

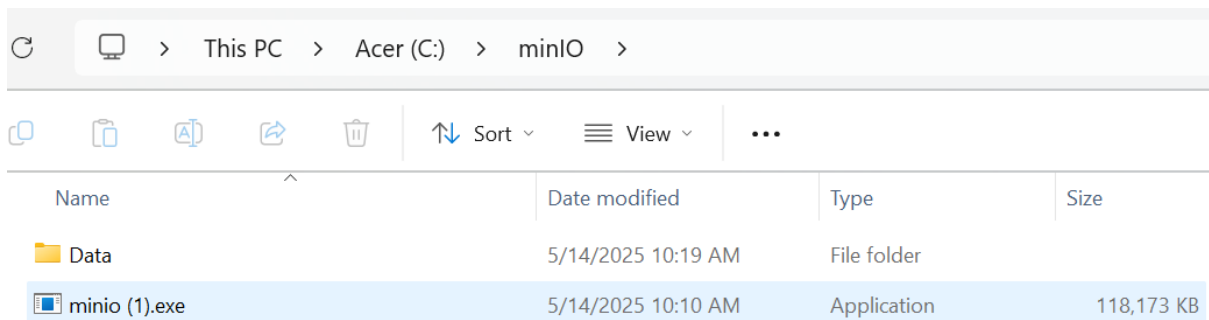
LÊ THỊ LAN – DHKL16A1HN

BÀI THỰC HÀNH CHƯƠNG 7

1. CÀI ĐẶT MINIO

Bước 1: Tải MinIO Server cho Windows

Bước 2: Tạo các thư mục lưu trữ dữ liệu



Bước 3: Khởi chạy MinIO

```
Command Prompt - minio.exe x + v
C:\Users\ACER>cd C:\MinIO
C:\minIO>set MINIO_ROOT_USER=admin
C:\minIO>set MINIO_ROOT_PASSWORD=12345678
C:\minIO>minio.exe server C:\MinIO\data
'minio.exe' is not recognized as an internal or external command,
operable program or batch file.
C:\minIO>minio.exe server C:\MinIO\data
INFO: Formatting 1st pool, 1 set(s), 1 drives per set.
INFO: WARNING: Host local has more than 0 drives of set. A host failure will result in data becoming unavailable.
MinIO Object Storage Server
Copyright: 2015-2025 MinIO, Inc.
License: GNU AGPLv3 - https://www.gnu.org/licenses/agpl-3.0.html
Version: RELEASE.2025-04-22T22-12-26Z (go1.24.2 windows/amd64)

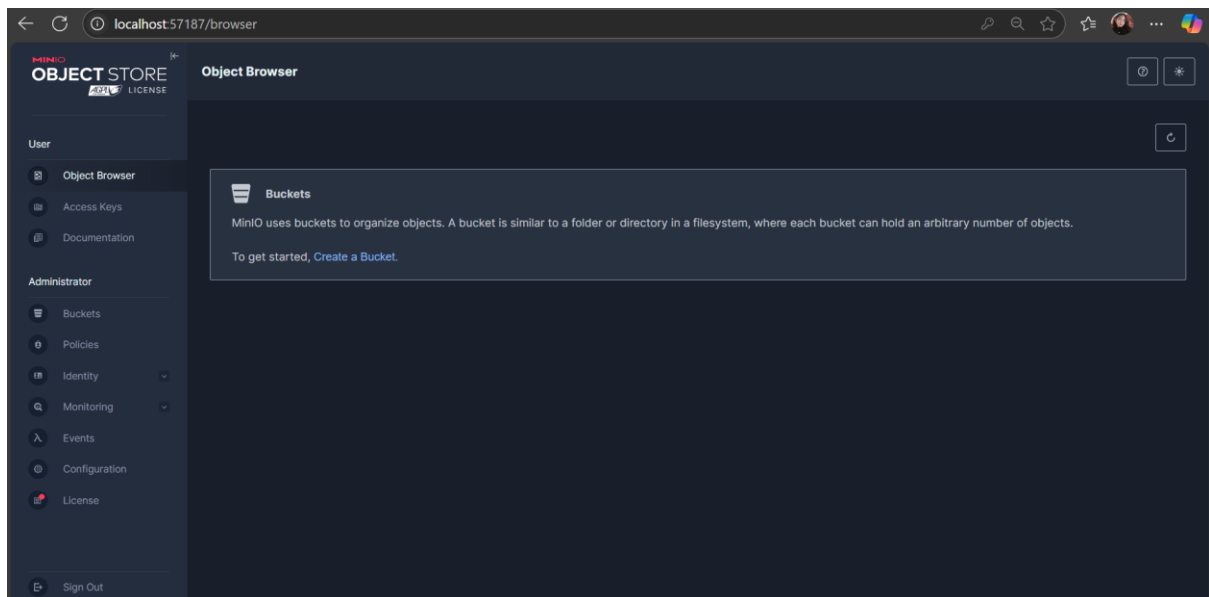
API: http://192.168.1.3:9000 http://127.0.0.1:9000
    RootUser: admin
    RootPass: 12345678

WebUI: http://192.168.1.3:57187 http://127.0.0.1:57187
    RootUser: admin
    RootPass: 12345678

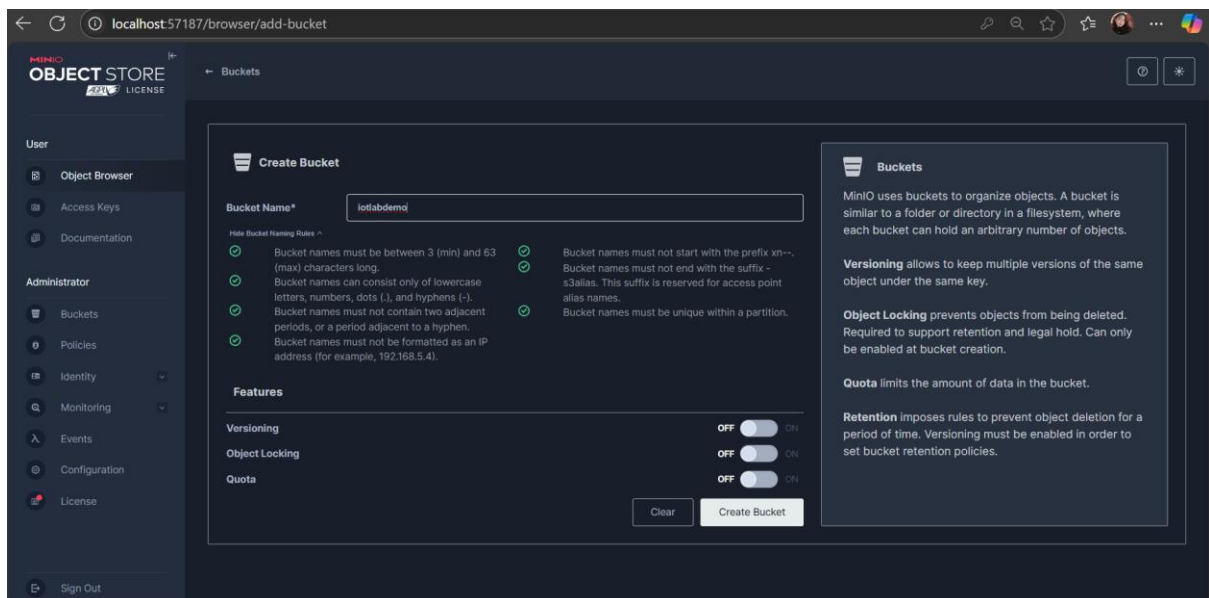
CLI: https://min.io/docs/minio/linux/reference/minio-mc.html#quickstart
    $ mc alias set 'myminio' 'http://192.168.1.3:9000' 'admin' '12345678'

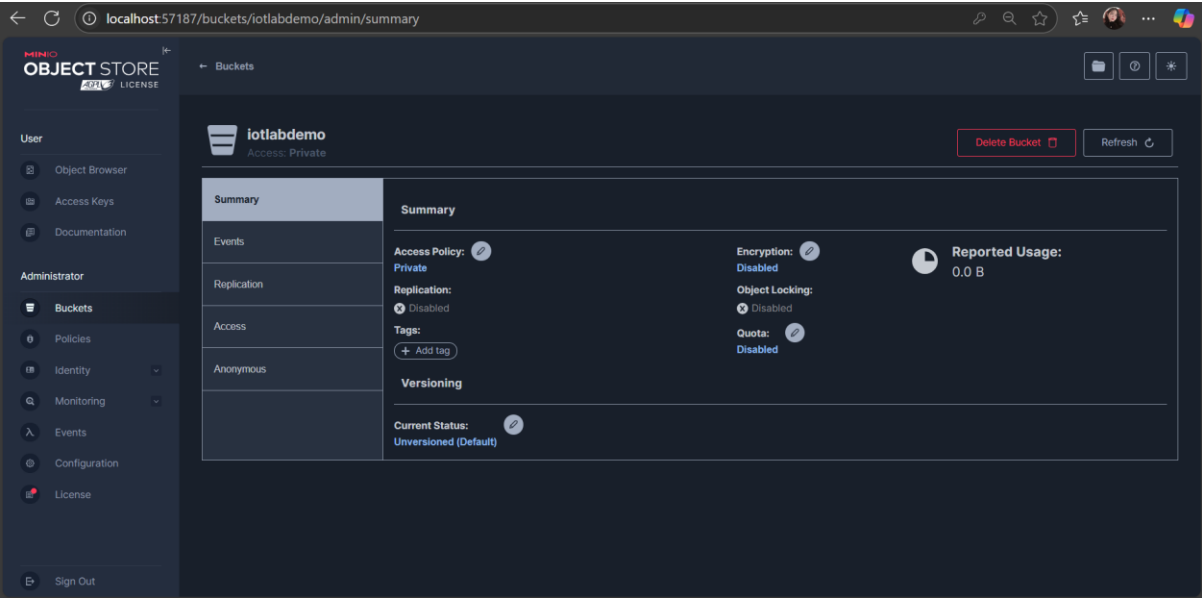
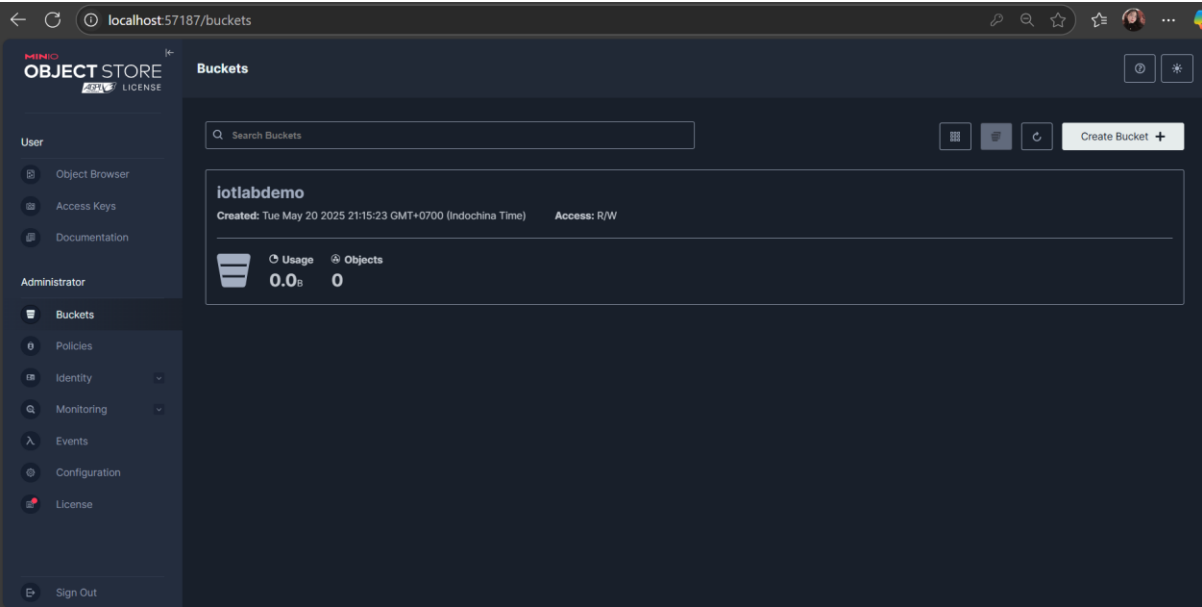
Docs: https://docs.min.io
```

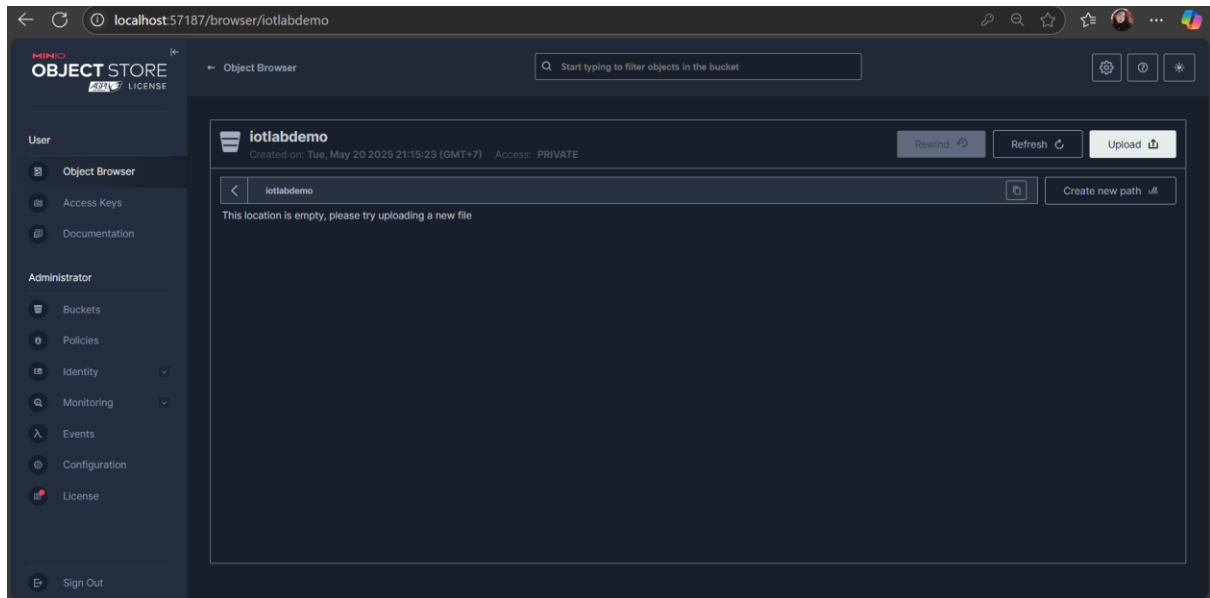
2. TẠO BUCKET VA TẢI FILE LÊN



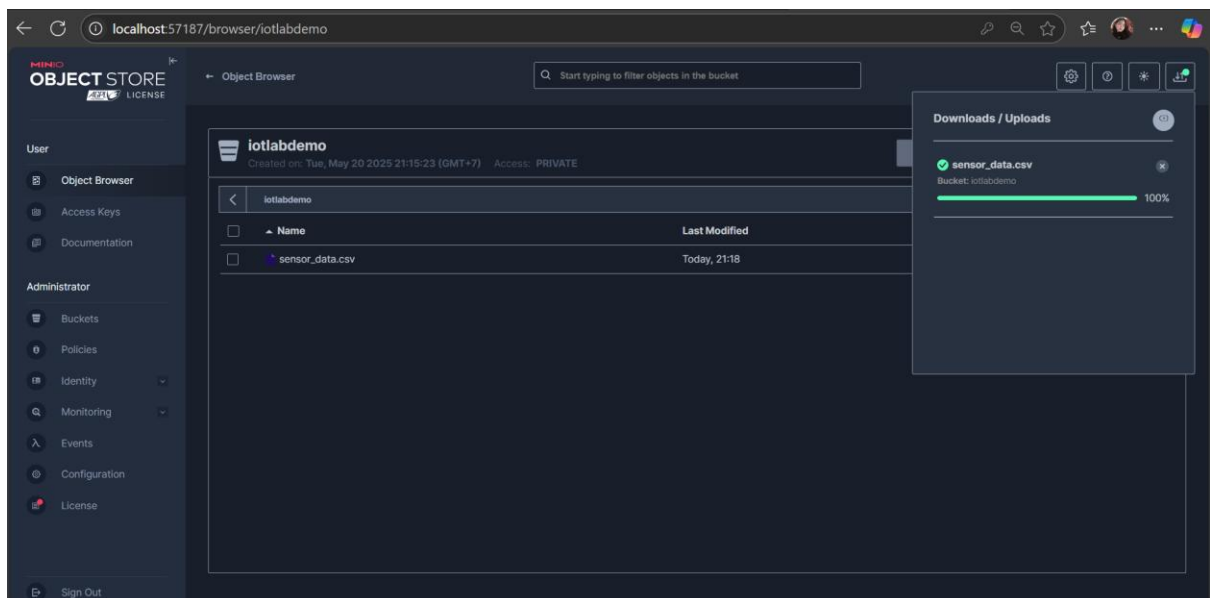
Chọn Create Bucket → đặt tên (ví dụ: iot-lab-demo).

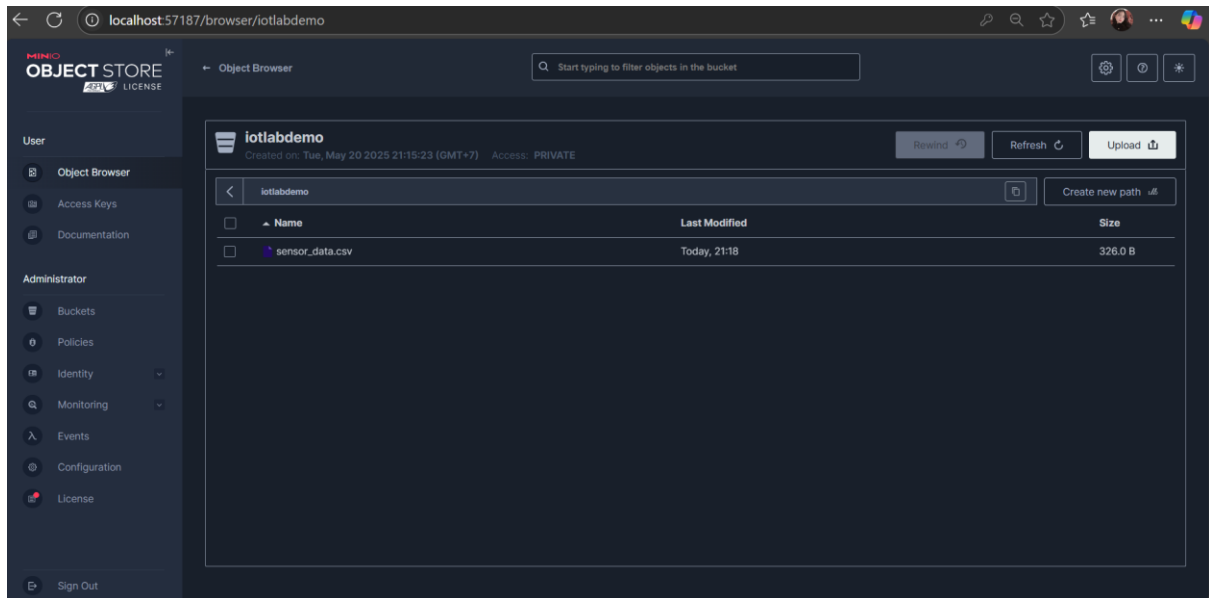






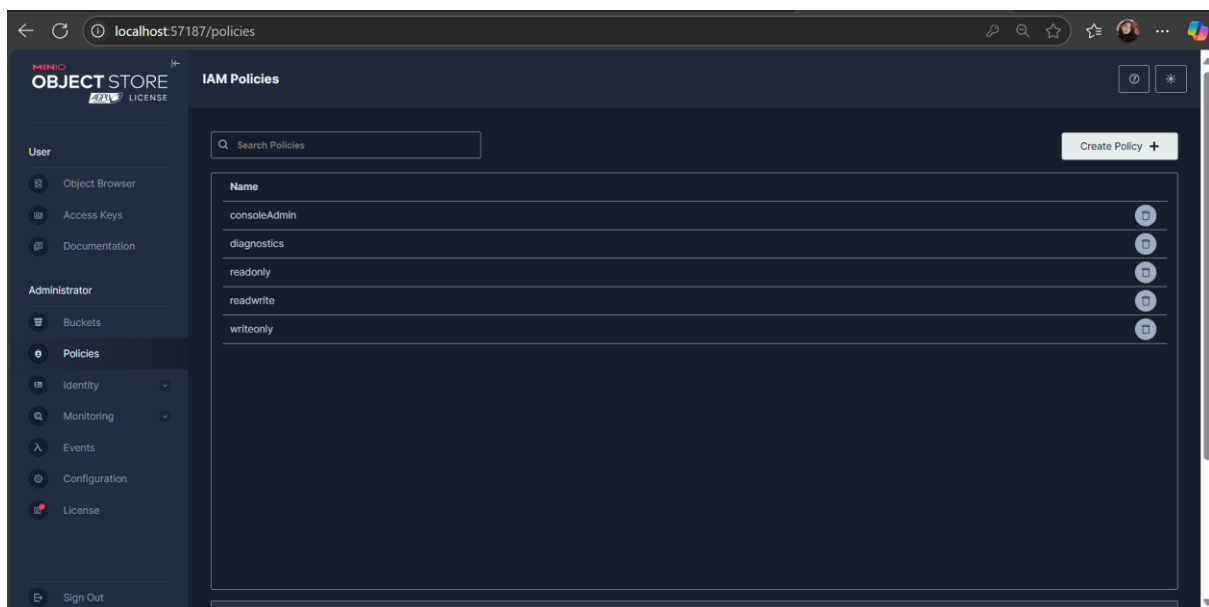
Mở bucket vừa tạo, nhấn Upload → chọn file từ máy (VD: temperature.csv, sensor_data.csv).



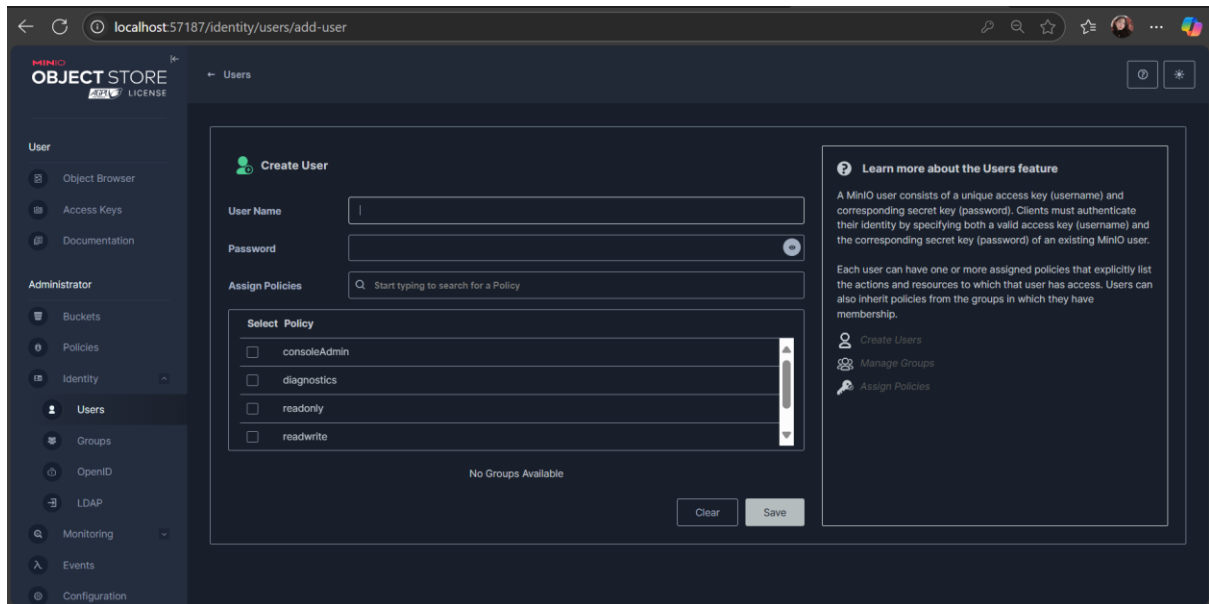


3. TẠO USER VÀ GÁN QUYỀN BẰNG POLICIES

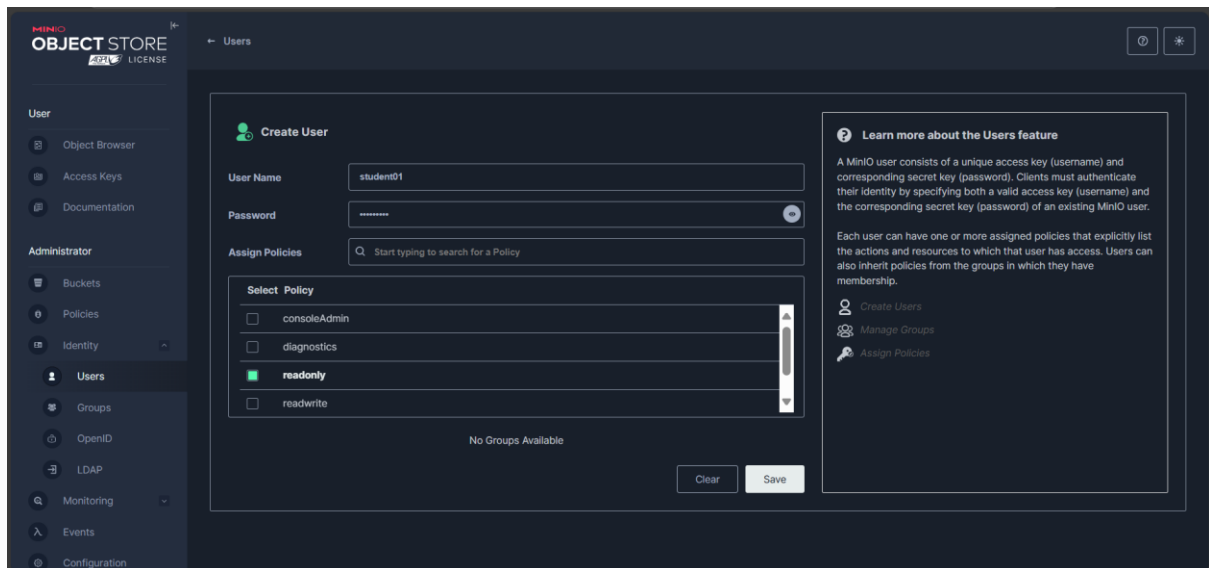
B1. Vào tab “Policies” → đảm bảo các policy như readonly, readwrite, writeonly đã có sẵn.



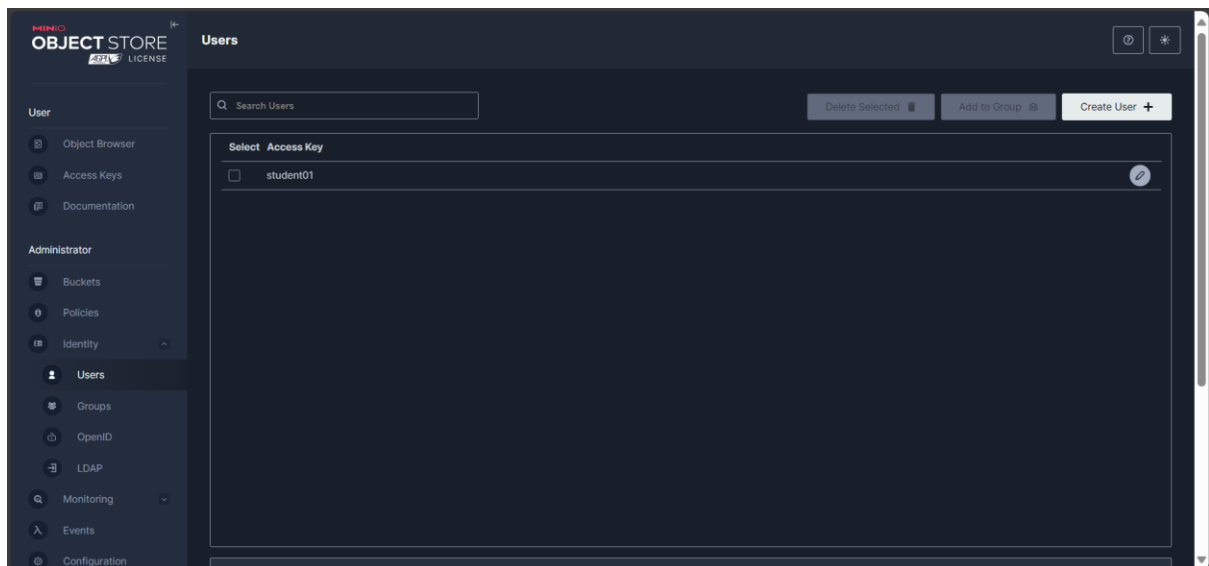
B2. Vào menu “Identity” > “Users” → nhấn “+ Create User”.



B3. Tạo user mới: - Access Key: student01 - password: abc12345 - Policy: readonly

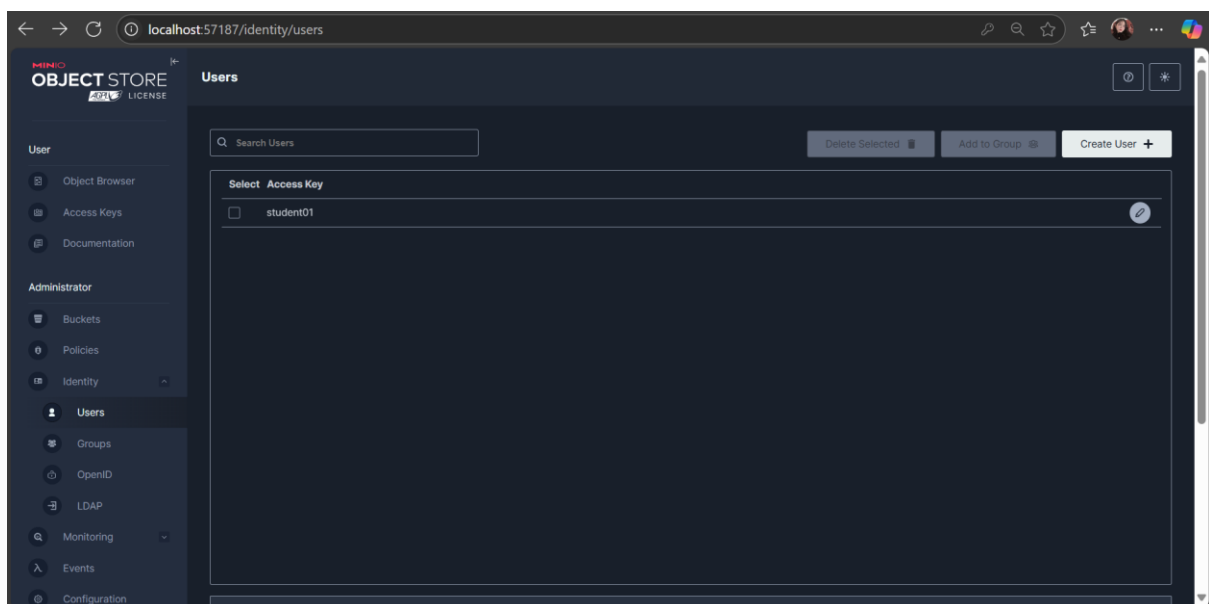


B4. Nhấn “Create User”.

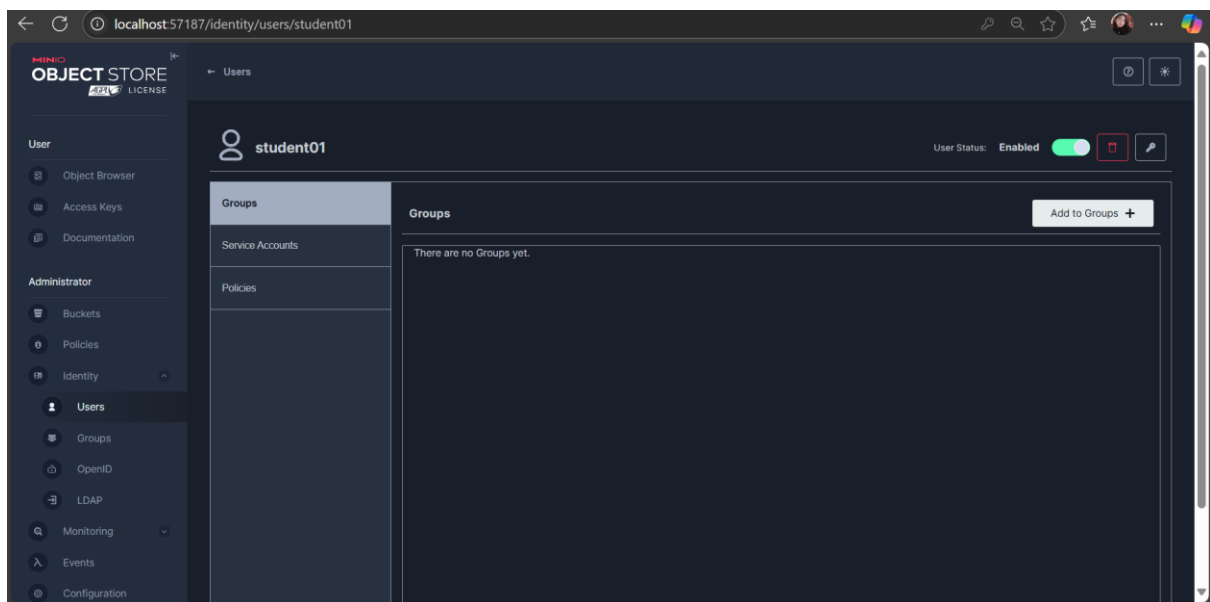
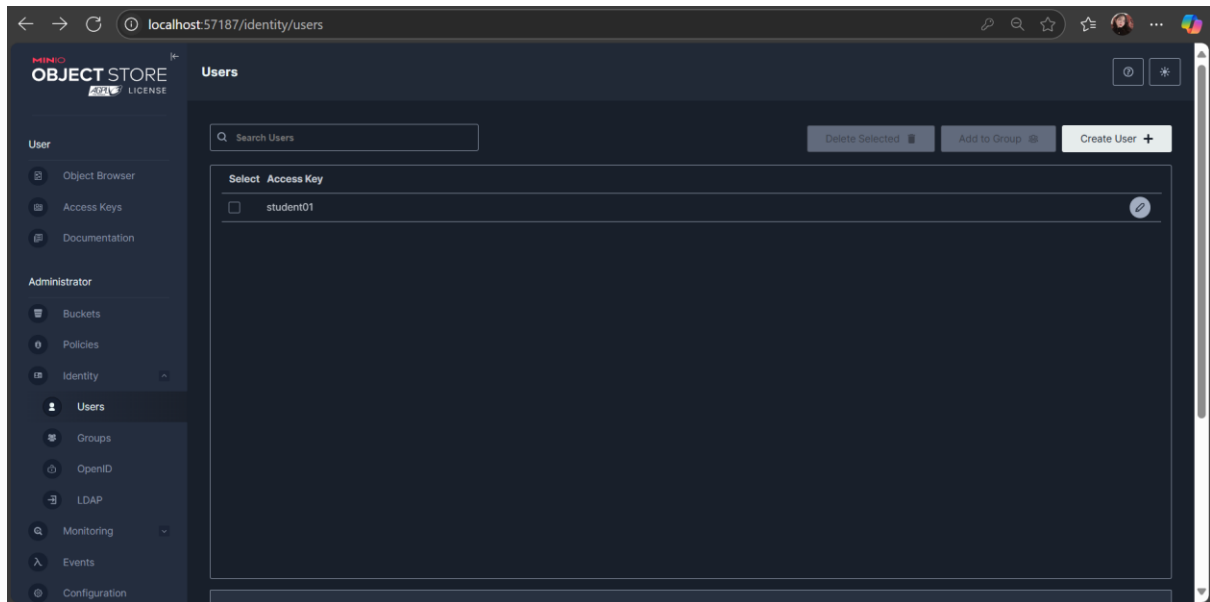


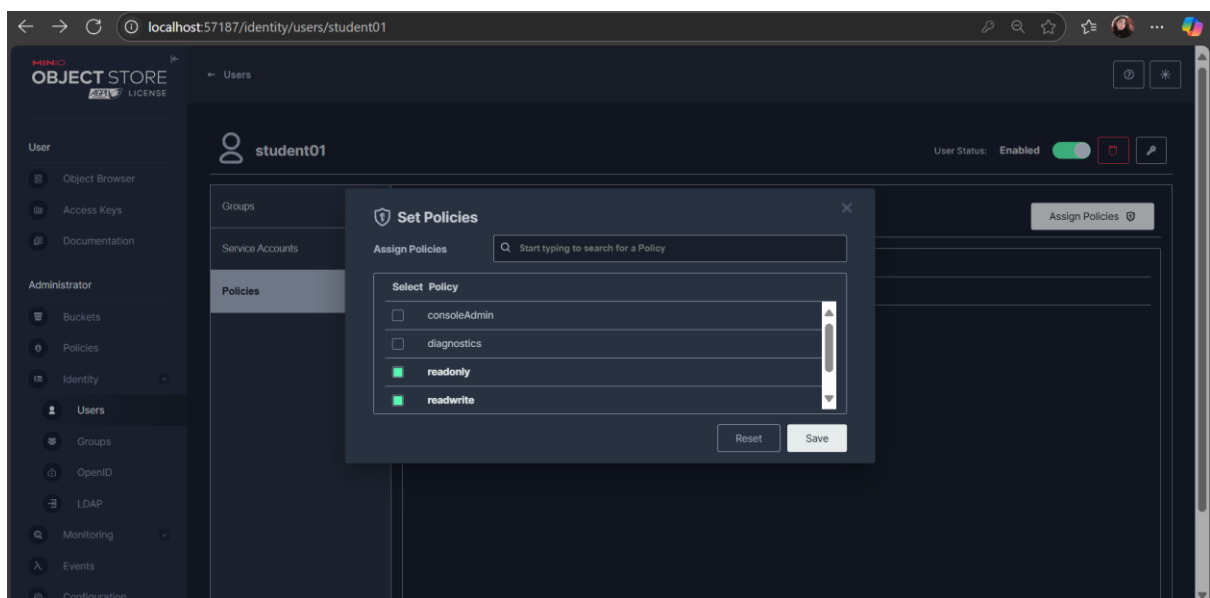
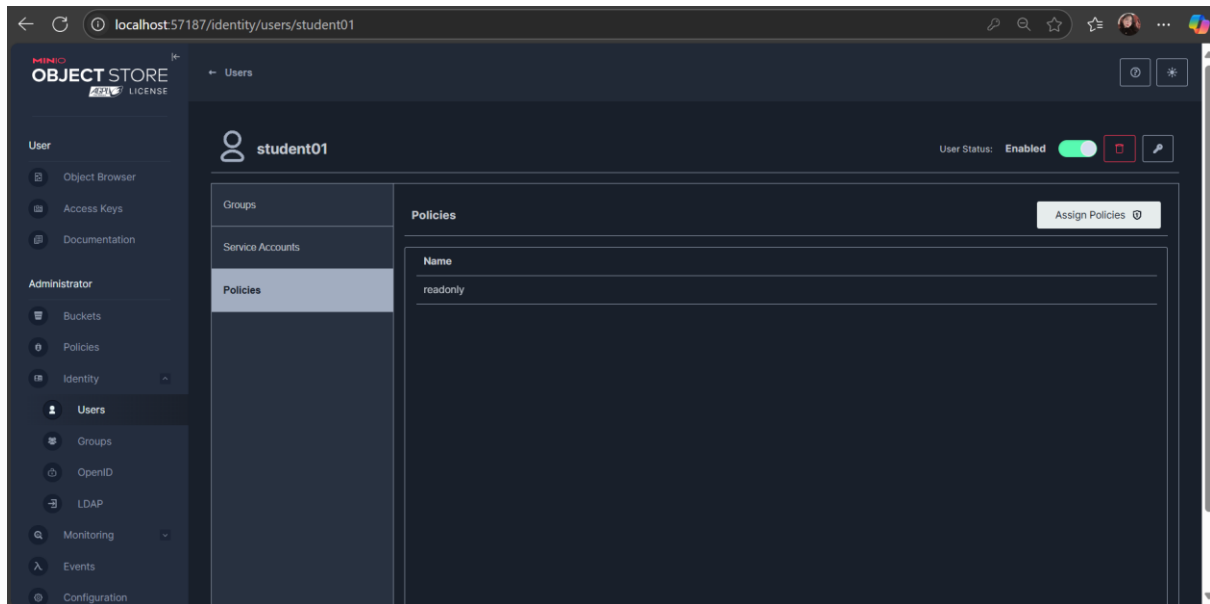
4. DOWNLOAD FILE QUA GUI BẰNG TÀI KHOẢN MỚI

Bước 1: 1. Đăng xuất tài khoản admin.

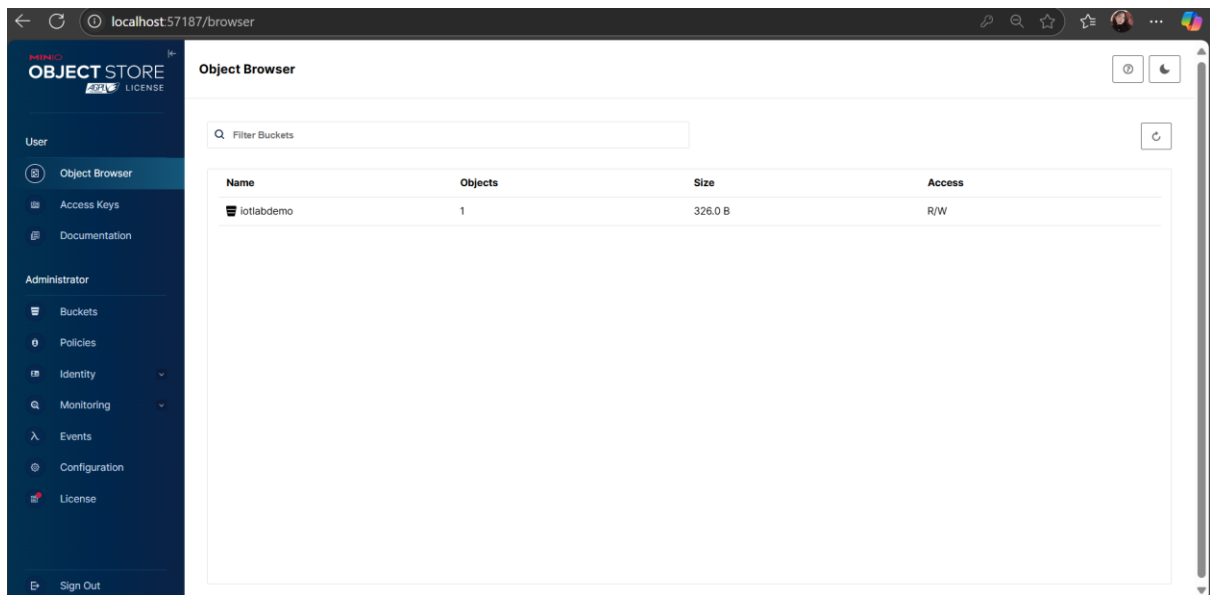


Bước 2: Đăng nhập lại bằng tài khoản student01.

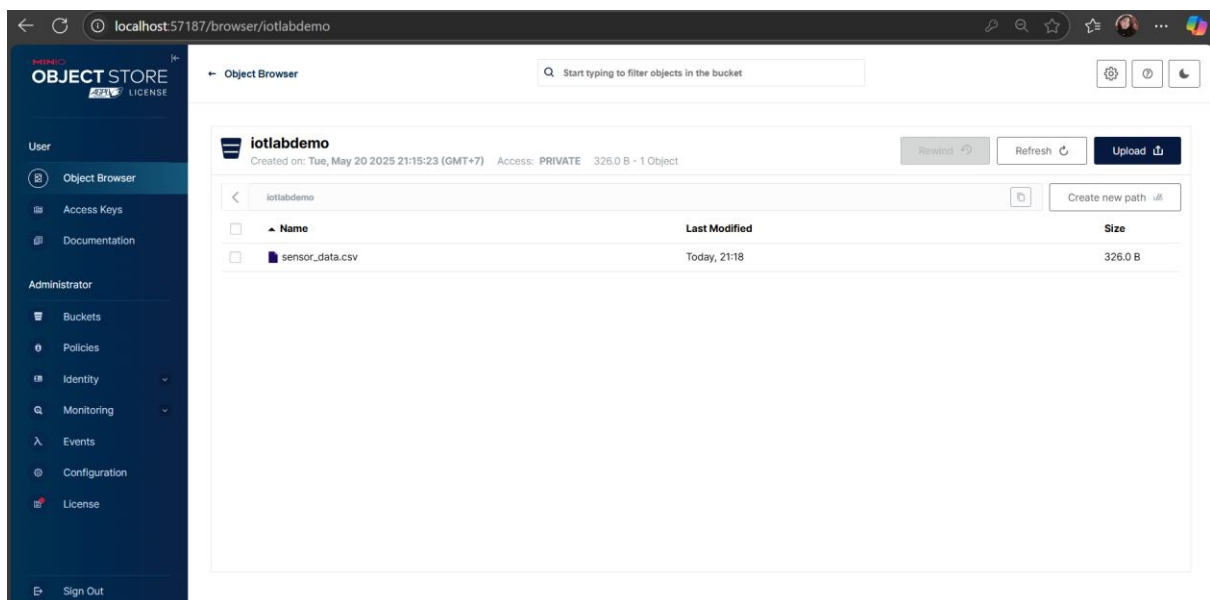




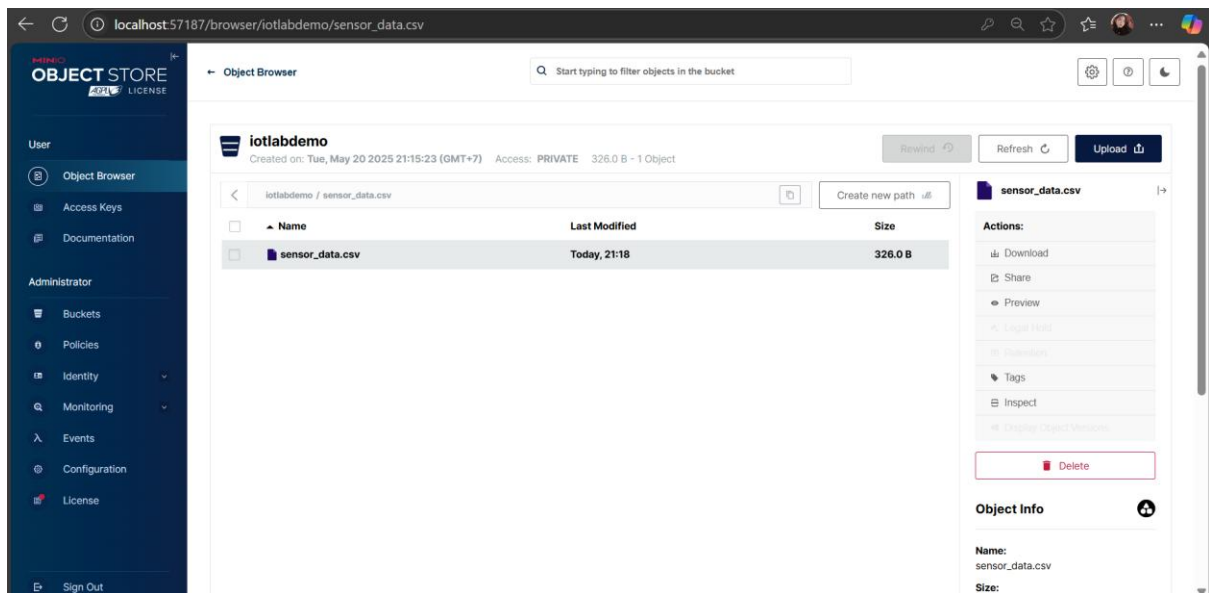
Sau khi gán quyền readwrite ◊ logout chế độ admin, sau đó đăng nhập lại bằng tài khoản student01. Vào lại bucket → click vào file → nhấn nút download để tải file về. Trong giao diện chúng ta sẽ thấy có bucket: `iot-lab-demo`. Tiếp tục thực hiện các bước như sau để download file từ bucket.



Click vào iotlabdemo xuất hiện giao diện :



Tiếp tục click vào sensor_data.csv trong menu bên phải chọn download file về.



5. TRUY XUẤT FILE BẰNG PYTHON (BOTO3)

B1. Cài thư viện boto3: (Mở cmd trong chế độ Administrator) gõ lệnh:

`pip install boto3`

```

C:\Users\ACER>python -m pip install boto3
python: can't open file 'C:\\Users\\ACER\\-m': [Errno 2] No such file or directory

C:\Users\ACER>python -m pip install boto3
Defaulting to user installation because normal site-packages is not writeable
Collecting boto3
  Downloading boto3-1.38.19-py3-none-any.whl.metadata (6.6 kB)
Collecting botocore<1.39.0,>=1.38.19 (from boto3)
  Downloading botocore-1.38.19-py3-none-any.whl.metadata (5.7 kB)
Collecting jmespath<2.0.0,>=0.7.1 (from boto3)
  Downloading jmespath-1.0.1-py3-none-any.whl.metadata (7.6 kB)
Collecting s3transfer<0.13.0,>=0.12.0 (from boto3)
  Downloading s3transfer-0.12.0-py3-none-any.whl.metadata (1.7 kB)
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in c:\users\acer\appdata\roaming\python\python312\site-packages (from botocore<1.39.0,>=1.38.19->boto3) (2.9.0.post0)
Requirement already satisfied: urllib3!<2.2.0,<3,>=1.25.4 in c:\users\acer\appdata\roaming\python\python312\site-packages (from botocore<1.39.0,>=1.38.19->boto3) (2.2.3)
Requirement already satisfied: six>=1.5 in c:\users\acer\appdata\roaming\python\python312\site-packages (from python-dateutil<3.0.0,>=2.1->botocore<1.39.0,>=1.38.19->boto3) (1.17.0)
Downloading boto3-1.38.19-py3-none-any.whl (139 kB)
Downloading botocore-1.38.19-py3-none-any.whl (13.6 MB)
13.6/13.6 MB 2.1 MB/s eta 0:00:00
Downloading jmespath-1.0.1-py3-none-any.whl (20 kB)
Downloading s3transfer-0.12.0-py3-none-any.whl (84 kB)
Installing collected packages: jmespath, botocore, s3transfer, boto3
Successfully installed boto3-1.38.19 botocore-1.38.19 jmespath-1.0.1 s3transfer-0.12.0

```

B2. GỖ ĐOẠN CODE CHẠY BẰNG PYTHON

