

Prepar3D V3.3+/V4.1+ Addon Organizer



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1. Overview

The Prepar3D V3.3+/V4 Addon Organizer (P4AO) is a simple application that will manage addons to your simulator with external XML files, as recommended by Lockheed Martin.

You can:

- Add or delete scenery and other addons
- Activate and deactivate existing addons
- Manipulate the order of your addon packages
- Change scenery layering
- Make a backup of your addon configuration files and restore it
- Import a scenery.cfg from a previous P3D/FSX installation
- Export the complete library in scenery.cfg format for other scenery related addons to use that have not been updated to P3D V3.3+/V4 yet.
- Export all SimObjects paths to a simobjects.cfg file for other addons that for example need to find all aircraft.
- Compare checkpoints created with this app at different points in time, checking for changes to the simulators files.

The files being edited by this app are:

Prepar3D V3:

- C:\ProgramData\Lockheed Martin\Prepar3D v3\scenery.cfg
- C:\ProgramData\Lockheed Martin\Prepar3D v3\add-ons.cfg
- ..\AppData\Roaming\Lockheed Martin\Prepar3D v3\add-ons.cfg
- and the add-on.xml files in \Documents\Prepar3D v3 Files\add-ons\

Prepar3D V4:

- C:\ProgramData\Lockheed Martin\Prepar3D v4\scenery.cfg
- C:\ProgramData\Lockheed Martin\Prepar3D v4\add-ons.cfg
- ..\AppData\Roaming\Lockheed Martin\Prepar3D v4\add-ons.cfg
- and the add-on.xml files in \Documents\Prepar3D v4 Add-ons\

The P4AO will always create two backup files for each of them:

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

2. Installation

2.1 Distribution

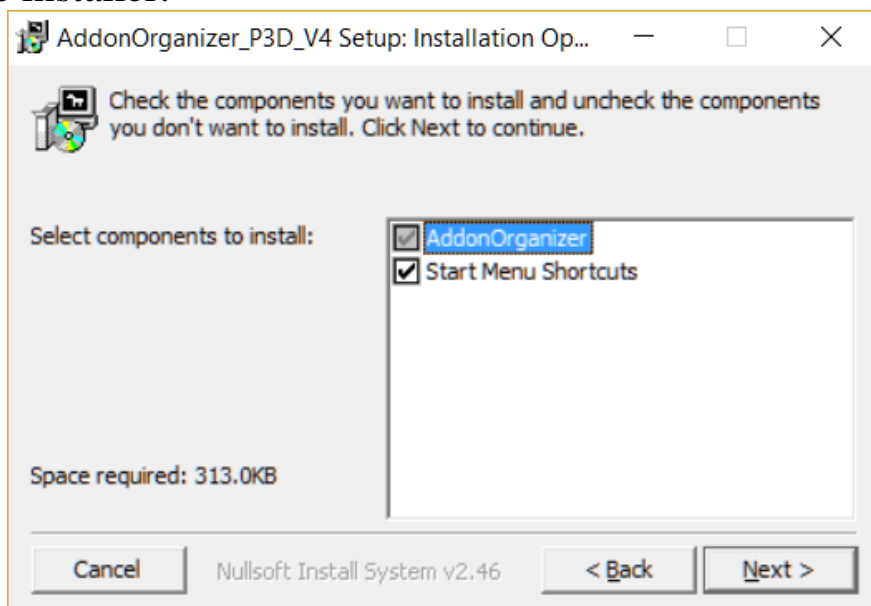
P4AO is distributed as a self-extracting installer package:

- *AddonOrganizer_Install_P3D_V4.exe*

2.2 Installation

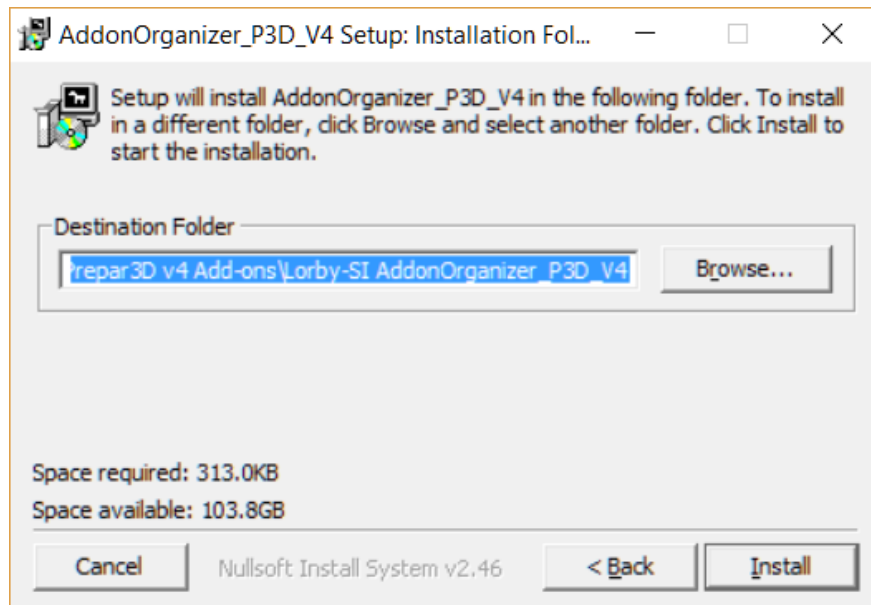
Double click on the installer file. The program will be installed by default into a subdirectory of your Documents\Prepar3D V4 Add-ons\ folder.

Running the installer:



On the first page you may select optional installation targets:

- “Start Menu Shortcuts”: P4AO will be added to your Start Menu (advised)
- On the next page you choose the installation path for P4AO.
THIS IS NOT THE PATH TO YOUR SIMULATOR DIRECTORY!



- Selecting “Install” will begin the installation

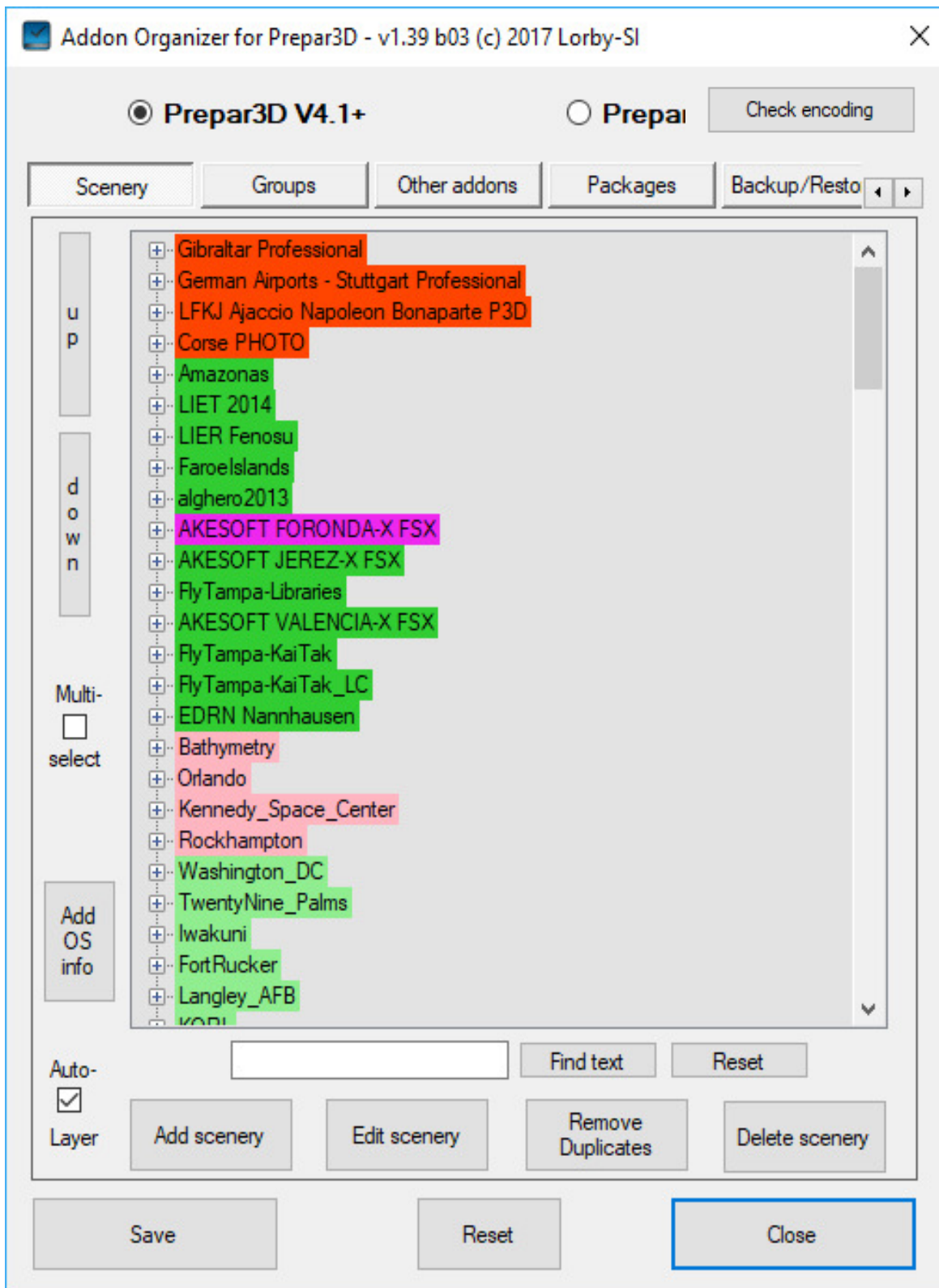
2.3 Microsoft .Net 4.6.2

To run the P4AO it is required that you have at least Microsoft .Net 4.6.2 installed on your computer:

<https://www.microsoft.com/net/download/dotnet-framework-runtime/net462>

3. Operations

3.1 Main Window



Elements of the Main Window explained:

- **Green** entries are active,
Red ones are disabled,
Violet entries have incorrect paths.
- Colors in the **treelist**:
Dark coloration means the addon is in an add-on.xml,
Light colors designate the entries of the scenery.cfg
- **Radiobuttons Prepar3D V4 / V3.3+**: with these you can switch between managing V4 or V3.3 and later addons. Note that full XML functionality was introduced with P3D V3.3, it can not be guaranteed that the same principles will work with earlier versions or P3D!
- **Buttons “Scenery”, “Other addons”, “Packages”, “Backup/Restore” and “Tools”**: 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”!
- **Button “Close”**: will shut down P4AO.

3.2 Enabling and disabling addons

And add-on.xml is called an “Addon package” in the terms of the P3D Learning Center. The correct way to disable an addon is to go to the Options->Add-ons dialog in P3D and deactivate the addon package there.

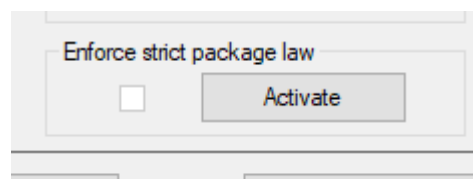
The P3D Options->Add-ons dialog basically corresponds to the “Packages” tab in P4AO. And the simple rule is:
Scenery + OtherAddons = Package.

With P4AO you can now enable/disable (or “activate/deactivate”) individual components of the addon packages (= sceneries or other addons). But strictly speaking this is against the P3D specification, as it happens by reassigning the AddonComponents to a different nodename that is unknown to P3D (“Addon.Component.Disabled”). This will cause an entry in the content error log that P3D writes, but the addon component is no longer there either.

The correct way to disable content is to deactivate the complete addon package – and this will not cause any content errors.

Please keep this in mind, because disabling the package will mean that you can not re-enable a scenery on the “Scenery” tab – it doesn't exist as far as P3D is concerned!

You can configure P4AO to work either way. On the “Tools” tab there is a checkbox called “Enforce strict package law”:



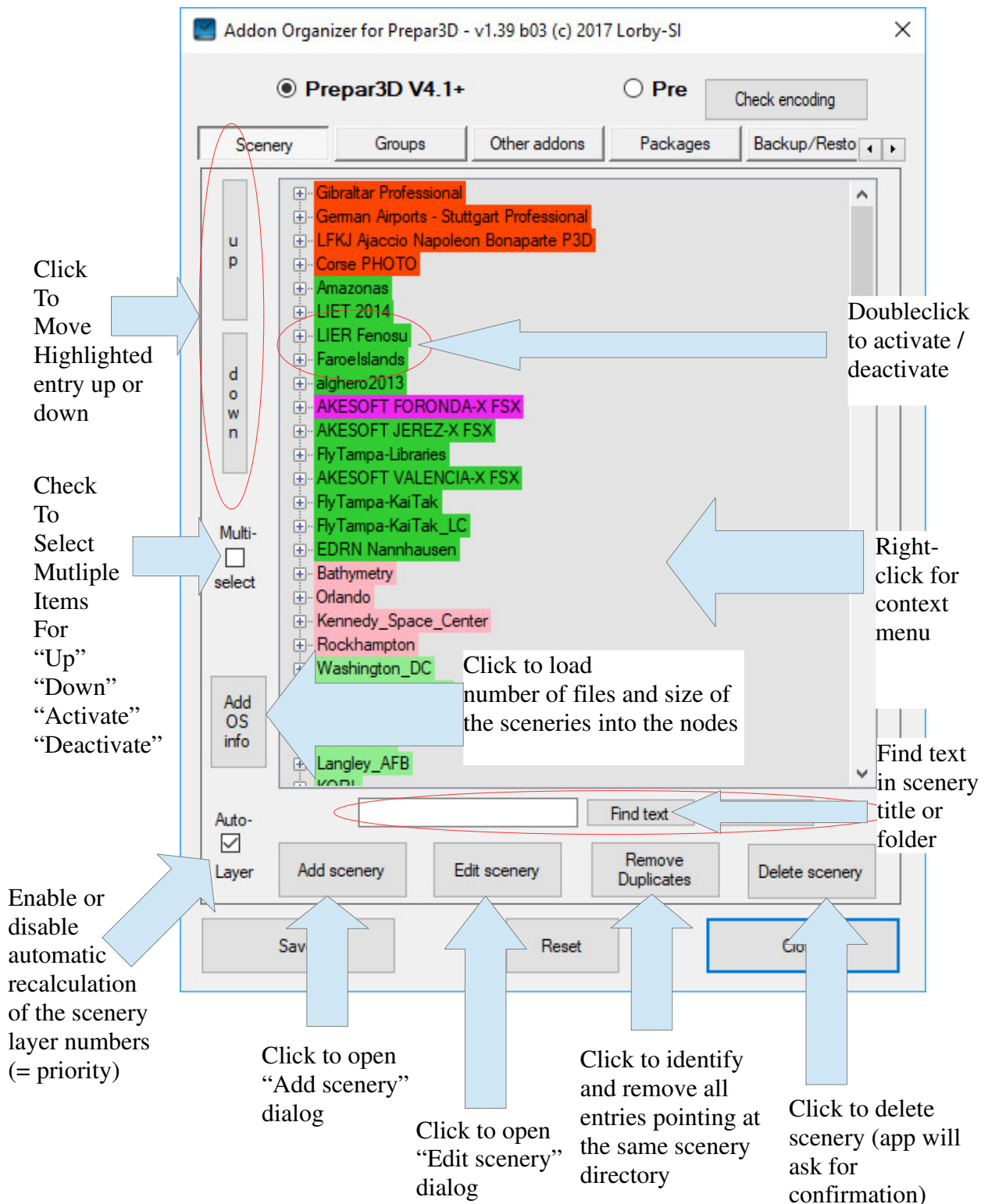
If you “Activate” it, then enabling/disabling individual components is no longer possible.

If you are using other scenery management tools alongside P4AO, you MUST activate the strict package law to avoid compatibility problems!

3.3 Manage Scenery

Scenery addons are managed on the first page of the dialog:

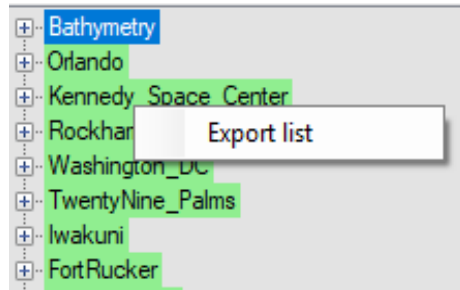
- **Green** entries are active, **red** ones are disabled
- Colors in the **treelist**: **Dark** coloration means the addon is in an add-on.xml, **light** colors designate the entries of the scenery.cfg



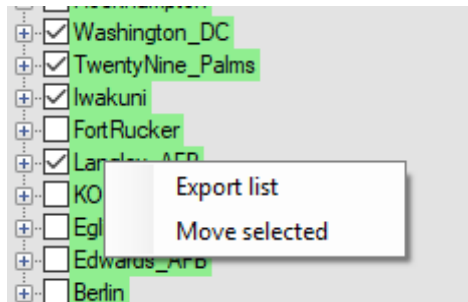
3.2.1 Right-click context menu

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

1. Multi-select not active



2. Multi-select active



– **Export list**

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

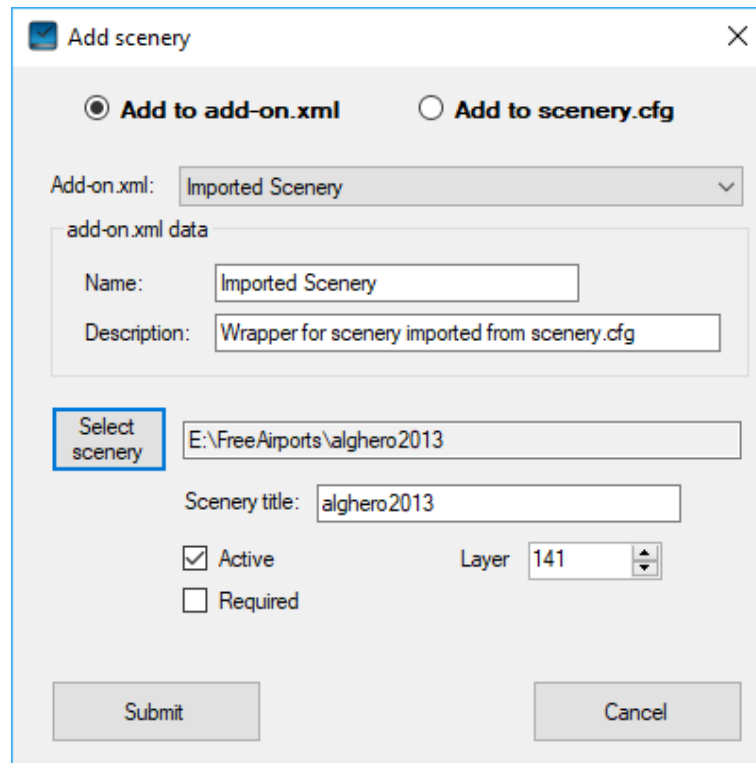
Layer	Name	Active	Source	Path
129	Bathymetry	True	scenery.cfg	Scenery\Bathymetry
128	Orlando	True	scenery.cfg	C:\Program Files\Lockheed Martin\Prepar3D v4\Scenery\Cities\Orlando
127	Kennedy_Space_Center	True	scenery.cfg	Scenery\Cities\Kennedy_Space_Center
126	Rockhampton	True	scenery.cfg	C:\Program Files\Lockheed Martin\Prepar3D v4\Scenery\Cities\Rockhampton
125	Washington_DC	True	scenery.cfg	C:\Program Files\Lockheed Martin\Prepar3D v4\Scenery\Cities\Washington_DC
124	TwentyNine_Palms	True	scenery.cfg	Scenery\Cities\TwentyNine_Palms
123	Iwakuni	True	scenery.cfg	C:\Program Files\Lockheed Martin\Prepar3D v4\Scenery\Cities\Iwakuni
122	FortRucker	True	scenery.cfg	Scenery\Cities\FortRucker
121	Lanham AFB	True	scenery.cfg	C:\Program Files\Lockheed Martin\Prepar3D v4\Scenery\Cities\Lanham AFB

– **Move selected**

Opens a second dialog, that allows you to move all selected entries to an add-on.xml file (new or existing one) or back into the scenery.cfg at the same time.

3.2.2 Add and edit scenery dialogs

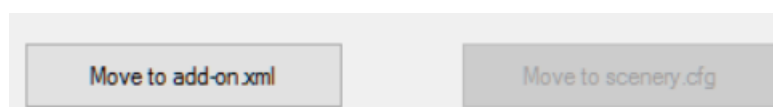
The add and edit dialog windows look and work almost the same.



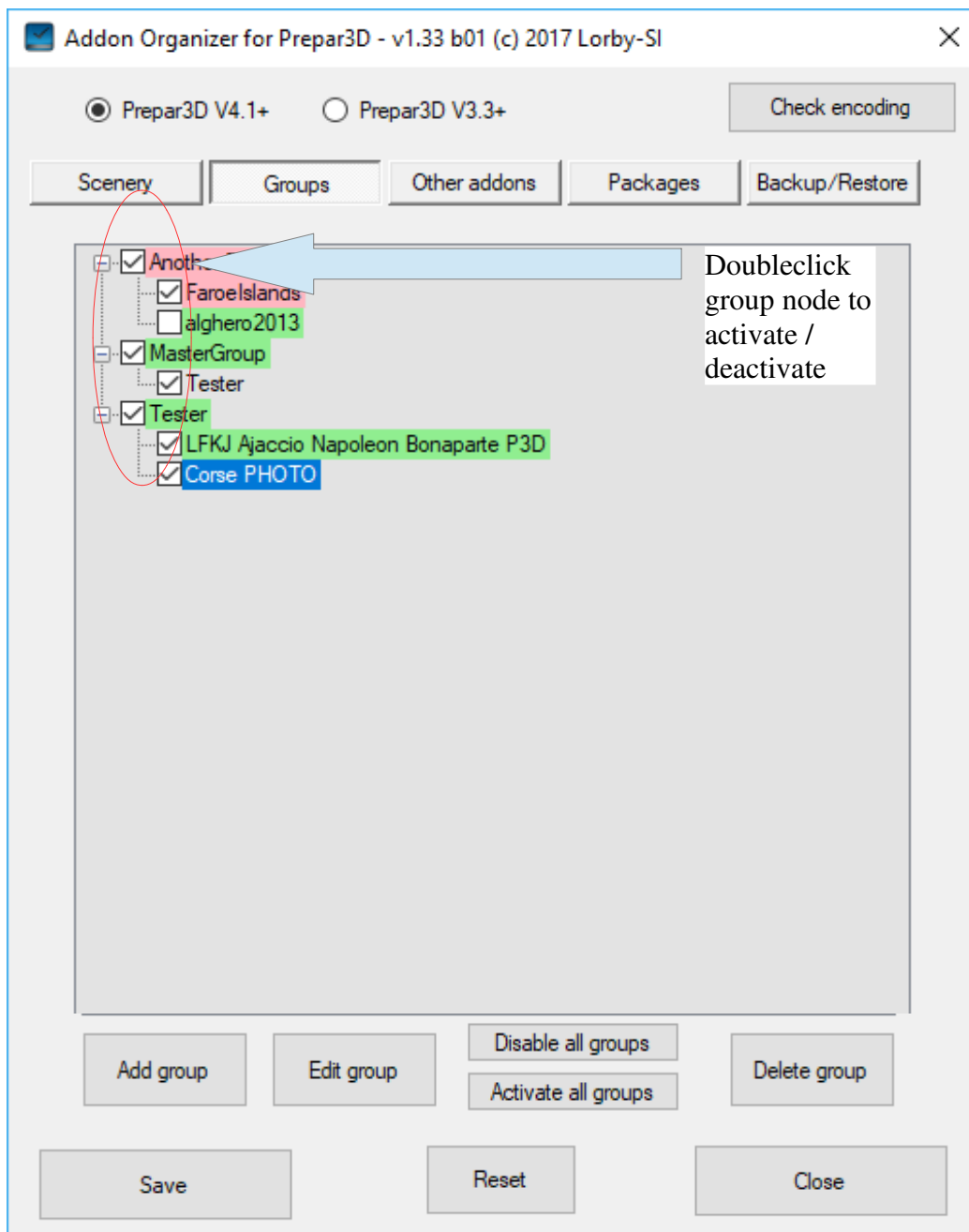
1. First, select the method that you want to use to add the scenery
- as an add-on.xml reference or to the scenery.cfg
2. If you selected the add-on.xml, choose if you want to add the scenery
to an existing XML file or if you want to create a new one
3. Press “Select scenery” and navigate to the scenery folder. This is the
folder containing the “Scenery” and “Texture” subfolders.
4. Alter the Scenery title if desired and set the desired layer number
5. If you chose to create a new add-on.xml, supply a name and
description for it
6. Press “Submit” to add the new scenery

**Note: the new configuration is not saved to disk yet – you must
press “Save” on the main dialog to finally write it.**

Using these buttons on the **Edit Scenery dialog**, you can move a scenery
from the scenery.cfg to an add-on.xml definition or the other way around:



3.4 Scenery groups



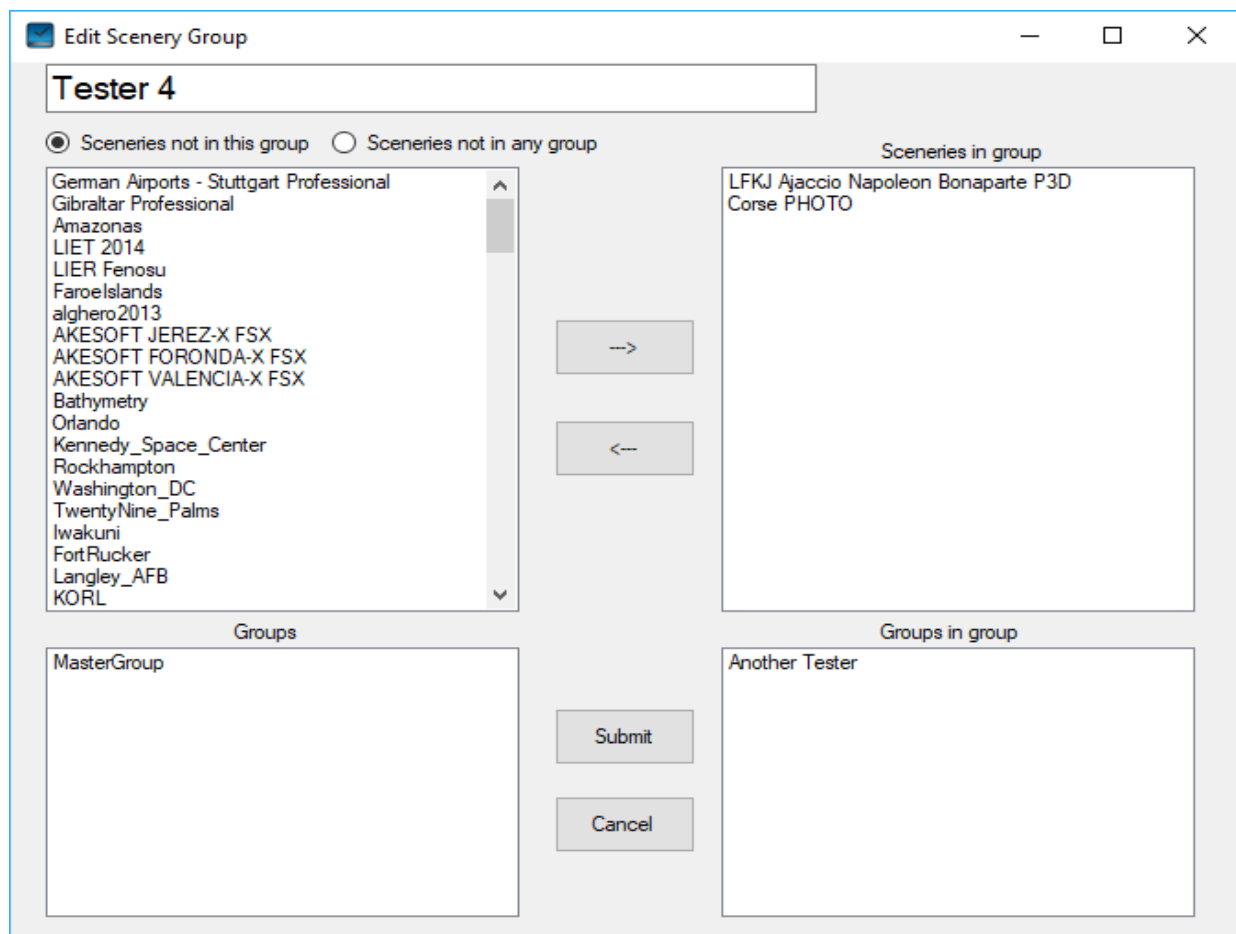
Scenery references are shown in light colors, group references are dark.

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.

3.5 Manage other addons

All other addons are managed on the third page of the dialog:

- **Green** entries are active, **red** ones are disabled
- Colors in the **treelist**: **Dark** coloration means the addon that have been installed in a fixed manner, **light** colors designate those that are automatically discovered by Prepar3D.

Up/Down changes the loading sequence of the addon components inside a node

Doubleclick to activate / deactivate

The grey entries have been read from the .cfg files. You can only activate or deactivate them by opening the node and doubleclicking on "Active". Entries from user specific cfg files (in Appdata\Roaming\...) are shown in dark grey

Click to open "Add component" dialog

Click to enable/disable all external addons

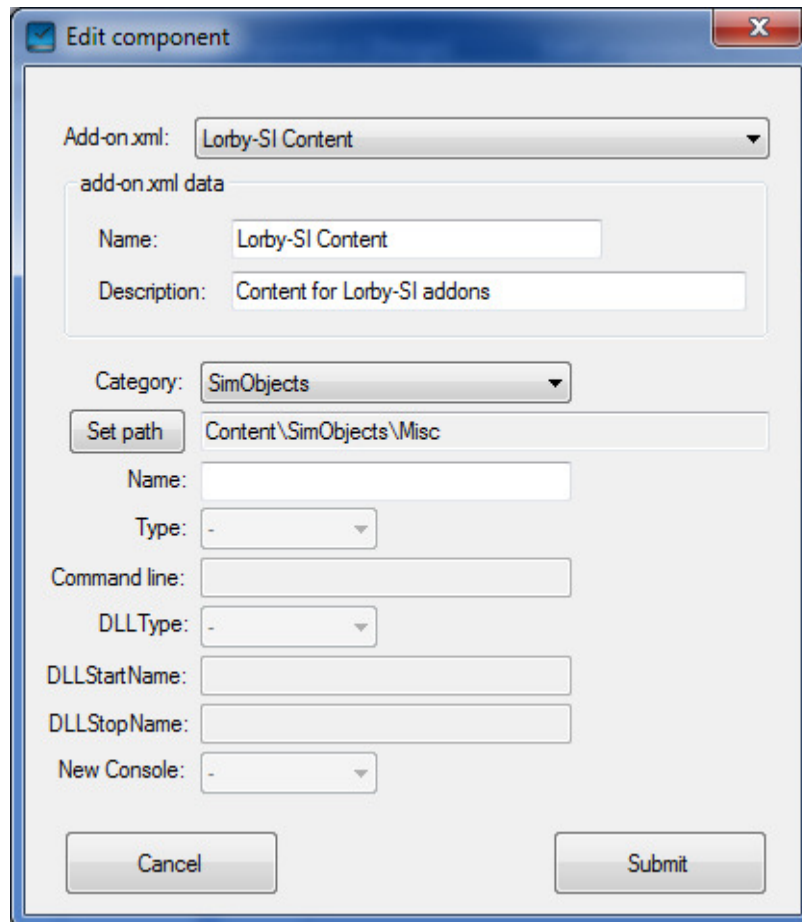
Click to open "Edit component" dialog

Click to delete component (app will ask for confirmation)

3.5.1. Add and edit other addons dialogs

You can only add, edit or delete XML based addons, not the grey entries.

The add and edit dialog windows look and work the same.



1. Choose whether you want to add or move the component to an existing XML file or if you want to create a new one
2. Press “Set path” and navigate to the folder with the content.
 - For SimObjects like aircraft this is the folder containing the aircraft directory, which in turn contains the aircraft.cfg or sim.cfg:
If your aircraft is installed like this:
“..\MyAircraft\Learjet\aircraft.cfg” then the path to select is
“..\MyAircraft”
 - For all other categories it is the folder where the content is in,

- for example the folder that contains the gauges.
- For EXE and DLL type addons you have to navigate to the actual file
3. Alter the necessary fields if desired. Please consult the P3D V4 Learning Center for details (“SDK->Add-ons->Add-on Packages”)
 4. If you chose to create a new add-on.xml, supply a name and description for it
 5. Press “Submit” to add the new component
- Note: the new configuration is not saved to disk yet – you must press “Save” on the main dialog to finally write it.**

3.5.2. Check for conflicts

This button will scan through all “other addons” and check for

- Name conflicts:

AddonComponents of the same category should not use the same name. The scan will alert you to possible conflicts.

The “Name” tag is optional, your best course of action is not to apply names to “other addons” at all when adding or editing them.

According to the spec, this ensures that no conflicts can arise.

Quoting the “Learning Center”:

Name
(Optional)

An optional name for the individual component. For certain add-on components such as scenery components, it is highly recommended to have a component name since it will show in the UI. For scenery components, their name will show in the Scenery Library.

Note: Since Prepar3D's configuration system does not support components of the same category with the same name, be wary of creating a name that is not unique or it will overwrite the identically named component. However, if the component is not given a name, a name collision cannot occur.

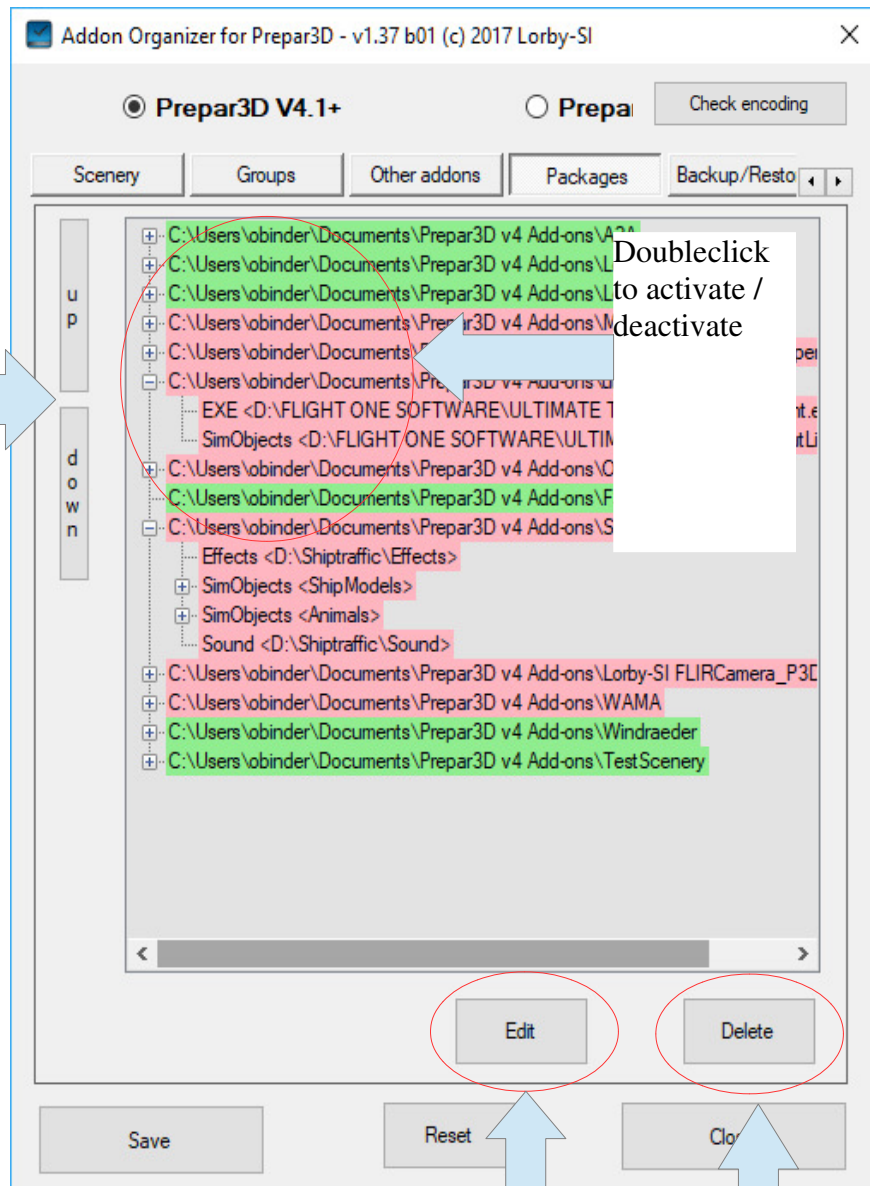
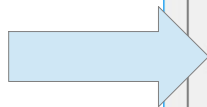
- Multiple references:

The scan checks if you have the same addon referenced more than once, for example in two different add-on.xmls or in an XML and the CFG at the same time. Strictly speaking, these conflicts don't constitute an error, your simulator may be working just fine.

3.6 Package view

- **Green** entries are active, **red** ones are disabled
- Colors in the **treelist**: **Dark** coloration means the addon that have been installed in a fixed manner, **light** colors designate those that are automatically discovered by Prepar3D.

Up/Down changes the loading sequence of the packages

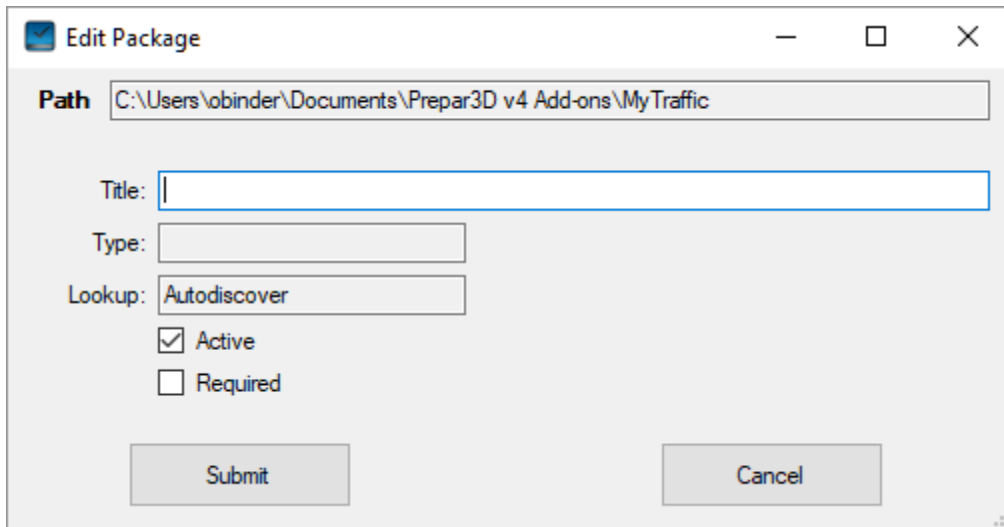


Doubleclick to activate / deactivate

Click to edit selected package

Click to delete selected item (app will ask for confirmation)

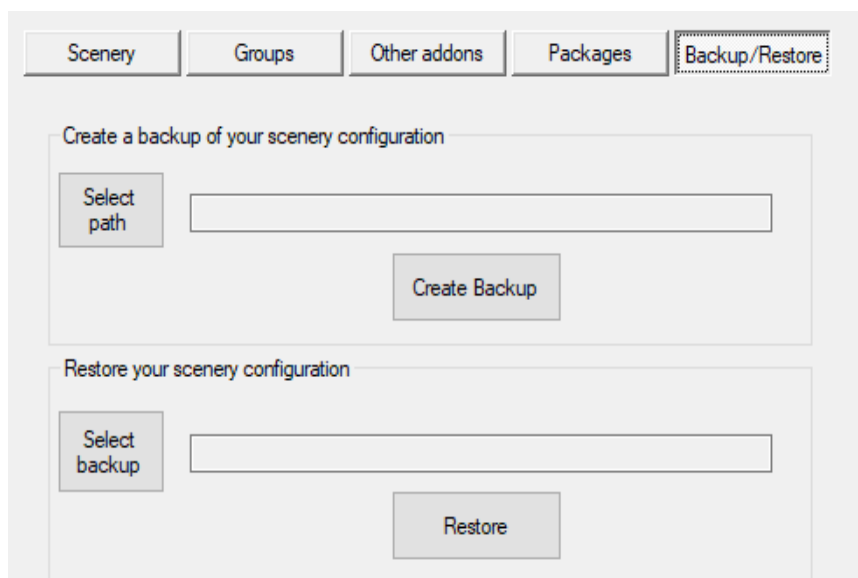
3.6.1. Editing a package



The screenshot shows a dialog box titled "Edit Package". It has a "Path" field with the value "C:\Users\obinder\Documents\Prepar3D v4 Add-ons\MyTraffic". Below the path are three input fields: "Title" (empty), "Type" (empty), and "Lookup" (containing "Autodiscover"). There are two checkboxes: "Active" (checked) and "Required" (unchecked). At the bottom are "Submit" and "Cancel" buttons.

Because packages are handled either by the sim itself (Autodiscover) or by the installers (fixed install) you can only change the optional Title and the Active/Required flags.

3.7 Backup and Restore

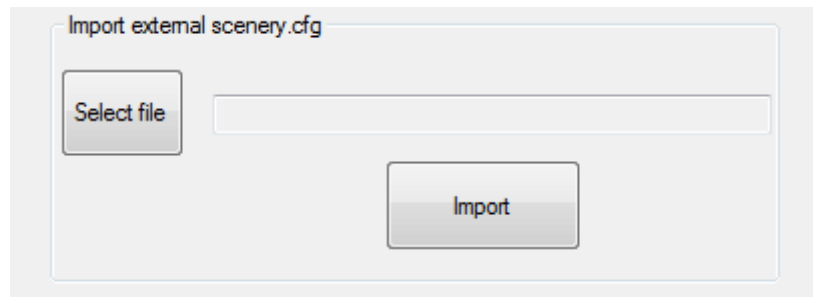


The screenshot shows a dialog box with tabs for "Scenery", "Groups", "Other addons", "Packages", and "Backup/Restore". The "Backup/Restore" tab is selected. It contains two sections: "Create a backup of your scenery configuration" and "Restore your scenery configuration". The first section has a "Select path" button and a text input field, followed by a "Create Backup" button. The second section has a "Select backup" button and a text input field, followed by a "Restore" button.

With this dialog you can create a backup of your addon configuration files (ZIP file format) and restore those files from a previously saved backup.

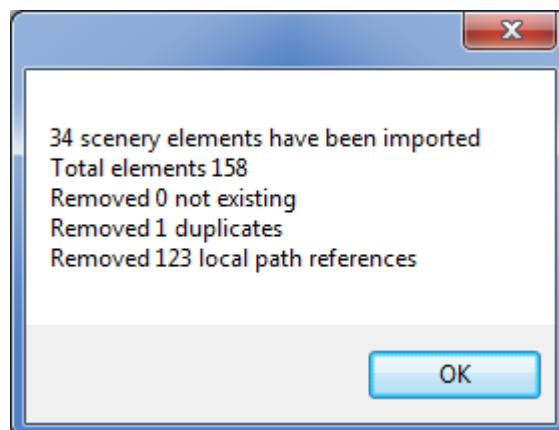
Note: this process will only back up the XML and CFG files, not the addon content itself!

3.8 Importing a scenery.cfg



An additional option is to import the data from an existing scenery.cfg file. Navigate to and select the file with the button “Select file”, then press “Import”. The app will scan the scenery.cfg for valid content, and group all that remains into a separate package named “Imported Scenery”.

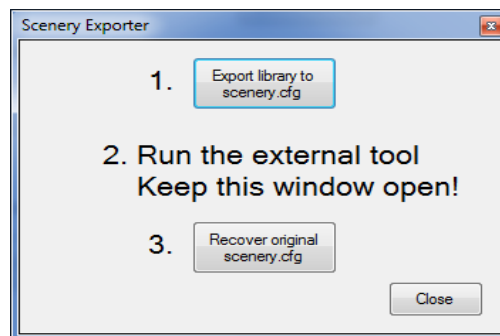
Note: relative paths, that were referencing scenery in the root folder of your old simulator, are not imported, and neither are duplicate entries or invalid folders.



3.9 Exporting the library in scenery.cfg format

This feature allows you to **temporarily** export the complete scenery library into your scenery.cfg file.

This is useful for example for MakeRunways or any other scenery related tool that needs to read your full library but that has not been updated to P3D V4 specification yet.



1. Pressing this button renames your existing “scenery.cfg” to “scenery.cfg.disabled” and then writes a new scenery.cfg containing all scenery areas from the configuration
2. Now run the external tool, for example “MakeRunways”.
3. When the tool has completed, press button “3.”, which will revert your “scenery.cfg” back to its original state.

Don't worry – if you forget to recover your scenery.cfg, the P4AO will do that for you when you close the window.

Command line option:

You can export the library directly from the command line too:

```
P3D V4: P3DV4AddonOrganizer export allscenery.cfg
```

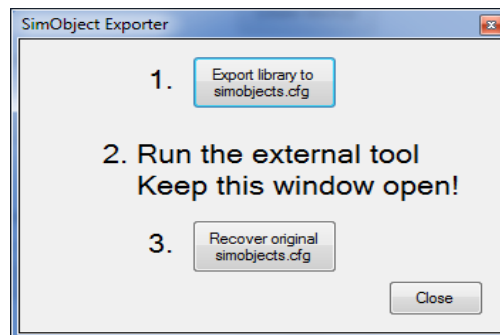
```
P3D V3: P3DV4AddonOrganizer export_V3 allscenery.cfg
```

This will create a file called “allscenery.cfg” containing the full library without altering your scenery.cfg

3.10 Exporting the sim object library in simobjects.cfg format

This feature allows you to **temporarily** export the complete sim object library into your simobjects.cfg file.

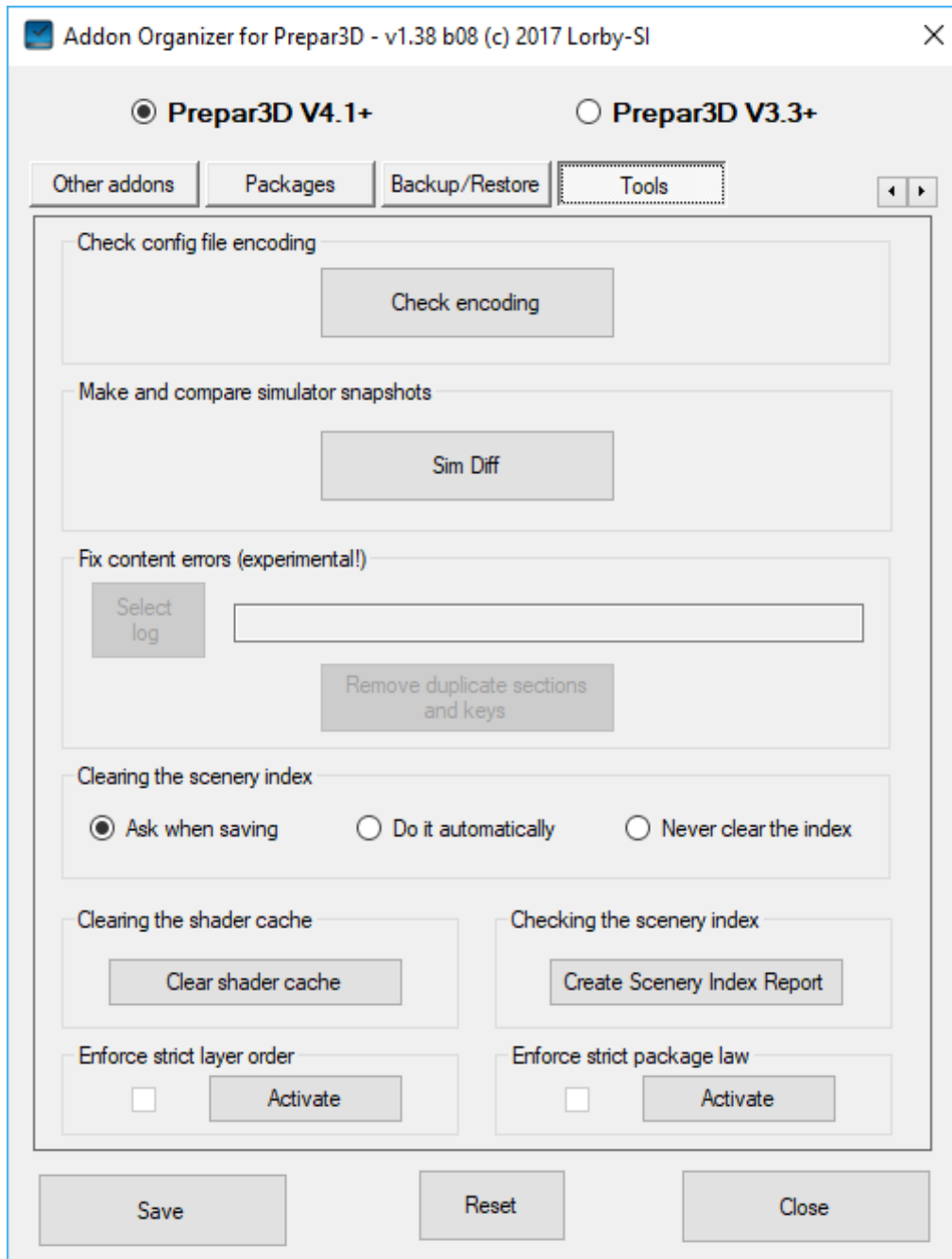
This is useful for example for effects or sound altering addons that have not been updated to P3D V4 specification yet.



1. Pressing this button renames your existing “simobjects .cfg” to “simobjects.cfg.disabled” and then writes a new simobjects.cfg containing all sim object discovery paths from the configuration
2. Now run the external tool.
3. When the tool has completed, press button “3.”, which will revert your “simobjects.cfg” back to its original state.

Don't worry – if you forget to recover your simobjects.cfg, the P4AO will do that for you when you close the window.

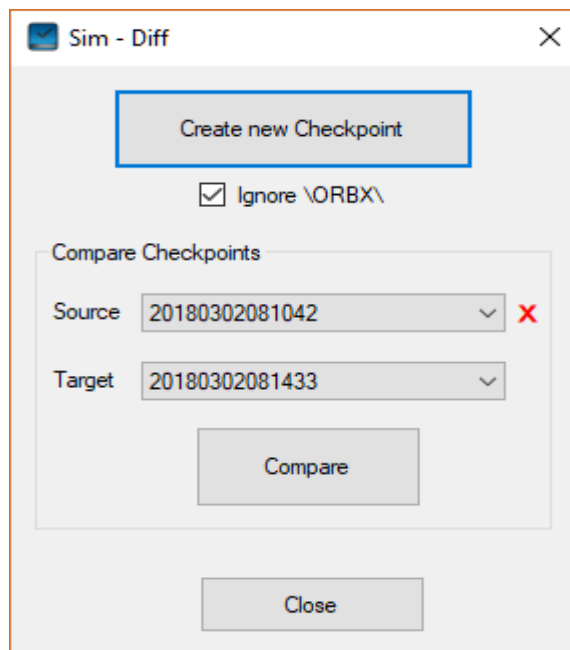
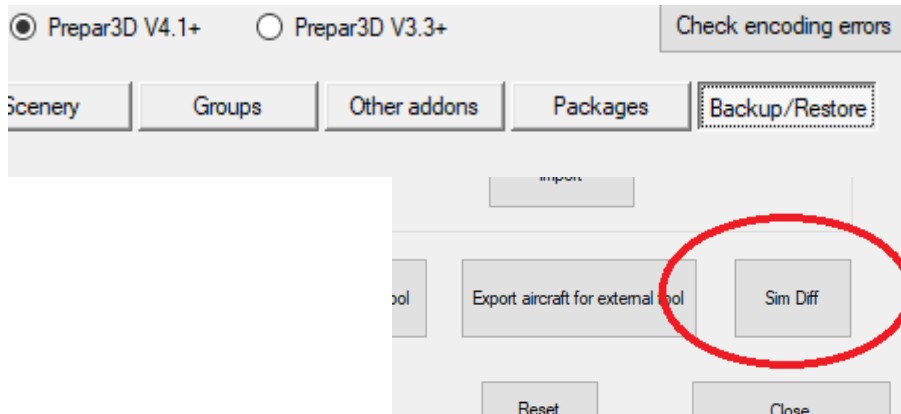
3.11 Tools



3.11.1. Check Encoding

Use the button “Check encoding errors” to see if there are files in your simulator addon setup that don't have the proper character encoding.

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

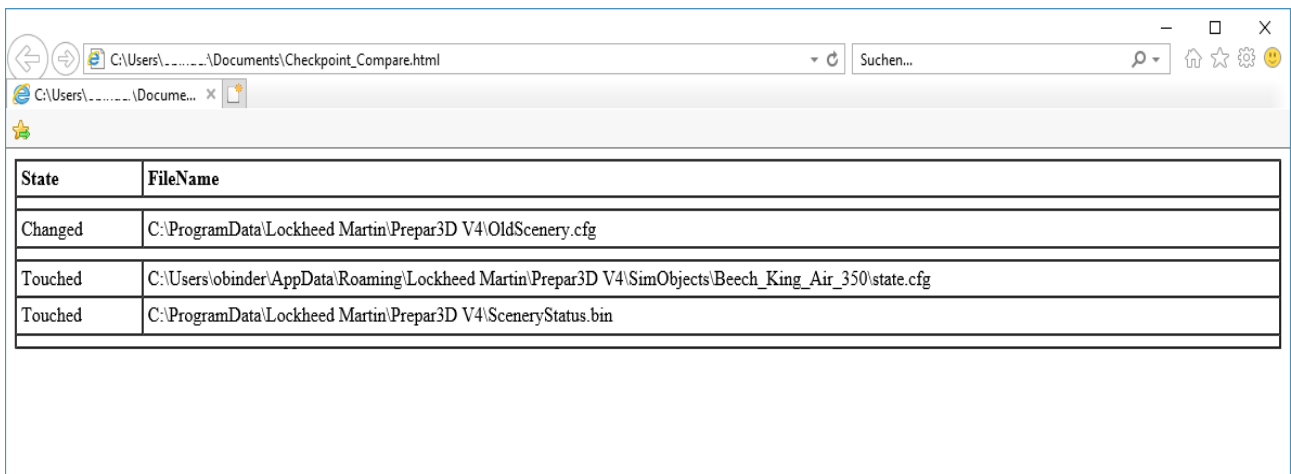
selected in the “Source” box.

The checkbox “Ignore \ORBX\” will ignore ORBX's subfolder of the main simulator directory to speed up checkpointing.

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 contains a search field with the text 'Suchen...'. Below the browser window, a table is displayed 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. Fix content errors

This feature is currently on hold, pending answers to a couple of questions that were asked on the P3D developers forum.

3.11.4. Clearing the scenery index

P4AO can clear the scenery index for you, so that it is rebuilt when you start Prepar3D. 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.

3.11.5. Clearing the shader cache

This button will clear the pre-compiled shaders of Prepar3D. They will be rebuilt the next time that you start the simulator.

3.11.6. Checking the scenery index

With this feature you can create a simple HTML report about the current state of your scenery index. Please note that this only works if the index hasn't just been deleted, for example when saving your changes. It will be rebuilt by the sim, the next time that you start it.

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\lcllookup scenery\base\scenery\magdec scenery\base\scenery\populationdensity

3.12 Enforcing the “strict layer order”

There is a special setting on the “Tools” tab that will activate a very strict logic when it comes to scenery layers in your library.

“Strict layer order” means, that no add-on.xml based scenery is allowed to have a layer inside the numerical range of the scenery.cfg.

Reason for this feature:

There are scenery products on the market that rely on special methods as to how the scenery loading is supposed to work in P3D. These products are in trouble when you insert external scenery definitions layers between those from the scenery.cfg.

Please only activate this option if you are told to do so by the manufacturer of the scenery product! Make sure to check the scenery library first so you don't destroy another scenery product by accident!

When the strict layer order is in effect, the following happens:

-> if offending sceneries are detected, P4AO will ask you if those scenery definitions should be moved to the scenery.cfg automatically.

-> In all other operations it will lock you out of moving sceneries with the up/down buttons into or out of the layer range of the scenery.cfg. But as before, you always have the option to convert an add-on.xml based scenery to the scenery.cfg at any time.

3.13 Enforcing the “strict package law”

There is a special setting on the “Tools” tab that will activate a very strict logic for enabling / disabling scenery or “other addon” components

“Strict package law” means, that components inside and add-on.xml cannot be enabled/disabled separately. Instead, the whole addon package must be activated or deactivated.

Please activate this option if you are using multiple scenery management tools at the same time!!

The method how P4AO activates/deactivates single addon components generally speaking is not allowed. It will lead to problems with other scenery management tools, except for the Scenery Library dialog in Prepa3D – that dialog works correctly with P4AO.

Also check chapter 3.2 for more information.

4. Disclaimer

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