

SYSTEM REQUIREMENTS

HARDWARE

Recommended computer hardware

Graphics: NVIDIA GTX 1070, GTX 1070 Ti or better

Processor: Current generation i7 or i5

Memory: 16GB or more

Hard drive: SSD

Example PC configurations

Desktop: Acer Predator G3-710 (SKU (DG.E08EQ.060)

Laptop: Asus ROG Strix GL502VS 15,6" (SKU GL502VS-GZ227T/R / GL502VS-GZ227T)

MacBook or MacBook Pro

Internet Connections and OS

Reliable Internet connection (all participants): Cable or 4G/LTE preferred.

OS: Windows 10 (version 1703 or later)

OS: macOS High Sierra 10.13 or later

Supported VR headsets:

HTC Vive and HTC Vive Pro

Oculus Rift and Rift S

Oculus Quest

Windows Mixed Reality with headset with microphone

Valve Index

VR Device Instruction Videos

HTC Vive: <https://vimeo.com/264976652/d91e7b90b0>

Oculus Rift: <https://vimeo.com/264976758/ddcfc75d85>

Windows Mixed Reality: <https://vimeo.com/264976703/8db3880574>

IT POLICY AND FIREWALL CONFIGURATION

The client application communicates using HTTPS with the following servers that must be whitelisted:

app.glue.work
glue.eu.auth0.com
limu.fake.fi
rink.hockeyapp.net

For the real-time session network traffic, the client application requires permissions for both incoming and outgoing **TCP** and **UDP** traffic.

The outgoing ports used by the client application are assigned by the user's operating system and are not statically assigned.

NOTE! If you require precise IP and port information at the server end, please contact support so we can statically allocate server resources for you.

SETUP AND INSTALLATION

INSTALLING STEAM AND STEAMVR MANUALLY – QUICK GUIDE

(Note: This is mainly for Oculus and Windows Mixed Reality users. If you have an HTC Vive headset and you have followed its setup instructions, you probably have Steam and SteamVR already installed)

- Go to www.steampowered.com to download and install the Steam client. Follow their instructions.
- Start the Steam client and sign up for a Steam account. **NOTE:** *same account is not preferred to be used on several devices due to possible overlapping use*
- Log in to Steam, go to the store and search for SteamVR and install it. Check the checkboxes for creating desktop and start menu shortcuts so you can easily start SteamVR using those.
- If you're using a Windows Mixed Reality headset you will also need to install the Windows Mixed Reality for SteamVR-application from the store.

CREATING GLUE ACCOUNT

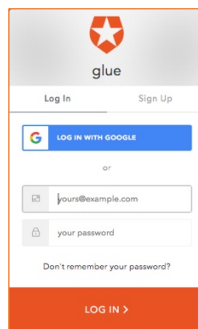
Glue requires personal login info to allow access to the workspace which contains all the accessible 3D environments (scenes).

NOTE! At the moment Glue accounts need to be manually tied to the used workspace. Once you have created an account, inform the email address to your Glue contact. Before that you cannot access your workspace!

- On your web browser, navigate to <https://app.glue.work/> and press **Login**.



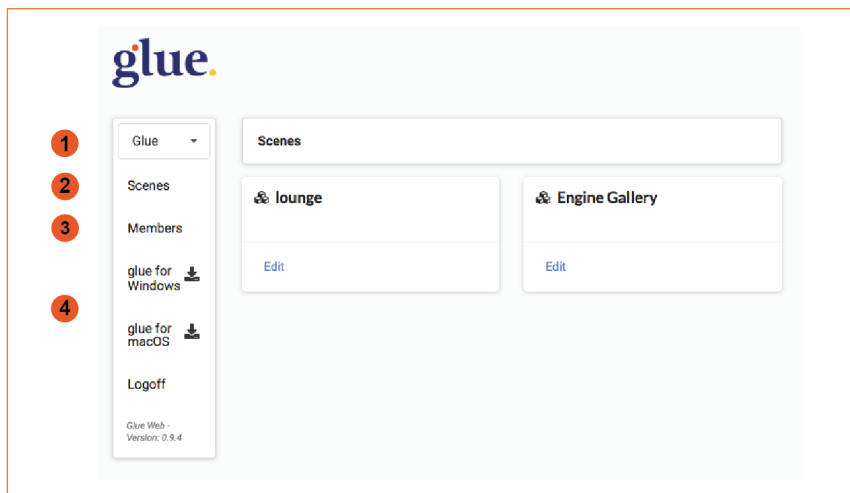
- If this is your first time using the system, use the **Sign Up** -tab to create an account. You will get a confirmation e-mail. Remember to Inform this email address to your Glue contact.



- Log In** using your Google account or username and password

WEB PORTAL

Glue web portal allows you to manage workspaces, scenes member accesses and download latest clients. Regular users cannot add users. Administrator instructions can be found from **Workspace Admin** section.



1. Workspace
2. Scenes in workspace
3. Glue accounts assigned to workspace
4. Client downloads

WORKSPACE

Glue Workspace is the place you share with other members and it includes the scenes where you can collaborate and get things done. If you have more than one workspace available, use the drop-down list or type the workspace name in the text field to select one.

SCENES

Here you can find the selection of scenes linked to your workspace. It is also the default view when entering the Glue web portal. Admins can reset the scenes from here.

MEMBERS

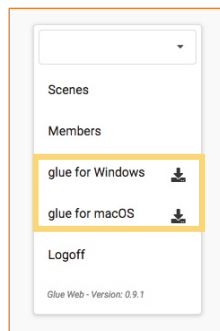
Users that you want to have access to your workspace and scenes can be found from here. They can access the scenes available in your workspace. If you need to restrict the member access to specific scenes, you need additional workspace and assign these users and specific scene to this workspace. For example, you want to have marketing and sales teams their own Lounge scenes. Purchase two workspaces, one for sales, and the other for marketing. Assign the members to their team space and add lounge scene to both workspaces.

GLUE FOR WINDOWS / MACOS

Download the latest glue client for your operating system from here.

Application download

- Download the latest Glue client for your preferred operating system. Glue will launch automatically after installation



USING GLUE

STARTING GLUE WITH A WINDOWS MIXED REALITY HEADSET

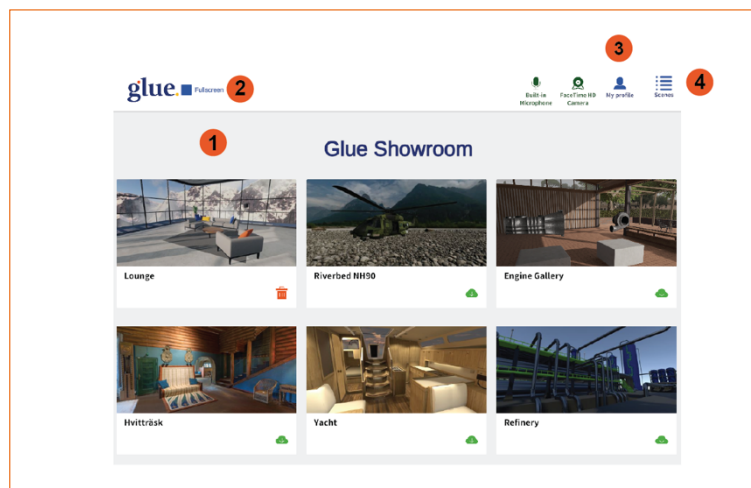
When you plug in the WMR headset the Mixed Reality Portal should start automatically. If this doesn't happen, you can start Mixed Reality Portal manually.

- When Mixed Reality Portal, you can then start the Glue application.

NOTE! We are not affiliated with Valve Corporation or Microsoft. If you have technical issues with Steam/SteamVR or Mixed Reality Portal or the hardware you're using, you should contact the system provider.

GLUE APPLICATION

Launch Glue from the application icon. After successful login, return to the Glue application window



1. Workspace and scene list – home view
2. Full screen mode
3. My profile - To stand out from the other users, choose an avatar to your liking using the arrows and enter your name in the text field
4. Return to home view

Depending on the scene level of details and size, loading times may take some time. For more convenient use and shorter loading times, it is recommended to download the scene to cache before first time use. click the **Cloud icon** to download the scene. Once scene is in cache, icon changes to **Trash** icon. To delete the scene from cache, click the **Trash** icon.

DESKTOP MODE

Glue scene launches in desktop mode by default. This allows you to move and communicate in the same scene as other users but without the need of VR hardware.



- Press **ESC** to enable movement
- Use **keyboard arrow** or **W-A-S-D** keys to move and **mouse** to view around
- Press **spacebar** to enable/disable vertical mode (fly mode)

DESKTOP MENU

In Desktop mode, **Menu** is visible on the bottom of the screen. Use your mouse to select features or corresponding keyboard number key.

	Move	Toggle between menu and moving in scene
	Note	Write notes in 3D space using your keyboard.
	Import image	Import image or files from the local drive.
	Desktop streaming	Stream your desktop view with other participants
	Spectator camera	Set up spectator camera that automatically changes the view towards the sound of source (activity). External view for audience outside the VR.
	Settings	Change screen resolution and volume settings based on your computer setup
	Return to lobby	Return to the main lobby. In desktop mode you can switch to different scene from here.
	Mute Mic	Mute/un-mute your microphone
	VR toggle	Switch between VR and desktop mode. This will also launch SteamVR application if not already running.

VR MODE

We recommend using glue in VR mode as it creates the best 3D and spatial immersion. To enter VR mode, select **VR toggle**. This activates the view in VR headset.

NOTE! For using Glue in VR mode, the Steam VR application needs to be running before launching Glue. If it does not launch automatically when selecting **VR toggle**, launch it manually from your PC directory. You may need to quit Glue before doing this in order to SteamVR recognize you VR headset and controllers properly.

TELEPORT

If using room scale VR device, you can walk around in Glue inside VR game area which is presented as a device dependent chaperon. Because the size of the physical game area is limited there is a teleport tool in Glue which allows you to move in scenes of basically unlimited size.

The teleport is assigned by default to the **thumbpad** button on the controller and is available without selecting the tool. When the teleport tool is specifically selected from the menu, it is used with the **trigger** similarly to other tools.

To use the Teleport:

- Press and keep pressed the **thumbpad**



- Aim to the desired location and release the button.
- Blue line: Teleport location is possible
- Red line: Teleport location not possible

If you are using VR hand controllers, you can access a selection of features. These might vary depending of the software version or customization.

USING TOOLS

If the user has VR hand controllers in use, there is a menu to access selection of tools. These might vary depending of the software version or customization for specific organization.

Open menu



- With 2 controllers active there is one menu access button on the back of both hands.
- With 1 controller active the menu button is floating in low center of view.
- Point at the **menu symbol** (highlighted blue hamburger menu) so that a pointer beam becomes visible
- Squeeze the **trigger** on the controller to open the menu

Selecting tools












- Use the controller to point a tool that you like to use and squeeze the **trigger** to select the tool.
- Close the Menu by pointing the "X" on the upper right corner of Menu window or back of your avatar hand and squeeze the **trigger**.

VR MENU

In VR mode, use the controller trigger to select and use the tools.

	Grab	Pick up and move objects in virtual space
	Selection	Select objects to edit/scale/delete
	Draw	Draw in 3D space
	Camera	Take a screenshot in the virtual space through a view finder. Screenshots are currently stored to: <i>Appdata/LocalLow/Glue/Glue</i>
	Teleport	Move around the virtual space
	Group teleport	Move all participants at the same time in virtual space
	Laser pointer	Use the pointer to point. At things.

	Desktop view	Display your current desktop view, only visible to you
	Note	Write short notes with virtual keyboard and post them in 3d space or place them on the whiteboard
	Change scene	Takes all participants to a different scene available in your workspace
	Import model	Import your FBX model to the scene. Model needs to be prepared accordingly and stored on Glue server before the session start.
	Personal space protection	This allows you to set a perimeter size which hides the other avatars (users) when they are inside the set size.
	Teleport markers	Custom made markers in scene that allows you to move directly to these areas.
	Volume settings	Adjust your audio and microphone settings
	Whiteboard	Open whiteboard in your scene. You can draw and attach notes to the whiteboard
	Timer	Your personal start / stopwatch. Use this to time your session duration or different exercises performed during the session.

WORKSPACE ADMIN

Glue users, scenes and assets are grouped under *Workspaces*. When you start using Glue, you have provided at least one e-mail address for Workspace Admin status.

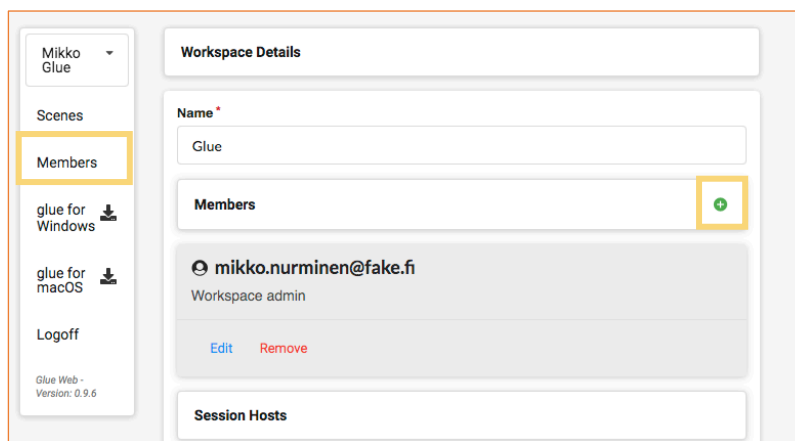
The workspace administrator can add and remove scenes and members within their workspace.

All members of the workspace have access to all the scenes in their workspace. Users can belong to multiple workspaces, even using the same e-mail address.

ADDING NEW MEMBERS TO A WORKSPACE

Use web browser to access the Glue app site: <https://app.glue.work/> and log in using your username and password.

- From the left navigation panel, select **Members**. This opens the members admin page that allows you to add and remove members.
- Select **plus** icon to open **Add new member to workspace** window



- Add the member e-mail address and user type. Workspace Admins can add and remove members and scenes, regular users have read-only access.

Add new member to workspace

Member email

Enter email for new workspace member

Select type of member to add:

☐ Restricted user (read-only access, limited functionality)

☒ Regular user (read-only access to workspace data)

☐ Workspace admin (can add or remove workspace members)

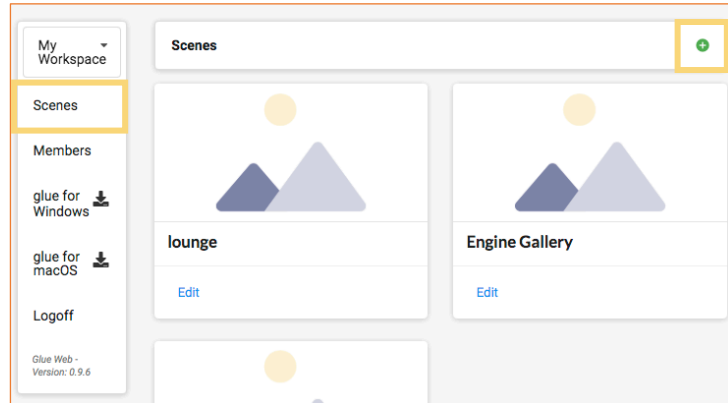
Cancel

Add Member

NOTE! Members need to use the exact email address specified here to create their glue account in order to access the workspace.

ADDING EXISTING SCENES TO A WORKSPACE

- From the left navigation panel, select **Scenes**. This opens the scenes admin page that allows you to add and remove existing scenes.
- Select **plus** icon to open **Create a new Scene Window**



- Enter the **Scene Name**. This is the name visible in the scene selection, for example: My sky lounge
- From the **Scene Asset** drop-down list, select the environment
- Only** check the override button if you have a custom server hosting configuration set up by the Glue system administrators. Contact Glue support for more info.
- Click the **Create** button.

Create a New Scene

Scene Name *

Enter scene name

Scene Asset *

Select Asset

☐ Override default session host

Session Host *

ubuntu-4gb-hel1-1

Active workspace:

My Workspace

Cancel

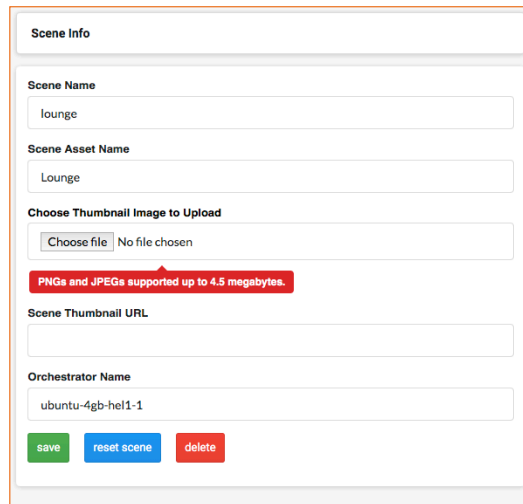
Create!

EDITING SCENE INFO

Under the Scenes pages you can select a scene and edit some basic parameters. In your workspace scene listing, select **Edit** on the scene you plan to modify.

- You can change the scene name by editing the name field and pressing **save** at the bottom of the page.
- You can **reset** the scene. Remember that this removes permanently all drawings, notes or imported 3D models, clearing the scene back to the base environment 3D model.
- Selecting **delete** will remove the scene along with all user-created content within it. It will **not** remove the environment 3D model from the service, just this one scene instance.

- You can choose your own **thumbnail image** for the scene



Scene Info

Scene Name
lounge

Scene Asset Name
Lounge

Choose Thumbnail Image to Upload
Choose file | No file chosen

PNGs and JPEGs supported up to 4.5 megabytes.

Scene Thumbnail URL

Orchestrator Name
ubuntu-4gb-hel1-1

save **reset scene** **delete**

NOTE! Some visible fields are for glue support troubleshooting and debugging purposes and therefore are read-only

TROUBLESHOOTING

GENERAL

- Switch off computer and all VR devices
- Restart computer and all VR devices
- Re-install / update SteamVR
- Glue support: support@glue.work

CAN'T HEAR AUDIO (VR)

Start **SteamVR** before starting the Glue application

Check SteamVR audio settings

- Audio and microphone are set to “Do not change device”

Check Windows sound settings

- Playback > HTC Vive set as default
- Recording > HTC Vive set as default microphone

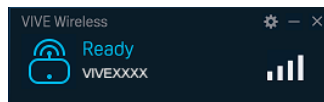
SCENE MOVES OR FLICKERS

- Make sure that there are not big reflective surfaces around the VR play area (mirrors, windows, large shiny metal surfaces, etc.)
- Make sure that base stations are not moving and have not moved since play area setup
- Redo VR play area setup according your device instructions. Make sure the user is staying inside the play area and in view of the base stations

VR DEVICE / HTC VIVE WIRELESS

If you use HTC Vive wireless device, you need to use VIVE Wireless software to allow the headset to work and connect to SteamVR

- Start **Vive Wireless** software from the desktop icon before or after starting SteamVR.



More info: <https://www.vive.com/eu/setup/wireless/>