



# Key-Value Online Storage

By Hippo Games

Welcome! Hope you will enjoy working with my asset!

## About:

**Key-Value Online Storage (KVOS)** is the simplest way to share small data between your users. It is based on Google App Scripts and each developer can create his own storage for free.

You can use **KVOS** to share user content. Here are some use cases:

- Sending gifts, credits, resources
- Sharing user content: characters, maps and other as tiny data (usually JSON)

You cannot use **KVOS** for:

- Saving game progress
- Long-term data storing as data lifetime is not guaranteed (old data is erased when the storage becomes full)
- Large data storing like screenshots

If you need long-term data storage without size limitations, I would recommend you to use **Google Firebase**.

## Features:

- Sharing user content
- User and developer friendly
- Dedicated storage instance with **Google App Script**
- Clean and simple C# code
- Unity 2017, 2018 support
- Any platform (Standalone, Android, iOS, WebGL, UWP)

## Limitations:

- All limitations are made by Google
- Total storage size limit is 500kB
- Single key-value pair size is limited to 9kB

## Storage maintenance:

- Automated storage cleanup when no free space (deleting old data)

## Usage:

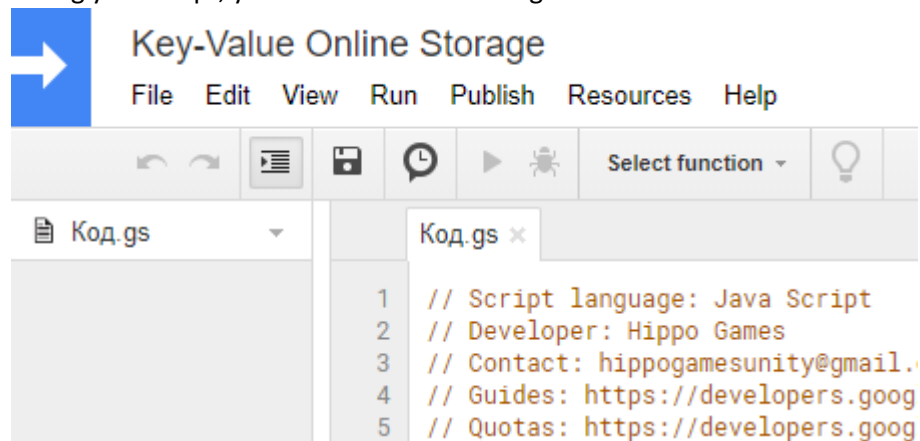
- Open **Example.scene** in Editor and run it
- Press **SET** and **GET** to test how it works

## Service response:

- Service returns **ServiceResponse** as JSON for Get and Set requests
- **ServiceResponse** contain *int* **ErrorCode** and *string* **Response**

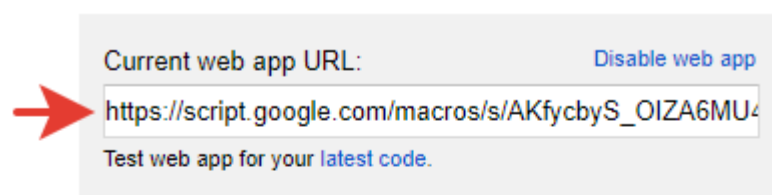
### Storage setup:

- You need Google account
- Visit <https://script.google.com/home> and create a new project
- Start editing your script, you should see something like this:



- Name it as **Key-Value Online Storage** for example
- Find **Storage.gs** file from the asset folder
- Copy script source code to your Google App
- Press **Publish/Deploy as web app**
- Select **Execute the app as: Me**
- Select **anonymous** access

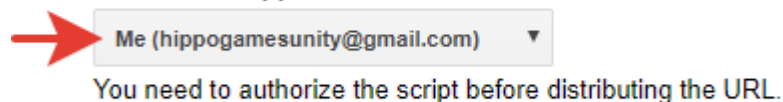
### Deploy as web app



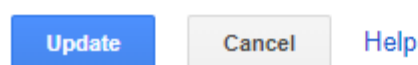
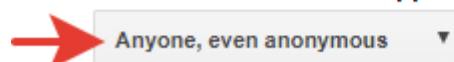
### Project version:



### Execute the app as:



### Who has access to the app:



- Copy web app **URL** to clipboard
- Press **Publish/Update** button
- Go to Unity, open **KeyValueService.cs** and replace **ServiceUrl**
- Test it with **Example.scene**

### Storage maintenance:

- Open web app script and check its' global settings (variables)
- Change `adminPassword`
- Navigate to [URL]?set=[VALUE] to set a value and output a key
- Navigate to [URL]?get=[KEY] to get and output a value
- Navigate to [URL]?output&password=[PASSWORD] to output all storage
- Navigate to [URL]?count&password=[PASSWORD] to output records count
- Navigate to [URL]?size&password=[PASSWORD] to output total storage size in bytes
- Navigate to [URL]?clear&password=[PASSWORD] to clear your storage
- Navigate to [URL]?testfill&password=[PASSWORD] to fill your storage with random data

### References:

- Help: <https://developers.google.com/apps-script/>
- Guides: <https://developers.google.com/apps-script/guides/properties>
- Quotas: <https://developers.google.com/apps-script/guides/services/quotas>

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