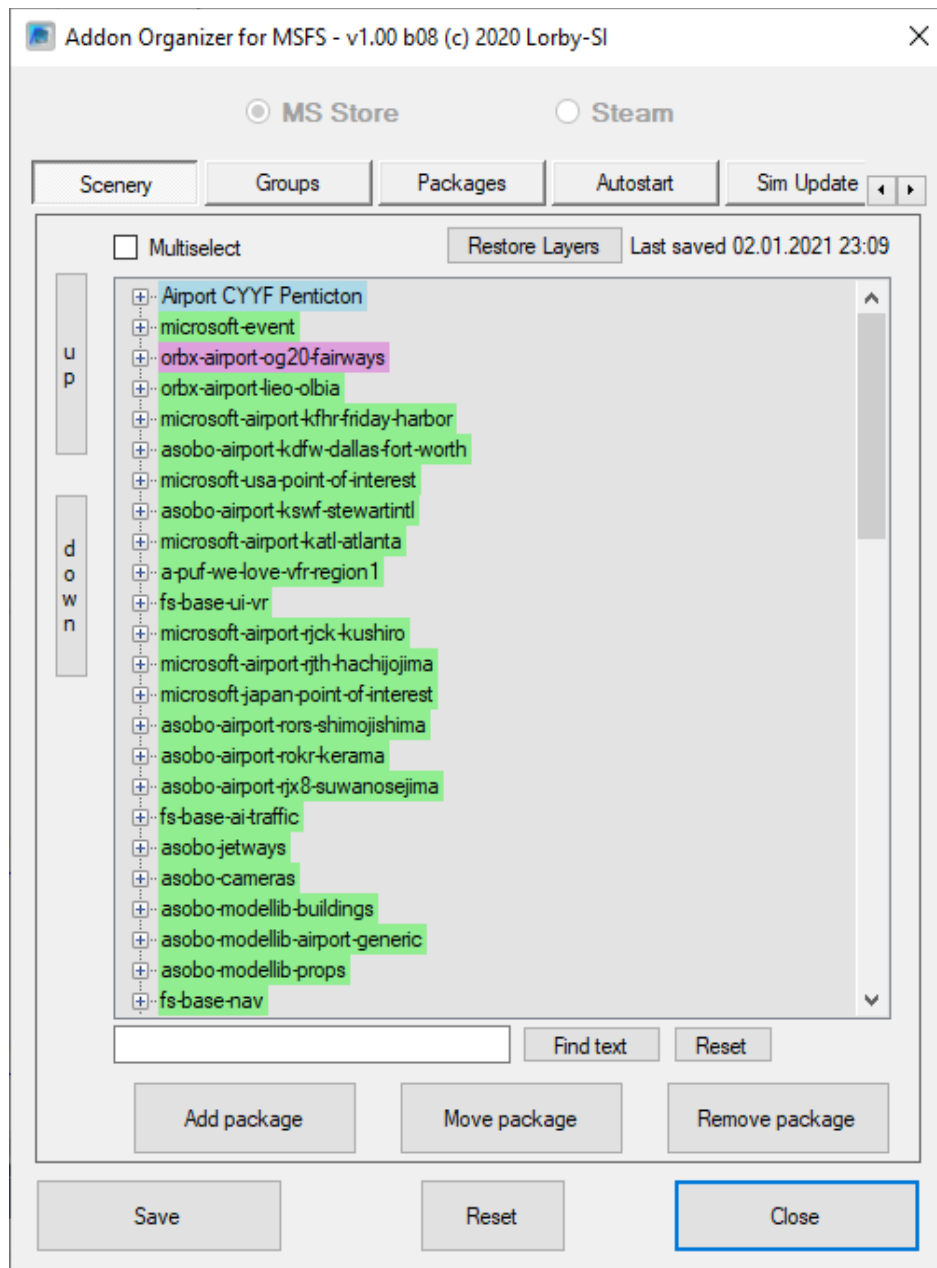


Microsoft Flight Simulator Addon Organizer



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4. Disclaimer

1. Overview

The MSFS Addon Organizer (MSAO) is a simple application that will manage addons to your simulator.

You can:

- Add or delete scenery and other addons
- Activate and deactivate existing addons
- Manipulate the order of your scenery packages
- Move addons to different locations than the Community folder
- Move addons to a temporary backup folder and back for simulator update
- Compare checkpoints created with this app at different points in time, checking for changes to the simulators files.
- Export a GoogleEarth kmz file with all your addon airports

Automatic backup:

The MSAO will always create two backup files for each of the files that it alters:

- The original file is renamed to "*.orig"
- The last version before the change is saved as "*.MSAOBAK"

2. Installation

2.1 Distribution

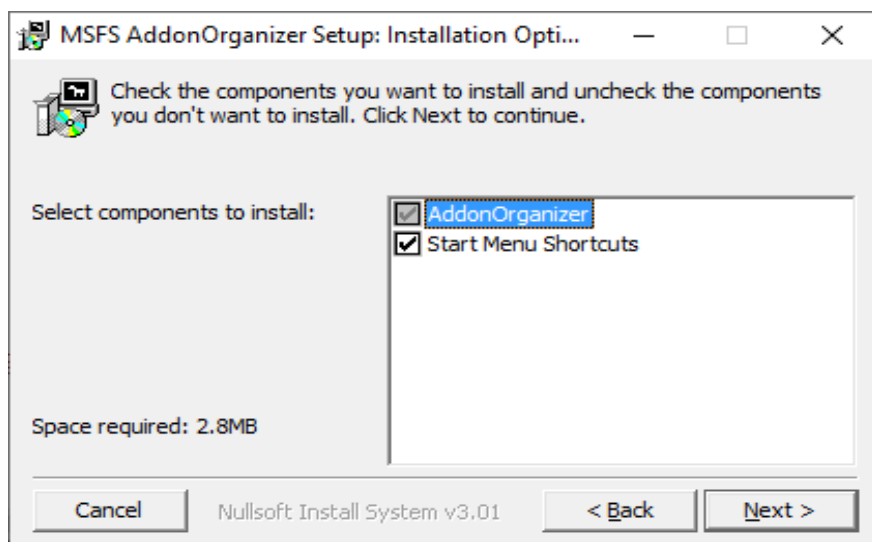
MSAO is distributed as a self-extracting installer package:

- *MsFsAddonOrganizer_Install.exe*

2.2 Installation

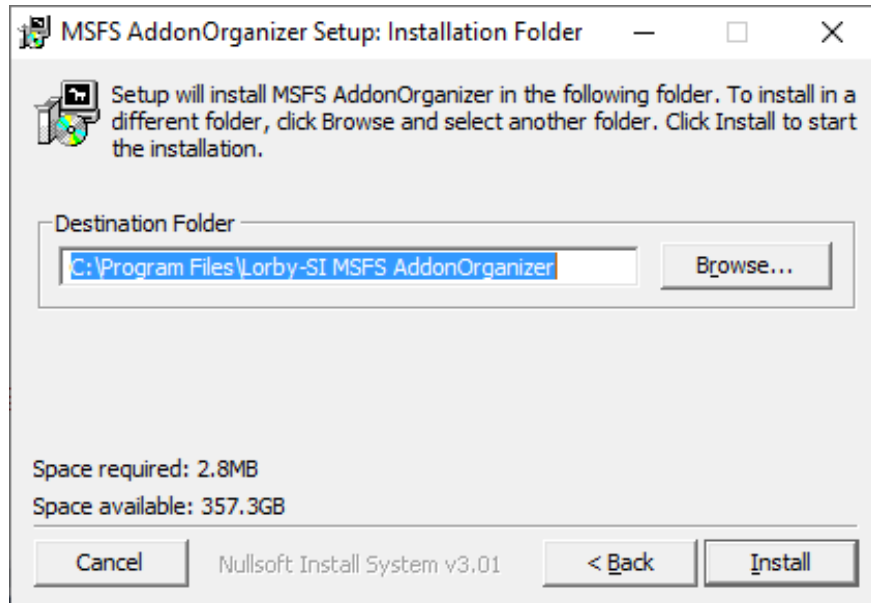
Double click on the installer file. The program will be installed by default into a subdirectory of your ProgramFiles folder.

Running the installer:



On the first page you may select optional installation targets:

- “Start Menu Shortcuts”: MSAO will be added to your Start Menu (advised)
- On the next page you choose the installation path for MSAO.
THIS IS NOT THE PATH TO YOUR SIMULATOR DIRECTORY!



- Selecting “Install” will begin the installation

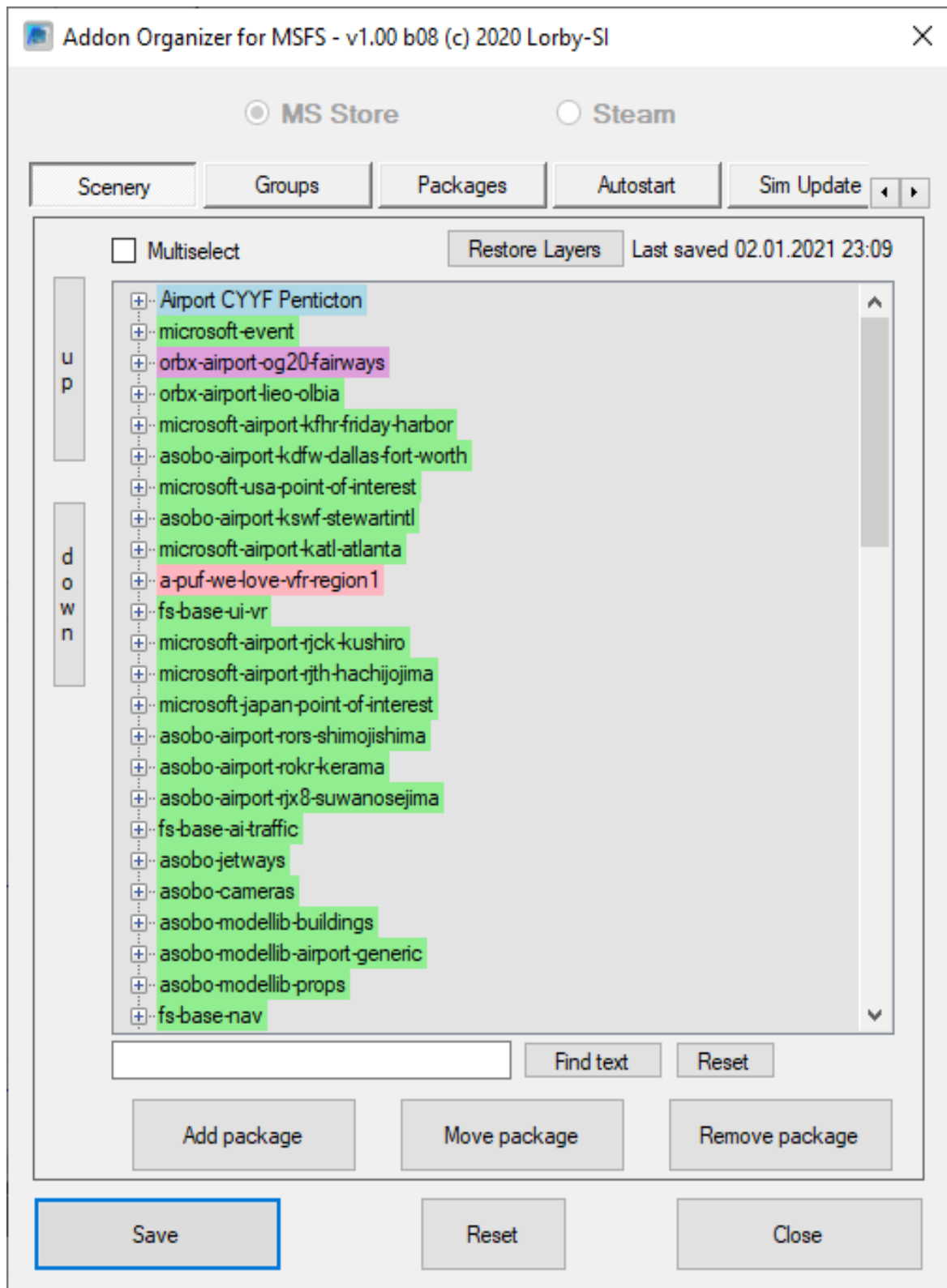
2.3 Microsoft .Net 4.8

To run the MSAO it is required that you have the Microsoft .Net 4.8 runtime installed on your computer. On most computers this will be already the case. If not, you can get it directly from Microsoft:

[Download .NET Framework 4.8 | Free official downloads \(microsoft.com\)](https://www.microsoft.com/net/download/desktop)

3. Operations

3.1 Main Window



Elements of the Main Window explained:

- **Red** entries are disabled, all others are active

Green entries as saved in normal file system folders

Blue one represent file system junctions

Purple entries are symbolic links

- **Radiobuttons MS Store, Steam:** with these you can switch between managing the MSFS Store or the Steam version, if both are installed.
- **Tab Buttons “Scenery”, “Groups”, “Packages”, “Autostart”, “Sim Update” and “Settings”:** switch between the features of the application
- **Button “Reset”:** reloads all the configuration files. **All your changes will be lost!**
- **Button “Save”:** saves all your changes to the configuration files. **Nothing happens to your files until you press “Save” - with the exception of moving addons, that happens instantly!**
- **Button “Close”:** will shut down MSAO.

All TreeViews in this app have an assigned right-click context menu that will contain shortcuts to the most common actions.

3.2 Enabling and disabling addons

With MSAO you can only properly enable/disable scenery packages.

For all other content, MSAO will disable it by renaming the “manifest.json” file of the package to “manifest.json.MSAO_OFF” - and back again, when you decide to re-enable it.

3.3 Scenery Layers

With MSFS 2020 the established concept of scenery layers from the legacy simulators FSX and FS9 has been discontinued.

It is possible to change the sequence in which scenery is loaded though, and that is what MSAO does with the “up” and “down” buttons.

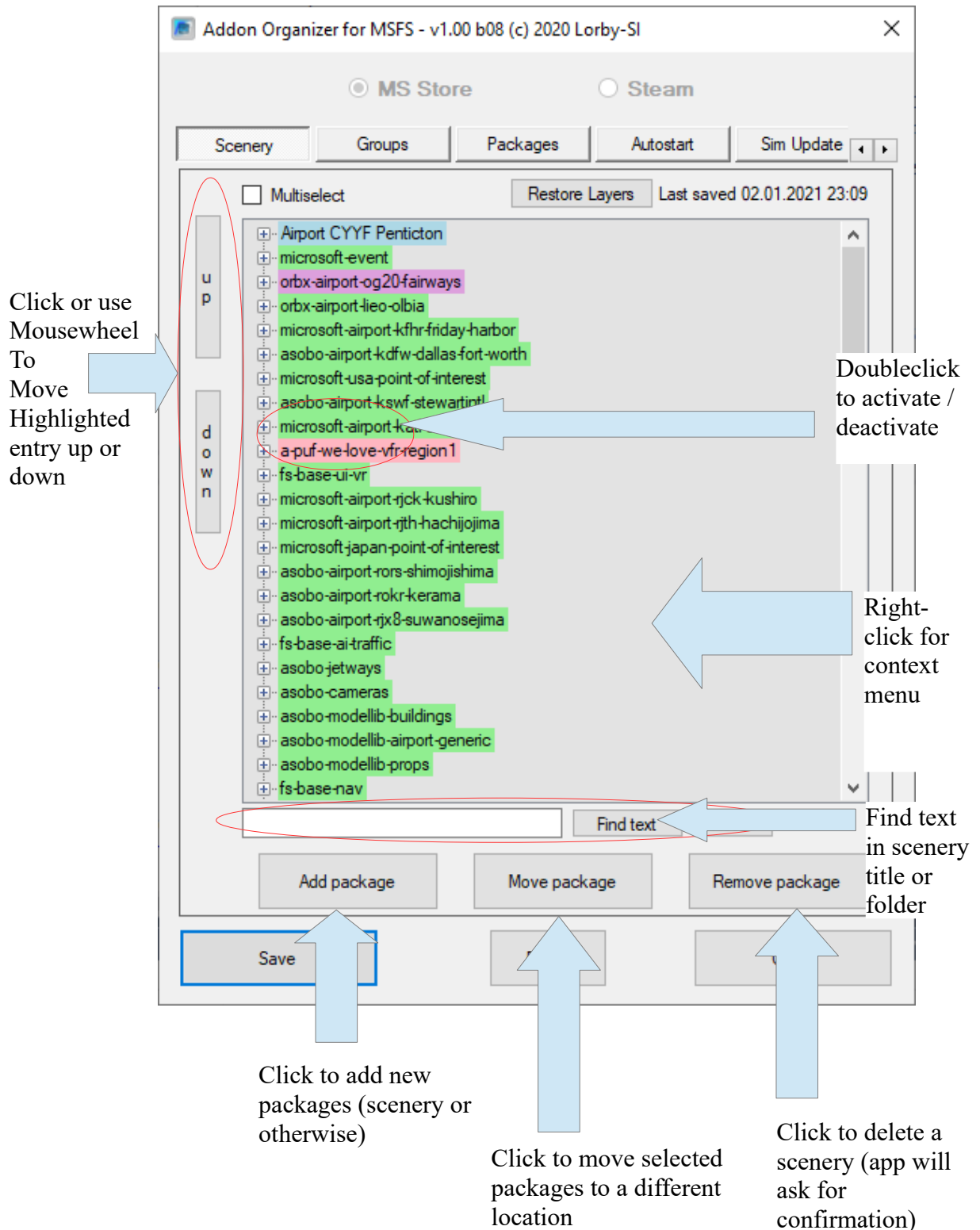
If and how this works is still a little bit unclear at this time, so unless you experience problems like overlapping scenery, use this feature sparingly.

Button “Restore Layers”

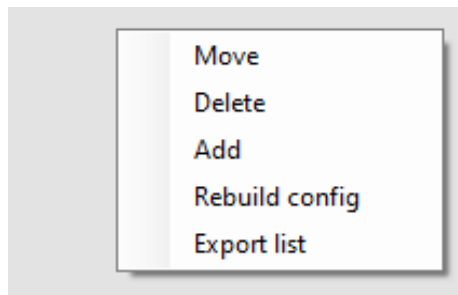
MSAO will create a backup of your current scenery order every time you close the program. You can restore that particular order at any time.

3.4 Managing Scenery

Scenery addons are managed on the first page of the dialog. In MSFS there isn't a clear distinction of what addon package constitutes a scenery and which doesn't, but MSAO will try and collect them as best as possible.



When right-clicking on the main list, a context menu appears:



– **Move**

Opens a dialog that allows you to move all selected entries from the Community folder to a different location or back.

– **Rebuild config**

This will (re-) build the layout.json and manifest.json files of a package.

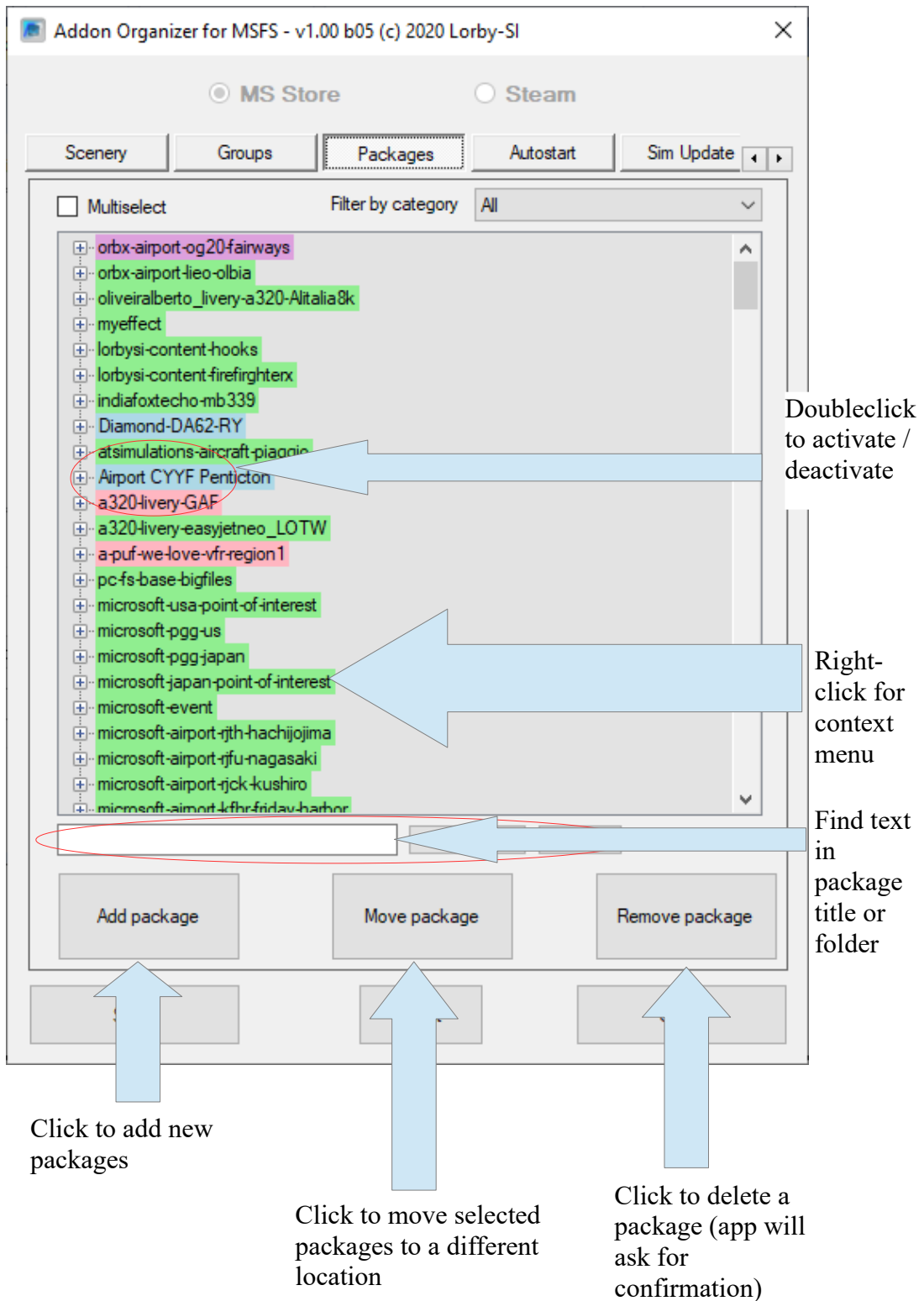
– **Export list**

Will create a HTML report of all entries in the list, containing a simple table

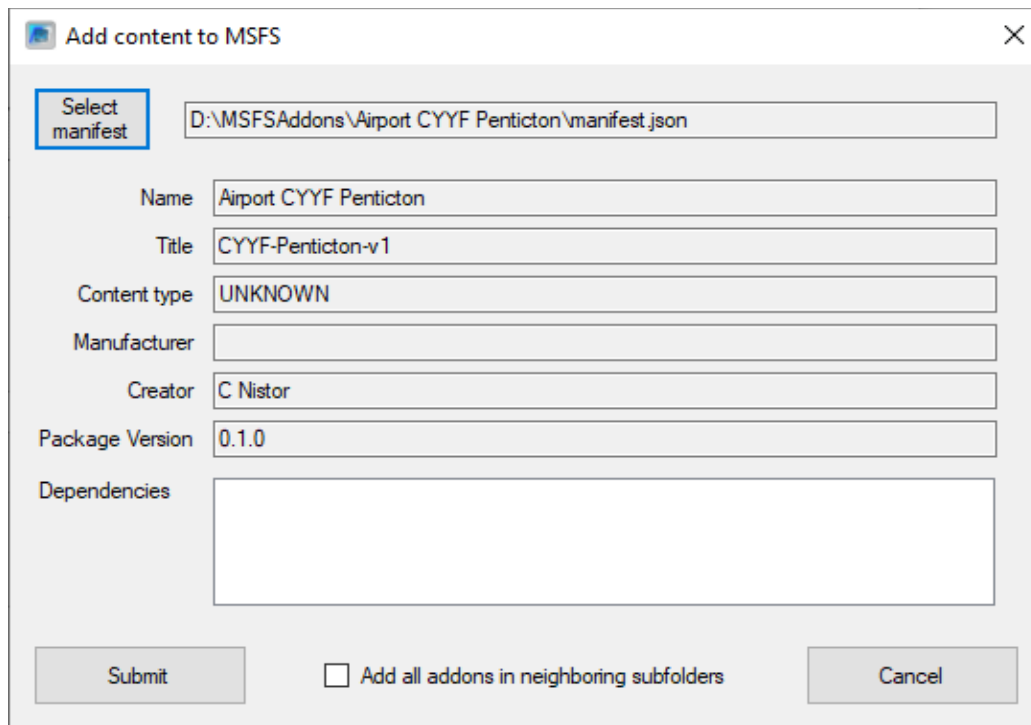
Layer	Name	Title	Active	Path
71	microsoft-event	Microsoft Event	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-event
70	Airport CYFF Penticton	CYFF-Penticton-v1	True	D:\MSFSAAddons\Airport\CYFF Penticton
69	orbx-airport-og20-fairways	OG20 Fairways Airport	True	C:\Users\olive\Documents\Orbx Library\msfs\OG20 Fairways Airport\Community\orbx-airport-og20-fairways
68	orbx-airport-lieo-olbia	LIEO Olbia Costa Smeralda Airport	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Community\orbx-airport-lieo-olbia
67	microsoft-airport-kfhr-friday-harbor	KFHR - FRIDAY HARBOR AIRPORT	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-airport-kfhr-friday-harbor
66	asobo-airport-kdfw-dallas-fort-worth	KDFW - DFW International Airport	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\asobo-airport-kdfw-dallas-fort-worth
65	microsoft-usa-point-of-interest	USA - POINTS OF INTEREST	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-usa-point-of-interest
64	asobo-airport-ksvf-stewartintl	KSWF - Stewart International Airport	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\asobo-airport-ksvf-stewartintl
63	microsoft-airport-katl-atlanta	KATL - ATLANTA HARTSFIELD AIRPORT	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-airport-katl-atlanta
62	a-puf-we-love-vfr-region1	We Love VFR	False	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Community\a-puf-we-love-vfr-region1
61	fs-base-ui-vr		True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\fs-base-ui-vr
60	microsoft-airport-rjck-kushiro	RJCK - KUSHIRO AIRPORT	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-airport-rjck-kushiro
59	microsoft-airport-rjth-hachijojima	RJTH - HACHIOJIMA AIRPORT	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-airport-rjth-hachijojima
58	microsoft-japan-point-of-interest	JAPAN - POINTS OF INTEREST	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\microsoft-japan-point-of-interest
57	asobo-airport-rors-shimojishima	RORS - Shimojishima Airport	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\asobo-airport-rors-shimojishima
56	asobo-airport-rokr-kerama	ROKR - Kerama Airport	True	C:\Users\olive\AppData\Local\Packages\Microsoft.FlightSimulator_959e628bbwe\LocalCache\Packages\Official\OneStore\asobo-airport-rokr-kerama

3.5 Managing Packages

This treelist contains all addons, scenery and otherwise. Except for changing the sequence, you can perform the same actions with them as with the scenery.



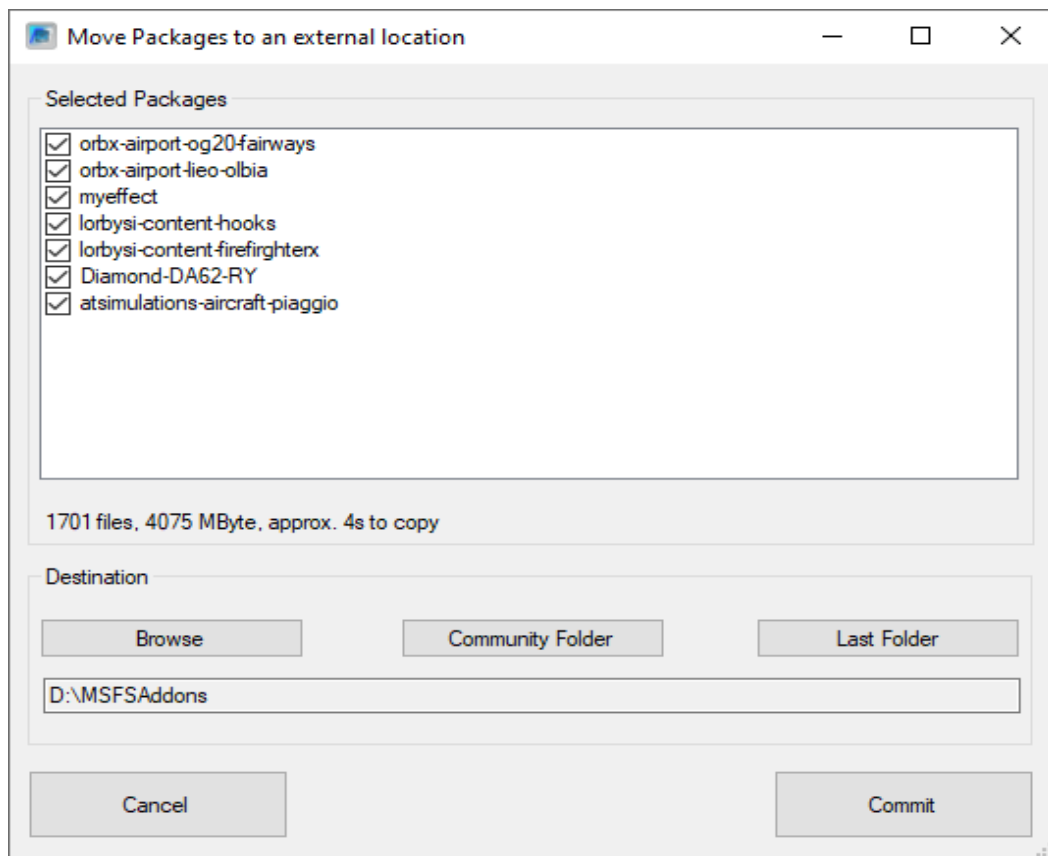
3.6 Adding Packages



The screenshot shows a dialog box titled "Add content to MSFS". It features a "Select manifest" button on the left, which is highlighted with a blue border. To its right is a text input field containing the file path "D:\MSFSAddons\Airport CYYF Penticton\manifest.json". Below this are several form fields: "Name" (Airport CYYF Penticton), "Title" (CYYF-Penticton-v1), "Content type" (UNKNOWN), "Manufacturer" (empty), "Creator" (C Nistor), "Package Version" (0.1.0), and "Dependencies" (empty text area). At the bottom, there is a "Submit" button, a checkbox labeled "Add all addons in neighboring subfolders" which is currently unchecked, and a "Cancel" button.

1. First, select the manifest file of the addon
Press **“Select manifest”** and navigate to the package folder.
2. If the **“Add all addons in neighboring subfolders”** has been checked, the app will search for other addons in adjacent folders and add them too. This can be useful if you have to add an entire collection of addons back to the sim that is located in a folder other than “Community”.
3. Press “Submit” to add the new package
Note: the new configuration is not saved to disk yet – you must press “Save” on the main dialog to finally write it.

3.7 Moving Packages



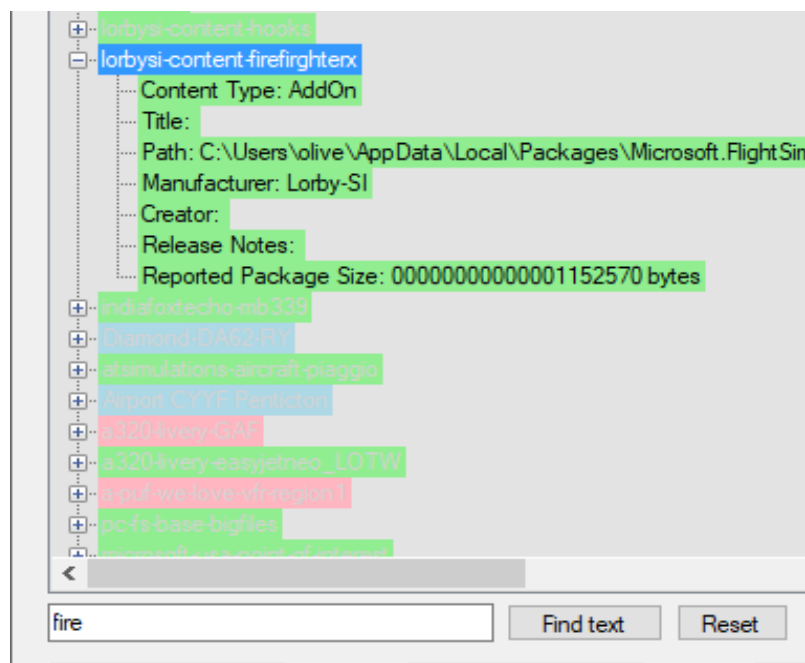
With this dialog, addon packages can be moved around on your computer.

You can

- Move a package out of the default folder to a location of your choosing
- Move an external package back into the default folders
- Move packages from any folder to a different location

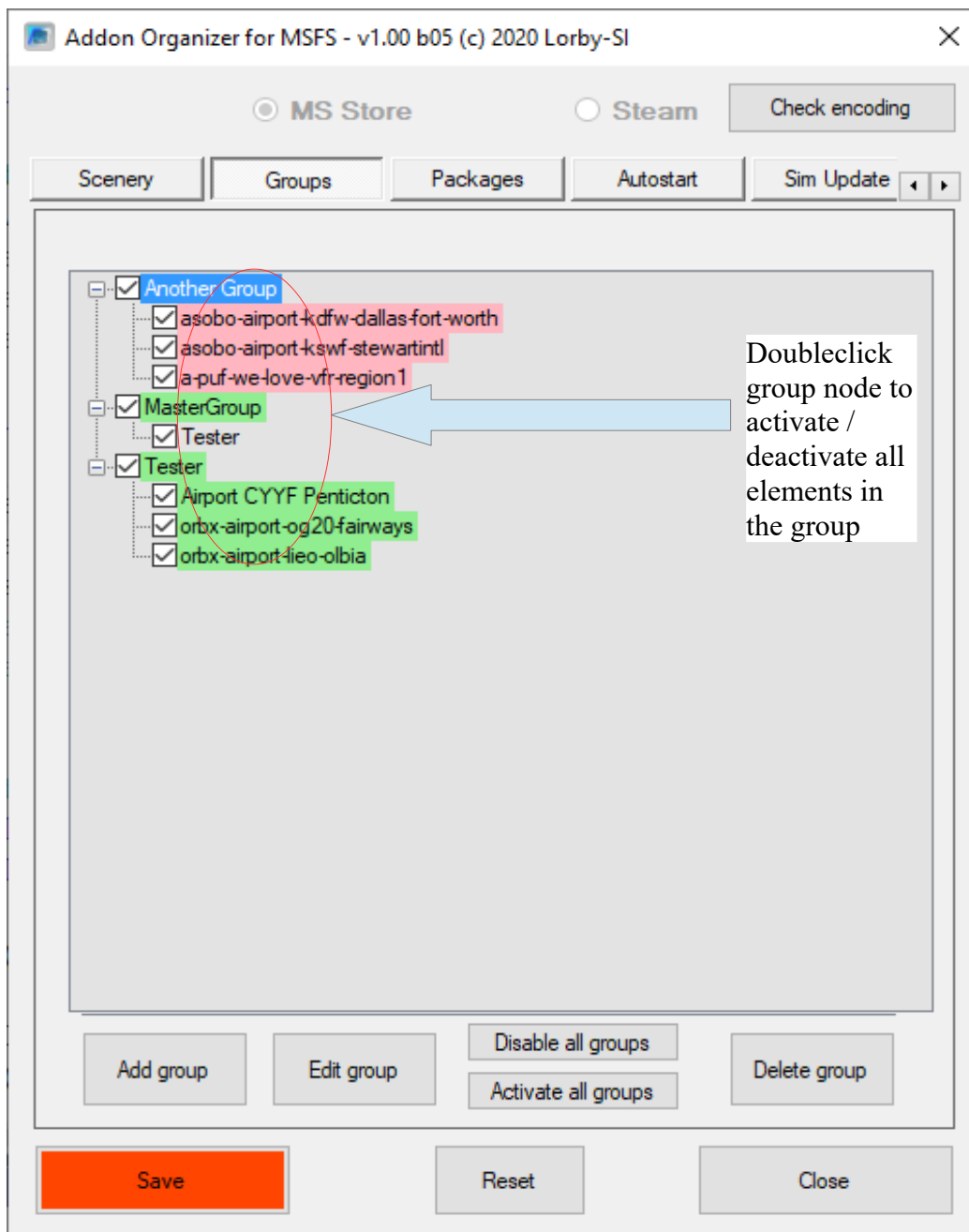
In all cases, MSAO will create an appropriate file system Junction in the Community folder to link the addon to MSFS.

3.8 Searching for Packages



- Press “Ctrl&F” or click into the textbox
- Enter the text to be found, here “fire”
- Press “Enter”, “F3” or the button “Find text”
- The list will scroll to, open and highlight the first search result
- Press “F3” to jump to the next search result
- Press “Reset” or “Ctrl & F” again to reset the text search

3.9 Scenery groups



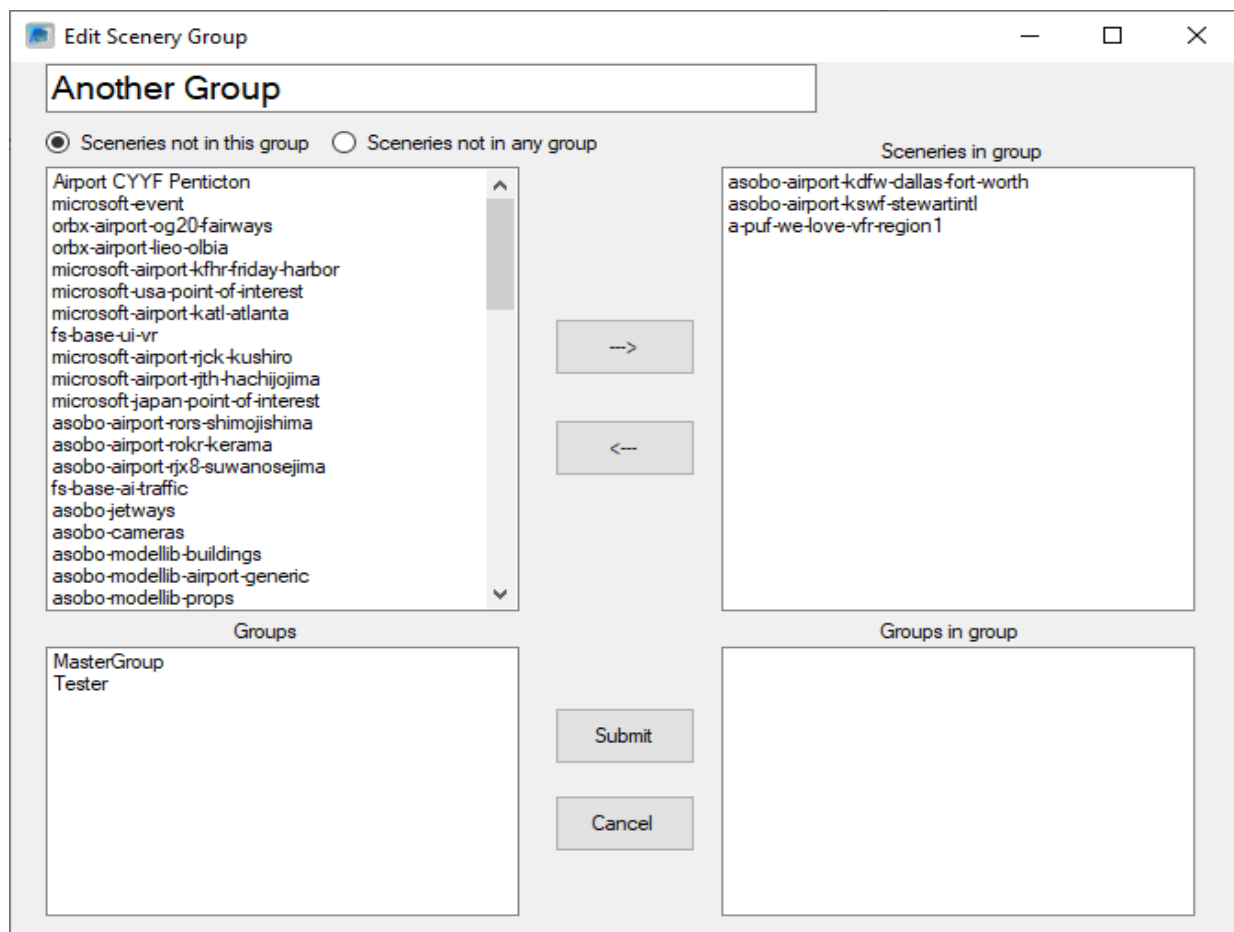
With scenery groups you can

- activate or deactivate large chunks of scenery at the same time by doubleclicking on the group node.
- Include or exclude items from the activation process with the checkboxes

You can create a group using the “Add group” button. The app will ask you to provide a unique name for the new group.

To add sceneries or other groups to a group, select the group node and use

the “Edit group” button.



- Left side:
 - the upper list shows the sceneries that are not in this group, or not in any group, depending on the radio buttons above the list
 - the lower list shows the other scenery groups that are not referenced by the current group
- Right side:
 - sceneries that are in this group are shown in the upper list
 - other groups that are referenced by this group are in the lower list

You can move sceneries and groups in and out of the group by highlighting them with the mouse in either list and using the “<---” “--->” buttons to move the selection between them.

The button “Submit” will apply your changes – but they are only saved to disk with the main “Save” button.

3.10 Autostart

MSFS can be instructed to start other applications.

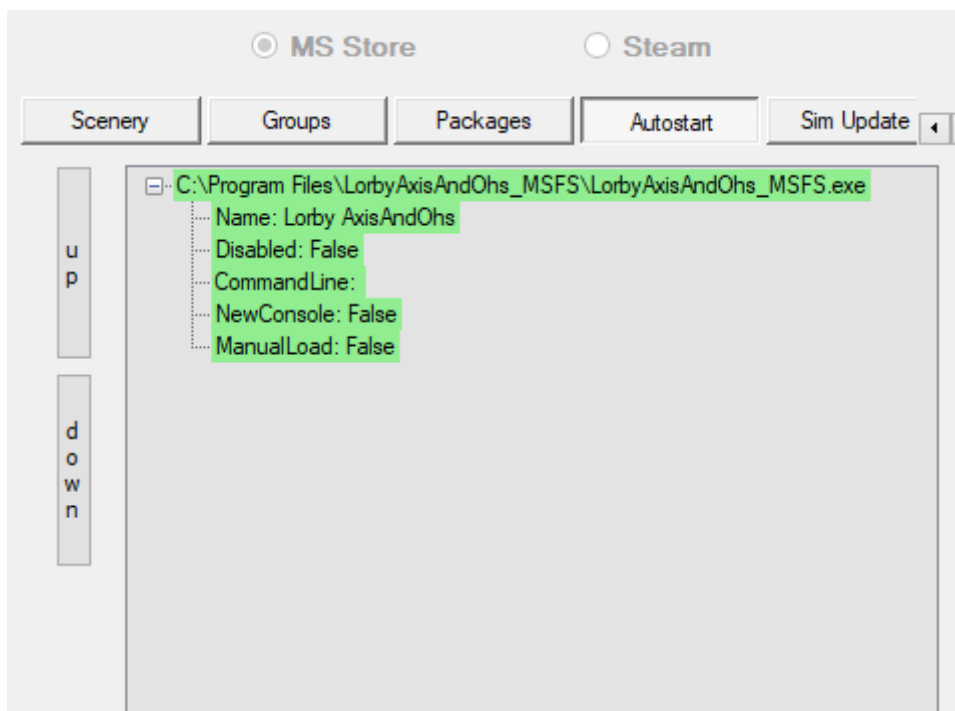
The tab “Autostart” will show you the application executables that are currently configured to be started when MSFS loads.

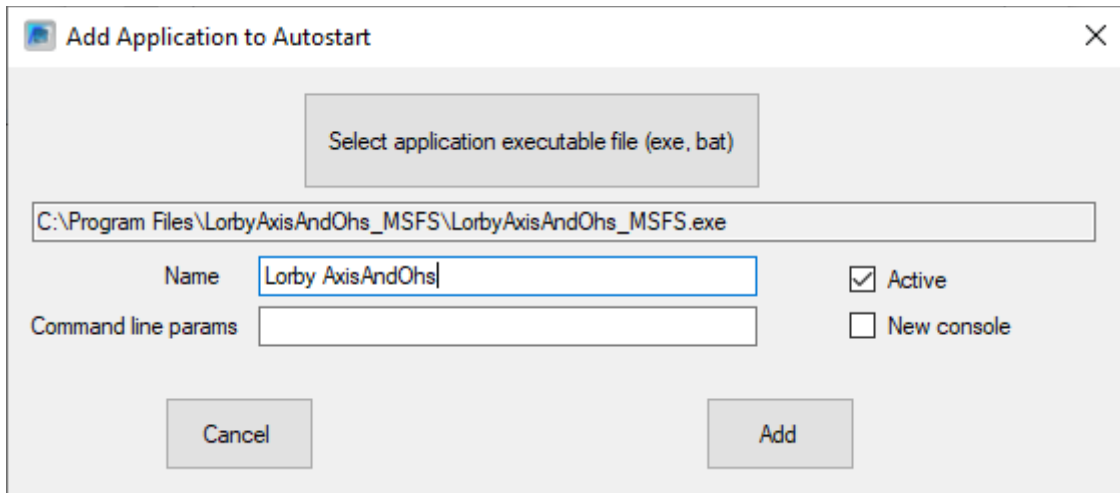
You can add any application on your computer, but be mindful of possible Administrator privilege requirements to start them.

THE APPS ARE STARTED BY MSFS – not the MSAO app. It is not necessary to keep the MSAO app running.

The autostarted apps will only be terminated by MSFS if the apps themselves have that capability, otherwise they will keep running when you shut down the sim.

You can change the loading sequence of the apps with the “up/down” buttons.

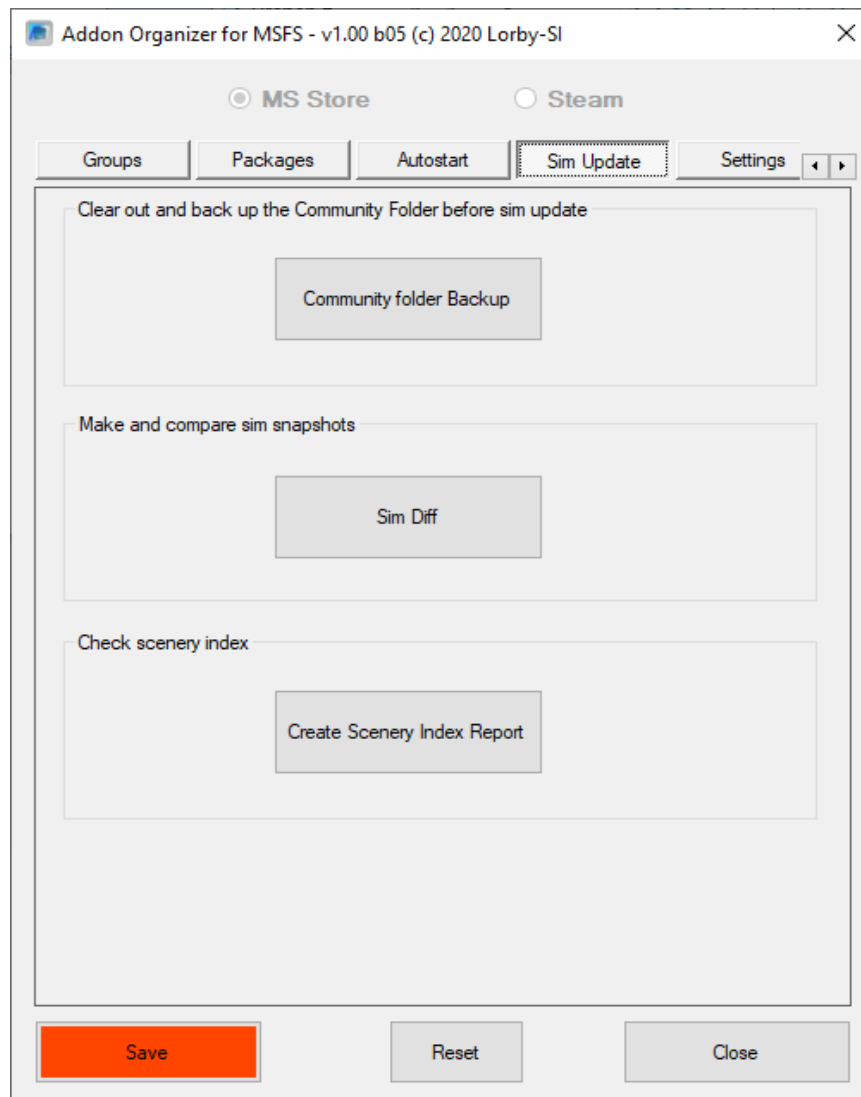




When adding a new application, it is a good strategy to give it a unique name.

Command line parameters and the “new console” option are attributes of the app that you want to start. In normal cases they aren't required, but if you want for example to start a non-GUI application that requires CLI parameters, you can add those to the “Command line params” field.

3.11 Sim Update

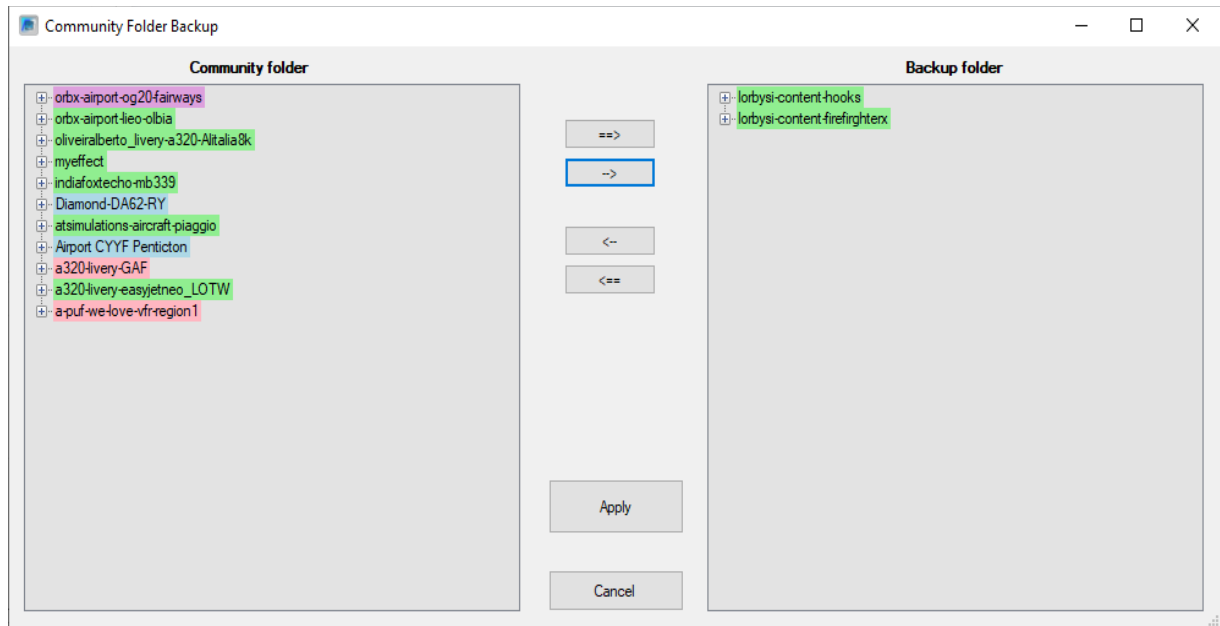


“Community Folder Backup” allows you to move addons out of the Community folder and back in again. This stops the addons from interfering with a simulator update.

With “Sim Diff” you can create a “checkpoint” of your current simulator files. By comparing different checkpoints, you can find out what files have been changed by an update or addon installation.

Finally, “Create Scenery Index Report” gives you an overview of what file locations can actually be seen by the simulator.

3.11.1. Community folder Backup



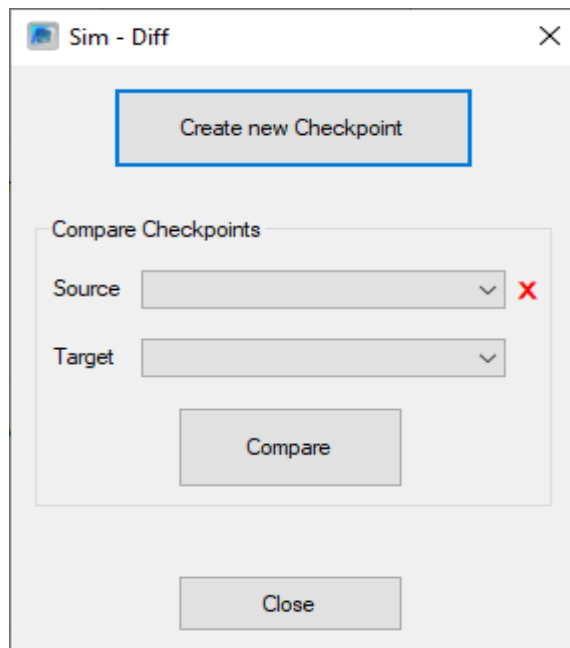
Community addons can be moved to the backup folder and out of it with the arrow keys in the middle:

“<--”, “-->” move all addons

“<-”, “->” move only the selected ones.

The backup folder is created right next to the Community folder itself, so if anything goes wrong, you can move the addons manually too.

3.11.2. Sim – Diff



With the button “Create new Checkpoint” you can persist the current state of the simulator. ***This will take a long time***, because tens of thousands of files have to be evaluated to create the checkpoint.

Note 1: this checkpoint will only persist the current state of the core files, not their contents. (you will know that *something* has changed that file, but not what has been changed exactly)

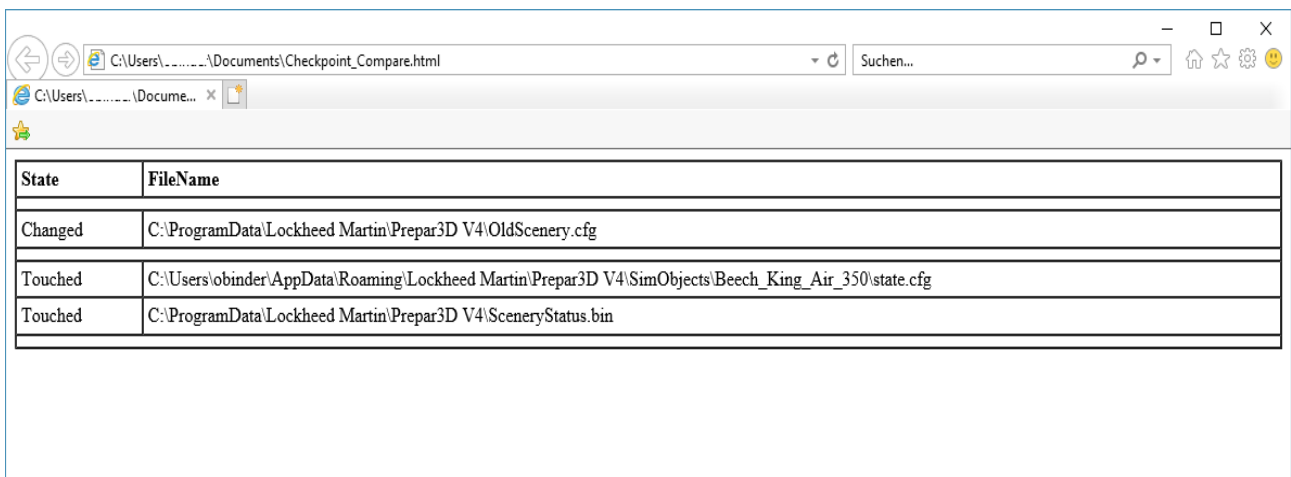
Note 2: External addons will not be included in the checkpoint either, this method checks only the simulator core folders.

Clicking on the **red “X”** will delete the checkpoint that is currently selected in the “Source” box.

Comparing Checkpoints

By comparing two checkpoints taken at different points in time, you can create a HTML based list of all changes to core files in your simulator.

- Select the source (=old) checkpoint in the upper drop down
- Select the target (=new) checkpoint in the lower drop down
- Click “Compare”
- You will be asked where the resulting report should be saved
- After the processing is complete, the report will open automatically:



The screenshot shows a web browser window with the address bar displaying 'C:\Users\...\Documents\Checkpoint_Compare.html'. The browser's address bar also shows a search field with the text 'Suchen...'. Below the address bar, there is a table with the following content:

State	FileName
Changed	C:\ProgramData\Lockheed Martin\Prepar3D V4\OldScenery.cfg
Touched	C:\Users\obinder\AppData\Roaming\Lockheed Martin\Prepar3D V4\SimObjects\Beech_King_Air_350\state.cfg
Touched	C:\ProgramData\Lockheed Martin\Prepar3D V4\SceneryStatus.bin

The Diff report will show four distinct states of a changed file:

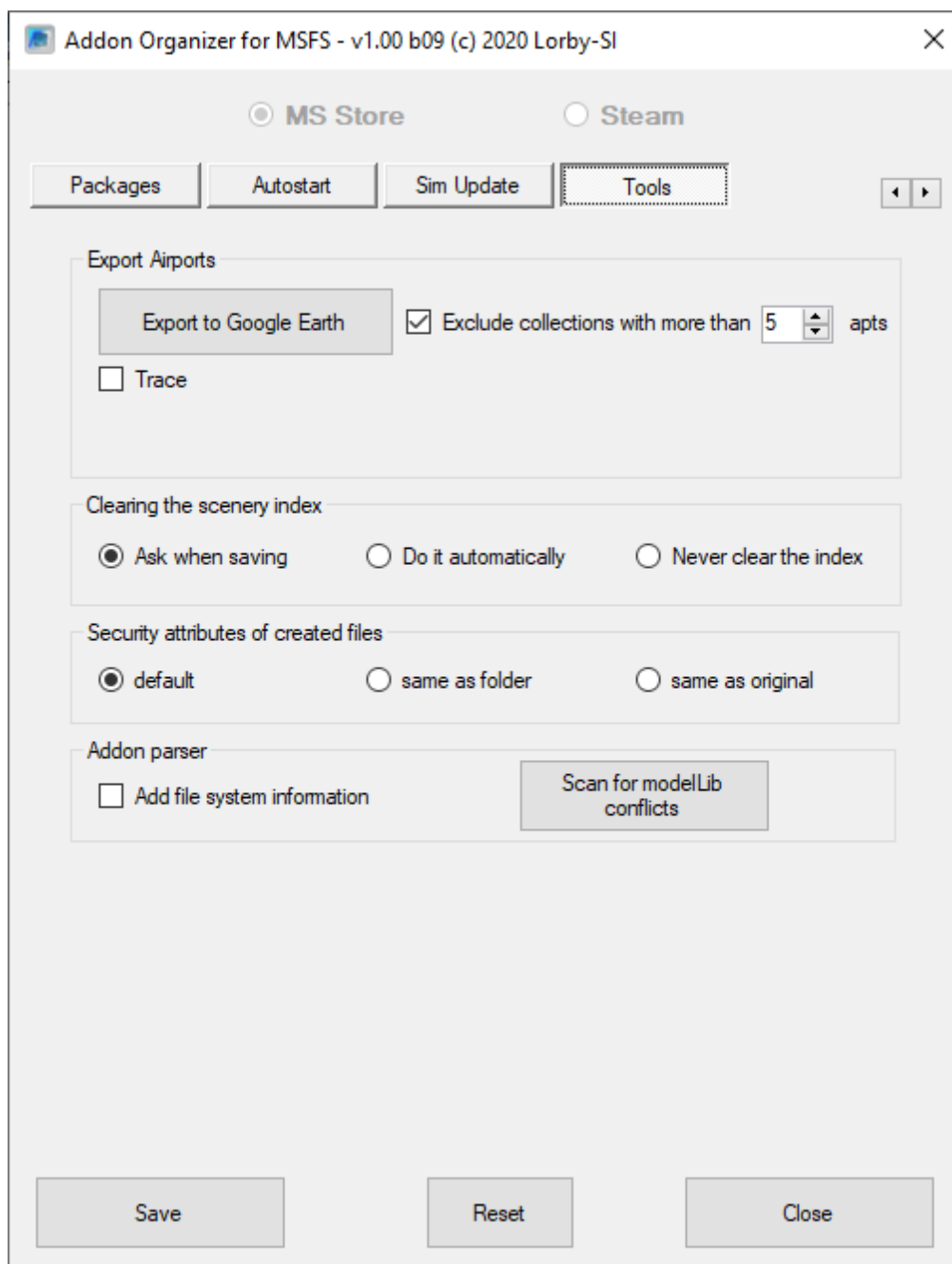
- *New*: this is a new file that wasn't there before
- *Changed*: the file size has changed
- *Touched*: the file size is the same, but the timestamp has changed
- *Deleted*: this file has been removed.

3.11.3. Checking the scenery index

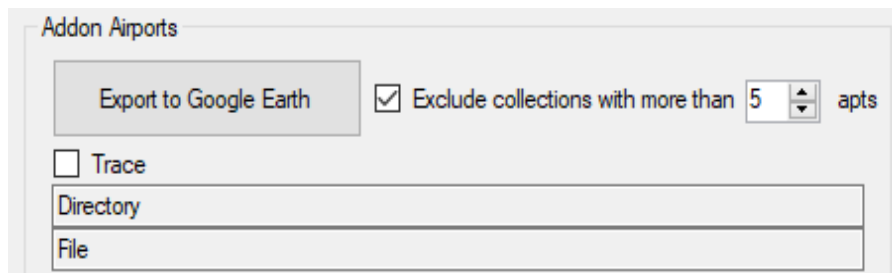
With this feature you can create a simple HTML report about the current state of your scenery index files. This report shows in what order the simulator will read the scenery files (top down to bottom), and it can help to identify layering issues.

Index file	references
Filelist00001.dat	scenery\world\scenery\bnxworld0 scenery\world\scenery\bnxworld1 scenery\world\scenery\bnxworld2 scenery\world\scenery\bnxworld3 scenery\world\scenery\bnxworld4 scenery\world\scenery\bnxworld5 scenery\world\scenery\bvcf scenery\world\scenery\image_globe_00 scenery\world\scenery\image_globe_01 scenery\world\scenery\image_globe_10 scenery\world\scenery\image_globe_11 scenery\world\scenery\image_globe_20 scenery\world\scenery\image_globe_21 scenery\world\scenery\lak scenery\world\scenery\trafficaircraft scenery\world\scenery\trafficboats scenery\world\scenery\trafficcarriers
Filelist00002.dat	scenery\base\scenery\dem4km scenery\base\scenery\lclookup scenery\base\scenery\magdec scenery\base\scenery\populationdensity

3.12 Tools



3.12.1. Export airports to Google Earth



This button will create a KMZ file containing the locations of your addon airports and it will try to open it with Google Earth.

The app will limit the export to the “bespoke” airports, and those in the Community folder.

With the checkbox “Exclude collections” you can avoid “clutter” in the KMZ file caused by airport scenery entries that are part of larger packages containing multiple airport definitions, but which may not be complex addons at all (for example collections of AFCAD files etc.).

The checkbox “Trace” will display the directory and file names of all files that are being scanned. This can help to identify uncommon BGL files that may trip up the scanning logic. Please note that the logic is running a lot slower than normal with this active. Only use it if you suspect trouble with BGL files, for example when the scanning process seems to get stuck and doesn't complete.

3.12.2. File security attributes

When MSAO changes files, it will always rename the original file to “*-MSAOBAK) and create a new file instead. With the radio buttons you can choose the file security that shall be applied to the new file: default, which means inherited from your user account or inherited from the folder the file is in, or inherited from the original file. Please note that depending on your current user account, MSAO may not be able to apply all security properties.

3.12.3. Clearing the scenery index

MSAO can clear the scenery index for you, so that it is rebuilt when you start MSFS. Normally this should happen automatically when the scenery changes, but in some cases there seem to be issues when the index is not forced to rebuild.

- “Ask when saving”: will bring up a dialog that will ask you if you want the index to be deleted every time that you press “Save”.
- “Do it automatically”: will clear the scenery index every time you press “Save”.
- “Never clear the index”: will leave the scenery index alone.

The index will be rebuilt the next time that you start the simulator.

3.12.4. Addon parser

You can instruct MSAO to collect additional file system data about the addons.

THIS WILL INCREASE LOADING TIMES OF THE APP!

“Scan for modelLib conflicts”

This will give you a list of potentially conflicting packages that have a “modelLib.bgl” file in exactly the same folder structure.

3.13 Command line options

MSAO has the following command line options:

1. To create a complete scenery.cfg type file of the entire scenery library:

MsfsAddonOrganizer.exe [export] <file.cfg>

Example:

```
MsfsAddonOrganizer export "C:\Users\me\Documents\MyScenery.cfg"
```

2. To create a KML file of the addon airports:

MsfsAddonOrganizer.exe [writekml] <file.kml> -exclude:n

The “-exclude” parameter sets a limit for how many airports are allowed in a single scenery addon.

Example:

```
MsfsAddonOrganizer writekml "C:\Users\me\Documents\MyAirports.kml" -exclude:5
```

Will export all addon airports, except collections that have more than 5 airports in them.

4. Disclaimer

The MSFS Addon Organizer is provided free of charge, for private use only. All property rights remain with the author. You may not distribute this package or parts of it. Disassembling, refactoring or changes of any kind are prohibited.

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- the software will meet your requirements or expectations
- the software or the software content will be free of bugs, errors, viruses or other defects;
- any results, output, or data provided through or generated by the software will be accurate, up-to-date, complete or reliable;
- the software will be compatible with third party software;
- any errors in the software will be corrected or that any further development will take place
- the software will not cause errors or damage to the computer system it is installed on.

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