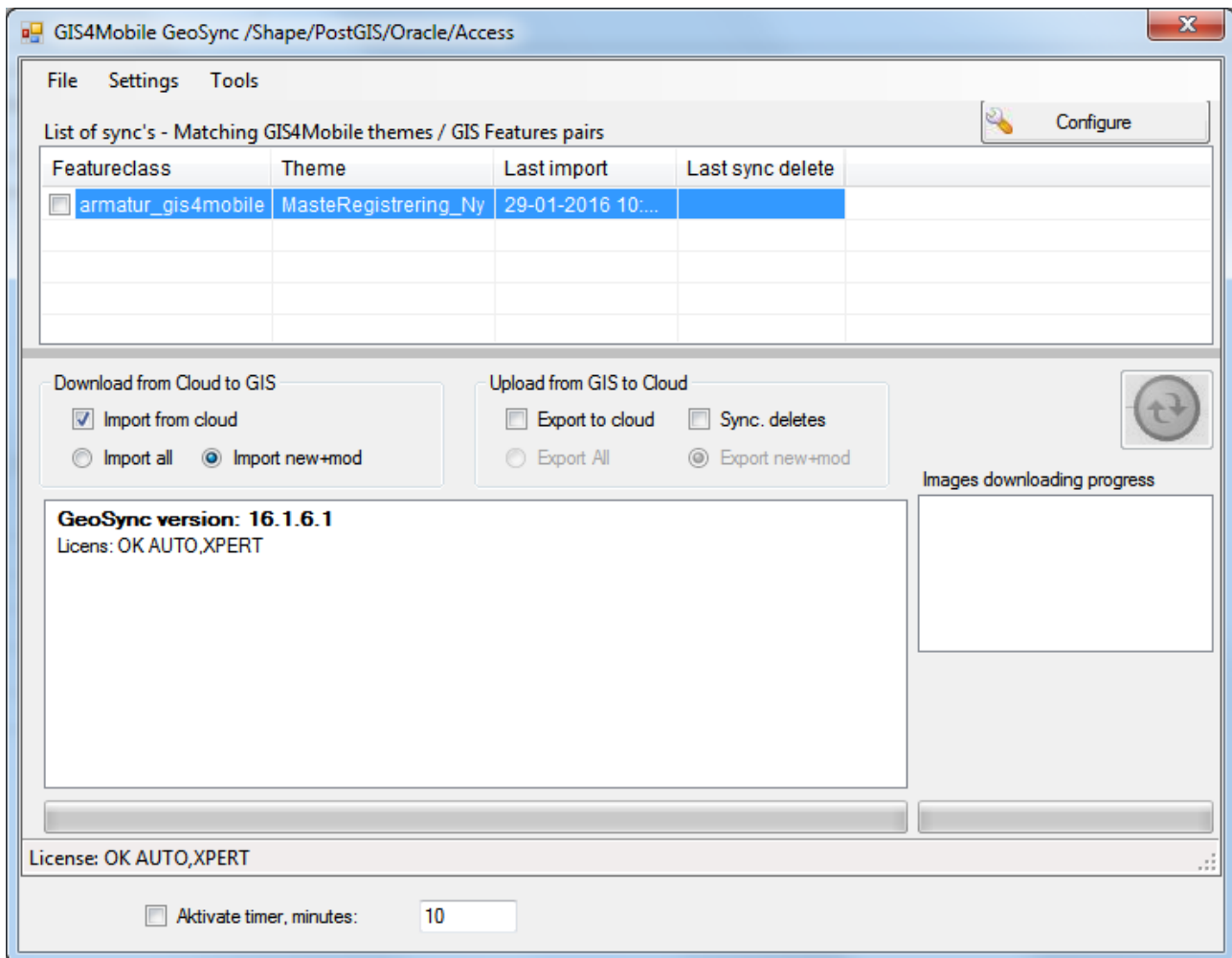


GeoSync manual



Intro

GeoSync is a part of the GIS4Mobile concept – the part that connect the office GIS to the GIS4Mobile data storage (Gis4Mobile Cloud).

GeoSync is available in several different implementations.

Here is a list of some variations:

GeoSync version	GIS systems	Description
GeoSyncDivGIS	PostGIS MS Sql Server spatial ESRI shape, Oracle 10 spatial,	This version runs directly in windows, allowing the user to connect to a folder with *.shp or *.tab files, or to an oracle via a UDL file.
GeoSync(GM)	GeoMedia	Runs as a custom command in GeoMedia or GeoMedia Pro. Allows to connect to any read/write datasource.
GeoSync(Arc)	ArcGIS	Runs as a custom command in ArcGIS – connects to currently open data, via the TOC in ArcGIS
	MicroStation	
GeoSync(MI)	MapInfo	Runs as a tool under MapInfo

For specific instructions look at chapters in the end of this book (none yet).

This guide will explain how to do the following:

- Install GeoSync
- Configure GeoSync
- Run GeoSync
- Automatically run GeoSync
- Publish data the easy way.

See a brief overview of the GIS4Mobile here:

Overview of GIS4Mobile

GIS4Mobile has these 3 parts:

- The mobile devices (mobile phones with apps).
- The communication and storage service (Gis4Mobile Cloud).



- The office GIS (GeoSync)

Mobile devices

The mobile devices are tablets or mobile phones, with builtin GPS and internet connection ability.

On the mobile device the GIS4Mobile app should be installed. The following are currently supported:

- iPhone get the GIS4Mobile app in the app-store.
- iPad get the GIS4Mobile app in the app-store.
- Android get the GIS4Mobile app in the market.

The app requires the user to enter a username and password, thereby allowing access to the organisations data.

After the login, the user will be able to edit existing registrations, and add new registrations (depending on the current configuration).

Registration contains coordinates, attributes and an optional image.

Data that is captured is immediately transferred to the Gis4Mobile Cloud.

The communication service (Gis4Mobile Cloud)

The Gis4Mobile Cloud is a online storage facility, that holds the geographical data.

Also the Gis4Mobile Cloud holds tables with user and organisation configurations, allowing you to assign specific credentials to every user.

Basically the Gis4Mobile Cloud is a spatial database and a set of web services.

The office GIS (Geosynk)

Data that is collected by mobile workers can be transferred to the office GIS using GeoSynk applications. And furthermore data that is maintained in the GIS can be published to be visible and editable for the mobile workers.

All communications from the GIS goes to the Gis4Mobile Cloud service.

GeoSync utility

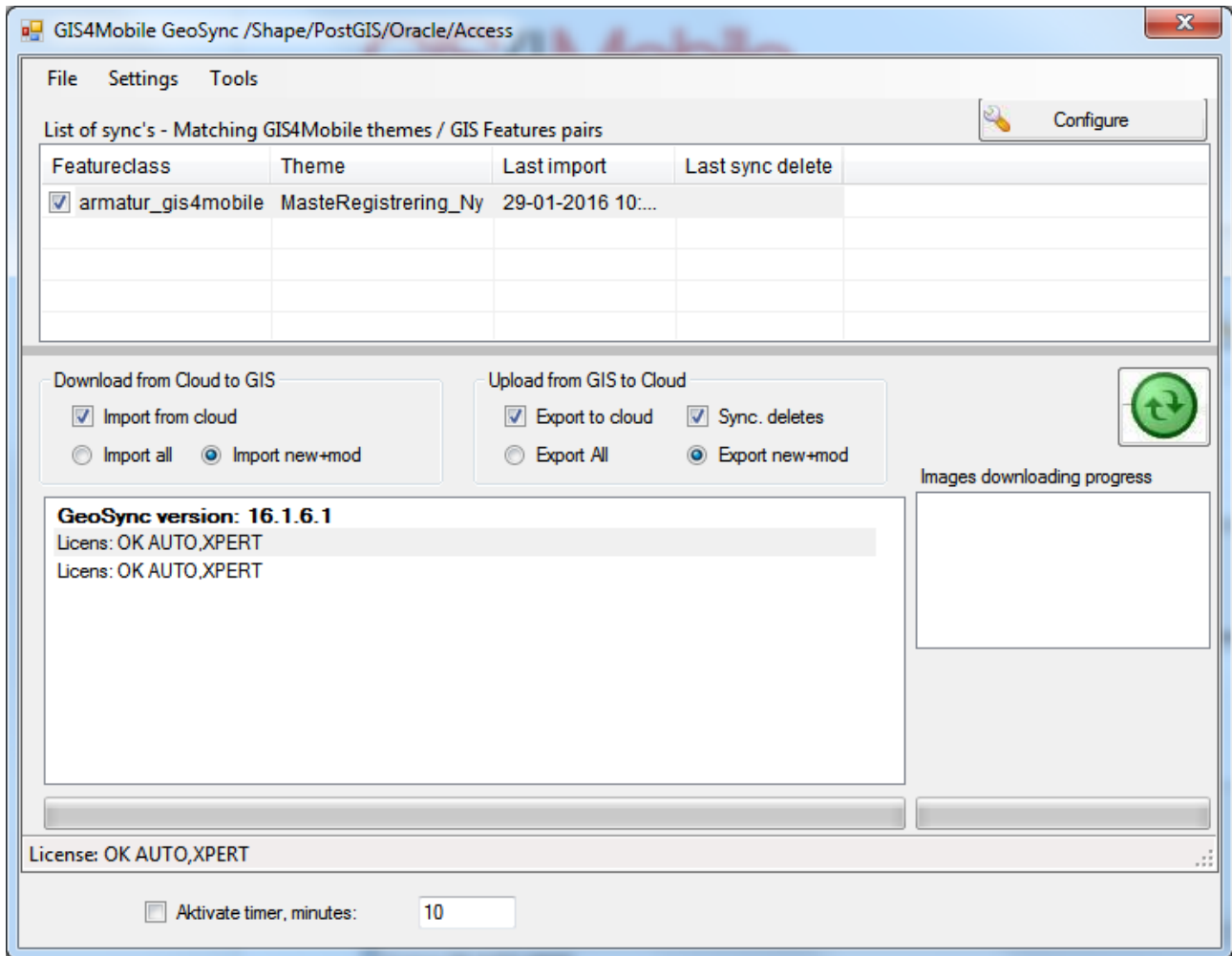
Getting started

When the application is installed the first time, you need to configure synchronisation. This is done by selecting **Tools->Add new sync** which is described in detail later.

If GeoSync is started as a plugin in MapInfo, ArcGIS or GeoMedia the user should open tables, before GeoSync is started.

It is also important to review the basic configuration, click the Configure button.

Using GeoSync



The normal use of Geosync will be to launch the program, and depending on configuration, push the green button.

When pushing the green button the configurations selected will be performed.

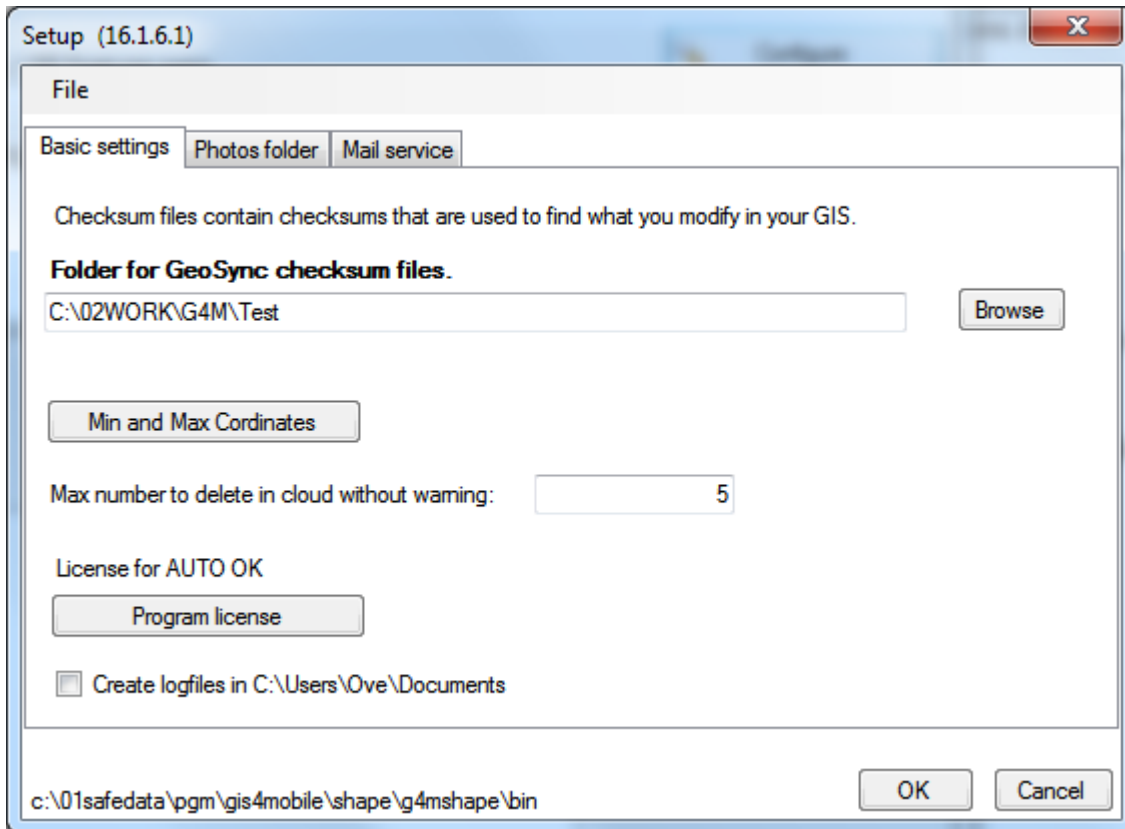
- In the top-list you see your synchronisations – here is 1 synchronisation selected.
- Import is selected, meaning data from GIS4Mobile will be fetched into GIS
- Export is selected, meaning data will be sent from GIS to GIS4Mobile Cloud.
- Sync. Deletes is selected, meaning objects you deleted in GIS will be deleted in GIS4Mobile Cloud.

But before the program will work we need to do configurations:

Basic configuration

The basic config has this window, where you configure details for the program operation.

The bottom-line in the config window informs you where the config files are located.



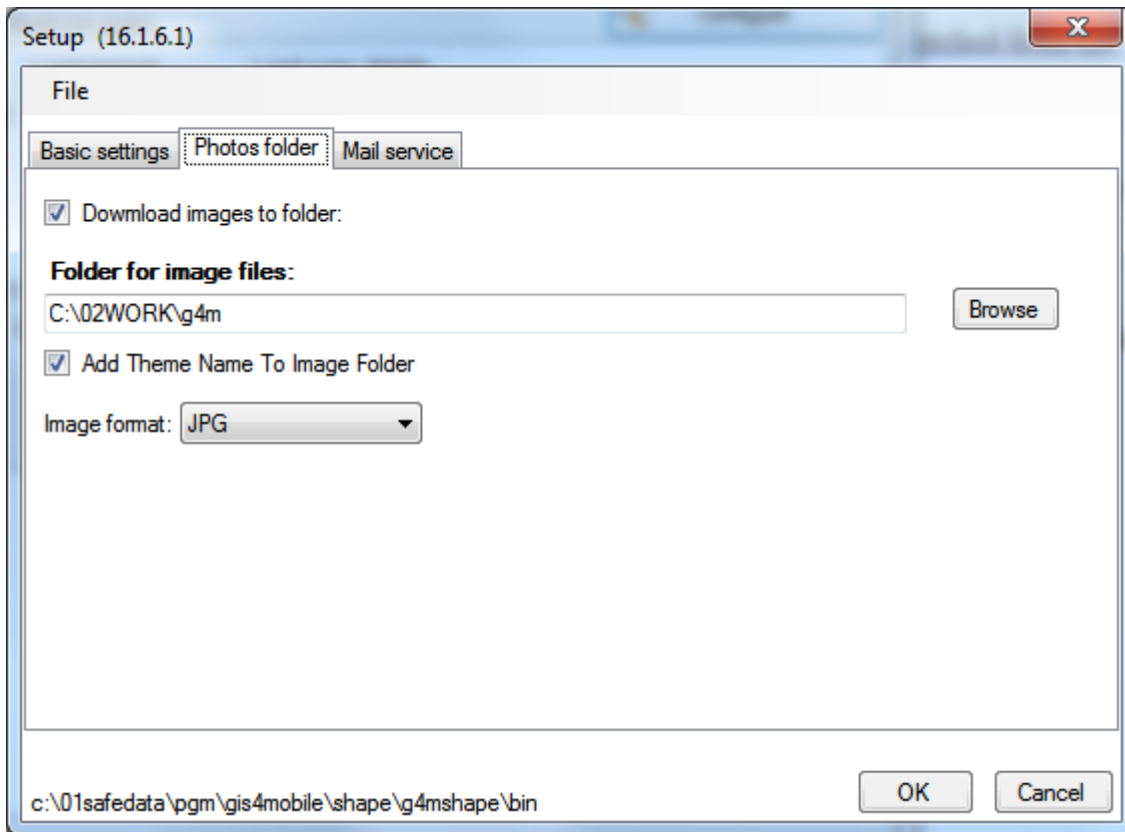
Checksum files

The program maintains datafiles with checksums for every object that has been fetched from the GIS4Mobile Cloud, or sent to the GIS4Mobile cloud. Checksum is a calculated value, that is used to track local modifications. This means that if you modify an object in your GIS then GeoSync is able to find this modified object and export the changes to GIS4Mobile Cloud, and also if you delete an object in your GIS, GeoSync will delete this object in the GIS4Mobile Cloud.

Min and max coordinates

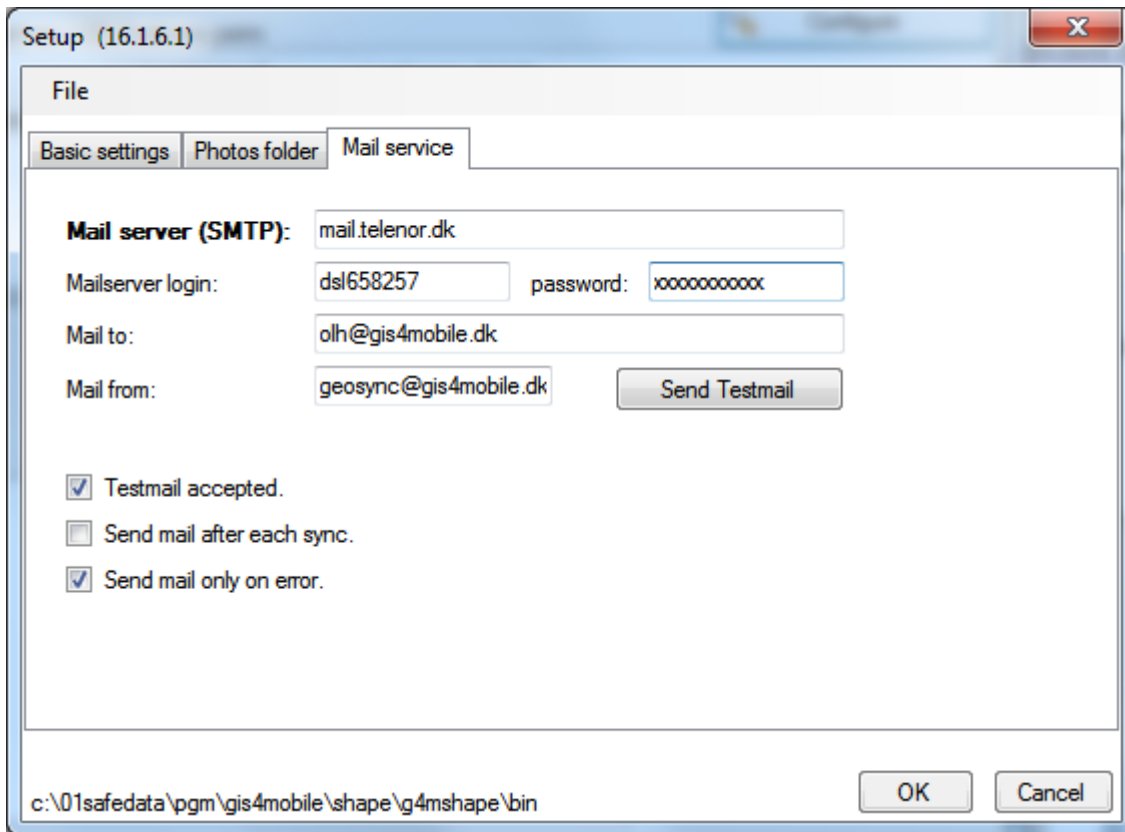
It is possible to enter a rangebox for your data, making GeoSync ignore data outside this rangebox.

Photos folder



Here you select where in your system to place the images the fieldworkers capture for the registrations.

Mail service



Here you configure the mail-service.
Geosync is able to send you mails after each synchronisation.

Configuring sync's and maintaining data

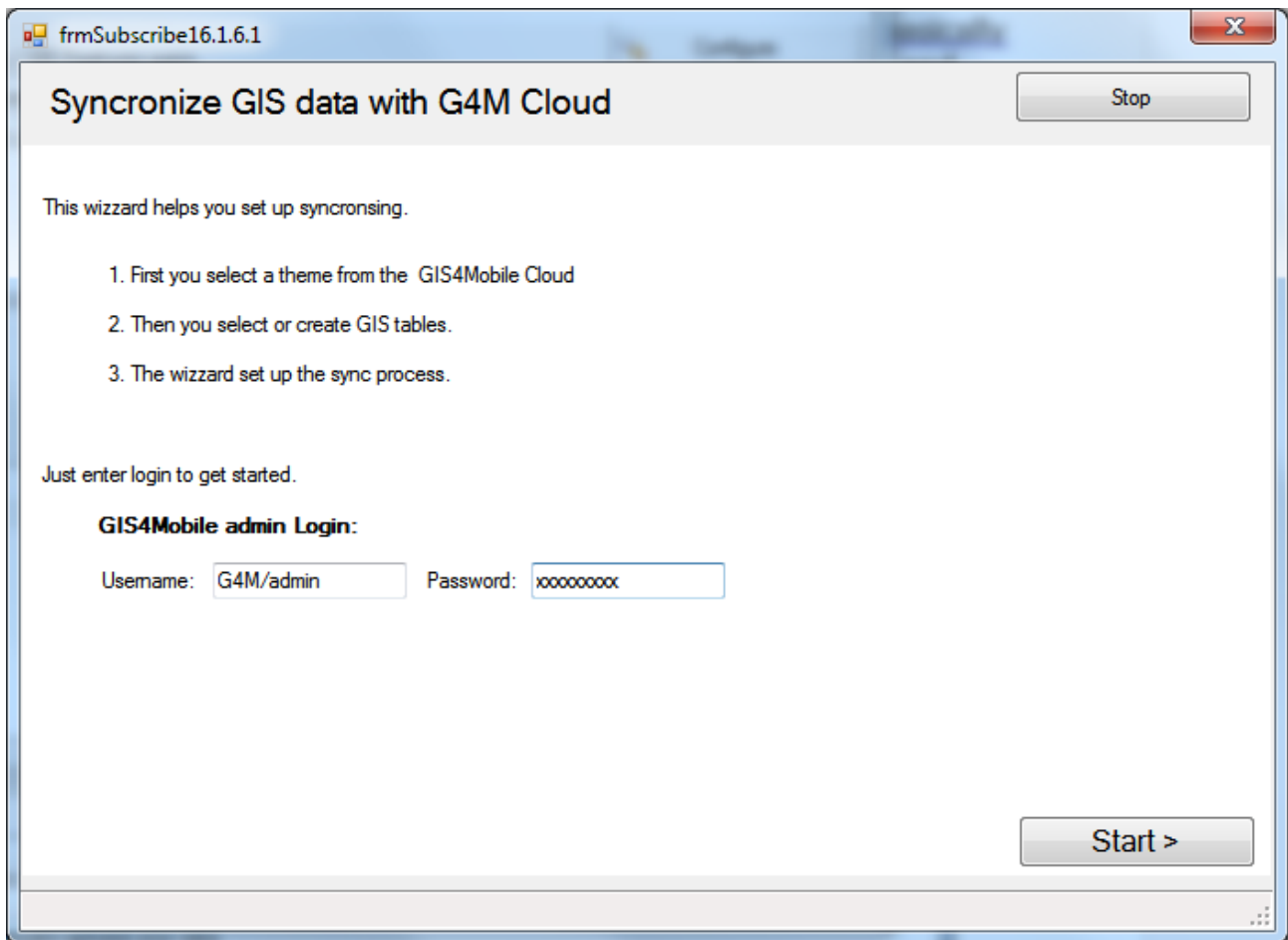
The tools menu has several options to configure the program.

You need to configure sync's to get started. This can be done either by publishing your GIS data or by configuring a sync.

In the tools menu you find guides to help you, but also optional single-window setup tools.

Here we describe a few essential tools:

Add sync (guided)



This is a guide to help you configure sync's.

Select this tool if you already has set up GIS4Mobile for capturing data, and now want to attach your GIS-table, or even create a GIS-table.

In this wizard you will be asked to select or create a GIS table, to receive the field data.

When the guide completes you will also have created a sync, so GeoSync is ready synchronize your GIS data with GIS4Mobile Cloud.

Publish GIS data (guided)

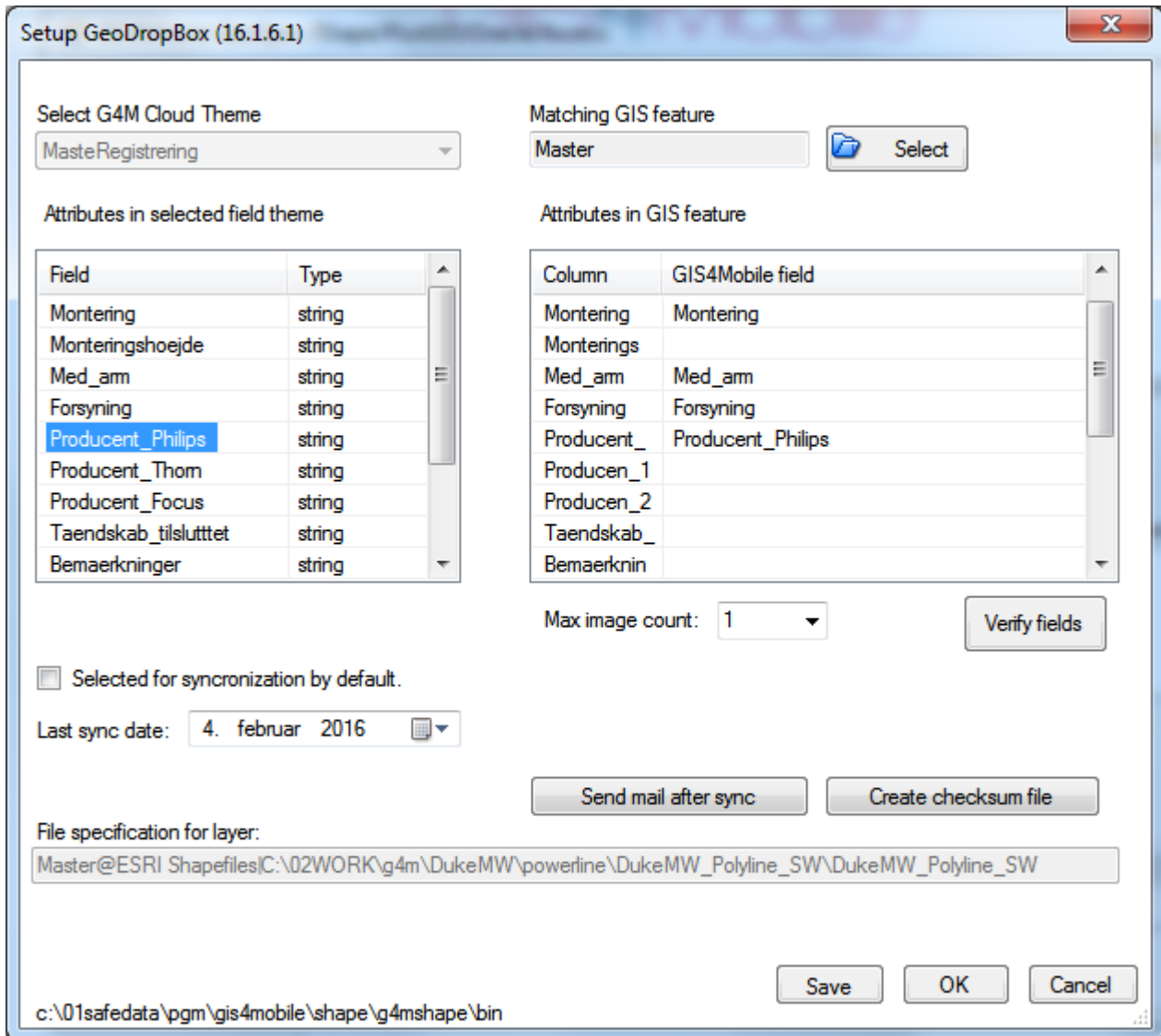


The publish GIS data guide helps you set up GIS4Mobile to receive data from your GIS. Use this guide if you have data in your GIS that you want to publish to fieldworkers, for maintainance by GIS4Mobile.

In this guide you will create tables in the GIS4Mobile Cloud service, that match your GIS table.

When the guide completes you will also have created a sync, so GeoSync is ready synchronize your GIS data with GIS4Mobile Cloud.

Setup sync (single window)



In this window you see the GIS4Mobile field theme on the left, and your GIS table on the right.

On the left you see the GIS4Mobile attributes and themes. On the right you see GIS attributes, and matching GIS4Mobile attributes.

You can simply drag lines from left to right to match attribute names. Here we have matched "Producent_" with "Producent_Phillips"

The Verify fields button will check if you have the valid attributes on the GIS featureclass.

Please OBS that the attribute G4MID is not optional. It should be of type text, size 40. The Verify button will try to add this attribute.

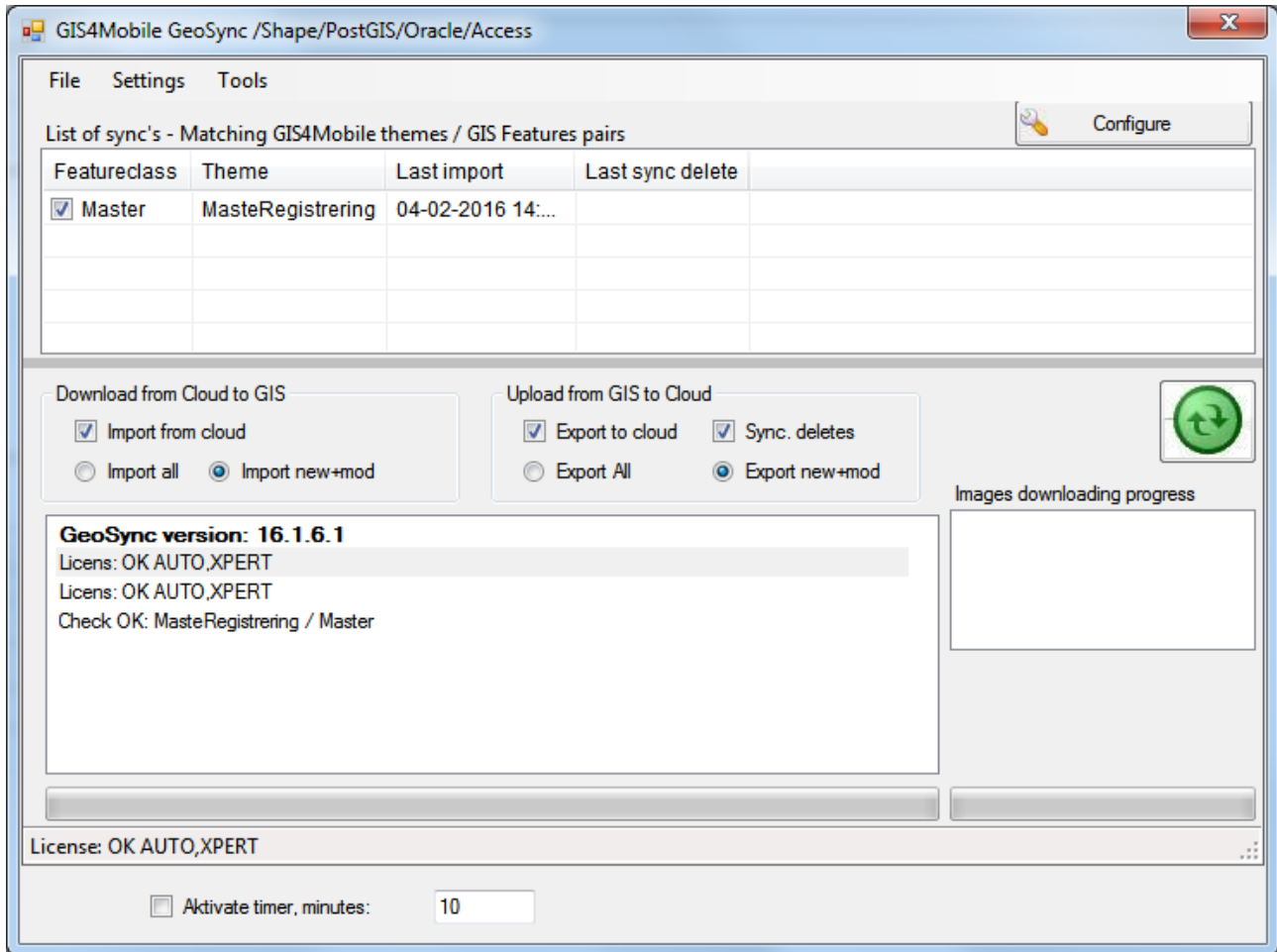
Delete data from GIS4Mobile Cloud



This guide will help you delete data from GIS4Mobile Cloud.

How to synchronize GIS and Gis4Mobile Cloud

The synchronisation between GIS and Gis4Mobile Cloud can be done as often as you like..



In the list we see the currently themes/featureclass – and the date/time of last import etc, and a checkbox to select which themes we want to synchronize.

Her we try to explain the operations done by the application:

<p>Import</p>	<p>New and modified data are fetched from the Gis4Mobile Cloud. As every object has a unique ID (the G4MID) the application will make sure every object is only added once to the GIS database, and also the application can locate the exact record in the GIS database, if it has been modified by the field workers. The import utility maintains a datafile with datetime(timestamps) and checksums for every object. There is an option to "Import all" – this will force the program to fetch all your data from Gis4Mobile Cloud – otherwise onlye data added or modified since last fetch will be fetched.</p>
<p>Export</p>	<p>The export utility will send your GIS data to the Gis4Mobile Cloud. It rels on the datafile with timestamps and checksums – evaluating every GIS objects and thereby deciding if it has been modified – or if it is a new object – and therefore should be sent to</p>

	the Gis4Mobile Cloud. Also the datafile is updated with timestamp and checksum for every object that is published.
Delete	The delete utility compares the datafile content with the GIS featureclass content, and deletes objects in the Gis4Mobile Cloud, that once was in the GIS but has been removed, based on the G4MID identifier.

If no edits are done locally in the GIS, you do not need to do exports.

We recommend running GeoSync once every day.