST – last scheduled date • NEXT – next scheduled date
Logging		
consoleLog	[no default]	not in use
consoleLogLevel	INFO	level of console logging, choose SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST
fileLog	true	
fileLogLevel	INFO	level of file logging, choose SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST
fileLogPath	log/	relative or absolute path (directory) for log files
fileLogNamePre	RsLaunchClient_	prefix of log-files
fileLogNameTime	yyyy-MM-dd_HH:mm:ss	time stamp of names of log-files
fileLogNameExt	log	extension of log-files
File Sources		
addFileSources	[no default]	define a list of file sources for button ' <i>Add Files</i> '; list items are separated by a vertical slash ' ' <p>types of file sources:</p> <ul style="list-style-type: none"> • LOCAL – a local path • FTP – a special ftp connection (described through a identical named configuration file, e.g. TestFTP.properties) <p>Example: addFileSources=LOCAL:Temp FTP:TestFTP LOCAL:Daten</p>
addFileSourcePath: <FileSource>	[no default] → <i>necessary for every defined file source</i>	local path to a relevant directory for adding files <p>Example: addFileSourcePath:LOCAL:Temp=D:/Temp/ addFileSourcePath:LOCAL:Data=F:/TestData/</p>
Filter		

Property	Default	Description
useFilter	true	use filtering of event list
saveFilter	true	save changed state of filter of event list
filterPath	data/filter-list.xml	path to the file of filter definition
Further properties		
...		only for debugging

9 History

Please see document **RsLaunchClient-History** for detailed information about version history of program RsLaunchClient.