Cloud Computing (CS495)

Firebase Storage

Lab #4

Prepared by:

Ashraf Mohey

➢ What is “Firebase Cloud messaging”?

Cloud Storage for Firebase is a powerful, simple, and cost-effective object storage service built for Google scale. The Firebase SDKs for Cloud Storage add Google security to file uploads and downloads for your Firebase apps, regardless of network quality. You can use our SDKs to store images, audio, video, or other user-generated content. On the server, you can use Google Cloud Storage, to access the same files.

How does it work?

Developers use the Firebase SDKs for Cloud Storage to upload and download files directly from clients. If the network connection is poor, the client is able to retry the operation right where it left off, saving your users time and bandwidth.

Cloud Storage stores your files in a Google Cloud Storage bucket, making them accessible through both Firebase and Google Cloud. This allows you the flexibility to upload and download files from mobile clients via the Firebase SDKs, and do server-side processing such as image filtering or video transcoding using Google Cloud Platform. Cloud Storage scales automatically, meaning that there's no need to migrate to any other provider.

Firebase Storage Features

- Robust operations
  - Firebase SDKs for Cloud Storage perform uploads and downloads regardless of network quality. Uploads and downloads are robust, meaning they restart where they stopped, saving your users time and bandwidth.

- Strong security
  - Firebase SDKs for Cloud Storage integrate with Firebase Authentication to provide simple and intuitive authentication for developers. You can use our declarative security model to allow access based on filename, size, content type, and other metadata.

- High scalability
  - Cloud Storage for Firebase is built for exabyte scale when your app goes viral. Effortlessly grow from prototype to production using the same infrastructure that powers Spotify and Google Photos.

➢ Configuring Android Project with Firebase Database

• Use the Firebase Assistant

To open the Firebase Assistant in Android Studio:

- ➢ Click **Tools > Firebase** to open the **Assistant** window.
- ➢ Click to expand firebase storage
- ➢ Click the **Connect to Firebase** button to connect to Firebase and add the necessary code to your app.

➢ Upload/Download files from database

To upload/download files using firebase in any client you always need to follow these steps:

- ➢ Get reference to your root object of your storage.
  - ➢ mStorage = FirebaseStorage.getInstance().getReference();
- ➢ Navigate inside your directories using .child(‘’)
  - ➢ mStorage(‘Dir1’).child(‘Dir2’); ….
- ➢ Use storageReference.putFile(new File(‘image.jpg’)) for upload operation
- ➢ Use storageReference.getFile(new File(‘image.jpg’)) for donwload operation

➢ Read/Write data to database

For full usage reference please follow official documentation:
https://firebase.google.com/docs/storage/android/upload-files
https://firebase.google.com/docs/storage/android/download-files

Reference

https://firebase.google.com/docs/storage/