

1 — Service Account & Secrets

حساب الخدمة والأسرار

The dashboard runs on Streamlit Cloud **without a human logged in**, so it needs its own robot identity — a Google Cloud **service account** — to read your Earth Engine assets. This guide creates one and stores its key safely in Streamlit's secrets manager.

دون تسجيل دخول بشري، لذلك تحتاج إلى هوية آلية خاصة بها Streamlit Cloud تعمل لوحة المعلومات على لقراءة أصولك في محرك الأرض. هذا الدليل ينشئ الحساب ويخزن — حساب خدمة في — مفتاحه بأمان.

⚠ **Golden rule | القاعدة الذهبية:** the key file must **NEVER** be committed to GitHub. It goes only into Streamlit's secrets screen. — يجب ألا يُرفع ملف المفتاح أبداً؛ إلى GitHub. يوضع فقط في شاشة الأسرار في Streamlit.

Step 1 — Create the service account | إنشاء حساب الخدمة

1. Open <https://console.cloud.google.com/iam-admin/serviceaccounts> and make sure **your Earth Engine project** is selected at the top.
2. Click + **Create service account**.
3. Name: `dashboard-reader` (any name works). Click **Create and continue**.
4. Grant the role **Earth Engine** → **Earth Engine Resource Viewer** (and **Service Usage Consumer** if listed). Click **Done**.

Step 2 — Download a JSON key | تنزيل مفتاح JSON

1. Click the new account → **Keys** tab → **Add key** → **Create new key** → **JSON**.
2. A `.json` file downloads. Treat it like a password. | تعامل معه كأنه — JSON يُنزل ملف | كلمة سر.

Step 3 — Register the account for Earth Engine | تسجيل الحساب في محرك الأرض

Earth Engine must know this service account:

1. Go to <https://console.cloud.google.com/apis/library/earthengine.googleapis.com> and click **Enable** (if not already enabled).
2. In most new projects this is enough. If the dashboard later shows a *"not registered"* error, register the service account at https://signup.earthengine.google.com/#!/service_accounts.

Step 4 — Convert the key to Streamlit secrets format | تحويل Streamlit المفتاح إلى صيغة أسرار

Streamlit secrets use TOML. Open your downloaded JSON key and copy each field into this template (note the [gee_credentials] header and the triple-quoted private key):

```
[gee_credentials]
type = "service_account"
project_id = "your-project-id"
private_key_id = "xxxxxxxxxxxxxxxxxxxxxx"
private_key = """-----BEGIN PRIVATE KEY-----
...many lines...
-----END PRIVATE KEY-----
"""
client_email = "dashboard-reader@your-project-id.iam.gserviceaccount.com"
client_id = "123456789"
auth_uri = "https://accounts.google.com/o/oauth2/auth"
token_uri = "https://oauth2.googleapis.com/token"
auth_provider_x509_cert_url =
"https://www.googleapis.com/oauth2/v1/certs"
client_x509_cert_url =
"https://www.googleapis.com/robot/v1/metadata/x509/dashboard-
reader%40your-project-id.iam.gserviceaccount.com"
```

Where to paste it is covered in the deployment guide (next document).

أين تُلصق هذا النص؟ في دليل النشر (المستند التالي).

Step 5 — Local testing (optional) | الاختبار المحلي (اختياري)

If you ever run the app on your own computer, save the same TOML as `.streamlit/secrets.toml` inside the repository folder. The repository's `.gitignore` already prevents this file from being committed — do not remove that protection.

ملف `.streamlit/secrets.toml`. إذا شغلت التطبيق على حاسوبك، احفظ نفس النص في `.gitignore`. لا تُزل هذه الحماية — يمنع رفعه إلى GitHub.