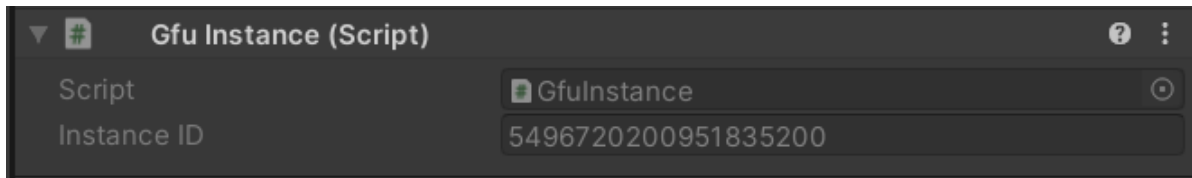# Load time performance optimization
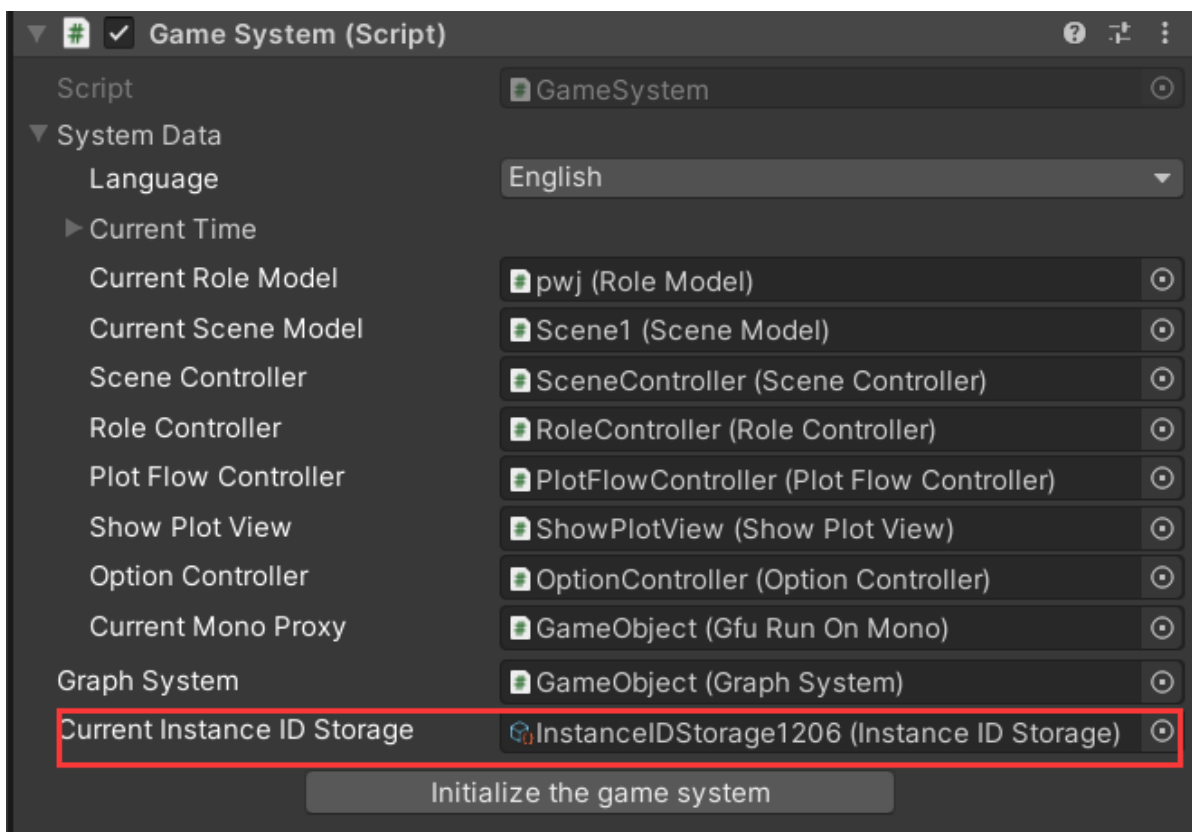
Optimization for GfuGraph loading

GalForUnity accesses objects via GfuInstanceID, and objects in memory are usually stored in a dictionary for quick access.
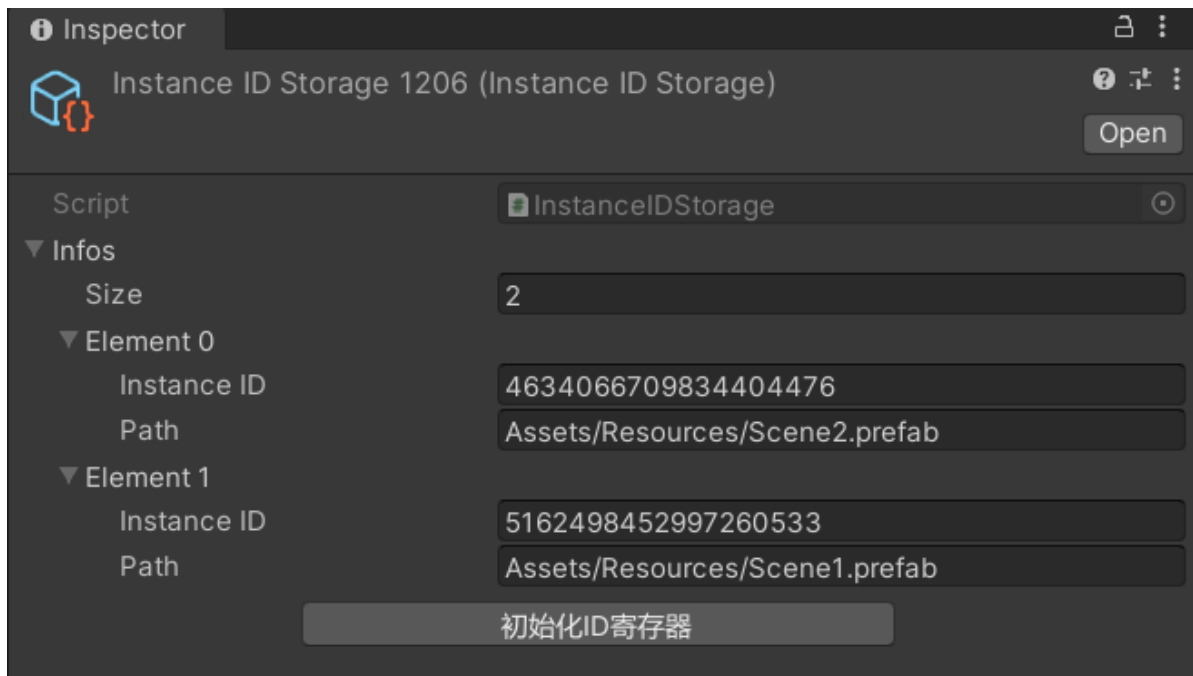

But for objects stored on hard disk, it is impractical to store them directly in a dictionary.

GalForUnity uses InstanceIDStorage to hold objects stored on the hard disk.

InstanceIDStorage is essentially a list of GfuInstanceID and object Path.

Only one InstanceIDStorage with a small footprint is loaded at runtime. InstanceIDStorage can quickly locate the location of a specified object in the hard disk and load the object at runtime, greatly reducing the overhead of the program to find the object.

Don't worry about the query speed of the list, the field is only serialized as a list and is restored to a dictionary at run time, still providing O(1) access speed.

After clicking the initialization ID register, InstanceIDStorage looks up all objects in the Resources directory that contain GfuInstanceID and automatically append it.

Note: The runtime can only load files in the Resources directory! Editor mode can only load files in Assets (project directory) for details on the Unity packaging process.

Note: When GameSystem is attached, InstanceIDStorage is automatically created and the object is attached. Do not modify the object unless necessary, because the GfuInstanceID system needs to change the object to determine whether an object with the same InstanceID exists in the memory or hard disk. If the object is modified arbitrarily, the InstanceID may be misjudged. Easy to cause the Graph system to lose references to objects.

Note: If you createa diagram in a resource and reference a scene object. The diagram loses references when you open a new scene because the objects in the original scene have been destroyed. You can't save your original scene diagram at this point, because that would really cause references to be lost. When you open the original scene, your object reference to the scene is restored. This means that a resource diagram can only be used for one scenario