CTRUH

Verse Publish for Unity

Publish the current Unity scene, or just the selection, to a Verse link that opens on any phone or laptop with no app to install.

User Guide and script reference

Version 1.0.0 · Unity 2022.3 or newer
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1. Overview

Verse Publish adds one menu command, **Tools > Verse > Publish Scene**. It exports the open scene (or the current selection) to a GLB file with Unity's glTFast package, uploads it to a Verse server, shows the server's live build progress, and returns a link. The link streams the scene in the browser through Verse's virtualised-geometry viewer, on phones and laptops, with nothing to install.

Everything runs inside the editor. The window never blocks the editor: export, upload and polling run on the editor update loop, and Cancel works at every step.

The package contains editor code only. It adds nothing to your player builds.

2. Requirements and installation

- Unity 2022.3 LTS or newer (Unity 6 is supported).
- Unity package `com.unity.cloud.gltfast` 6.0.0 or newer.
- An internet connection to the Verse server you publish to (the hosted service is `https://verse.ctruh.com`).
- Windows, macOS or Linux editor. A graphics device is required: do not run the editor with `-nographics`, because glTFast reads textures back through the GPU.

2.1 Install the package

1. Install **Verse Publish** from the Unity Asset Store: open **Window > Package Manager**, choose **My Assets**, find **Verse Publish** and press **Download**, then **Import**. The files land in `Assets/Ctruh/VersePublish`.
2. Wait for Unity to finish compiling. The Console must show no red errors.
3. Check that the menu **Tools > Verse > Publish Scene** exists.

Alternatively, install the same package from a git URL or a tarball with **Window > Package Manager > + > Add package from git URL / tarball**. The package also works from the `Packages` folder.

2.2 The glTFast dependency

Verse Publish needs Unity's own glTF package, **glTFast** (`com.unity.cloud.gltfast`). When the package is installed through the Package Manager the dependency is resolved automatically. If you imported the files into `Assets` and the Console reports that `GLTFast` cannot be found, add it yourself:

1. Open **Window > Package Manager**.
2. Press **+ > Add package by name...** and enter `com.unity.cloud.gltfast`, version `6.0.0` (or leave the version empty for the latest).

Or add this line to the `dependencies` of `Packages/manifest.json`:

```
"com.unity.cloud.gltfast": "6.0.0"
```

2.3 Render pipelines

> Works in Built-in, URP and HDRP projects; the hidden bake shader is an editor-only compositing pass.

The shader `Hidden/VersePublish/BakeComposite` is used only by the editor, through immediate-mode drawing and blits, and is never assigned to a scene object or included in a build. It is not rendered by your render pipeline, so it does not need a pipeline-specific version.

3. Quick start: sign in and publish

3.1 Open the window

Choose **Tools > Verse > Publish Scene**. A window titled *Verse Publish* opens. You can dock it like any other editor window. All its settings are remembered per user through `EditorPrefs`.

3.2 Server and account token

Field	What it does
Server URL	Prefilled with the hosted service, `https://verse.ctruh.com`. Change it only if you run your own Verse server.
Account token	Optional. Shown as a password field and sent as `Authorization: Bearer`. With a token, the published scene belongs to your account: it is permanent and you manage it in Verse Studio (`/studio` on your server). Without a token, uploads are anonymous and the link is kept on a best-effort basis.

To get a token, create a free account at `https://verse.ctruh.com/studio`. The token is shown once; store it like a password. Paste it into the *Account token* field. Verse Publish never writes the token to scene files and never logs it.

3.3 Publish the current scene

1. Open the scene you want to publish and save it.
2. Open **Tools > Verse > Publish Scene**.
3. Optionally change *Scene name*. It defaults to the active scene's name and becomes the name of the published scene.
4. Leave the options at their defaults (section 4), or adjust them.

5. Press **Publish scene**.

The window shows the progress in order: export, upload (with a percentage), then the server's own build stage (for example *textures*, *geometry*, *packing*) and finally *done*. The finished link is copied to the clipboard automatically, and the buttons **Copy link** and **Open in browser** appear. Press **Cancel** at any time to stop.

3.4 Publish only the selection

Select the objects in the Hierarchy, then tick **Selection only** before pressing **Publish scene**. Only the selected objects and their children are exported.

4. Options

4.1 Bake materials and lighting

glTFast exports what it can read from Unity's standard material properties. Custom shaders, Shader Graph materials, detail maps and baked lighting would otherwise be lost. **Bake materials & lighting** renders what the Game view shows (materials, lightmaps, light probes, Mixed and Realtime lights with shadows, and the camera's colour grading) into a few texture pages before export.

Setting	Meaning
Auto (default)	On for scenes (lightmaps, a Terrain, six or more renderers, two or more lights, or larger than about 3 m); off for a single product. The window tells you which it chose.
On / Off	Force baking on or off.
Quality: Draft	Fast. Up to 8 pages of 2048 x 2048, 1K material captures, 4K sun shadows.
Quality: High	Up to 24 pages, 2K captures, 8K shadows, terrain at full resolution. Slower.

Tip: bake your lightmaps first (**Window > Rendering > Lighting > Generate Lighting**) so the published scene contains them.

4.2 Prepare before upload

Prepare before upload (on by default) runs `verse-prepare`, a small command-line tool shipped with the package. It right-sizes textures to the detail the scene can show, instances duplicate meshes and drops unused data, so uploads are smaller and faster. Binaries are bundled for macOS (Apple silicon and Intel), Windows and Linux. If you installed from the Asset Store and the bundled tool is not present, the window falls back to a copy on your `PATH` or to the path in the *verse-prepare path* field; if none is found the scene is uploaded unprepared. Untick the option to skip the step.

4.3 Sky as background

When on (default), the editor skybox becomes the published scene's background. With an account token it is sent as an HDR background image; without one, as a sky colour.

4.4 Private links and sharing

A published scene is **unlisted** by default: anyone who has the link can open it, and it is listed nowhere. For client reviews, publish with an account token and then use Verse Studio to make the scene private and create share tokens, which can be revoked one by one. See the guide *Share privately with tokens* in the Verse documentation (`https://verse.ctruh.com/docs/`).

5. Batch mode and CI

The same publish can run without the window, for build servers. Example:

```
VERSE_TOKEN=<your account token> \
Unity -batchmode -projectPath /path/to/project -logFile publish.log \
  -executeMethod Ctruh.VersePublish.VersePublishBatch.PublishFromCommandLine \
  -verseScene Assets/Scenes/Main.unity \
  -verseServer https://verse.ctruh.com \
  -verseName my-scene \
  -verseResult result.json
```

- Do **not** pass `-quit`. The publish runs on the editor update loop and the method exits the editor itself: exit code `0` on success, `1` on failure.
- Do **not** pass `-nographics`; glTFast reads textures back through the GPU. On a headless Linux server use a virtual display.
- The account token is read only from the environment variable `VERSE_TOKEN`, never from the command line, so it stays out of shell history and logs.
- Every phase change is written to the log with its duration. `-verseResult` writes a JSON file with `ok`, `url`, `error`, timings and the bake report.

6. Script reference

Namespace `Ctruh.VersePublish`, assembly `Ctruh.VersePublish.Editor` (editor only).

6.1 Command-line entry point

`public static void VersePublishBatch.PublishFromCommandLine()` — pass it to `-executeMethod` as `Ctruh.VersePublish.VersePublishBatch.PublishFromCommandLine`.

Argument	Default	Description
`-verseScene <path>`	the scene Unity opens	Project-relative scene to open first, e.g. `Assets/Scenes/Main.unity`.
`-verseServer <url>`	the saved Server URL, else `https://verse.ctruh.com`	Verse server to publish to.
`-verseName <name>`	the scene's name	Name of the published scene.
`-verseNoPrepare`	prepare is on	Skip the verse-prepare step.
`-verseResult <file>`	none	Write the result as JSON to this file.
`-verseBake auto|on|off`	`auto`	Bake materials and lighting. Also accepts `true` / `1` and `false` / `0`.
`-verseBakeQuality draft|high`	`draft`	Bake quality.
`-verseNoSky`	sky is carried	Do not publish the skybox as the background.

Environment: `VERSE_TOKEN` — optional account token. Exit code: `0` success, `1` failure.

6.2 Methods you can call from your own editor scripts

Signature	Description
`VersePublishBatch.Publish(string server, string name, string token, bool prepare, bool exitWhenDone)`	Starts a headless publish of the open scene with Auto bake and Draft quality. Logs each phase. With `exitWhenDone` the editor exits when it finishes (0 or 1).
`VersePublishBatch.Publish(string server, string name, string token, bool prepare, bool exitWhenDone, BakeMode bake, BakeQuality quality)`	As above with explicit bake settings.
`VersePublishBatch.ParseBake(string)` / `ParseQuality(string)`	Parse the `-verseBake` and `-verseBakeQuality` text into `BakeMode` (`Auto`, `On`, `Off`) and `BakeQuality` (`Draft`, `High`).
`VersePublishWindow.PublishHeadless(...)`	Lower-level: runs the same state machine without showing a window and calls a callback when finished; the returned window exposes `Succeeded`, `ResultUrl` and `ErrorText`.

Example from your own build script:

```
using Ctruh.VersePublish;

public static class MyBuild
{
    public static void PublishNightly()
    {
        VersePublishBatch.Publish("https://verse.ctruh.com", "nightly",
            System.Environment.GetEnvironmentVariable("VERSE_TOKEN") ?? "",
            prepare: true, exitWhenDone: true,
            bake: BakeMode.On, quality: BakeQuality.High);
    }
}
```

7. Troubleshooting

Symptom	Cause and fix
Console: "The type or namespace name 'GLTFast' could not be found"	glTFast is missing. Add `com.unity.cloud.gltfast` 6.0.0 (section 2.2).
No **Tools > Verse** menu	The package has compile errors elsewhere in the project, or the import has not finished. Fix red Console errors and wait for the import to complete.
"Could not reach the Verse server at ..."	Wrong Server URL, no internet, or a firewall or proxy blocks the editor. Check the URL in a browser.
The server rejects the upload with a message about quota, storage or rate limit	The message is shown verbatim and says what to do. Anonymous uploads have lower limits; use an account token.
The scene looks flat or grey in the link	Set **Bake materials & lighting** to On, and generate lighting first so lightmaps exist.
Upload is slow for very large scenes	Keep *Prepare before upload* on. Files over 100 MB are sent with a resumable upload automatically.
"verse-prepare" not found or not executable	Use the copy under the package's `Tools~` folder, install it on your PATH, or set *verse-prepare path*. Or untick *Prepare before upload*.
Batch run hangs or exits immediately	Remove `-quit` and `-nographics`. Read the log given by `-logFile`.
Skybox missing from the link	Make sure *Sky as background* is on and the scene has a skybox material in Lighting settings.

8. Demo scene, support and licence

The package includes a small demo scene at `Demo/Verse Publish Demo.unity`. Open it and choose **Tools > Verse > Publish Scene** to try a first publish without preparing your own content.

Documentation online: `https://verse.ctruh.com/docs/`. Support: `hello@ctruh.com`. Licence and third-party notices are in `LICENSE.md` and `THIRD-PARTY-NOTICES.md` in the package folder.