👨‍💻 Project Author

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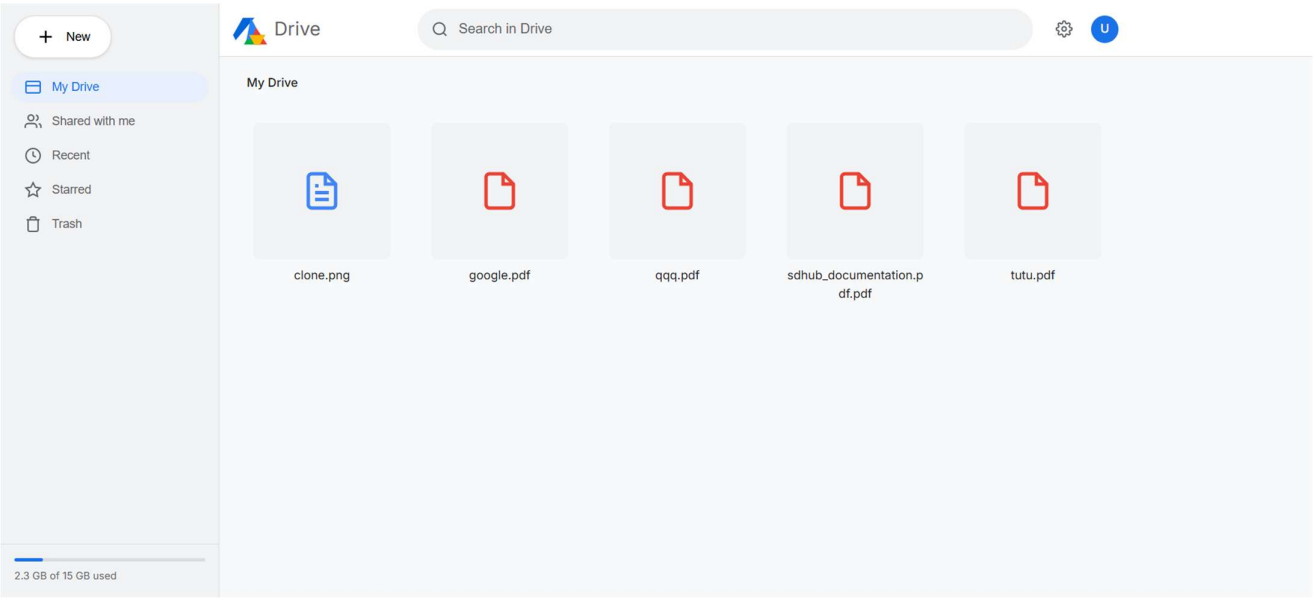
GitHub: https://github.com/Waleedcoderarch/Google-Drive-Clone-using-AWS-.git
Course: CloudDevops

📌 Project Title

Google Drive Clone Using AWS S3, Lambda, and API Gateway

📄 App Preview

This application provides a Google Drive–style interface where users can view files stored in AWS cloud storage.



📖 Project Explanation

This project is a **Google Drive Clone UI** where users can view files that are stored inside an **Amazon S3 bucket**.

Architecture Flow:

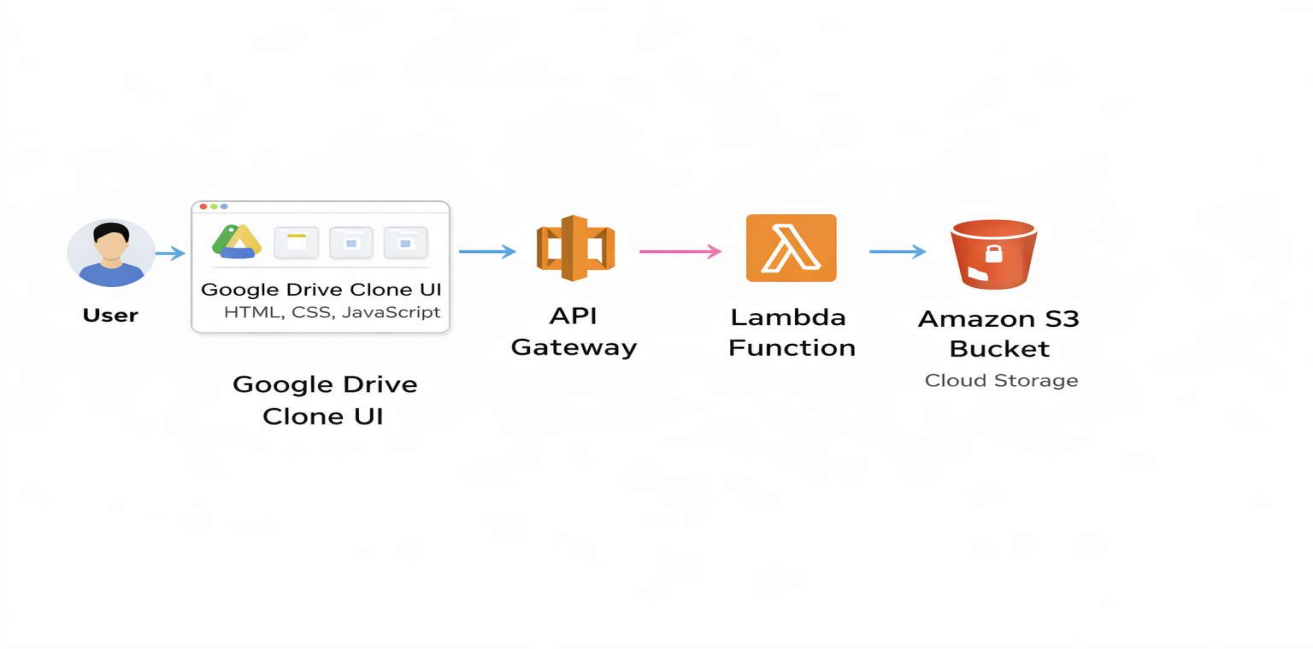
User → Google Drive Clone UI → API Gateway → Lambda Function → Amazon S3 Bucket

What Happens in This Project:

- The user opens the Google Drive Clone website.
- The UI requests file data from AWS.
- API Gateway receives the request and forwards it to Lambda.
- Lambda function fetches file information from the S3 bucket.
- The file list is sent back to the UI.

- The UI displays all cloud files to the user.

This makes the application fully cloud-connected and serverless.

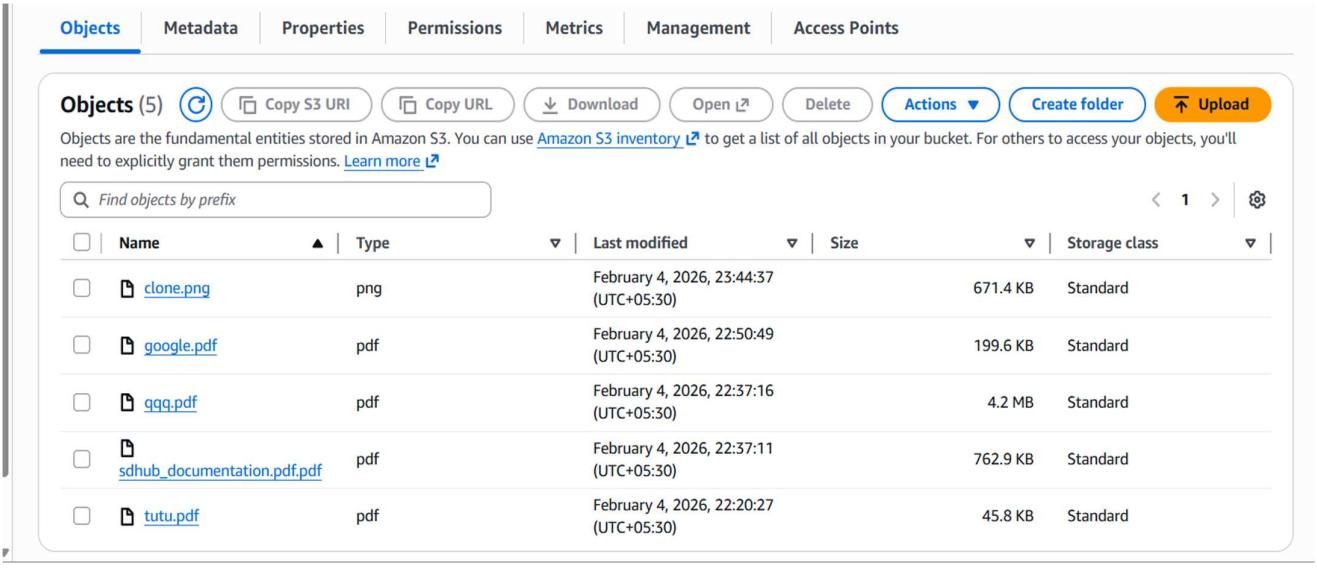


⚙ Project Implementation

Below are the steps I followed to build this project.

Step 1 — Create S3 Bucket (Cloud Storage)

- I created an **Amazon S3 bucket**.
- Uploaded sample files such as PDFs and images.
- These files act as cloud storage data.



S3 is used because it provides:

- Secure storage
- High scalability
- Fast access to files

Step 2 — Create IAM Role

- I created an IAM role for Lambda.
- Attached permission:

AmazonS3FullAccess

This allows Lambda to:

- Read files from S3
- List bucket objects
- Generate file access links

Step 3 — Create Lambda Function

- I created a Lambda function using **Python**.
- Inside the function, I wrote logic to:

✓ Fetch file names from S3
✓ Generate secure URLs
✓ Send data to API Gateway

Lambda acts as the backend without managing any servers.

Step 4 — Create API Gateway

- I created a REST API in API Gateway.
- Created resources and HTTP methods.
- Connected API Gateway with the Lambda function.
- Enabled **CORS** for frontend browser access.

- Deployed the API to production stage.

After deployment, API Gateway generated an **Invoke URL**.

Step 5 — API Connection Testing

To verify the connection:

- I pasted the API URL into the browser.
- If file names appeared → connection was successful ✅
- If not → configuration issue ❌

This confirmed:

- Lambda is connected to S3
- API Gateway is working correctly

Step 6 — Frontend Integration

- I added the API Gateway URL inside my JavaScript code.
- The frontend fetches cloud data using this API.
- The UI dynamically loads files from S3.

Now when users open the website:

✓ Files are loaded from cloud
✓ Real-time data is displayed
✓ Serverless backend is active

✅ **Final Outcome**

This project successfully demonstrates:

- Serverless cloud architecture
- Frontend to AWS integration
- Real-time cloud data fetching
- Secure file access using AWS services

It works like a **basic Google Drive system** using AWS cloud services.