

ASSET INVENTORY

GUIDE - VERSION 3.2.0



ASSET 3 INVENTORY

INTRODUCTION

Put your asset workflow on steroids and say good-bye to the Package Manager as you know it! Asset Inventory is your ultimate asset management companion: a lightning-fast search for assets for your current project. Find content in assets you purchased or downloaded without importing and bring single files in with just a click.

Eliminate the time-consuming task of finding a sound file, a texture or a model you know you purchased but which is hidden inside one of your many Asset Store purchases. The Asset Inventory provides a **complete list of all assets you own**, including their content.



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FEATURES

The tool aims to provide **what you always wanted the Asset Store & Package Manager to be**: The best possible Asset Management solution for Unity.

Find assets effectively. Search inside your purchases. Include custom packages you downloaded from Humble Bundle or other places. And packages from a registry. Manage everything through tags. Perform bulk operations. Import multiple assets and packages in one go. Identify used assets inside your projects. Search using asset-specific criteria. And much more.

Powerful Search

Browse & find anything inside your purchased Asset Store packages without importing. Quickly preview audio files. Narrow your search using asset type, tags, image dimensions, audio length, colors and more. Exclude items you don't want to see. **Save and recall** searches.

Easy Setup

Works immediately out of the box. Lots of optional view & configuration options. Hassle-free indexing. Start, stop & resume at any time. Works with Unity 2019.4 and higher. Windows, Mac & Linux. Lightning-fast indexing and search.

Intelligent Updates

Handle updates from the Asset Store and from the Unity registry in one holistic UI. Define update strategies per package. Instantly see if there are any updates you should consider. Full package manager functionality for registry packages including add/update/remove and compatibility information.

Import & Export

Import only what you need instead of a whole package. Automatically determines asset dependencies to import complex prefabs and materials. Save space & reduce clutter in your project. **Bulk import** multiple packages at once. Automatically store imported assets in a specific sub-folder and keep the Assets root clean. **Export** assets easily for reuse in other contexts.



Many Sources

Your complete asset library: Automatically indexes Asset Store purchases. Triggers download of missing assets. Handles packages from registries. Integrate the Unity Cloud Asset Manager. Add custom folders to search through Unity packages downloaded from other locations. Indexes folders and zip/rar archives containing **arbitrary media files** like 3D models, audio libraries, textures and more. Automatically generates previews.

Organize

Automatically imports labels from the Asset Store. Use additional **tags** to group assets effectively. Assign tags to either packages or individual files inside packages. Assign colors and group by tags. Exclude unwanted items. Browse all sub-packages. Perform bulk operations. Import multiple assets and packages in one go. Builds on Package2Folder to allow importing packages into a custom sub-folder. **Backup** packages automatically to ensure you always have a working version to go back to.

Reverse Lookup

Quickly identify used assets and packages in your project. Ensure license compliance.

Constant Updates & Support

Receive regular updates, optimizations, and new features. Super-fast support. Discuss ideas in a great Discord community.



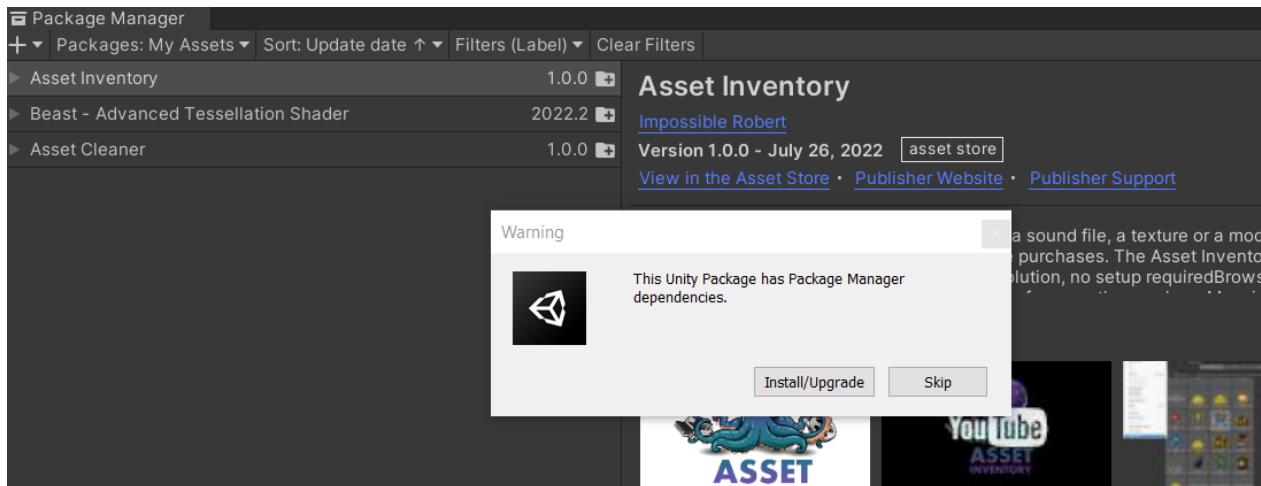
GETTING STARTED

INSTALLATION

It is strongly recommended to **remove any previous version** of the Asset Inventory before installing a new version. The best way to do so is to close Unity and afterwards delete the full *AssetInventory* folder since used libraries cannot be replaced if Unity is active.

Install the package through the Unity Package Manager. When asked if to install additional dependencies, select **Install/Upgrade**, otherwise the asset will not work. Installed package dependencies include *Newtonsoft Json*, *SharpLibZip*, *EditorCoroutines* and the *Testing Framework*.

If you have many Unity projects, a better way of installing and maintaining the tool for you might be a package-based approach as described later in the “Installing as a package” chapter.



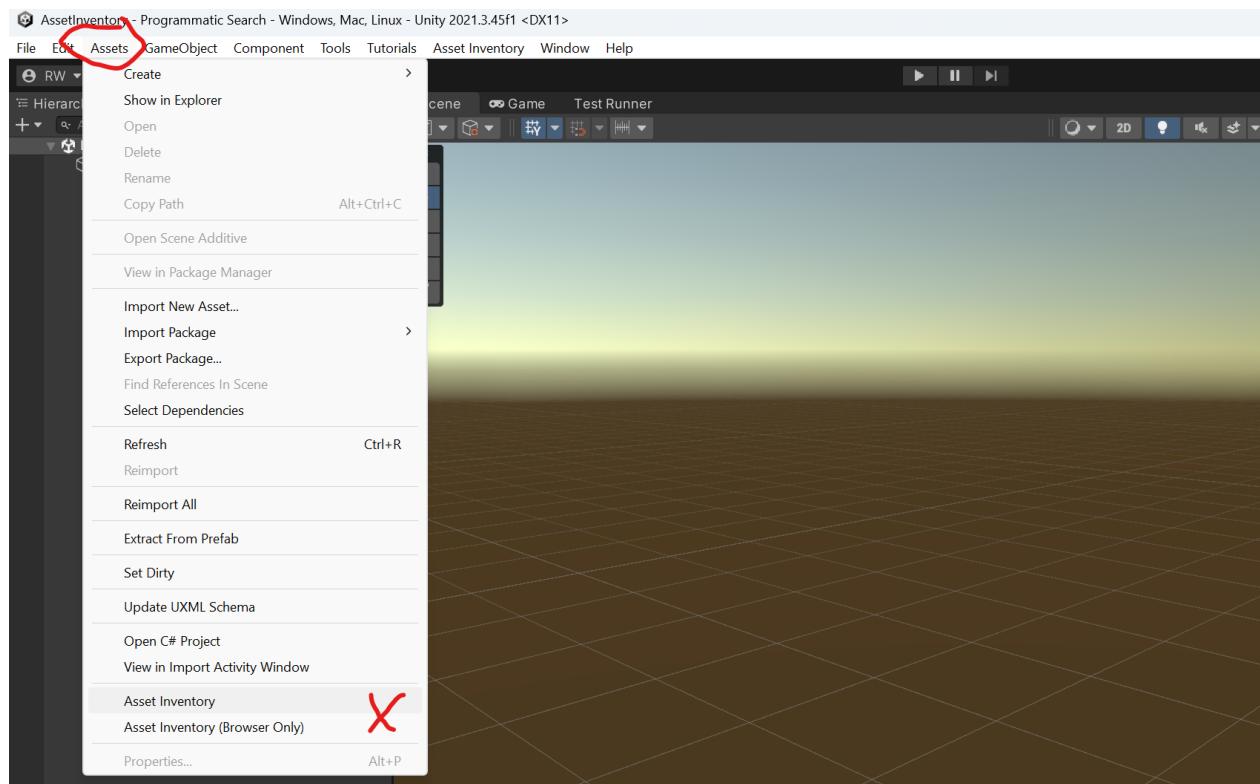
When indexing packages Unity might try to call third party applications like [Blender](#), 3ds Max or Maya. It is recommendable to at least **install Blender** (free) to make sure previews for blend files are calculated correctly.

Once installed you can access **integrated tutorials** which will guide you through the configuration and features. If the Unity Tutorials package is already installed, these will appear automatically. If not, you can install it at the launch screen of the tool, see next section.



USAGE

Open the Asset Inventory through the **Assets menu**.



There is **no manual setup** needed. The only requirement is a fair amount of disk space for storing preview images and temporary files during extraction and browsing.

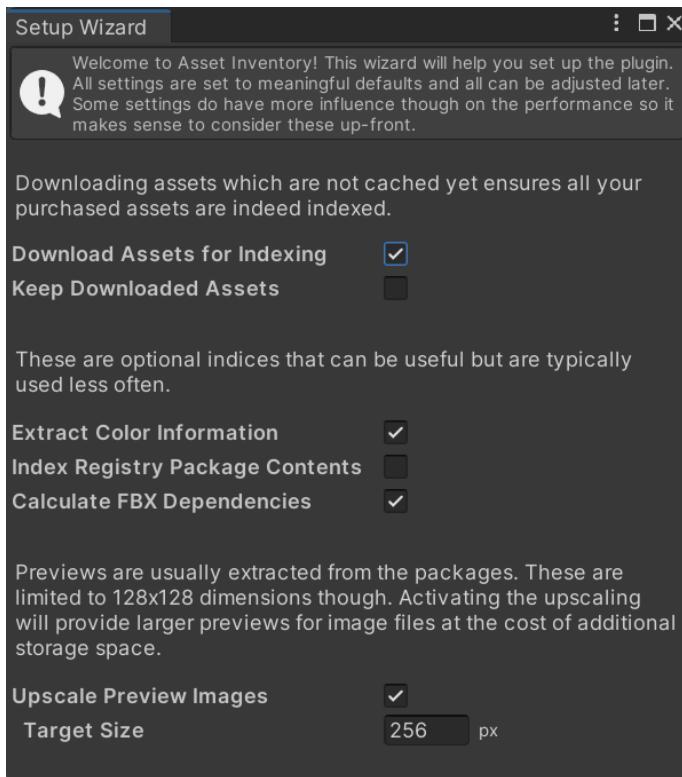
Press **Start Indexing** and wait for results to come in. When indexing is done it can be beneficial to **delete your project Library folder** which has accumulated lots of temporary unneeded data.

You might want to review some performance and bandwidth critical factors though which you can see in the **Setup dialog**. Downloading assets automatically might be taxing on your bandwidth allowance and preview upscaling on your hard disk space.

You might also want to adjust where the database and the temporary files are located to ensure there is enough disk space. The default is the **Documents** folder. This can be changed under *Settings/Locations*.



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Whenever you purchase new packages or add new assets to your folders, make sure to press the **Run Actions** button under **Settings** once so that the index gets updated.

Tip: The UI displays only the core functionality (easy mode). You can access many **additional options** by holding down the **CTRL key** or pressing the *eye icon* at the top.



PERFORMANCE

Here are things to consider to get the most out of the tool:

- If you own an SSD, consider storing at least the database on it. If space is an issue, this is the order of priority for the data to be stored on SSD:
 - Database
 - Previews
 - Cache
 - Backups (no real need to store on SSD)
- Run the initial indexing or bigger updates in a **new empty Unity project** and use the newest available stable Unity release. The indexing results will be stored in a central location for reuse in any other project. This will give you the highest indexing performance since no other assets/scripts need to be refreshed and new versions of Unity typically bring big performance improvements for object and sound importers (in some cases 10x).
- Index in a **BIRP** project, as otherwise additional URP/HDRP dependencies need to be resolved or converted which takes additional time and can lead to pink previews.
- Delete the **library folder** every now and then as it can become very big and slow down Asset Database operations.
- **Optimize the database** after big operations (Settings/Maintenance menu).
- **Deactivate sorting** of search results for faster paging.
- Deactivate **FBX dependency scanning**. In 95% of cases *fbx* files do not have dependencies listed inside.



ASSET SEARCH

OVERVIEW

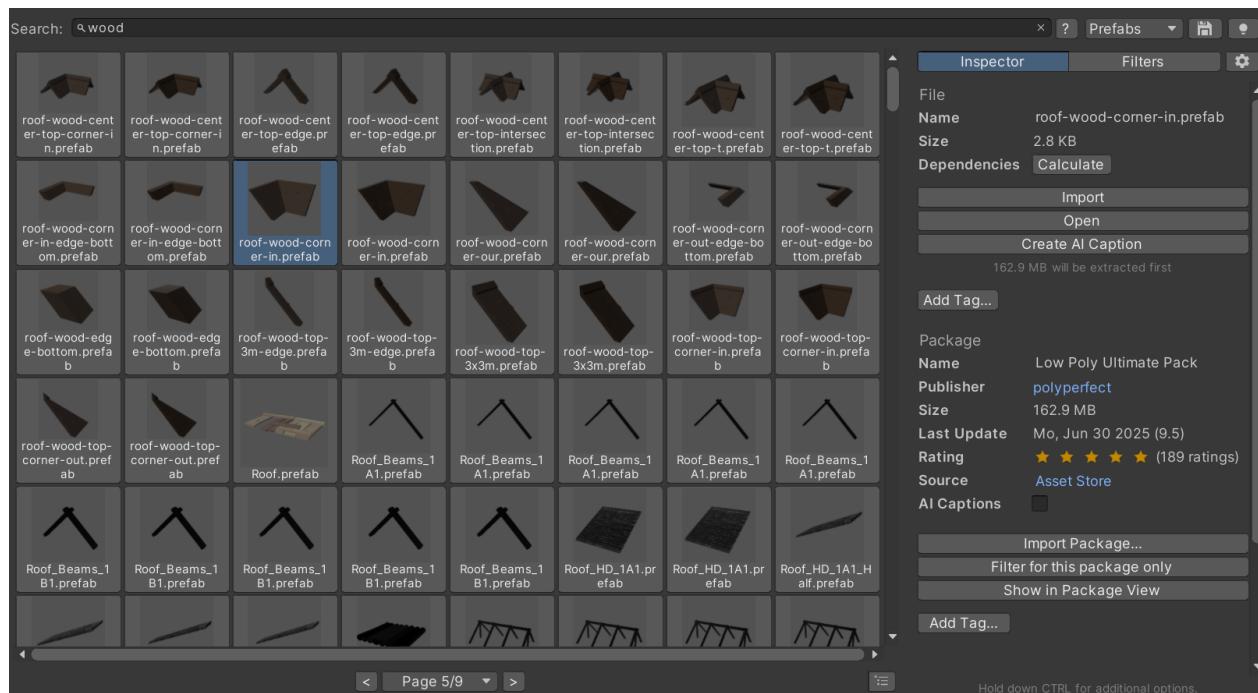
Once an asset is indexed, it can be found in the search. Searching will automatically start when typing. By default, every word entered needs to match the search result but not necessarily in the same order. If the exact phrase should be matched, prefix the search with ~.

Basic examples:

- “*car interior*” will return results like “*CarBlueInterior.fbx*” and “*InteriorCarDes.png*”
- “~*car interior*” will not return the above but only results like “*Car Interior.fbx*”
- “*car +interior -fbx*” will return results that match “*car*” and “*interior*” but not “*fbx*”

There is also an **expert search** available (search starting with “=”) which is described later.

Additional filters can be selected to narrow down the results further. Once an asset is selected, details are shown on the right-hand side about the file and the package the file is contained in.

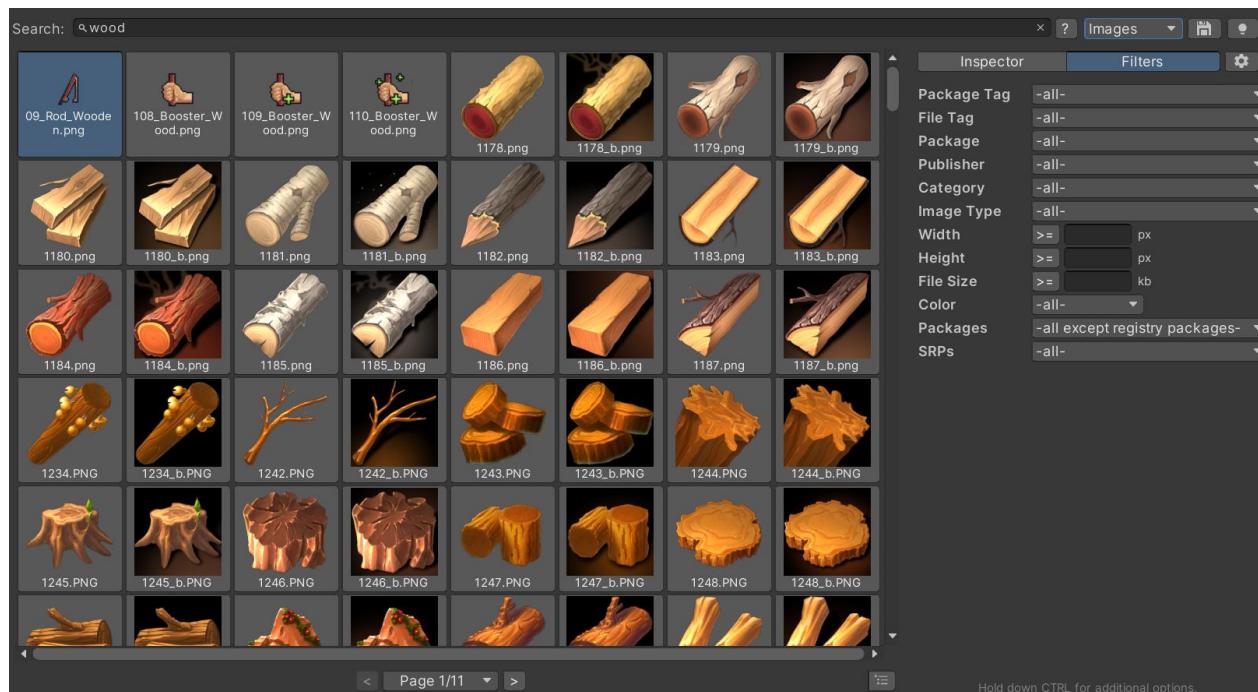


Selecting an audio file will **automatically play** it. This way it is easy to quickly preview audio files. Initial playback might take a while until the corresponding package is temporarily extracted.

Multi-select is possible by holding down the *Shift* or *Ctrl* key. Drag and drop is possible from Unity versions 2021.2+.

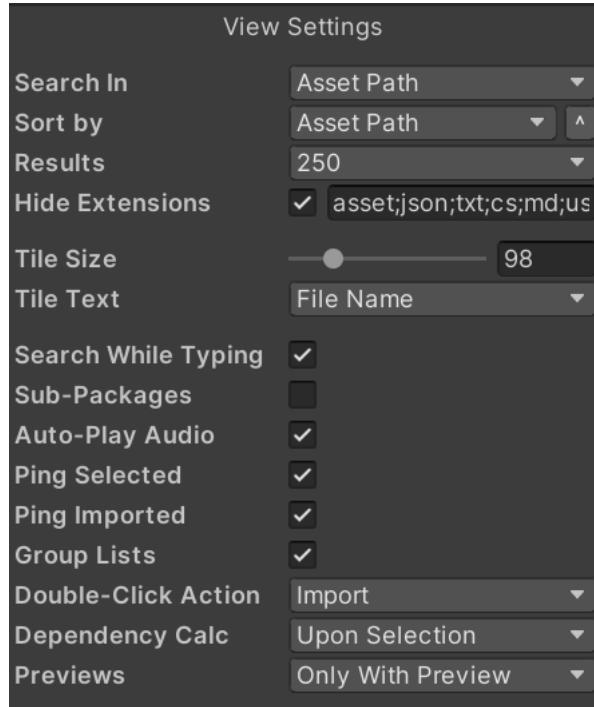
ADVANCED FILTERS & SETTINGS

The **Filters** tab contains additional filters and media-specific properties to filter for specific image dimensions or audio length. Using the buttons in-front of each value toggles if results match that are bigger or smaller than entered. The filter dropdowns will only show values if respective assets are available. If the search type is limited (e.g. to Images), some filters might not show up (e.g. *length*) as they are only applicable to other types.



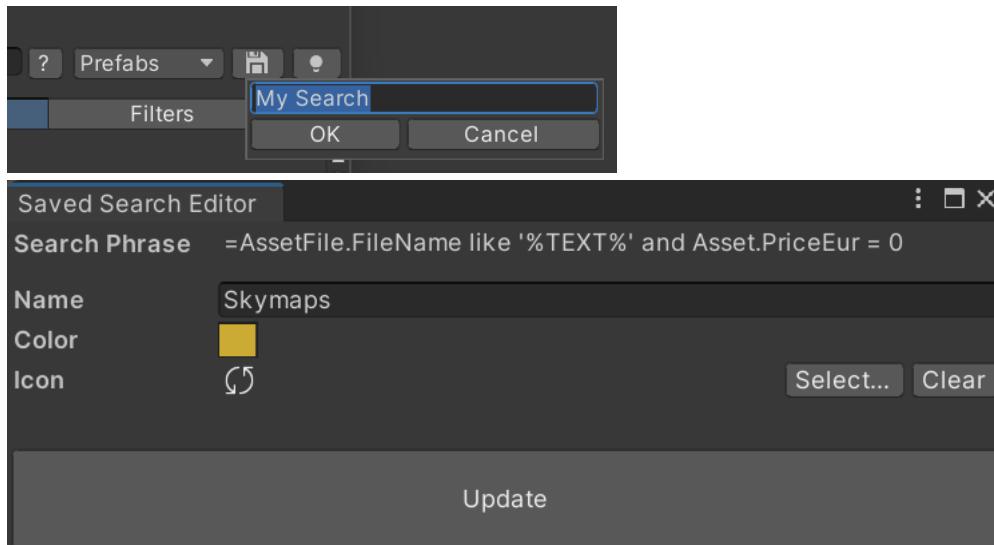
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The **Settings** tab contains many properties that influence how the search results are collected, ordered and visualized. Specify the tile size, which text to display on the tiles and if assets should be pinged automatically upon selection.



SAVED SEARCHES

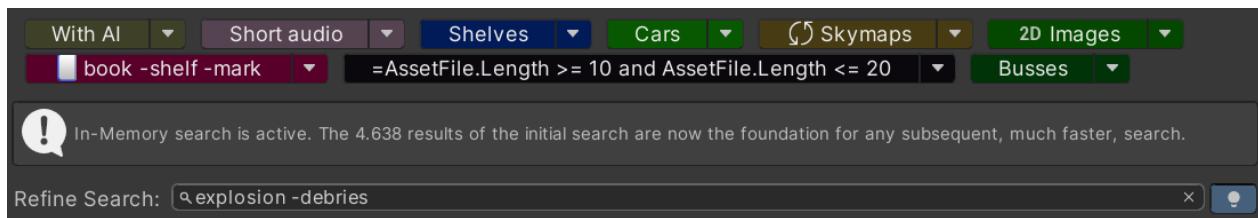
Once you have a search and filters setup you can save these input as a **Saved Search**. This allows you to later recall these easily. The search phrase and all filter settings will be stored. The results are not persisted but instead live from the database each time so any newly indexed items will also appear.



HIGH-SPEED/IN-MEMORY MODE

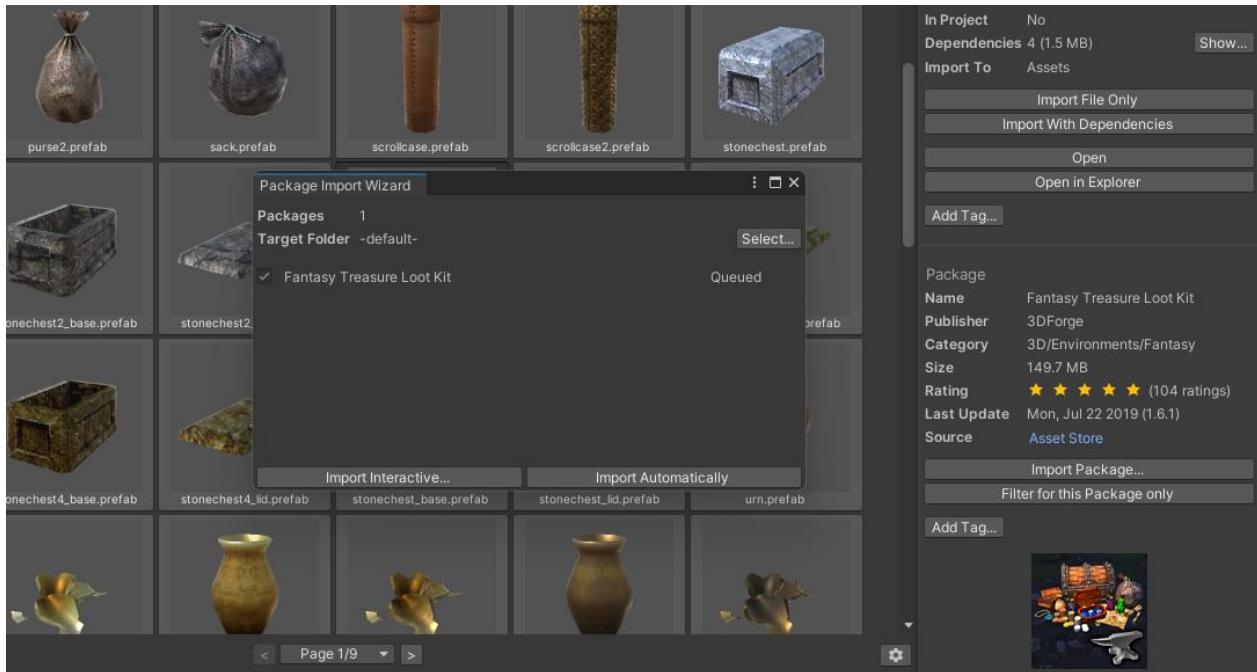
Browsing through search results, especially with many pages or complex queries, can be time consuming since many database operations are involved. When activating high-speed mode, all result pages will be loaded immediately and browsing and subsequent filtering by keywords will become lightning fast.

Once active, searching will only be done inside the initial search result, refining it further. The usual fuzzy search, +, - and ~ searches will be available but no extended features. Switching to a different saved search will retain in-memory mode.



IMPORTING ASSETS

Assets can be imported individually or with all detected dependencies. The latter will automatically create a sub-folder with the asset name and store all files in there.



In case there are **script dependencies** these can also be imported. Due to unforeseen dependencies in scripts, that will typically only work for scripts that are self-contained, like custom shader editors or simple logic classes. Otherwise, there might be compilation errors.

Clicking the *Show* button behind the dependency information will bring up the dependency information details, listing all files, their size and if they are already in the project or not.

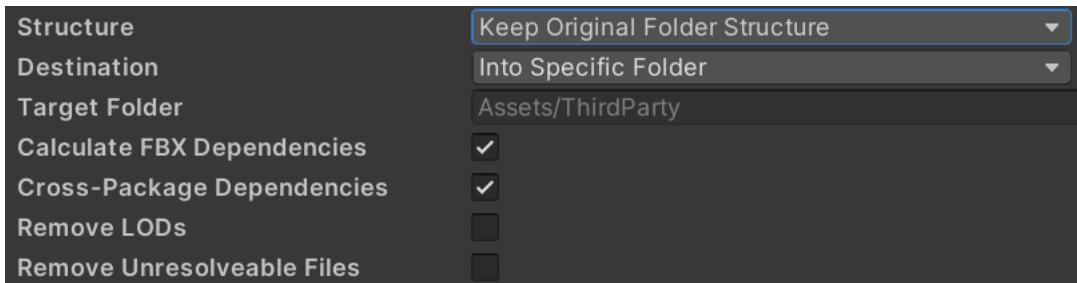
Import can also be triggered by **double-clicking** on an item (if activated in Search settings) or by **dragging** it into the Project Window. Once an item is imported into the project it can also be dragged from the search into any other window, e.g. the scene or fields accepting the dragged object type. It will also render an inline preview then which allows to rotate 3d models and more.



Import Location, Folder Layout and Post-Import Actions

By default all assets will be imported under *Assets/ThirdParty*. This results in a clean root folder for your project. Most assets support this but a few might cause issues since they expect to find their files in the root. In that case either move them in the Project View or select a different **import destination**. The tool offers three options:

- Selected folder in Project View
- Asset Root
- Specific Folder (e.g. *ThirdParty*)



You can also specify the intended **target structure**:

- By default even when importing single files they will materialize in the original folder structure of the asset. This is typically a good choice when importing multiple files or if files have dependencies like prefabs that will materialize model, material and other folders potentially.
- You can also select to have them all materialize in the same folder.
- Alternatively, files without dependencies can also be dragged into a target folder directly which will not create any additional structure.

Once items are imported, post-actions can be executed:

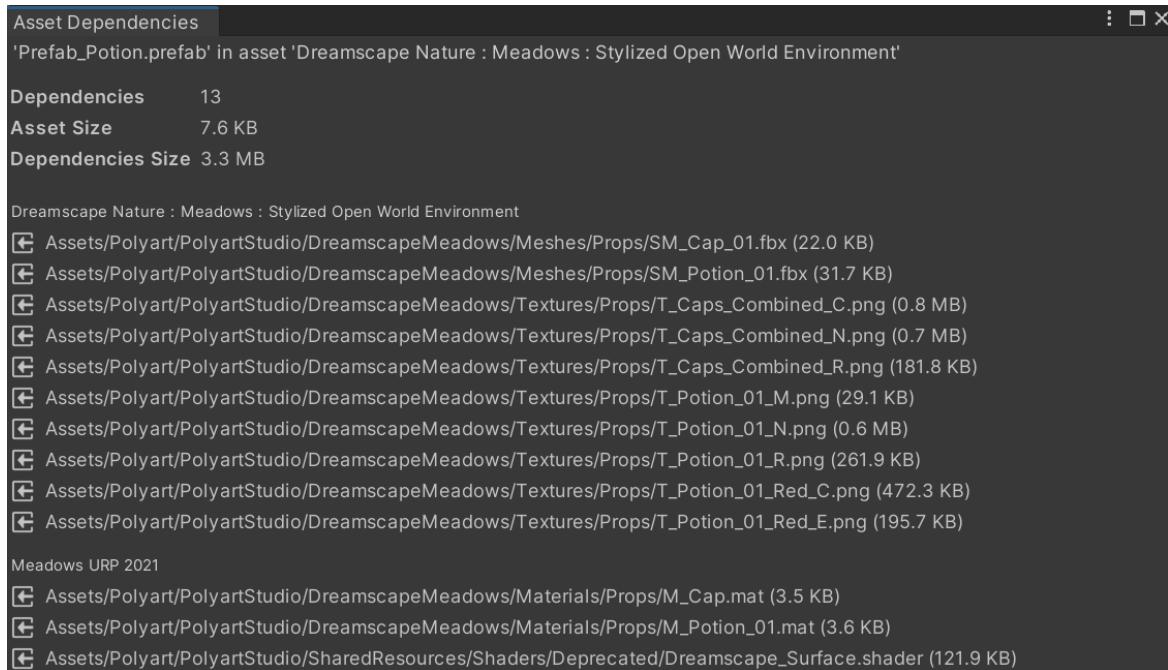
- Remove LODs will scan imported prefabs for LOD group components and remove it and all LODs except the first one.

Scriptable Render Pipeline (SRP) Support

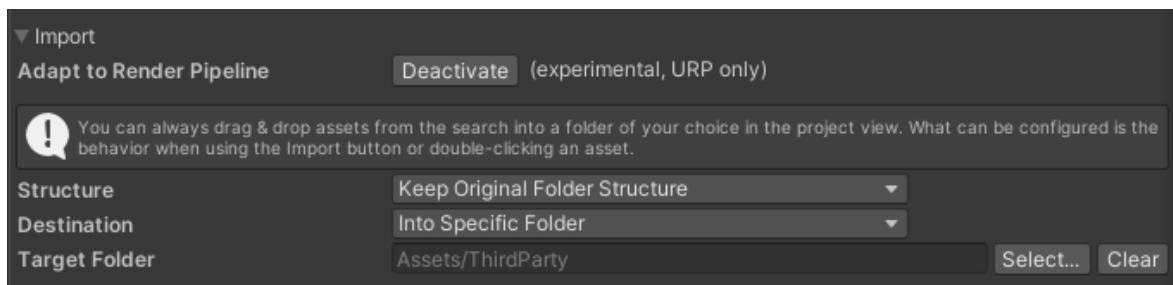
When working in an **SRP** project, materials can appear with the pink error shader due to incompatibility. The tool provides extensive support for SRP projects to fix this. Two modes are available which can be combined for maximum coverage:



- Many packages bring dedicated **SRP support packages** with them which contain additional files that need to be installed when working in a URP or HDRP project. These support packages will **automatically** be detected and when importing an asset, the tool will check which additional files are required from the support package. You will see the full dependency resolution in the dependency UI.



- Packages without special SRP support packages can in many cases still be used in URP projects since Unity provides the **Render Pipeline Converter** which will adjust the imported materials to fit the URP materials. If activated under *Settings* (available in URP projects with URP 14+), the tool will **automatically trigger this conversion**, making it very convenient to import assets. If a dedicated SRP support package was found, this step will automatically be skipped. Since there is no programmatic way to influence which materials are converted, this setting will convert all project materials (typically not a problem) and will incur a minor speed penalty. It will also work when recreating previews.



EXPERT SEARCH

Tokens

A token is a name/value pair separated by a ":". A token can be put anywhere in the search field and will apply to basic and expert searches. They act as a shortcut to express sophisticated filter conditions. Available tokens:

- pt: Package tag (multiple will be combined via OR)
- ft: File tag (multiple will be combined via OR)

Examples

“red pt:car” will search for all files that contain the word “red” and have the package tag “car”.

SQL

It is possible to use nearly the full feature set of [SQLite 3](#) to search. This mode is activated when starting the search with “=”. Afterwards the database fields and conditions can be stated.

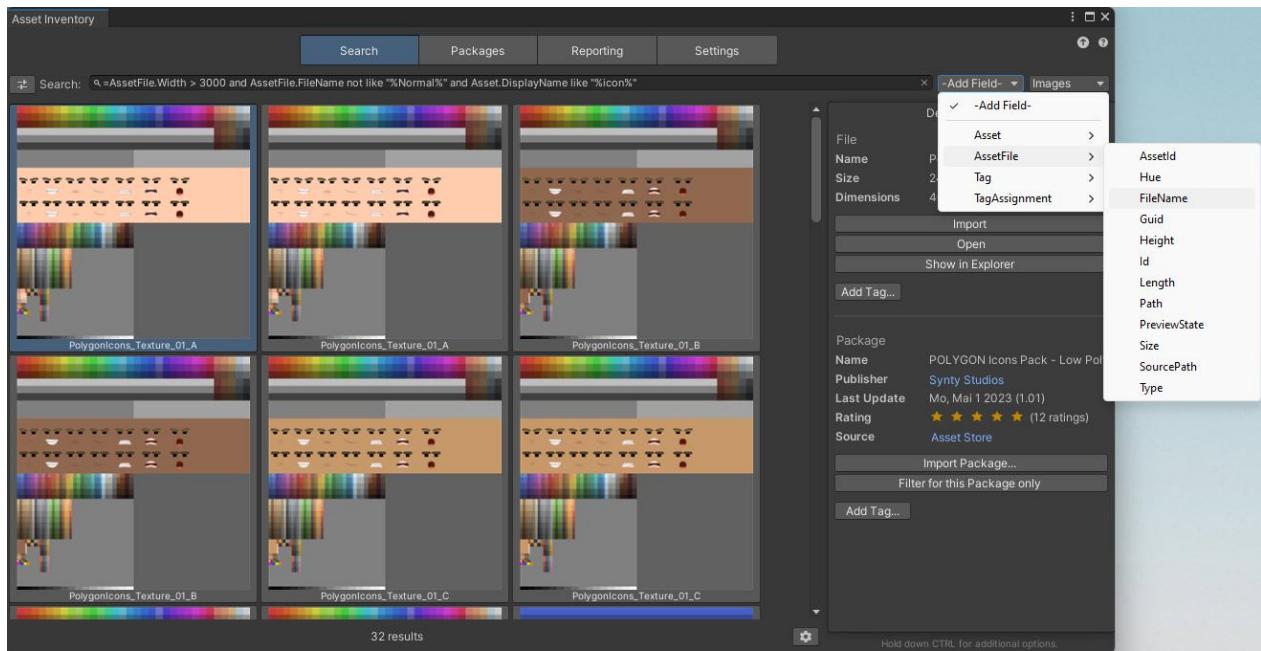
Examples

=Asset.PackageSize > 0 and AssetFile.Type=”wav”

=AssetFile.Width > 3000 and AssetFile.FileName not like "%Normal%" and Asset.DisplayName like "%icon%"



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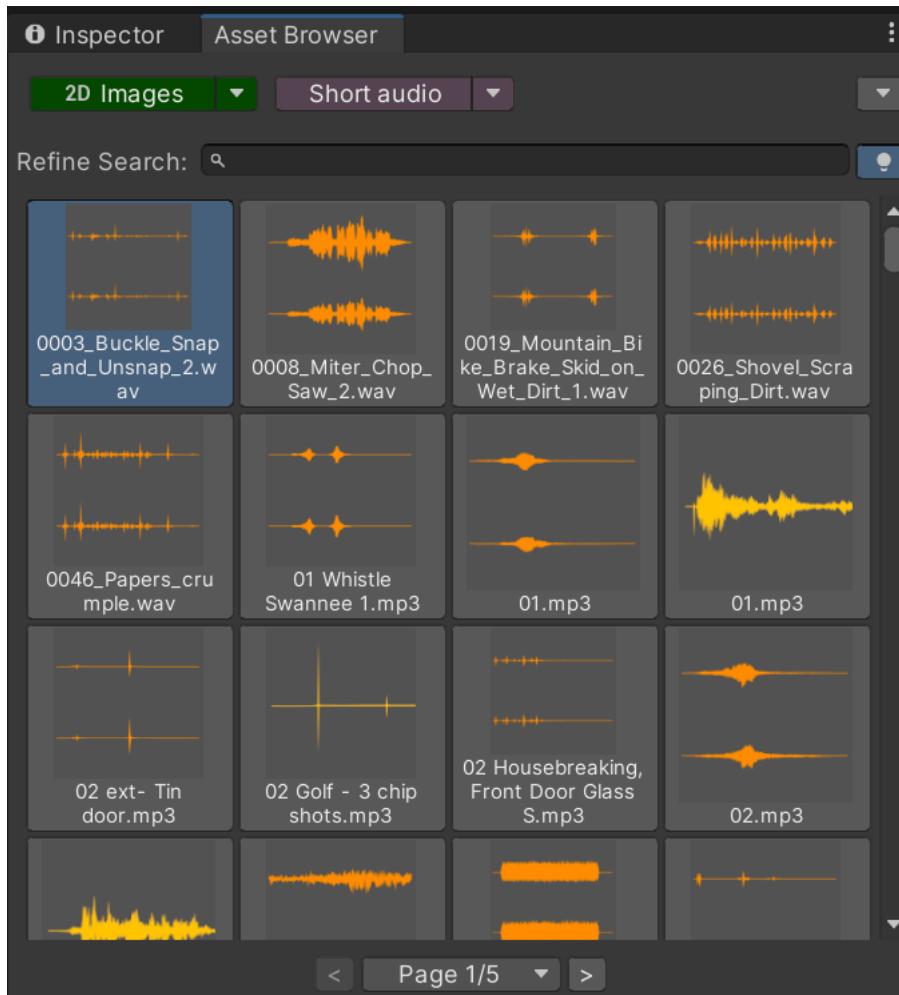


Useable fields can conveniently be picked from the dropdown behind the search field.



ASSET BROWSER & WORKSPACES

When you are only focusing on bringing assets into your project, the normal window with the packages list, settings and more can be too big or cumbersome to work with. There is a dedicated *Asset Browser* window that is streamlined and highly optimized for quickly bringing in assets.



It is utilized best in combination with saved searches as it will automatically load the first saved search and always activate in-memory mode. Since not all saved searches might apply to the current project you are working on, it is possible to group these into **workspaces**.



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The screenshot shows the Asset Browser and Workspace Editor interfaces.

Asset Browser: The top part of the interface. It has tabs for Inspector, Asset Browser, Cars, 2D Images, Skymaps, and Short audio. A search bar labeled "Refine Search:" is present. Below the search bar are four asset preview cards:

- A pixelated snowman with a carrot nose and red scarf stands upright.
- 05_dungeon_carp et_edge.prefab
- 05_dungeon_carp et_exteriorCorner.p refab
- 05_dungeon_carp et_fill.prefab

A context menu is open over the fourth asset, showing options: -No Workspace-, 2D Game, 3D Game, GameJam (which is checked), New..., Edit..., and Delete.

Workspace Editor: The bottom part of the interface. It shows a workspace named "GameJam". The "Saved Searches to Show" section contains collapsed categories: Cars, Images, Skymaps, and Short audio. There are "+" and "-" buttons to expand or collapse these categories. At the bottom is an "Update" button.



PACKAGES

OVERVIEW

The packages overview will show a list of all packages, indexed or detected in the current project. These can come from multiple sources:

Automatic

- Asset Store purchases
- Registry packages
- Unity Asset Manager
- The local Unity asset cache
- The local Unity package cache

Additional folders stated under *Settings*

- Unity packages from other sources (e.g. Synty)
- Local asset packages under development (via *package.json*)
- Local media libraries (sound files, textures, models...)
- Unity projects
- Archives (zip, rar & 7z contents)

The list will indicate which of these were already indexed. To index more packages, download them into the cache or add more additional folders. Display is possible as a plain list or grouped by categories, publishers, state or tags.

In the case of registry packages, only the latest version of the package will be indexed.

If a package contains **sub-packages** (also recursively), they will be shown directly under the package in a tree structure.

Double-clicking any package will show the contents in the search. After selecting a package, multiple options will appear. It is possible to import it. Alternatively, it can also be removed from the index to trigger a reindexing on the next run. This can be useful for incorrectly indexed files. Packages can also be completely removed from the database which can be useful after cleaning up outdated assets from the local cache.



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The screenshot shows the Asset Inventory application window. On the left, there's a sidebar with filter options: 'Packages' (Exclude Registry Packages), 'Deprecation' (-all-), and 'Maintenance' (-all-). The main area displays a list of packages with columns for Name, Tags, Version, and Indexed. A search bar at the top allows filtering by name. To the right of the package list is a detailed panel for the selected package, 'Curvy Splines 8'. This panel includes sections for Overview (Indexed Packages: 1,390/1,414, From Asset Store: 1,271, etc.), Package Details (Name: Curvy Splines 8, Publisher: ToolBuddy, Category: Tools/Utilities, Size: 9.8 MB, Rating: 4.5 stars, Last Update: Wed, Apr 26 2023 (8.6.1), Source: Asset Store, Backup: checked), and various actions like Download Update, Import Package..., Open in Search, Reindex Package on Next Run, Recreate Missing Previews, and Add Tag... Below this panel is a logo for 'Curvy'.

Depending on the package type additional options become visible:

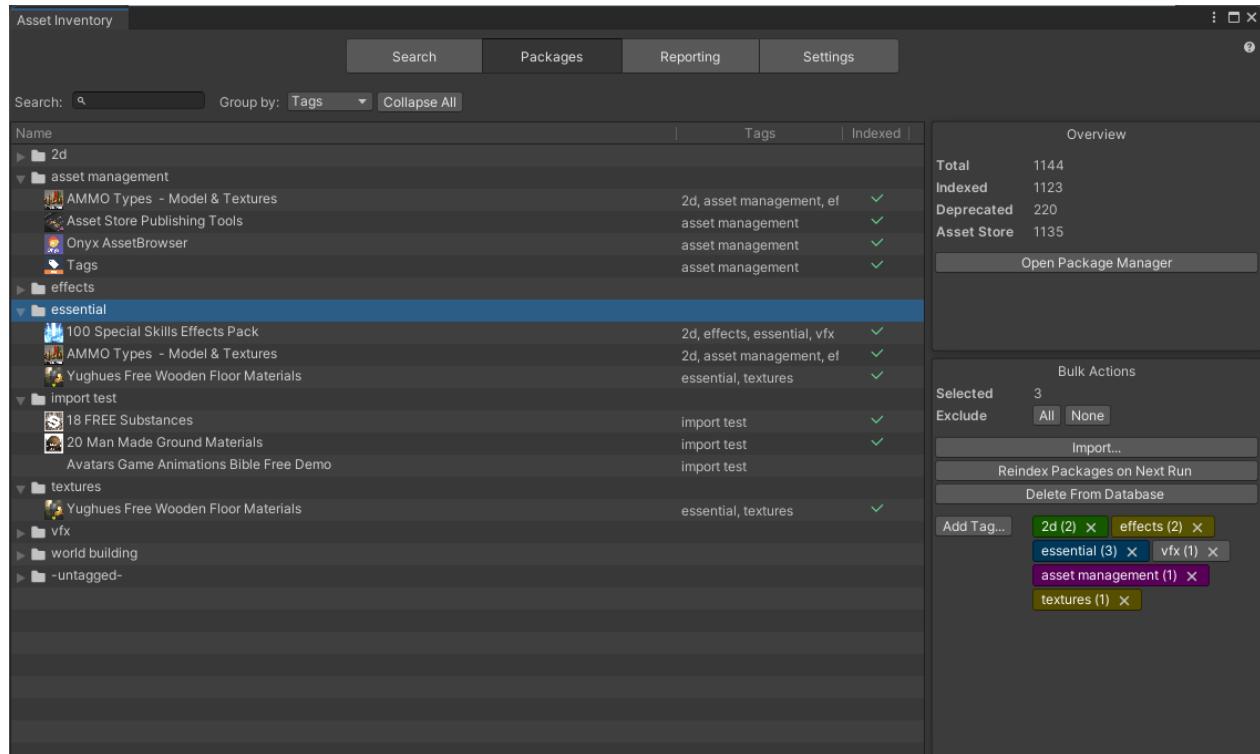
- Registry Packages
 - Support for managing the installed version and setting an **update strategy** (recommended, latest stable compatible, latest compatible, manually).
- Development Packages
 - Use directly via **file link**
- Custom Packages
 - Support for **connecting to metadata** from the Asset Store. This will load the name, description, rating etc. and is especially useful when having downloaded packages from alternative sources like the Humble Bundle to still have all metadata available. See details in Custom Metadata section below.
 - Support for disconnecting from the Asset Store again

Using the buttons under the package list, the display can be switched between list and grid style. Right-click on any column header to add or remove columns.

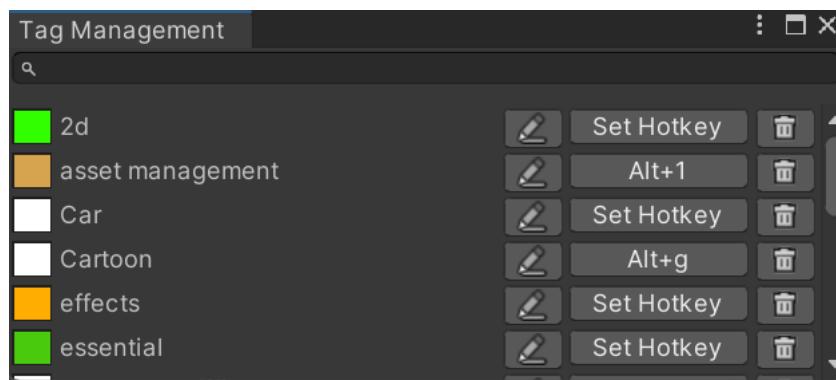


TAGGING

Tags will be imported from the Asset Store in case any are set there. In addition, local tags can be added and removed here as well (they are not synchronized back to the Asset Store yet). Bulk editing of tags is possible when selecting multiple items in the tree.



When adding tags, the **Tag Management** window can be opened through the small cog wheel. There, tags can be created, colored, renamed and deleted. You can also set **hotkeys**. The size of the tag selection window can be changed under *Advanced* settings.



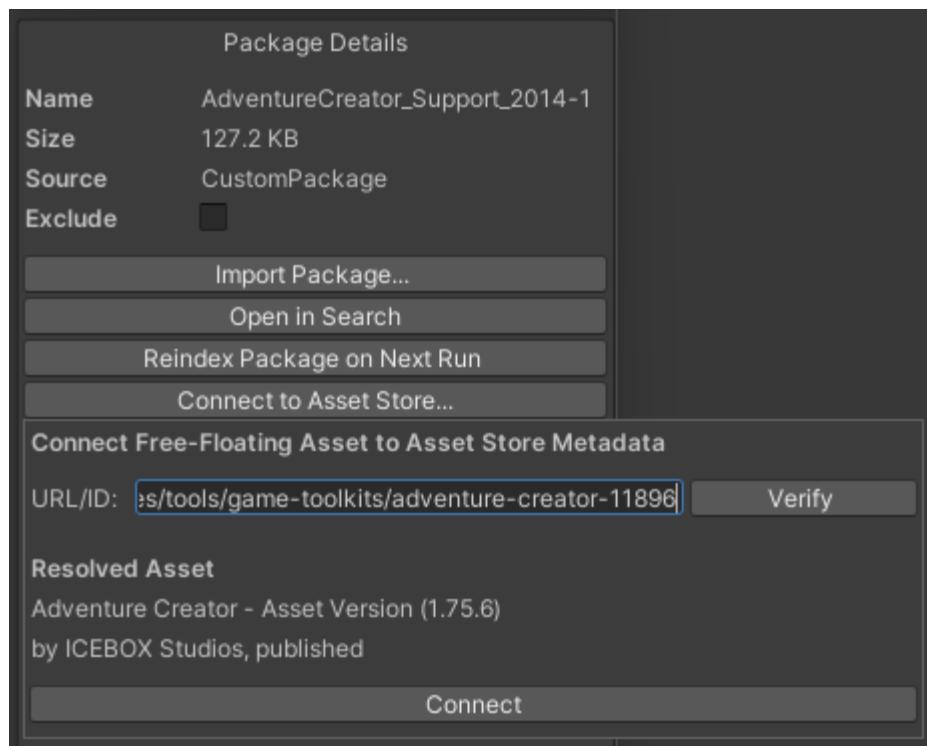
CUSTOM METADATA

Package metadata like name, publisher, category etc. is extracted directly from the package if the information is contained in there. If it is missing there are four options.

Link to Asset Store

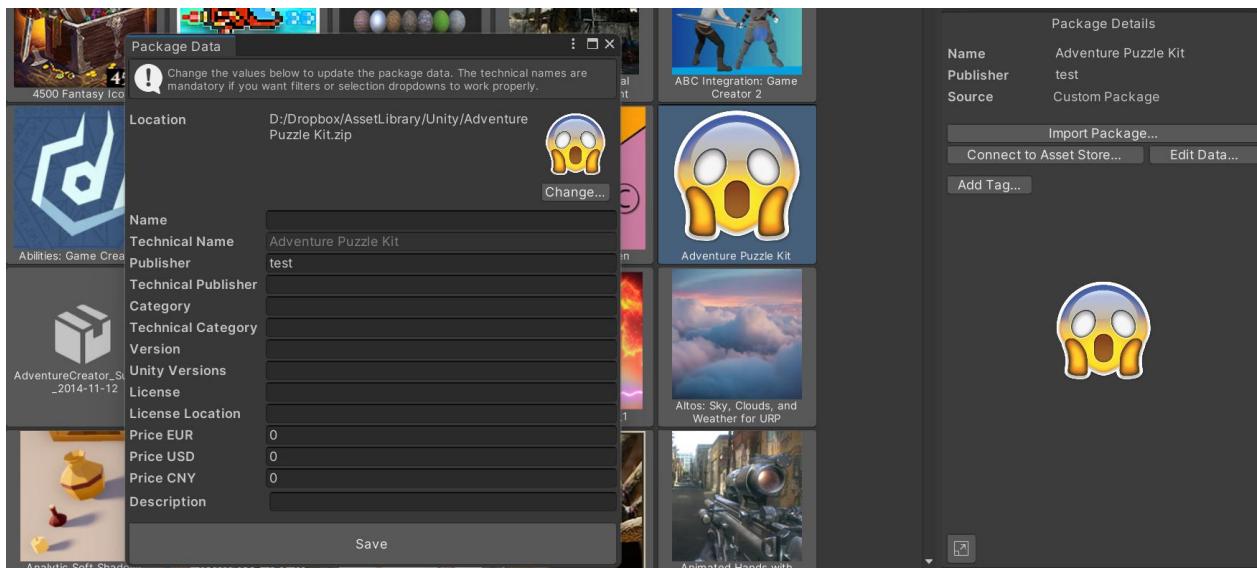
If the package exists on the Asset Store, the package can be linked to the entry there and a lot of metadata will be loaded automatically and also regularly to fetch updates to it.

Copy/paste the URL from the Asset Store website of the asset you want to link, *Verify* it is detected correctly and click *Connect*.



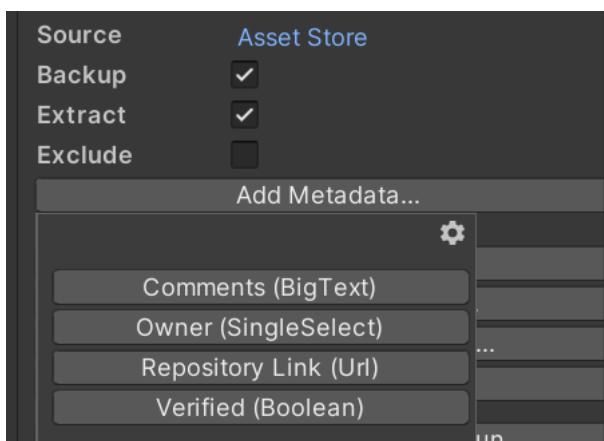
Manual Data Entry

Metadata can also be entered manually using the “Edit Data...” command visible for packages that are not linked to the Asset Store. This way also custom preview images can be set for archives and custom packages.



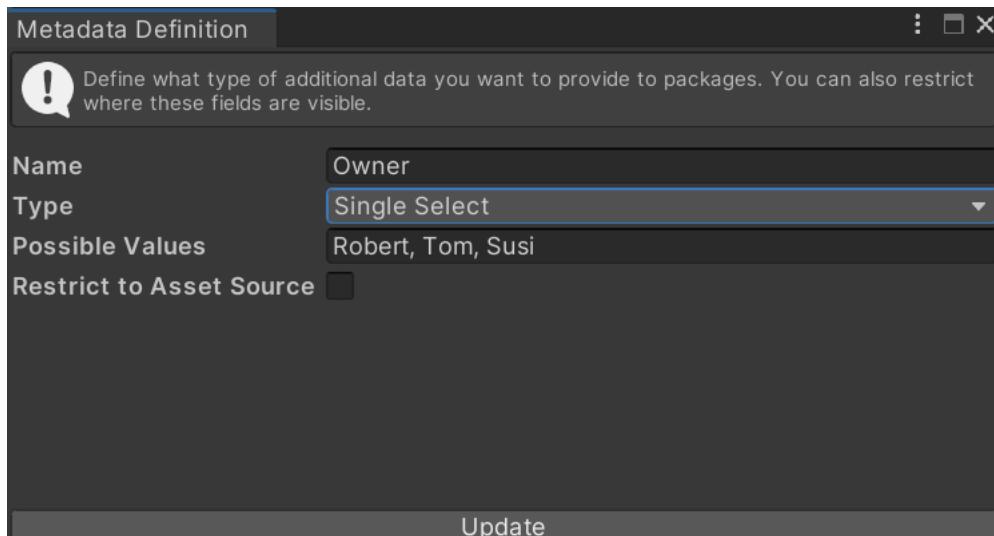
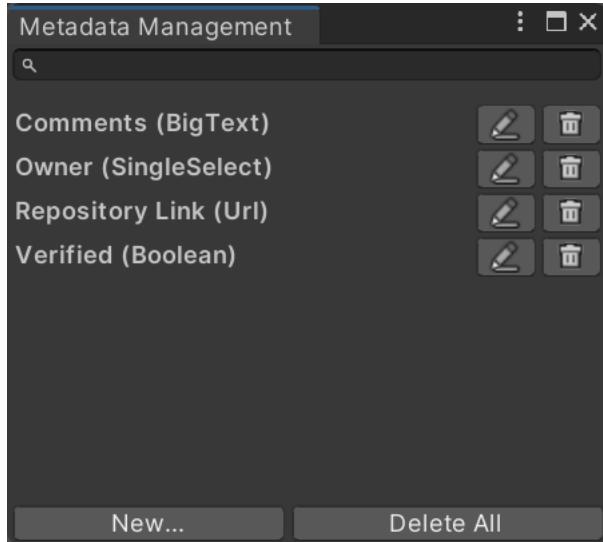
Define Custom Fields

If the metadata fields that are available in the database do not fit or you want to capture additional information, you can define additional fields. These can be of various types to render checkboxes, selection lists, texts, numbers, links or dates. Metadata fields can be restricted to only appear for packages of specific sources, e.g. archives.



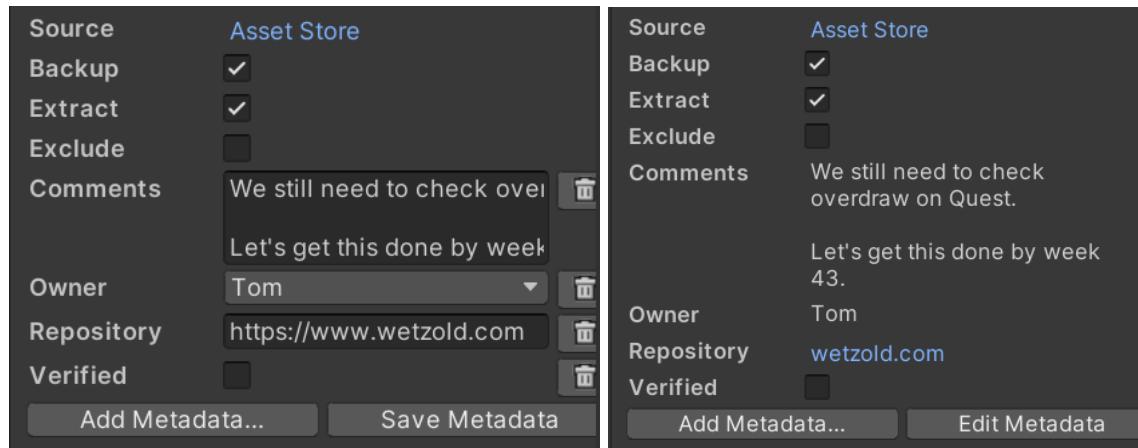
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Existing fields can quickly be added from the dropdown. To define new fields, go to the management UI using the cog wheel. There you can create, edit and delete all custom fields.



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Once metadata is added to a package the UI will be in either view or edit mode (except for checkboxes). During edit mode, values can be changed and fields removed. This will only remove them from this specific package.



Override Files

The last option is to create an *Override Json* file containing metadata. This needs to be named like the package file with the suffix `".overrides.json"`. This overrides file can contain any data a package can hold and also a list of tags in addition. If defined in there, this data will override any existing data read from the Asset Store or the header file.

The advantage of this method is that such files can be put in a central location, so everybody who will index the location has the same metadata. This ensures for example the common use of tags and categories if working in a team.

The image shows a file browser interface with a dark theme. At the top, there are two entries: '3 Skyboxes.unitypackage' (modified 23.01.2024 17:50, Unity package file) and '3 Skyboxes.unitypackage.overrides.json' (modified 15.05.2024 20:06, JSON-Datei). Below this, a code editor window displays the contents of the overrides.json file:

```
{  
  "displayName": "Three Skyboxes",  
  "tags": ["sky", "limit"]  
}
```



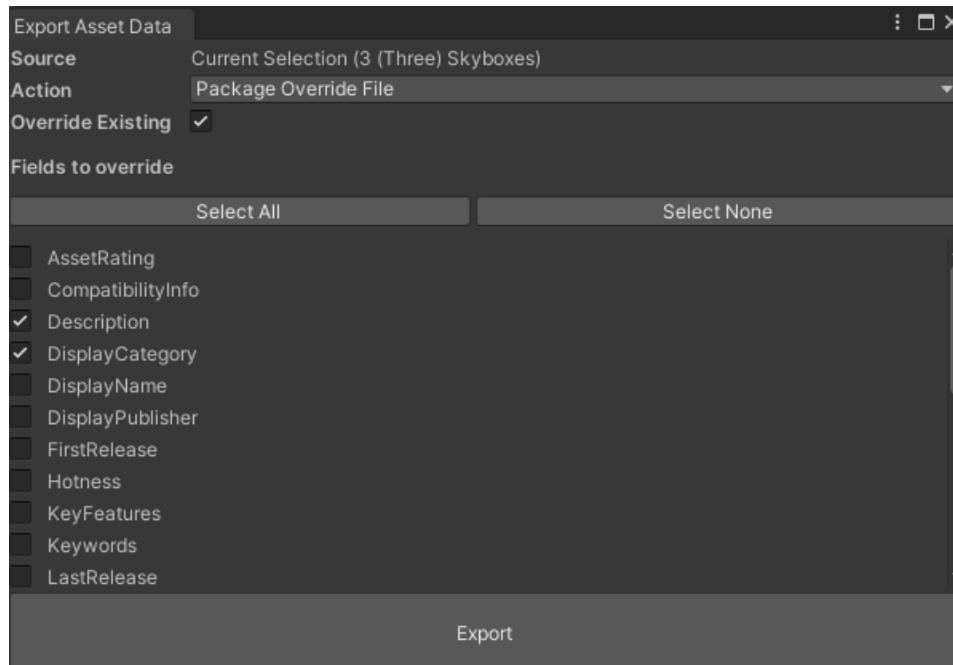
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Supported fields: *displayName, displayCategory, safeCategory, displayPublisher, safePublisher, publisherId, slug, revision, description, keyFeatures, compatibilityInfo, supportedUnityVersions, keywords, version, latestVersion, license, licenseLocation, purchaseDate, firstRelease, lastRelease, assetRating, ratingCount, hotness, priceEur, priceUsd, priceCny, requirements, releaseNotes, registry, repository, officialState, tags*

Consider that filtering and grouping works on the *Safe* versions of category and publisher so these should also be set when changing these values. *Safe* versions are named in a way that they could also be used in the file system, without special characters like & or /.

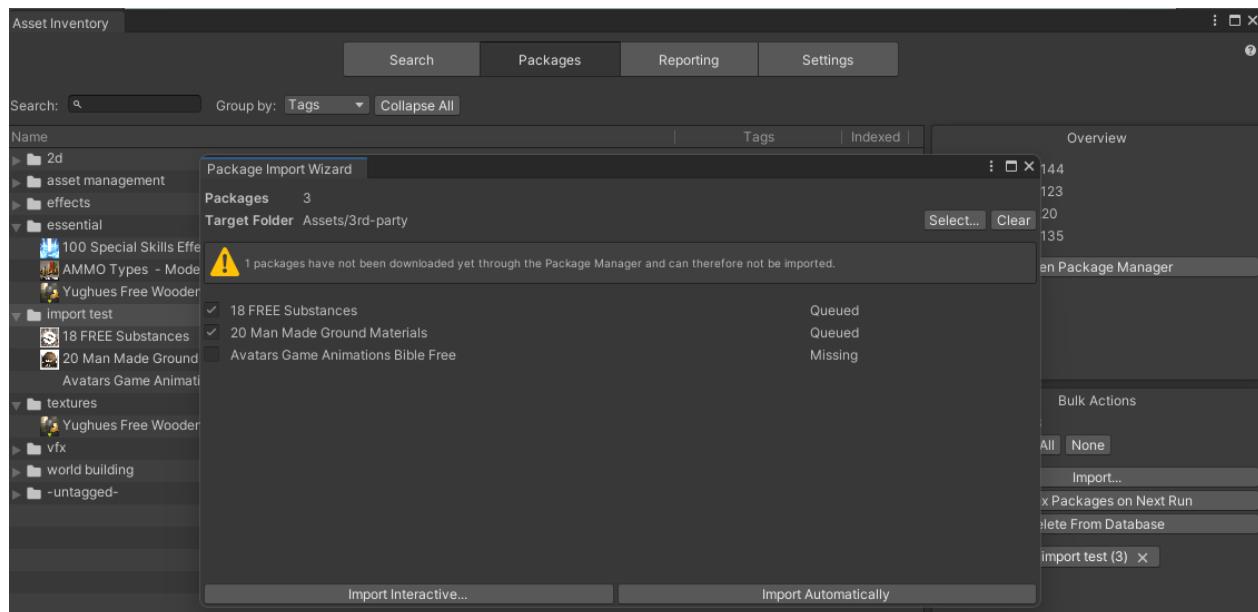
SafeCategory	DisplayCategory
Filter	Filter
Complete ProjectsSystems	Complete Projects/Templates
3D ModelsProps	3D Models/Props
AudioSound FX	Audio/Sound FX
Textures Materials	Textures & Materials
Textures MaterialsGround	Textures & Materials/Ground
3D ModelsVehiclesLand	3D Models/Vehicles/Land
Textures Materials	Textures & Materials
Editor ExtensionsGame Toolkits	Editor Extensions/Game Toolkits
Complete ProjectsPacks	Complete Projects/Packs

To make it easier to create package override files, the Package Export supports to create these conveniently for an individual or also a list of packages.



IMPORT & BULK IMPORT

Importing packages can happen one-by-one and in bulk while multiple packages are selected. Both interactive and automatic mode is available. In addition, a **custom root folder** under which assets should be imported can be selected. This is especially helpful if the “/Assets” root should be kept clean and organized. Packages from registries will be added to the project manifest. If registry packages need a custom scoped registry this will also be added automatically.



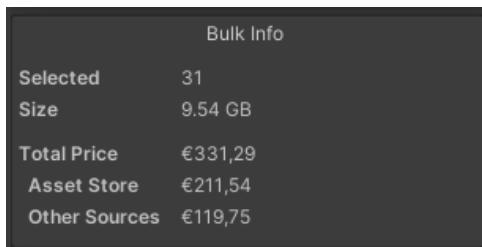
Importing an archive will extract the archive into the target folder.



ADVANCED

In case packages should not appear in the search results and not be indexed, the **Exclude** toggle can be used in the package details. Excluded items will disappear from the list and can be reactivated using the "*Excluded*" maintenance view.

Bulk selection will show the total size of the compressed assets before they are downloaded so that you can estimate if temporarily downloading all for indexing would still fit on the hard drive. If available also costs are shown (current, non-discounted).



Clicking the icon in the lower right corner will toggle the details view into an **expanded view** twice as big. Depending on availability it will now also display media, description, release notes and dependencies (for registry packages).

Name	Tags	Version	Indexed
100 Special Skills Effects Pack	2d, effects, vfx	24.2	✓
100+ Stylized Weapons Bundle - Fantasy RPG		1.0	✓
18 FREE Substances		1.0.3	✓
20 Man Made Ground Materials		1.2	✓
2000 Fantasy Icons		1.3	✓
25 Mixed Industrial Sign Pack		1.0	✓
25+ Free Realistic Textures - Nature, City, Home, Construction & More		1.2.0	✓
2500+ Stylized Textures Megapack - Nature, Walls, Floors, Fantasy & More		1.1.0	✓
2D Animation			
2D Aseprite Importer			
2D Beginner: Complete Project URP		1.6.1	✓
2D Beginner: Tutorial Resources		1.1.0	✓
2D Common			
2D Endless Runner		1.1	✓
2D Endless Runner Kit		1.07	✓
2D Entities			
2D Fantasy sprite bundle		1.6	✓
2D Game Kit		1.9.5	✓
2D Graveyard Pack - Handcrafted Art		2.12	✓
2D Icons - Total Pack		1.0.0	✓
2D IK			
2D Infinite Runner Toolkit		2.5	✓
2D Mine Tileset		1.2	✓
2D Path			
2D Pixel Perfect			
2D Platformer		3.1a	✓
2D PSD Importer			
2D Roguelike		2.9.8	✓
2D Soft Body		2.0	✓
2D SpriteShape			
2D Sugar World Asset Pack URP		1.0	✓
2D Tilemap Extras			
2D Toolkit		2.5.8.16	✓
2D Tools		1.6	✓
2D TopDown Tilesets Fantasy Dreamland		5.0.0	✓

Name: 2D Game Kit
 Publisher: Unity Technologies
 Last Update: Fr, Aug 12 2022 (1.9.5)
 Rating: ★ ★ ★ ★ ★ (469 ratings)
 Source: Asset Store
 Backup: ✓

Import Package...
 Open in Search

Add Tag...

Images | Description | Release Notes

Hold down CTRL for additional options.

Holding CTRL will reveal a lot of additional package data and also many actions.



REPORTING

OVERVIEW

This module will scan the complete project and try to identify packages that were being used. It also supports exporting your data and listing used licenses.

Name	License	Version
Impacts and Muzzle Flashes	-default-	1.3.0a
Input System	-default-	1.7.0+
Instant Screenshot	-default-	1.1
JetBrains Rider Editor	-default-	3.0.31
Lightweight A* Pathfinding	-default-	1.21
Live Capture	-default-	3.0.0+
Living Particles	-default-	1.4c+
Mars Environment	-default-	1.0
Mathematics	-default-	1.2.6+
MCS Caves & Overhangs	-default-	1.31
Meta - Voice SDK - Immersive Voice Commands	-default-	66.0.0
Meta MR Utility Kit	-default-	66.0.0
Meta XR All-in-One SDK	-default-	66.0.0
Meta XR Audio SDK	-default-	66.0.0
Meta XR Core SDK	-default-	66.0.0
Meta XR Haptics SDK	-default-	66.0.0
Meta XR Interaction SDK	-default-	66.0.0
Meta XR Interaction SDK Essentials	-default-	66.0.0
Meta XR Platform SDK	-default-	66.0.0
Meta XR Simulator	-default-	66.0.1
MetaAvatarsSDK	-default-	
Military Pack Part1	-default-	1.21
Military target	-default-	1.0

Packages that could be identified with 100% **confidence**, where also the version is guaranteed to be correct, will be shown with a **bold** version column. All registry packages automatically fall into this category. From Unity 2023+ also local assets are typically identified correctly if imported through Unity 2023+, since it will store the asset origin in the meta data files allowing to pinpoint the exact version correctly.

When selecting an asset in the Unity *Project View*, the reporting tab will try to identify the associated package in the lower right info box.

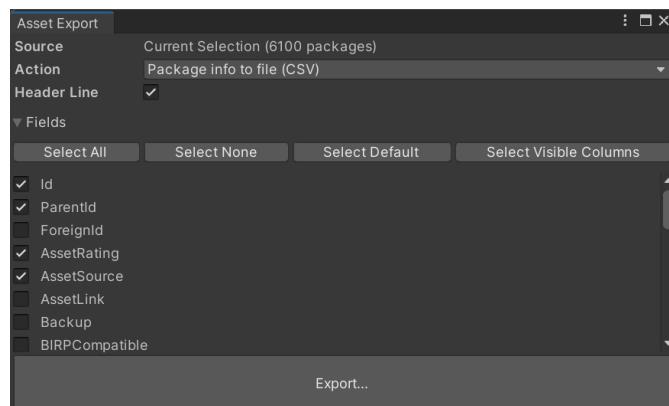


ASSET EXPORT

In case you want to perform your own analysis or create reports it is possible to export the database contents into various formats. Exporting packages can be done one-by-one or in bulk. Supported options are:

- **CSV**: for easy processing in Excel and other compatible software
- **Package Contents**: will extract packages and copy their files to another directory
- **Licenses**: will list all packages with a non-default license in MD format
- **Overrides**: JSON files which can be used to override package-specific metadata in team scenarios (e.g. to enforce common tags & categories)
- **Template-Based**: complex export formats like HTML webpages or any custom format utilizing an easy but powerful scripting language

CSV Export



The screenshot shows the 'Asset Export' dialog with the 'Action' set to 'Package info to file (CSV)'. The 'Header Line' checkbox is checked. Under 'Fields', several checkboxes are checked: Id, ParentId, AssetRating, AssetSource, AssetLink, Backup, and BIRPCompatible. Below the checkboxes are buttons for 'Select All', 'Select None', 'Select Default', and 'Select Visible Columns'. At the bottom is an 'Export...' button.

On the right side of the dialog, there is a large text area showing a CSV file with multiple rows of asset information. The first few lines of the CSV are:

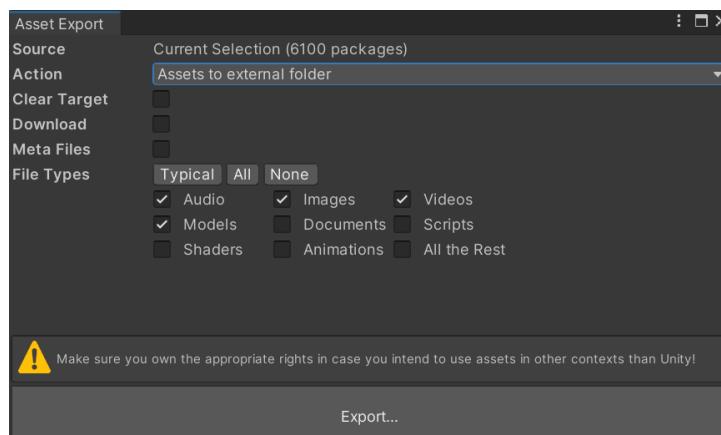
```

1 Id;ParentId;AssetRating;AssetSource;DisplayCategory;DisplayName;DisplayPublisher;
2 5417;281;5;AssetStorePackage;Editor.Extensions/GUI;01 - Quick Start Tutorial;echo
3 5996;990;5;AssetStorePackage;Shaders;01 UBER Import First;Tomasz Stobierski;UBER
4 5995;990;5;AssetStorePackage;Shaders;02 UBER Contents Examples;Tomasz Stobierski;
5 8335;786;5;AssetStorePackage;Editor.Extensions/Modeling;1 Universal RP Support;Va
6 7294;0;5;AssetStorePackage;Textures & Materials/Skies;10 Skyboxes Pack : Day - Ni
7 2;0;5;AssetStorePackage;Particle Systems/Magic;100 Special Skills Effects Pack;G
8 2909;0;5;AssetStorePackage;3D Models/Props/Weapons;100+ Stylized Weapons Bundl
9 8505;0;4;CustomPackage;Textures & Materials;118 sprite effects bundle;bestgamekit
10 8492;0;0;AssetStorePackage;Textures & Materials/Nature;1200+ Realistic Nature Tex
11 1129;0;4;AssetStorePackage;Textures & Materials;18 FREE Substances ;Allegorithmic
12 8336;786;5;AssetStorePackage;Editor.Extensions/Modeling;2 RTEditor Demo;Vadim And
13 5;0;5;AssetStorePackage;Textures & Materials/Ground;20 Man Made Ground Materials;
14 4431;0;5;AssetStorePackage;Textures & Materials/Icons & UI;2000 Fantasy Icons;PON
15 5902;779;5;AssetStorePackage;Scripting/Integration;2020 & Older Compatibility Pac
16 3653;0;0;AssetStorePackage;Textures & Materials;25+ Free Realistic Textures - Nat
17 3982;0;5;AssetStorePackage;Textures & Materials;25+ Free Stylized Textures - Grass
18 6;0;5;AssetStorePackage;3D Models/Props;25 Mixed Industrial Sign Pack;Volumetric
19 3407;0;2;AssetStorePackage;Textures & Materials;2500+ Stylized Textures Megapack
20 7389;0;0;AssetManager;AM Test;;01.01.0001 00:00:00;;;Unknown;;01.01.0001 00:00
21 11484;11483;0;AssetStorePackage;Editor.Extensions/Game Toolkits;2 5 D Shooter Mob

```

Package Content Export

Exporting files from a package will allow you to reuse these easily in other contexts.

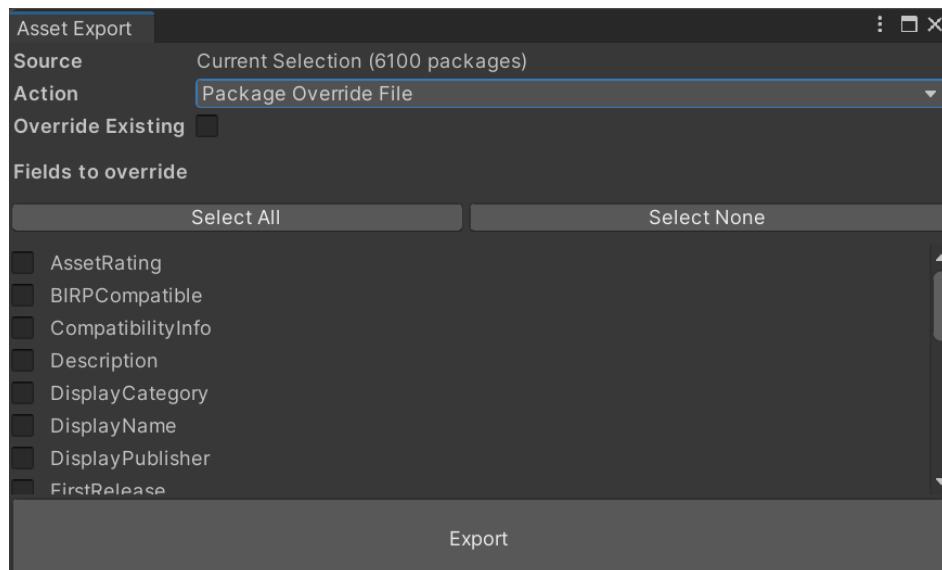


The screenshot shows the 'Asset Export' dialog with the 'Action' set to 'Assets to external folder'. Under 'File Types', the 'Typical' tab is selected, showing checkboxes for Audio, Images, Videos, Models, Documents, Scripts, Shaders, Animations, and All the Rest. The 'All' tab is also visible. A warning message at the bottom states: '⚠ Make sure you own the appropriate rights in case you intend to use assets in other contexts than Unity!'. At the bottom is an 'Export...' button.



Overrides

Override *Json* files are a way of providing additional information for packages during indexing. This is helpful if e.g. a whole team is indexing and you want to ensure the same category or certain tags are set the same everywhere. To have a better starting point these files can be created with the existing data so that you only need to adjust them instead of creating them from scratch.



Licenses

It can be very useful for compliance to list all third party licenses involved in a project. The license export will create an MD containing all packages with a non-default license.

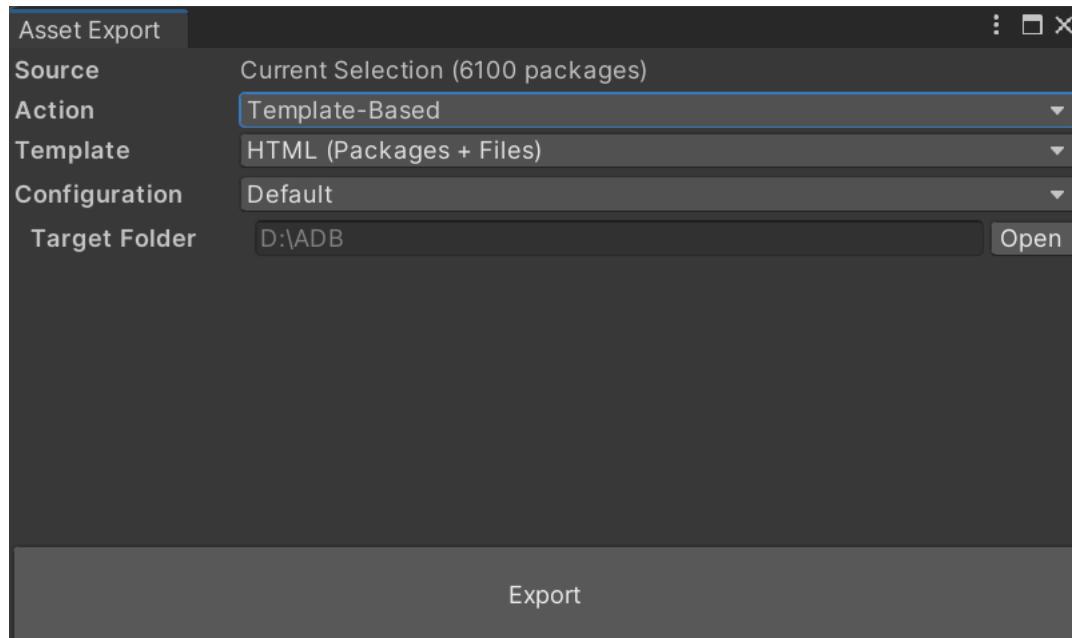
The screenshot shows the 'Asset Export' dialog box. At the top, it says 'Source: Current Selection (6100 packages)' and 'Action: Package Override File'. There is a checked checkbox for 'Override Existing'. Below this, under 'Fields to override', there are two buttons: 'Select All' and 'Select None'. A scrollable list of fields follows, including AssetRating, BIRPCOMPATIBLE, CompatibilityInfo, Description, DisplayCategory, DisplayName, DisplayPublisher, and FirstRelease. At the bottom right of the dialog is a large 'Export' button.

Third Party Licenses	
The following third-party packages are included:	
Bhaptics AVPro Video Example	
11	MIT
Bhaptics Oculus Example	
15	MIT
Bhaptics Wave Example	
15	MIT
Cesium for Unity	
19	Apache-2.0
20	([Details](https://github.com/CesiumGS/cesium-unity/blob/main/LICENSE))
EditorAudioUtils	
23	MIT
In App Purchasing	
28	Unity Companion Package License v1.0
Json.NET Converters of Unity types	
31	MIT
traVRsal SDK	
35	MIT



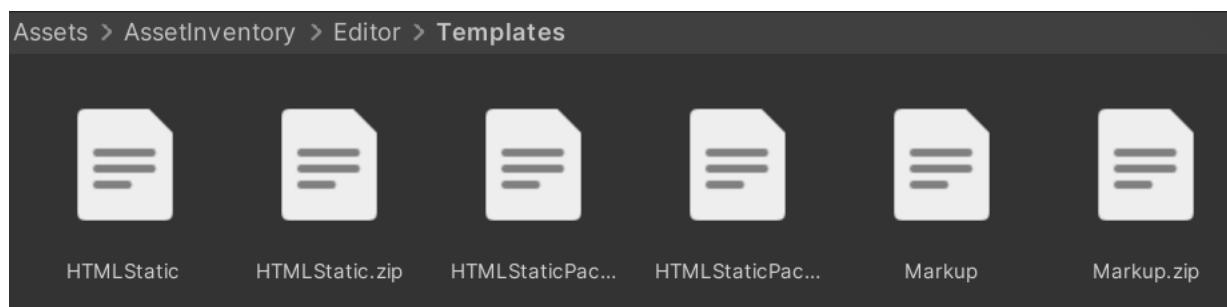
Template-Based

The most powerful export mechanism is the template based approach. It processes a whole set of input files, utilizes [Scriban](#), a template scripting language, to embed data and export the result to a custom directory. Some powerful templates are already included and custom ones can be added easily.



Configurations allow to use different paths depending on the target environment, e.g. for local testing or when deployed remotely on a server. In one case you might want to load data & images from specific folders, another time from a CDN URL.

Depending on the type of template, only a subset of features might be visible. The included HTML template points to the *Previews* folder and therefore will always export next to that directory. What features are possible is defined in the **template descriptor**, an optional *Json* file with the same name as the template.



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Below is an example template descriptor for the package-only HTML export based on the full HTML export template, extending it but deleting files and moving others around.

```
{  
  "name": "HTML (Packages)",  
  "description": null,  
  "version": 1,  
  "date": "2025-02-20T18:13:33.1939877+01:00",  
  "readOnly": true,  
  "inheritFrom": "HTMLStatic",  
  "needsDataPath": true,  
  "moveFiles": [  
    "favicon.ico>site/favicon.ico"  
  ],  
  "deleteFiles": [  
    "index.html",  
    "site/js/search.js"  
  ]  
}
```

Available properties:

- name
- description
- version
- date
- readOnly
- isSample
- fixedTargetFolder
- entryPath
- needsDataPath
- needsImagePath
- packageFields
- fileFields
- inheritFrom
- moveFiles
- deleteFiles



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The full **HTML export** provides a serverless file search right inside the HTML export with powerful filter options, paging and rich visualization. The package view lists all packages and allows to see package details.

The screenshot shows the 'Packages' view of the Asset Inventory. On the left, there's a grid of asset thumbnails labeled 'book'. To the right, a detailed view of a specific package is shown, including its name ('3D Items - Crafting Pack'), latest version ('1.2 (7.4.2020)'), publisher ('Frost Forest'), category ('3D Models/Props'), size ('5.13 MB'), price ('€22.99'), and asset rating ('★★★★★ (21)'). Buttons for 'View Package Details' and 'Open in Asset Store' are also present. The top navigation bar includes 'Magic Search' and 'Packages'.

The screenshot shows the 'Packages' view of the Asset Inventory. It displays a grid of asset thumbnails and their details. Some visible packages include 'Ready to use Tank pack', 'Kawaii Tanks Project', 'Unity-Chan' Model, '#NVIDIA Simple Water Shaders', 'Meta XR Interaction SDK', 'GRAPHY', 'LOW POLY GUNS', '10 Skyboxes Pack : Day - Night', '100 Special Skills Effects Pack', '100+ Stylized Weapons Bundle - Fantasy', '118 sprite effects bundle', '1200+ NATURE TEXTURES', '18 FREE Substances', '20 Man Made Ground Materials', '2000 Icons', '25 Mixed Industrial Sign Pack', '25+ Free Realistic Textures - Grass, G...', and '25+ Free Stylized Textures - Grass, G...'. The top navigation bar includes 'Grid View' and 'List View'.

The screenshot shows the product page for 'Asset Inventory 2'. At the top, it says 'NOMINATED FOR BEST DEVELOPMENT TOOL 2024'. Below that is a brief description: 'Put your asset workflow on steroids and say good-bye to the Package Manager as you know it! Asset Inventory is your ultimate asset companion: a lightning-fast search for assets for your current project. Find content in assets you purchased or downloaded without importing and bring single files in with just a click.' A note below states: 'Eliminate the time-consuming task of finding a sound file, a texture or a model you know you purchased but which is hidden inside one of your many Asset Store purchases. The Asset Inventory provides a **complete list of all assets you own**, including their content.' Navigation links at the bottom include 'Web | Discord | Forum | Documentation | Roadmap'.

► Powerful Search
Browse & find anything inside your purchased assets. Quickly preview audio files. Narrow your search using asset type, tags, image dimensions, audio length, color and more. Exclude items you don't want to see. **Save and recall** searches.

► Easy Setup
Works out of the box. Lots of optional view & configuration options. Hassle-free indexing. Start, stop & resume at any time. Works with Unity 2019.4 and higher. Windows, Mac & Linux. Lightning-fast indexing and search.

► Intelligent Import & Export
Import only what you need instead of a whole package. Automatically determines asset dependencies to import complex prefabs and materials. Save space & reduce clutter in your project. **Bulk import** multiple packages at once. Automatically store imported assets in a specific sub-folder and keep the Assets root clean. **Export** assets easily for reuse in other contexts. Automatically **converts materials** to URP.

► Many Sources
Your complete asset library: Automatically indexes Asset Store purchases. Triggers download of missing assets. Handles packages from registries and assets from Unity Asset Manager. Supports custom folders to search through Unity packages downloaded from other locations. Indexes folders and Zip archives containing **arbitrary media files** like 3D models, audio libraries, textures and more. Automatically generates previews.

Media
A thumbnail for 'Asset Inventory 2' featuring a cartoon octopus holding a play button.

Basic Information

Latest Version	2.7.0 (30 Oct 2024)
Publisher	Impossible Robert
Category	Editor Extensions/Utilities
Size	8.3 MB
Price	€35.88
Asset Rating	★★★★★ (127)

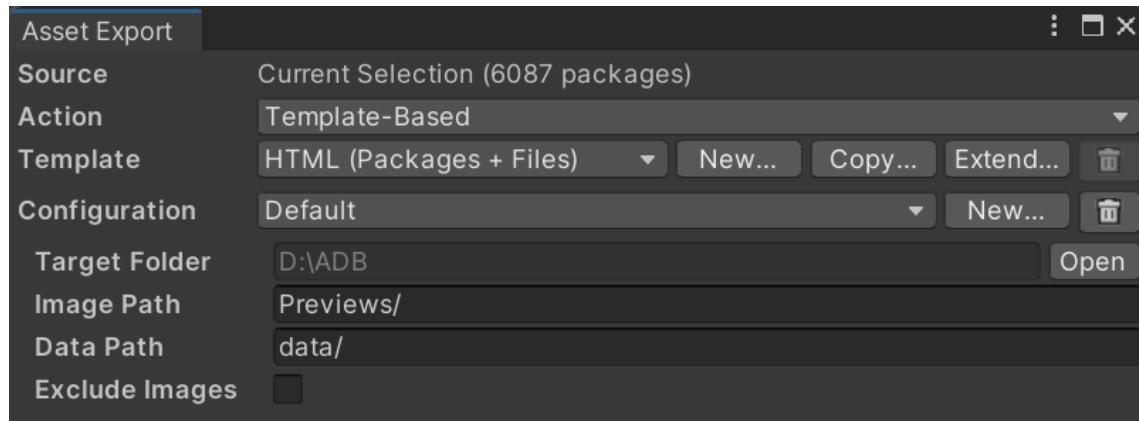
Extended Information

Unity Versions	2021.3.25
Render Pipelines	✓ BIP ✓ URP ✓ HDRP
State	published

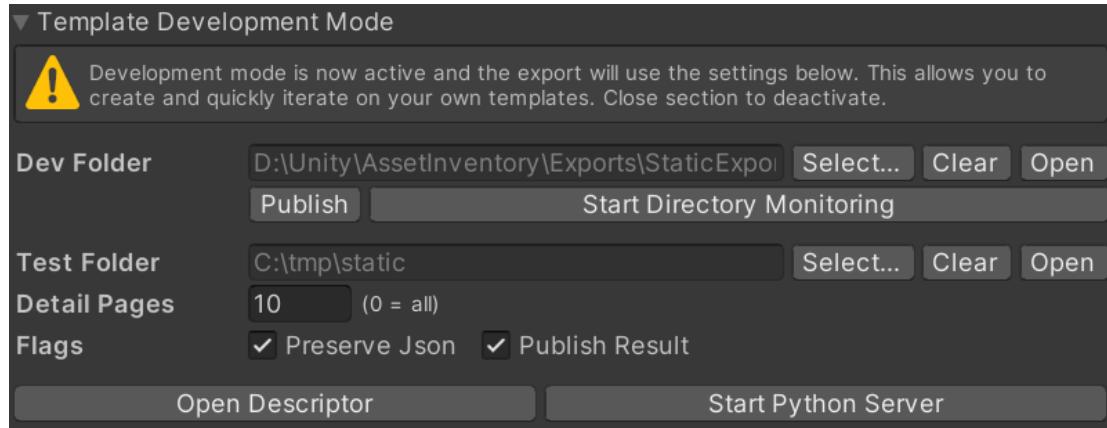


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Using the advanced features (hold CTRL), you can **create or extend** templates. Extending a template means that all files of the original template will be materialized upon export plus the files you put into the new template and the changes expressed in the descriptor.



You can also activate the **template development mode**. This is powerful to quickly iterate on templates, reduce the amount of data processed, automatically trigger exports upon changes in the dev directory and more. Setting a dev folder will export the template from this folder instead from the zip. Setting a test folder will always export to this folder first before copying the files over to the target (or skip this step if *Publish Result* is deactivated).



Once done developing, press *Publish* to package the folder into a *zip* and copy it into the *Templates* directory.



Template Language

Files of type *.html*, *.js*, *.csv*, *.txt* and *.md* will be parsed by the template engine and any placeholders will be replaced. The engine used is [Scriban](#). It is a simple but powerful language supporting many programming constructs, variables, include files and more. Below is an example how to iterate over all packages.

```
<div class="row" id="cardView">
{{ for package in packages }}
{{ if package.parent_id == 0 }}
<div class="col-md-2 mb-3 d-flex align-items-stretch">
<div class="card w-100 h-100 position-relative">

<div class="card-body d-flex flex-column h-100">
<div>
|   {{ package.display_name | string.truncate 40 }}
</div>
<div class="mt-auto">
|   {{ include 'assetrating.html' }}
</div>
<a href="package_{{ package.asset_id }}.html" class="stretched-link"></a>
</div>
</div>
{{ end }}
{{ end }}
</div>
```

A number of predefined variables exist which can be accessed:

- **dataPath**: path to the json files
- **imagePath**: path to the preview images
- **pageSize**: number of results per page
- **hasFilesData**: true if the current package has files indexed
- **internalIdsOnly**: true if only the internal id should be used for detail pages
- **packages**: all packages selected for export
- **package**: the currently selected package (e.g. on detail pages)
- **packageFiles**: all files of the current package

Some files inside a template trigger special functionality:

- **packages.json**: will contain the data about all packages
- **files.json**: will contain minified data about all packages
- **package_details.html**: will be replaced with files of the form *package_412.html* where 412 is the internal Id of a package for each package. If the asset is from the



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Asset Store, the name will be *package_f72632.html* using the foreign Id of the package if not set otherwise by the environment setting *internalIdsOnly*.



SCANNING FOR FREEBIES

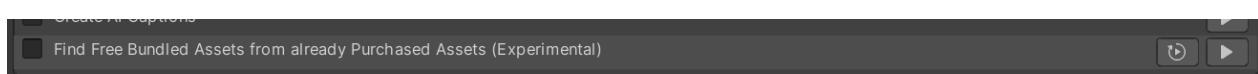
When purchasing Asset Store packages, authors sometimes grant **reduced or even free access to other packages** of them. Also, some authors sell **bundles**. When purchasing a bundle, a linked list of other packages becomes available for free. These packages are typically listed in the description.

The Asset Store does not show these free packs though easily and one has to actually go to every linked package in order to claim them.

This can lead to the common situation, that many packages remain unclaimed although they are already owned. When not claimed, the tool will not index them to make the contents available for use.

Order summary	
Items (16)	376.25€
Discount	- 370.73€
Subtotal	5.52€
Tax	0.00€
To pay now	5.52€

Using the Freebie scanner action will check all your purchased packages, if they contain any links to other assets in the description and will show these as potential candidates that you can claim.



Since the Asset Store does not provide an API to detect this automatically, you will need to check the results manually on the Asset Store website but can easily open the identified candidates from the log file or, if using the *force* mode, all will be opened automatically as tabs. Keep in mind, that only a fully loaded tab will show the correct result as the Asset Store changes the price only right at the end of the loading process.



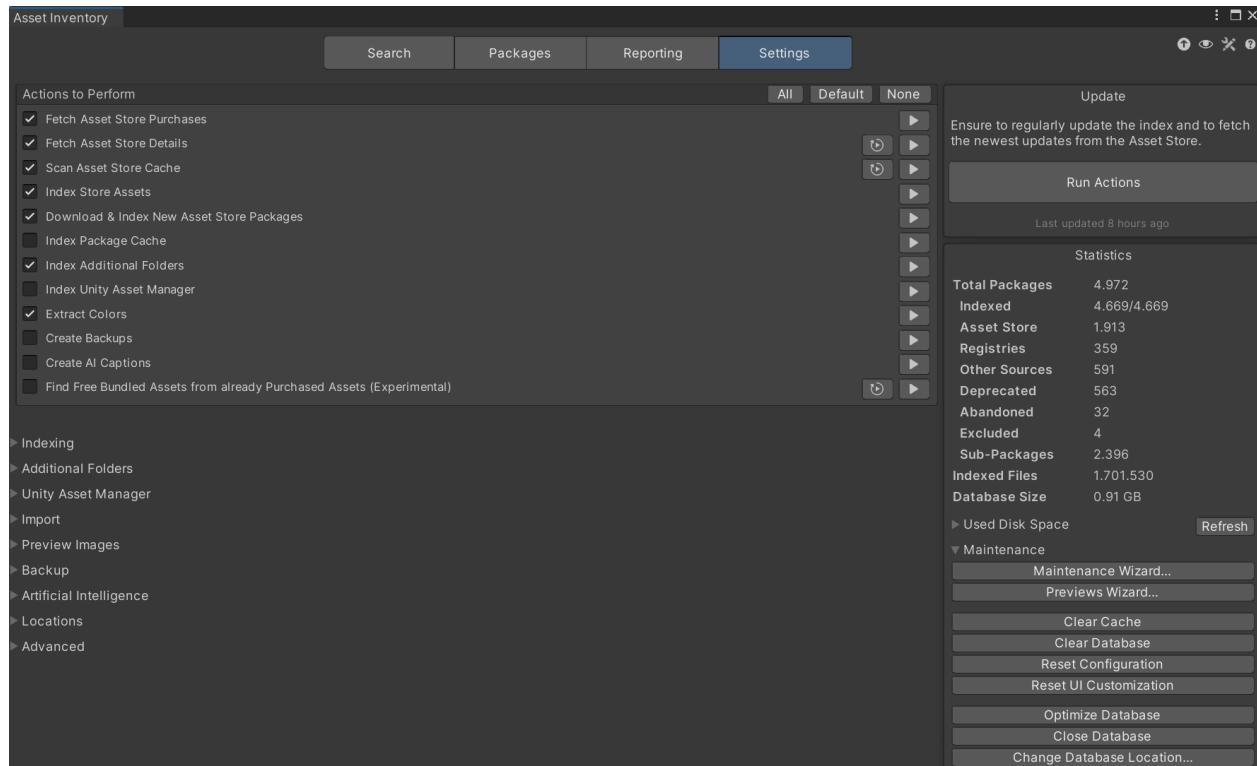
SETTINGS

OVERVIEW

Use this section to configure what and how should be indexed. Indexing can be started and stopped at any time and will pick off again where it last stopped.

ACTIONS

All features are separated into **actions**. Using the *Run Actions* command will run all selected ones at once. Each action can also be triggered individually. They will be executed from top to bottom.



Indexing the Asset Store cache is activated by default and the main source for your data. There are two options available:

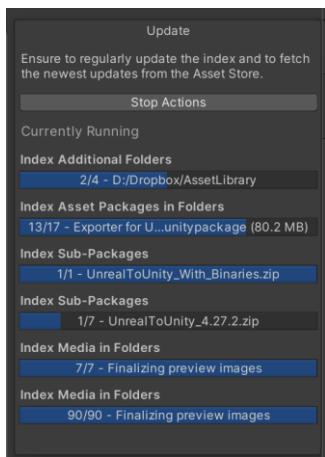
Index everything that is already downloaded into the local cache.

- That means you only need to click the **Download** button in the **Package Manager** window or right in the Asset Inventory for each asset you own (without importing them) to make them available for the index (bulk selection is also possible).
- If you have specified a **custom asset cache directory** in Unity 2022.1 or higher, it will typically be auto-detected. Press CTRL to see the resolved path and verify. You can manually override the location by switching the Asset Cache Location to *Custom*. If the environment variable ***ASSETSTORE_CACHE_PATH*** is set it will override the default asset cache location.

Automatically download purchased assets for indexing and delete them again afterwards.

- With this option you will **index everything you have** without the need to download everything, saving a lot of disk space, at the expense of a potentially very long indexing due to all the necessary downloads.

Nearly all actions are incremental, meaning you can **interrupt and restart these at any time** and they will mostly continue where they left off.



Once an asset is indexed it does not need to remain on your hard drive if you just want to search for it. Only when importing, it needs to be available.



Custom Actions

In addition to the predefined actions it is possible to define your own ones. These can have any number of steps. Use the buttons at the bottom of the actions list to add or remove actions.

The screenshot shows the 'Action Wizard' window. At the top, there are fields for 'Name' (Project Bootstrap), 'Description' (This will prepare the project to contain the common packages, folder structure and se), and 'Run Mode' (At Installation). Below this is a section titled 'Steps to Execute' containing the following steps:

- Create Folder Path: Assets/Scripts/Runtime
- Delete File Path: Assets/Readme.md
- Install Packages By Tag Tag: essential
- TextMeshPro Essentials: checked
- Uninstall Package By Name Name: com.unity.timeline
- Set Project Property Property: Input Manager Value: New
- Restart Editor
- Set Project Property Property: Company Name Value: My Studio
- Set Project Property Property: Enter Playmode Options Value: checked
- Set Project Property Property: Reload Domain Value: checked
- Set Project Property Property: Reload Scene Value: checked
- Set Project Property Property: Scripting Backend Value: IL2CPP
- Run Command Line Command: git Params*: Ifs init
- Debug Log Text: You are all set!

At the bottom right are '+ -' buttons, and at the bottom center is a 'Save' button.

--- Files And Folders ---

Create Folder

Move Folder

Delete Folder

Copy File

Move File

Delete File

--- Importing ---

Install Package By Name

Install Packages By Tag

Uninstall Package By Name

TextMeshPro

--- Misc ---

Set Project Property

Run Action

Run Command Line

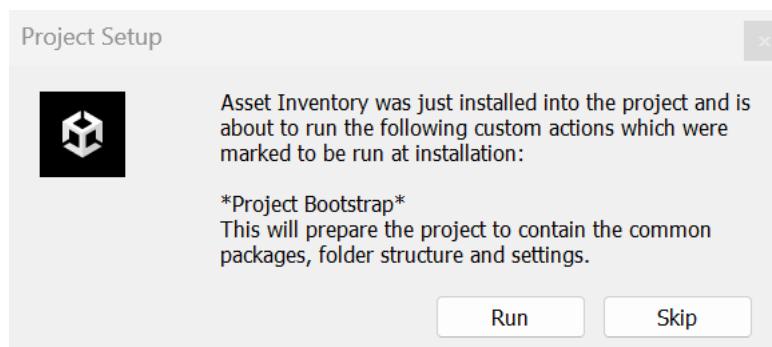
Debug Log

Message Dialog

Restart Editor

There are two run modes available:

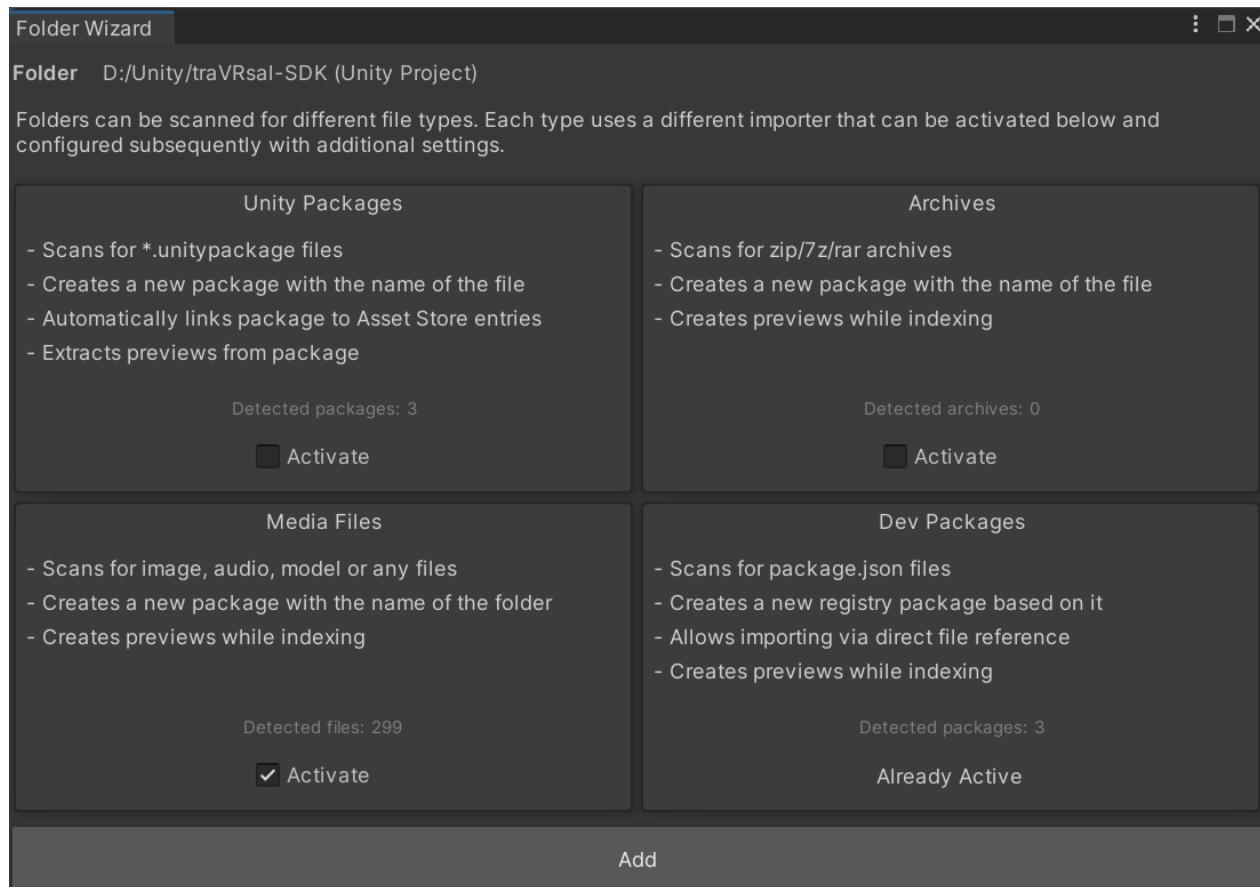
- Manual:** Execute the action manually from the UI or as part of the currently selected actions
- At Installation:** In addition to manual, the action will bring up a dialog after the initial installation of the tool in a new project to be automatically run.



LOCAL FOLDERS

If you want to index Unity packages downloaded from **other sources**, simply add the folders to the **additional folders** list. When selecting an entry from the list of additional folders, more options can be specified on the right-hand side. This way it is possible to select what types of files should be searched for:

- **Unity Packages:** Finds any *.unitypackage* files in the folder and indexes the content.
- **Development Packages:** Finds any *package.json* files and treats those as local packages.
- **Media Files:** Allows to index all kinds of other, **free-floating** assets, like images, models, audio libraries etc. Also Unity projects can be indexed this way.
- **Archives:** Will extract archives (zip, rar, 7z) on the fly and index all contents.

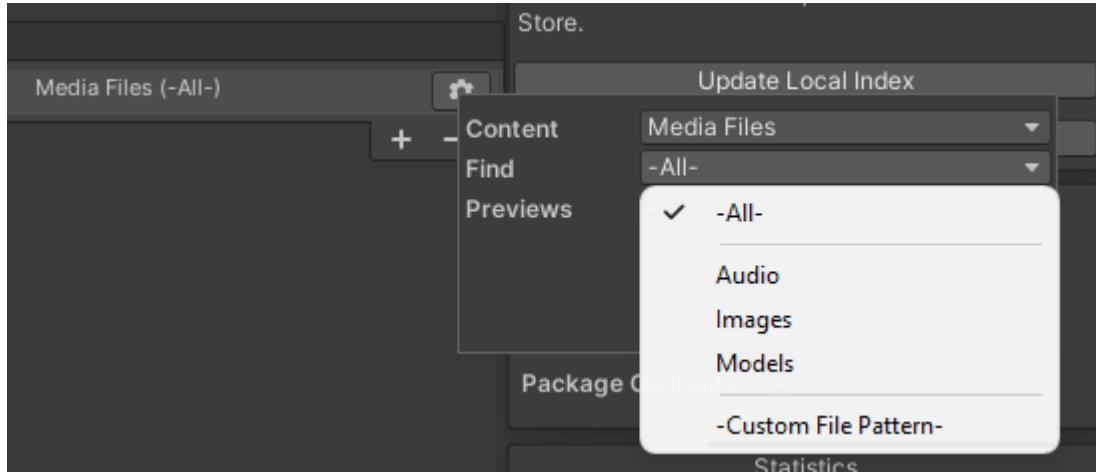


Using additional media folders will let Asset Inventory act as the go-to place for asset management and quickly finding any available asset on your drives from a single, consistent UI. Media files can optionally have no connected asset but otherwise behave the same. If they have a *.meta* file next to them, their guids will also be stored.



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The order in which additional folders are processed can be changed by dragging them up or down in the list. Deactivating or removing an additional folder entry will not remove it from the index.

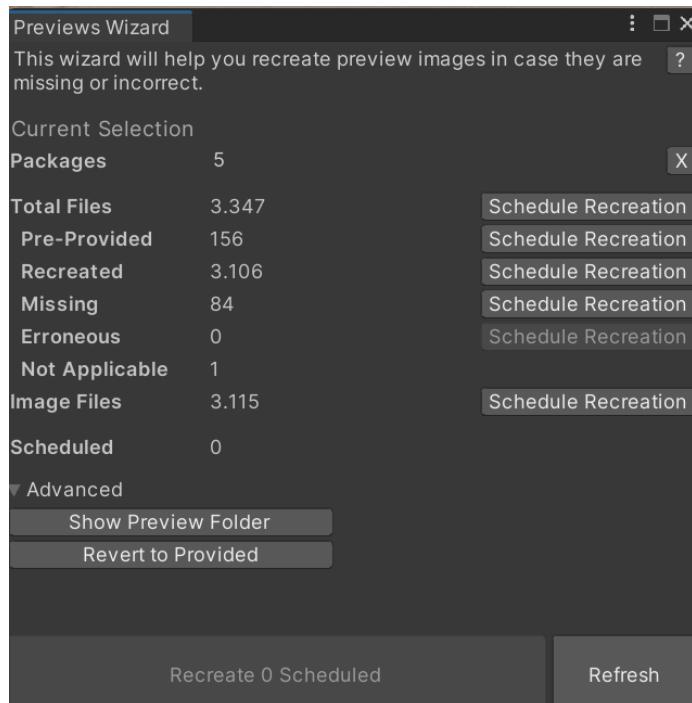


PREVIEWS

The search result will show previews of the assets. These previews can come from three sources:

- Included in the package and created at the time the asset was built (state: pre-provided)
 - This is done by the Asset Store tooling and the reason why e.g. previews for sound files can look different depending on which version of Unity was used.
 - Sometimes these previews can be empty when exported incorrectly.
- Created by Asset Inventory during import (state: recreated)
 - This happens automatically for atomic assets without dependencies, e.g. sound files, textures or models.
- Created by Asset Inventory on-demand (state: recreated)
 - This mode can also create previews for prefabs and materials but will take **much** longer since all dependencies need to be materialized first.

It is possible to recreate a single preview from inside the search view, all previews for a package or perform recreation for missing previews in the complete database. There is a **Preview Wizard** to help with all steps. Previews can also easily be switched between provided and recreated there in case of issues, e.g. incompatible render pipelines.

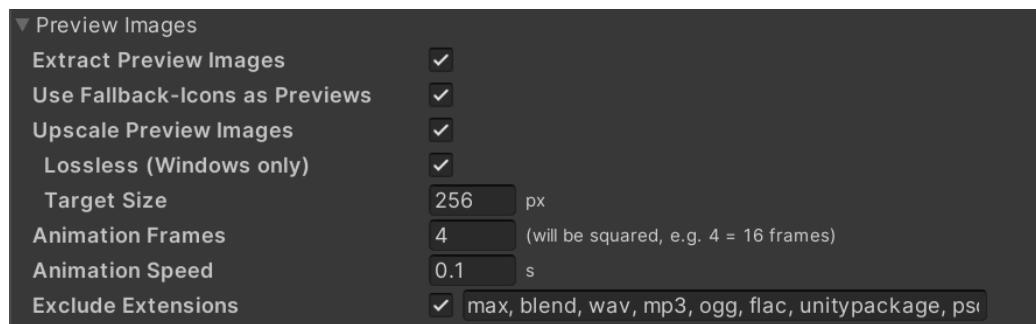


Preview file generation will work by temporarily copying each file into the current Unity project, letting Unity create a preview and removing it again. While creating previews it might happen that a new folder called `_TerrainAutoUpgrade` will appear under Assets as a side-effect. This process will take a bit of time but will allow Asset Inventory to show preview images and also additional meta data for many file types.

Image files will be handled separately for common file types, bypassing Unity, which is much faster and will, if active, automatically scale preview images to a higher resolution already during indexing. This will work for Unity 2021.2 and above.

Technical Details

Previews are mostly created by the Unity Editor. This works well but is limited to 128 x 128 pixels. An upscale option is available in the *Settings* which produces bigger previews for image files. For all other types this will reduce visual quality (tick the *Lossless* upscale option to only upscale images).



VFX and 2D prefabs cannot be previewed this way. A custom mechanism is under way for future releases.

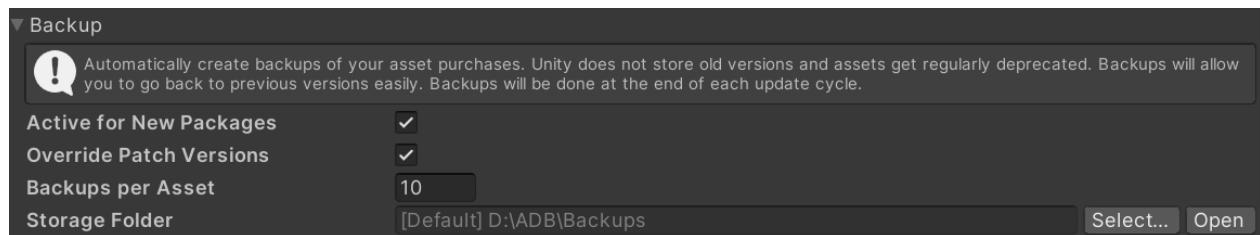


BACKUP

The tool supports copying packages to a dedicated place for permanent backup. This way you are not affected by package deprecation by Unity where it might be impossible to download older (but for you working or compatible) versions of assets anymore.

The backup tool can keep multiple versions of packages and will automatically handle the life cycle, version comparison and more.

Per default, all files are stored flat in a single folder. If you need some sort of structuring inside the folder to better support replication scenarios, you can move arbitrary files into sub-folders. The tool will honor this dynamically and put new backup revisions into the respective folders then.



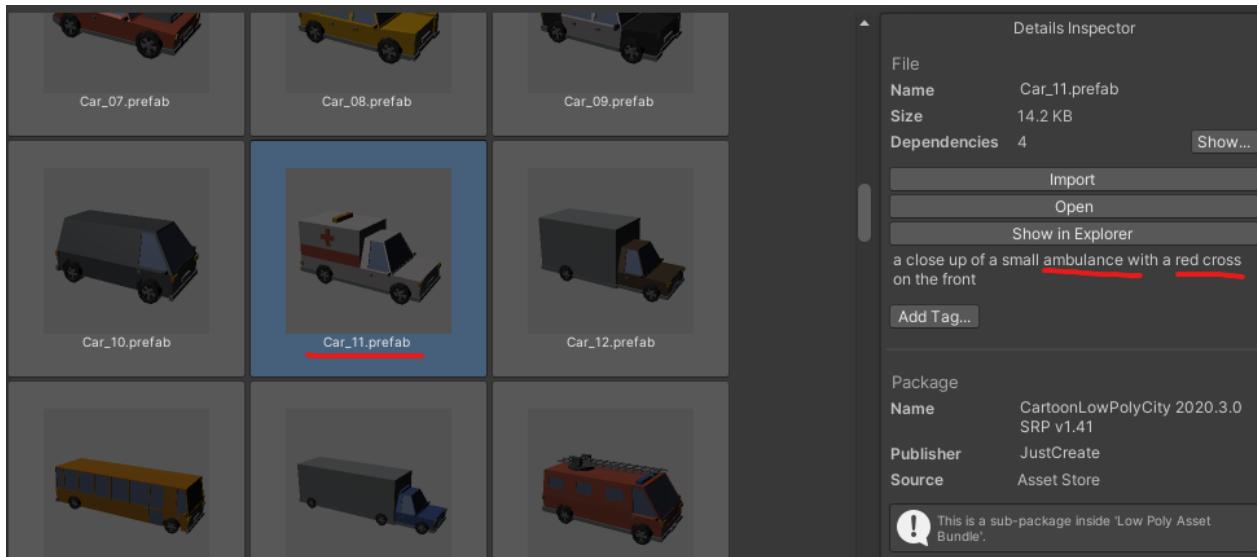
Once backup is configured and the corresponding **action activated**, it can be set individually per package in the package details (also in bulk).

Package Details	
Name	2D Mine Tileset
Publisher	GameCube
Category	Textures & Materials/2D & Isometri
Size	5.0 MB
Rating	★★★★★ (26 ratings)
Last Update	Tue, Jul 14 2015 (1.2)
Source	Asset Store
Backup	<input checked="" type="checkbox"/>
Open in Search	
Reindex Package on Next Run	



ARTIFICIAL INTELLIGENCE

Using AI it is possible to automatically create captions that describe individual asset files. This way you are also able to find files which are labeled inappropriate or insufficient. See the example below:



While the asset is simply called “*Car_11*”, the AI has captioned it “*a close up of a small ambulance with a red cross on the front*”.

Searching for “*ambulance*” now and using the AI generated captions during the search will also yield “*Car_11*” as a result, which would have been impossible to find before.

Setup

The basis for AI captioning are the existing preview images. Make sure you have performed preview recreation where applicable.

AI inferencing will happen on your own device. This means it does not use any remote server and also does not incur costs for a third party service. It requires a potent PC though as the process is resource intensive.

There are two technologies supported for captioning:

- A command line tool called blip-caption using the freely available image captioning model [Salesforce Blip](#), coming in a *base* and a *large* version. This is the legacy backend now and still contained for compatibility and users who prefer it.



- [Ollama](#), which is a modern and sophisticated solution to run many different models locally. It is much easier to set up, supports a continuously updated list of new models, runs very efficient and also very fast. This is the **recommended** way. The only drawback is that it needs multiple additional dependencies, which might cause conflicts in your project. In this case either perform the AI captioning in a dedicated separate project or use another backend.

Ollama Setup

Follow the installation instructions on <https://ollama.com/>. Once installed, the tool will detect the installed service automatically.

Blip Setup

To use it locally, Python 3, pipx and the [blip-caption tool](#) are required to be installed. These are the basic steps assuming basic familiarity with the computer system:

- Install [PipX](#)
 - Windows
 - Install [Scoop](#)
 - Open a new PowerShell window (no admin required)
 - Run: `Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser`
 - Run: `Invoke-RestMethod -Uri https://get.scoop.sh | Invoke-Expression`
 - Switch to a normal Command line window
 - Run: `scoop install pipx`
 - Run: `pipx ensurepath`
 - MacOS
 - Run: `brew install pipx`
 - Run: `pipx ensurepath`
- Install tooling
 - Run: `pipx install blip-caption`
 - *In case of errors on MacOS, most likely need torch in an older Python version (use an environment therefore and adapt global path)*
 - Run: `/usr/bin/python3 -m venv .venv`
 - Run: `..venv/bin/activate`



- Run: *pip install blip-caption*
- Edit *~/.zshrc* and add: *export PATH="\$PATH:/Users/NAME/.venv/bin"*
- Run: *source ~/.zshrc*
- Run: *pipx ensurepath*
- Restart the system
- Click “Create Caption” in the Settings/AI section to test if all is working as expected. The first time the tool starts will take a significant amount of time since it will download the model file once.

```
C:\Users\██████ >scoop install pipx
Installing 'pipx' (1.7.1) [64bit] from 'main' bucket
pipx.pyz (321.6 KB) [=====] 100%
Checking hash of pipx.pyz ... ok.
Running pre_install script...done.
Linking ~\scoop\apps\pipx\current => ~\scoop\apps\pipx\1.7.1
Creating shim for 'pipx'.
'pipx' (1.7.1) was installed successfully!
'pipx' suggests installing 'python'.

C:\Users\██████ >pipx ensurepath
Success! Added C:\Users\██████\.local\bin to the PATH environment variable.

Consider adding shell completions for pipx. Run 'pipx completions' for instructions.

You will need to open a new terminal or re-login for the PATH changes to take effect. Alternatively, you can source your shell's config file with e.g. 'source ~/.bashrc'.

Otherwise pipx is ready to go! ✨ ✨ ✨

C:\Users\██████ >pipx install blip-caption
# installing blip-caption
```

There is support for GPU acceleration but it requires a [custom patch of the blip tool](#) to be installed. You can install this custom version via:

pipx install git+https://github.com/mutherr/blip-caption-gpu/ --force

You also need to make sure to have PyTorch with GPU support as well as a CUDA runtime installed. Instructions can be found on the [official website](#).

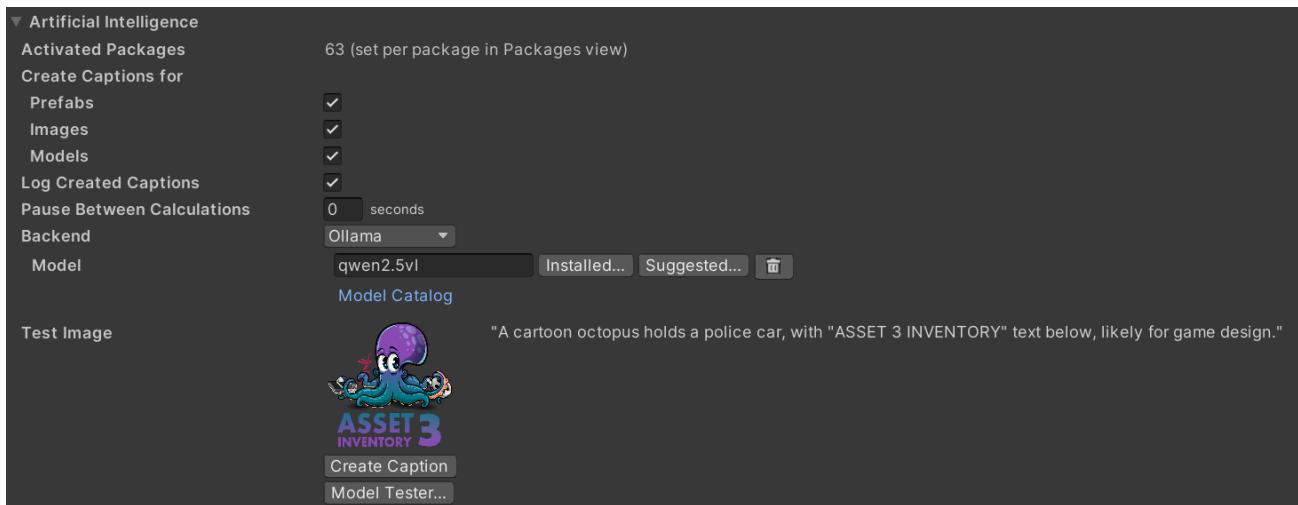
Once that is done you can activate GPU (advanced option, hold CTRL), which dramatically speeds up the generation of AI captions (especially with larger bulk sizes).

Good bulk sizes are 50 to 100. Higher is more efficient, but will produce less progress information.

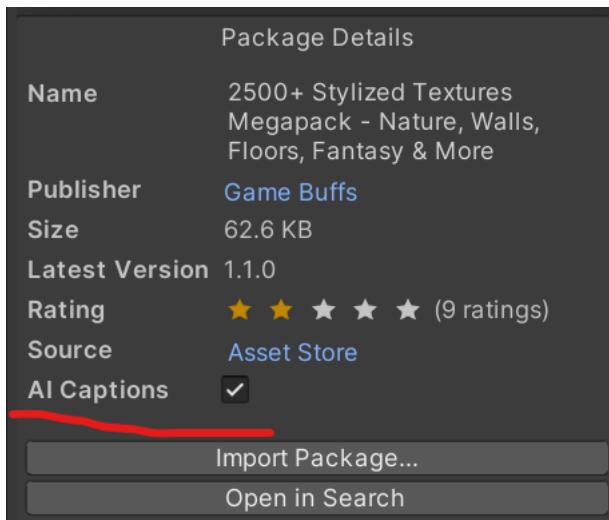


Usage

On the *Settings* tab the successful installation can be tested.



Once activated, the tool will create AI captions during the next Update cycle for packages where *AI Caption* was turned on in the *Package* view.

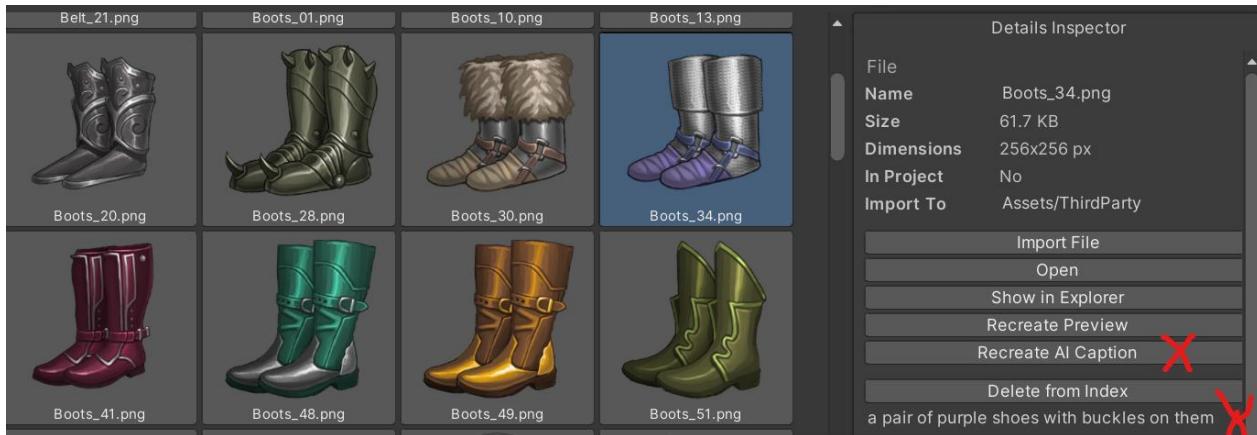


Important: AI options in the UI will only be visible whenever the AI Caption action is active.

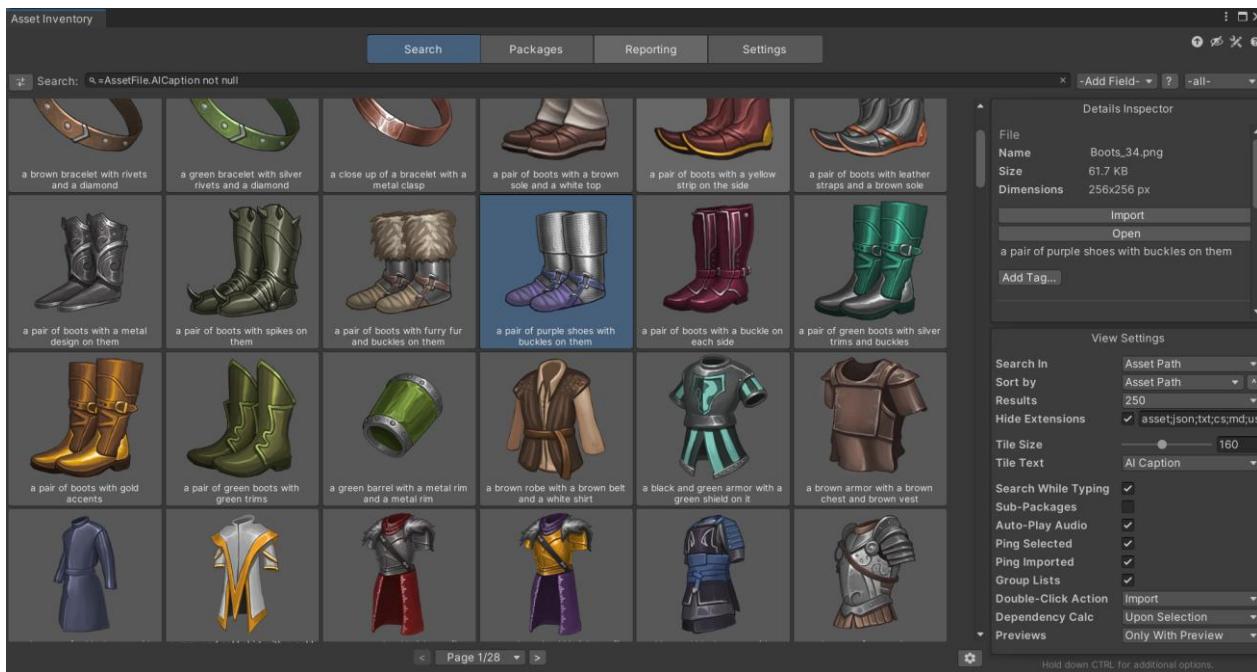


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AI captions will be shown in the *Search* results when selecting a file. You can also create individual captions directly from the *Search* results.



There is also an option to search in the AI captions in the search settings and the AI caption can also be shown as the tile text if wanted.



Using an expert search like the one below will return all files for which a caption was already created:

`=AssetFile.AICaption not null`



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Model and Prompt Selection

When using the *Ollama* backend, you can select between different models to use for captioning. Models are trained for specific tasks and to follow different performance characteristics. The most important choice is to select a model that is tagged with *Vision* as only these allow to use images as input.

So far the best model to use seems to be *qwen2.5vl* which seems to have an exceptional understanding of game assets and follows a given prompt very closely.

To make it easier for you to compare models, a **Model Tester** module is available allowing you to caption a series of sample images and compare their output and timings (the first time is always higher since it needs to load the model into memory).

The screenshot shows the AI Model Tester interface with a dark theme. At the top, there are six preview images: a purple octopus, a glowing light effect, a grayscale letter 'a', a gray cone, a dark cube, and a chess piece. Below these are sections for different models:

- deepseek-r1:70b**: Total 10,39s. Contains one preview image of a police car and a gun.
- deepseek-r1:latest**: Contains one preview image of a police car and a gun.
- gemma3:latest**: Total 10,39s. Contains six preview images: an octopus, a glowing light effect, a grayscale letter 'a', a gray cone, a dark cube, and a chess piece.
- granite3.2-vision:latest**: Total 10,09s. Contains six preview images: a purple octopus, a glowing circle, a letter 'a' in grey, a grey cone, a grey cube, and a chess piece.
- llama3.2-vision:latest**: Contains one preview image of a police car and a gun.
- llava:latest**: Total 12,04s. Contains six preview images: a cartoon octopus holding items, a sphere, a letter 'A', a gray cone, a simple block, and a chess piece.
- llava-phi3:latest**: Contains one preview image of a police car and a gun.
- mondream:latest**: Contains one preview image of a police car and a gun.
- qwen2.5vl:32b**: Contains one preview image of a police car and a gun.
- qwen2.5vl:latest**: Total 7,90s. Contains six preview images: a cartoon octopus, a glowing cylinder, a lowercase 'a', a gray cone, a gray cube, and a chess knight.
- tinyllama:latest**: Total 5,60s. Contains one preview image of a police car and a gun.

At the bottom, there is a button labeled "Create Test Captions...".



CROSS-DEVICE USAGE

It is possible to use the same database from multiple devices. This way the indexed assets can be browsed and seen from every device. The easiest way to achieve this is to make the database and all asset folders available through a mounted network drive. If the drives and folders are identical from each device, it will instantly work this way. Also if Asset and Package cache folders differ the database will be compatible since these paths will be stored with *[ac]* and *[pc]* keys (see below). Furthermore, all paths are stored with forward slashes, making the database compatible between different operating systems.

Sometimes drives or folder mappings cannot be kept identical for various reasons. The tool supports this scenario through a mechanism called **Relative Persistence**. Each additional folder entry is replaced with a **key** and all occurrences in the database to this folder are also replaced with this key. On each device the key can then be **mapped** to the required drive and folder. This is a one-time action and once done the tool can be used as always.

The screenshot shows the 'Additional Folders' section with a warning message: 'Use Additional Folders to scan for Unity Packages downloaded from somewhere else than the Asset Store or for any arbitrary media files like your model or sound library you want to access.' Below this, a list of folders is shown with their corresponding types and settings:

Folder Path	Type	Action Buttons
D:/Unity/traVRsal-SDK	Dev Packages	<input checked="" type="checkbox"/>
[AssetLibrary]	Unity Packages	<input checked="" type="checkbox"/>
[AssetLibrary]	Archives	<input checked="" type="checkbox"/>
[AssetLibrary]	Media Folder (-All Media-)	<input checked="" type="checkbox"/>
D:/Unity/traVRsal	Media Folder (-All Files-)	<input checked="" type="checkbox"/>
D:/Unity/traVRsal-Intro	Media Folder (-All Files-)	<input type="checkbox"/>
D:/Unity/MagicMirror	Media Folder (-All Files-)	<input type="checkbox"/>

Below this is the 'Relative Location Mappings' section, which contains a single entry:

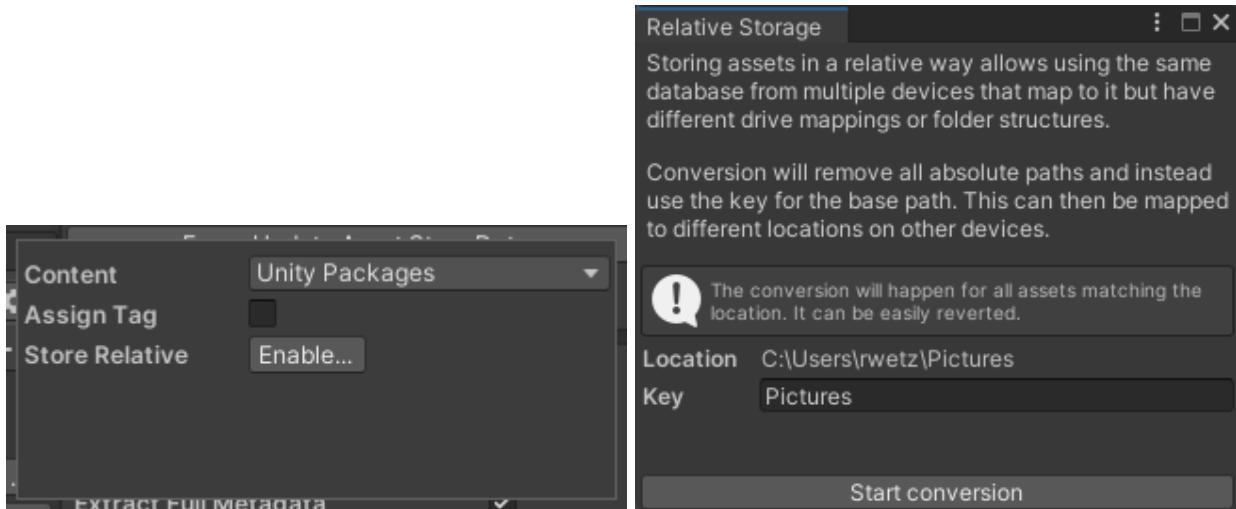
Key	Location
AssetLibrary	D:/Dropbox/AssetLibrary

Buttons for adding (+) and removing (-) mappings are located at the bottom right of the 'Relative Location Mappings' section.

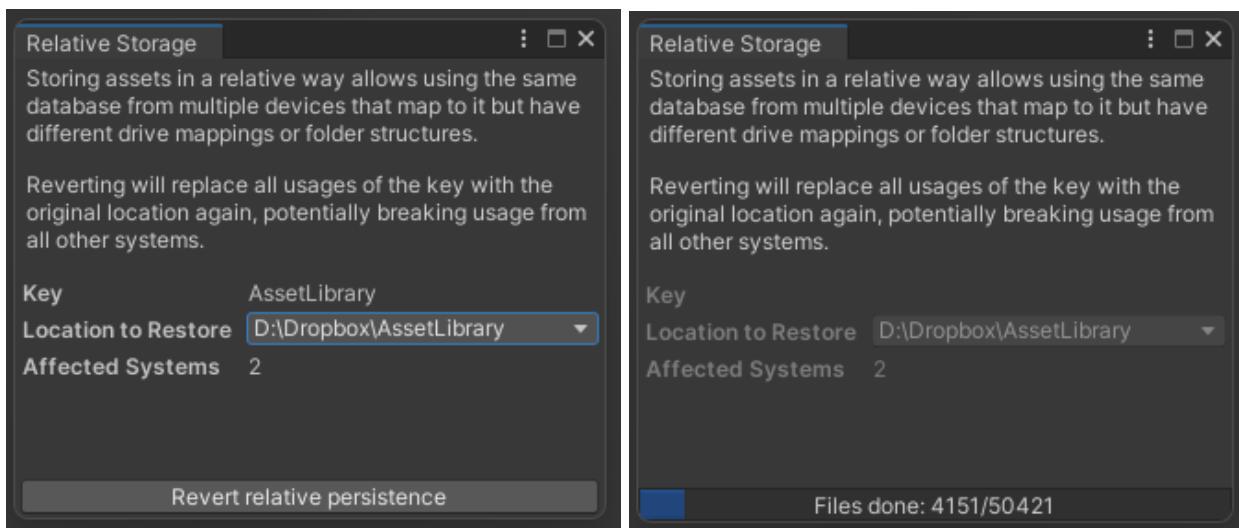


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In order to convert a folder to relative format, open the folder settings, hold down CTRL and select **Enable...**



If a folder is already converted it can be **switched back** again through the same mechanism. This will remove all mappings and reorganize the database to contain the full paths again.

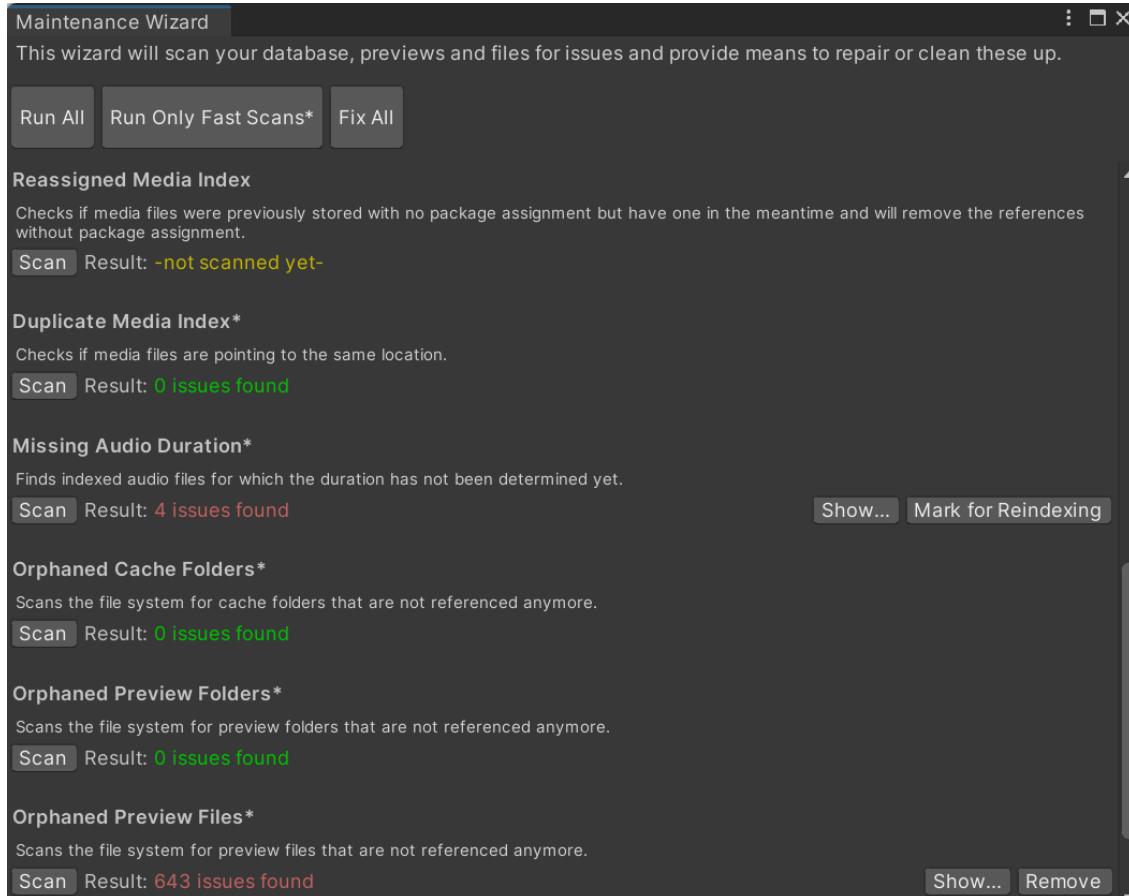


MAINTENANCE

Maintenance functions are located on the *Settings* tab:

Harmless & recommended to run regularly

- ⇒ Maintenance Wizard: will scan for common database and file system inconsistencies and offer automatic solutions

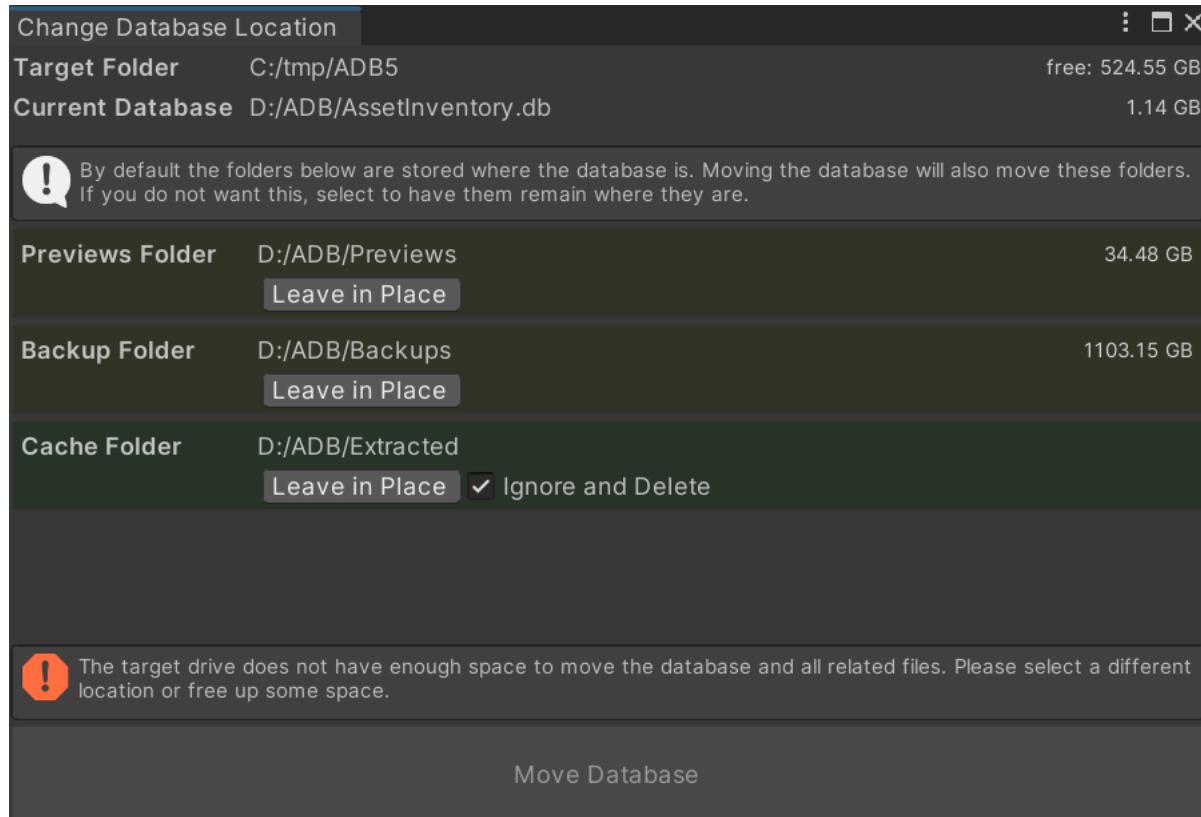


- ⇒ Previews Wizard: will try to create preview images for asset files which do not have ones so far or were flagged to be recreated. This can take quite some time especially for complex prefabs.
- ⇒ Optimize Database: compacts and reorganizes the database for more performance and less required space, should be done after bigger indexing activities



Harmless

- ⇒ Close Database: allow backing up or copying the file
- ⇒ Clear Cache: deletes the temporary files to save space, can be done without any side-effects



Potentially Destructive

- ⇒ Clear Database: deletes the complete database to start over
- ⇒ Reset Configuration: set everything to like it was initially, removing any additional configuration that was done



ADVANCED

In order not to clutter the UI, some seldom used settings are to be set directly in the configuration file. It is in formatted JSON format and can be opened in any text editor when Unity is closed. The following properties do only appear there:

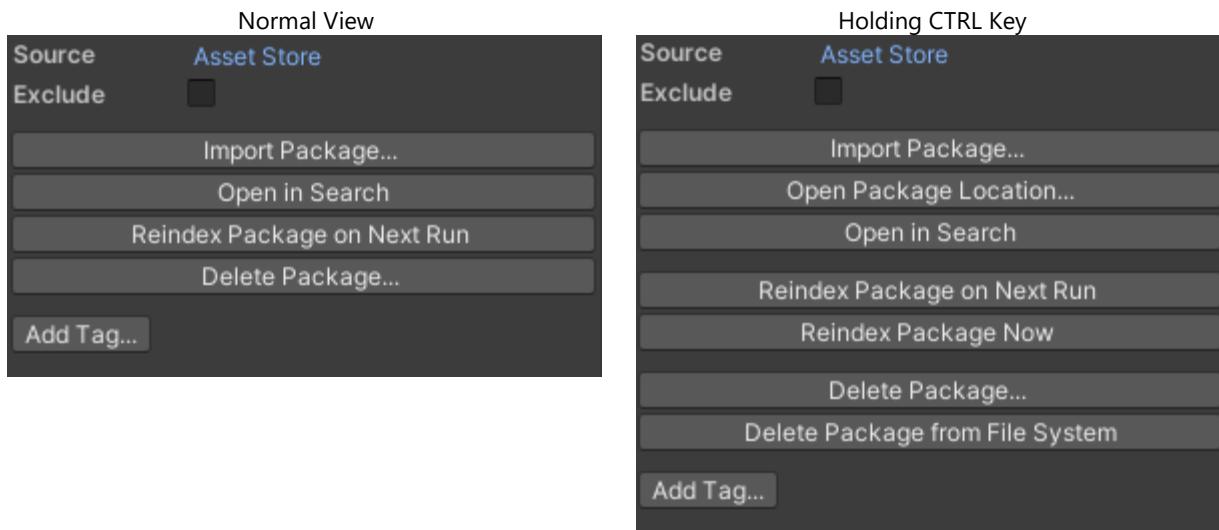
- **centerTiles** (*bool*): will center grid views instead of left-aligning within window
- **dbJournalMode** (*string*): defines the journal mode to be used with the SQLite database. Default is "WAL". Use "DELETE" for a more conservative method in case of database issues. Other options [see link](#).
- **hueRange** (*float*): degrees to widen color search
- **inMemorySearchDelay** (*float*): seconds after typing a character to wait until triggering in-memory search
- **maxResultsLimit** (*int*): hard limit of maximum results to be shown even if *-all-* is selected
- **mediaHeight** (*int*): size in pixels for big media image
- **mediaThumbnailWidth** (*int*): size in pixels for width of media thumbnails
- **mediaThumbnailHeight** (*int*): size in pixels for height of media thumbnails
- **rowHeightMultiplier** (*float*): adjustment factor to the height of table rows
- **searchDelay** (*float*): seconds after typing a character to wait until triggering search
- **showExtensionList** (*bool*): flag if to list all indexed extensions in the Types dropdown on the search. Can result in significant lag while typing if the database is large.
- **showHints** (*bool*): flag if to show additional usability hints in the UI



ADVANCED FEATURES

EXPERT FUNCTIONS

Many more seldom used and advanced features are initially hidden to not clutter the UI. They can be made visible by holding down the **CTRL key** or pressing the **eye icon** in the upper toolbar.



Expert function visibility will not only apply to buttons but also to **additional information** which is not often needed. This ensures the UI is clean for the 90% use-case while also catering to experts on-demand. There are two ways to influence the visibility of the advanced UI:

- Temporarily toggle it on via the eye icon in the upper toolbar or permanently via a setting in the *Advanced* section on the settings tab.
- Customize what should be considered “advanced” (see next section).



UI CUSTOMIZATION

Using the customization icon in the upper toolbar, the UI can be switched to *design-mode* (and back). When active, sections (labels, buttons, info boxes, panels...) that can be customized will be highlighted in **green, red and yellow** and additional actions will be visible. Green sections will always be shown. Red sections will be considered *advanced* and only shown when advanced UI is toggled. Yellow blocks can be moved up and down as a whole.

During design-mode, all advanced UI will automatically be shown. Depending on the current selection and context, not all UI elements will be visible (e.g. registry packages will show different actions than Asset Store packages).

The screenshot shows the Asset Inventory interface in design mode. The top navigation bar includes 'Search', 'Packages' (selected), 'Reporting', and 'Settings'. Below the search bar are filters for 'Search' (Hidden Show), 'Sort by' (Name), 'Group by' (None), 'Types' (All, No Reg, Store, Reg, Cust, Media, Arch, AM), and 'Show/Hide' buttons for various categories. The main list of packages includes items like "Kawaii Tanks Project" (version 2.0), "Unity-Chan Model", "#NVJOB Simple Water Shaders", and "100+ Stylized Weapons Bundle - Fantasy RPG" (selected, version 1.0, size 2.50 GB). To the right, a detailed view of the selected package shows its media assets (various stylized weapons), a preview image, and package details: Name (100+ Stylized Weapons Bundle - Fantasy RPG), Publisher (Blink), Category (3D Models/Props/Weapons), Size (2.50 GB), and Unity (2019.4.0). Buttons for 'Up' and 'Down' are visible for reordering the package in the list.



AUTOMATION & API

The tool can be controlled via scripting. This happens through the static methods of the `AI.cs` class and through a dedicated search API. The existence of the tool can be detected via the automatically added script define `ASSET_INVENTORY`.

To use the powerful **search** UI features (through the `ResultPickerUI`), the following code can be used (it is also provided in the `Examples` folder). Optionally a search type and a search string can be supplied to narrow down the search.

Two modes are available: close upon selecting a result tile or explicitly using the `Select` button. Once the user selects something, a callback with the path of the asset inside the project will be invoked. The asset will automatically be materialized.

The `ResultPickerUI` offers multiple methods:

Show()

will return the path of the selected asset inside the current project.

ShowTextureSelection()

Will default to “Images” as search type and return a dictionary of files. The selected entry will be inside “original”. The tool will do a heuristic analysis of additional adjacent files that belong to the same texture, like normal maps, metal maps etc. If found, they will also be materialized and returned.



Supported Types: albedo, normal, specular, metal, occlusion, displacement, height, emission, reflection, alpha, mask, roughness



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```
using System.Linq;
using UnityEditor;
using UnityEngine;

namespace AssetInventory
{
    [CustomEditor(typeof(OpenSearch))]
    ↳ Editor  ↳ Robert Wetzold *
    public class OpenSearchEditor : Editor
    {
        ↳ Robert Wetzold *
        public override void OnInspectorGUI()
        {
            #if ASSET_INVENTORY
            GUILayout.Label("UI Examples", EditorStyles.boldLabel);
            if (GUILayout.Button("Search for a car..."))
            {
                ResultPickerUI.Show(path =>
                {
                    EditorUtility.DisplayDialog("Selection", path, "Close");
                }, "Prefabs", "car");
            }
            if (GUILayout.Button("Search with details..."))
            {
                ResultPickerUI window = ResultPickerUI.Show(path =>
                {
                    EditorUtility.DisplayDialog("Selection", path, "Close");
                });
                window.instantSelection = false;
                window.hideDetailsPane = false;
            }
            if (GUILayout.Button("Search for texture sets..."))
            {
                ResultPickerUI window = ResultPickerUI.ShowTextureSelection(path =>
                {
                    EditorUtility.DisplayDialog("Selection", string.Join("\n", path.Select(e => e.Key + ": " + e.Value)), "Close");
                });
                window.instantSelection = false;
                window.hideDetailsPane = false;
            }
            EditorGUILayout.Space();

            GUILayout.Label("Programmatic Examples", EditorStyles.boldLabel);
            GUILayout.Label("soon", EditorStyles.miniLabel);
            /*
            if (GUILayout.Button("Search for all cars..."))
            {
                // TODO: Move PerformSearch from SearchUI to AssetInventory.cs
            }
            */

            #else
                EditorGUILayout.HelpBox("This feature is only available if Asset Inventory was imported into this project.", MessageType.Info);
            #endif
        }
    }
}
```

DATABASE ACCESS

It is also possible to **connect to the database** directly and perform your own analysis and queries with the collected data. It is in **SQLite** format. A good viewer is [DB Browser for SQLite](#).



CONFIGURATION

OVERVIEW

Settings will be saved automatically in a file called *AssetInventoryConfig.json*. This happens by default in the *Documents* folder of the currently logged in user. This way the tool can work independently of the Unity project and the asset search is available in an identical way everywhere. Two alternatives are available:

- It is possible to force the tool to use a project-specific configuration. To do so, copy the *AssetInventoryConfig.json* file anywhere into the project and restart Unity. The detected location will be shown on the **Settings tab** under **Maintenance Functions**.
- Using the environment variable “*ASSETINVENTORY_CONFIG_PATH*” a custom location (just the folder name) can be specified.

Some advanced settings can only be set in the *.json* file and are not otherwise accessible through the UI. An example for this is the delay after which the search will start searching. Feel free to adjust these values as well. Both for changing the config location as well as editing the *.json* file Unity needs to be restarted.

INSTALLING AS A PACKAGE

Especially when managing many Unity projects keeping Asset Inventory up-to-date can mean spending quite some time on manual package updates. An alternative is to install the tool in one Unity project only and then referencing this single installation via package reference in the *manifest.json*. This way all Unity installations always use the same tool version.

The easiest way to set this up is to open the manifests from the *Packages* folder where the tool should be referenced and adding it directly there. The path can either be absolute or relative. Example:

```
"com.wetzold.asset-inventory": "file:../../MySourceProject/Assets/AssetInventory",
```



THIRD PARTY

USAGE

Asset Inventory uses multiple third-party libraries that really make it shine:

- [Package2Folder](#) by Code Stage uses an ingenious idea to intercept the Unity package manager and adjust the target folder where to install assets to.
- [SQLite](#) is a great way to store data in a single file while providing easy and fast database operations.
- [SQLite-Net](#) is an amazing extension to SQLite offering convenient high-level functions when executing SQL queries.
- [Editor Audio Utils](#) does a great job to allow playing audio files also while not in play mode.
- [SharpCompress](#) for extracting *zip* and *rar* archives.
- [LibGit2Sharp](#) for working with Git repositories.
- [Scriban](#) for templating capabilities.
- [OllamaSharp](#) for easy access to the local Ollama API.
- [Microsoft AI](#) as an abstraction for interacting with local and remote language models.
- [ImageSharp](#) provides an alternative to System.Drawing which works on Mac and Linux.

INTEGRATION

Assets that already integrate with Asset Inventory:

[Gaia from Procedural Worlds](#)

Makes it really easy to pick new prefabs to spawn and textures to use in your procedural content. Access all your assets quickly with just a few clicks. The corresponding selectors will appear automatically once you have both tools imported in your project.



TECHNICAL DETAILS

UNITY COMPATIBILITY

Most features of the tool are usually compatible with Unity from version 2019.4 up to the latest beta and tested on Windows and Mac. Linux is also reported to work just fine but is not in active testing. Some features require specific minimal Unity versions. See all exceptions below:

Feature	Restrictions
Automatic download of packages	2020.1+
Improved registry package handling & Repository support	2020.1+
Long path support on Windows	2020.2+
Drag & Drop	2021.2+
Automatic URP Converter in case no SRP support package exists	2021.2+
HTML template export	2021.2+
Upscale preview images	2021.2+
Video previews	2021.2+
Fast image processing	2021.2+
Validate previews	2021.2+
7z archive support	2021.2+
Extended TGA and WEBP format support	2021.2+, Mac/Linux
Custom metadata in table columns	2021.2+
Automatic define symbol management	2021.2+
Ollama AI backend	2021.2+
Custom actions to manage compiler arguments	2021.3+
In-Editor Tutorials	2021.3+
Automatically detect custom asset cache location	2022.1+
Asset Manager integration	2022.3+
Unity Asset Origin	2023.1+



DATABASE

The index will be stored in an SQLite database. This database will be automatically created upon first usage. It is in your *Documents/AssetInventory* directory. The size should be rather small but increases with the number of indexed assets. As a rule of thumb assume 20Mb database + 200Mb preview images per 30k files (if not upscaled).

FOLDERS

Inside the *AssetInventory* directory, three additional folders will be created:

- **Previews:** containing all images for the asset catalog
- **Extracted:** containing temporarily extracted files. You can safely delete the *Extracted* folder at any time if needed. The size of the folder can be limited with the Limiter feature under *Settings/Locations*.
- **Backup:** acting as the default location for package backups

Some operations require Unity to perform work, e.g. creating previews. For such tasks, the folder *_AssetInventoryPreviewsTemp* will appear under Assets for a short time and will be automatically removed again once done.

LIMITATIONS

- Dependencies can only be calculated in packages that use *text/yaml* serialization. A few legacy packages still use *binary* serialization. These packages also work in most cases except if Unity cannot resolve them, e.g. because of missing scripts on prefabs.
- Importing scripts is experimental and can produce console errors if the script requires other scripts or assembly definition files to run.
- Running the game view maximized on play and having the Asset Inventory window docked will cause it to reinitialize, resetting all search settings.



FAQ

SQLITE IS ALREADY IN MY PROJECT (CONFLICT)

The only requirement is that SQLite is available. In this case it is safe to delete the one supplied by Asset Inventory. Close Unity and delete either the full *ThirdParty/SQLite* folder or if your own package doesn't bring *System.Data.SQLite* only delete *ThirdParty/SQLite/Plugins/x64 & x86*.

SOME PREFABS SHOW NO DEPENDENCIES

This is due to the serialization format. Only assets serialized as text can properly be parsed right now.

SOME AUDIO FILES USE DIFFERENT COLORS IN THE PREVIEW THAN OTHERS

Preview colors depend on which Unity version an asset author used to upload his asset. Unity seems to change colors over time between Unity versions. There could be a feature someday to recreate preview images with the current version of Unity to make them all uniform depending on interest.

SOME PREVIEWS ARE GREY AND DON'T SHOW ANYTHING

This can happen if the Asset Store tooling did not create a correct preview image while uploading an asset. An example is the *Danger Zone* asset from Unity released for 2021+.



CONSOLE SHOWS ERRORS DURING INDEXING

There are a couple of errors Unity creates that cannot be intercepted but can safely be ignored. These are:

Could not determine image dimensions for 'filename': Not enough memory to complete operation [GDI+ status: OutOfMemory]

- Can happen when either the image dimensions are too big (5000px+), it is actually a different format (incorrectly named file) or the image file has a sub-format that Unity cannot read, e.g. special types of *png*.

"Cannot create FMOD::Sound instance for clip "" (FMOD error: Unsupported file or audio format.)"

- It typically means that an audio clip was saved with the wrong extension, e.g., a wave as an ogg by an asset publisher. The tool will try to auto-correct but Unity will show the error anyway. Use the **Open** button to start the native file player which will typically play the file correctly then.

"TEXTURE HAS OUT OF RANGE WIDTH / HEIGHT"

- In that case Unity cannot read the texture dimensions and you will not be able to see the dimensions of the texture or filter for it. Otherwise, it does not have any effect.

"ArgumentException: Getting control 4's position in a group with only 4 controls when doing repaint"

- This can happen if a lot of UI changes are going on while indexing is happening. Can safely be ignored and is without any effect.

"Curl error 28: Operation timed out after 30000 milliseconds with 0 bytes received"

- This can happen if Unity servers did not respond in time and the details for an asset could not be retrieved. This is solved by starting the Asset Store update process again.

"Invalid or expired API Token when contacting..."

- Happens if Unity was not in use for a longer period. The user login happens in the Unity hub and in that case the token for online access has expired. Solved by restarting Unity.



"Could not create asset from Assets/_AssetInventoryPreviewsTemp/1016771.png: File could not be read"

- Happens if Unity cannot create a preview for specific assets or if this is a malformed png. Can be ignored.

"TLS Allocator ALLOC_TEMP_THREAD, underlying allocator ALLOC_TEMP_THREAD has unfreed allocations, size 1261"

- Can occur after triggering a download. No negative side-effect seen so far. Can most likely be ignored and seems to be a Unity issue.

"You are trying to replace or create a Prefab from the instance '...' that references a missing script. This is not allowed. Please change the script or remove it from the GameObject."

- Can occur during creating preview images when a prefab has script dependencies. Can be ignored since Asset Inventory fixes this situation automatically but the error cannot be suppressed.

"NormalMap settings dialog comes up"

- Can occur during creating preview images when a texture is misconfigured in a prefab. Can be ignored since this is typically invisible in previews.



SUPPORT

Web: <https://www.wetzold.com/tools>

Discord: <https://discord.gg/uzeHzEMM4B>

Roadmap: <https://trello.com/b/SOSDzX3s/asset-inventory>

