

# Cloud Computing - Final Assignment

## Intro

This assignment will have a more flexible structure than the previous assignments, but you still need to pay attention to the requirements.

If you have any questions, feel free to contact me immediately by mail at [meni432@gmail.com](mailto:meni432@gmail.com) or WhatsApp at 0546450344.

## Compute

For this assignment, **do not use EC2**. Use Lambda instead.

## First Part

### Build a basic user system

You should develop this part using **Lambda**, **CDK**, and **API Gateway**, in addition to S3 and any other AWS Service we present in the class, if necessary, for that part.

We will build our baseline for a Social Network. As with any social network, our network will have a user system.

For this assignment, we will not implement an Authentication / Authorisation system and will not need to authenticate the user in the request.

You can still use API-KEY (the built-in API Gateway feature) for all requests to create user limitations, but it's not mandatory.

### Design and Build an API For Creating a new User

Design the API you believe is needed to create a new user in our Social Network, implement it, store the users inside a DB, and assign each user a [Unique ID](#).

Build an API For **Delete a User By ID** and **Get a User By ID**.

Create a Test for this API, including edge cases. For example, what will happen if I try to delete a user who doesn't exist?

### Design and Build an API for Upload User Profile picture

Design the flow for uploading profile pictures for existing users,

Make sure to do it securely. In our words, the User must send a request with his User ID to an API and get temporary access to the bucket to upload his picture (pre-sign URL).

In addition, we will indicate in the user profile (i.e., Get a User By ID) if the user has a valid profile picture and the URL for the picture.

We will return the link to that picture **just in case the image is uploaded successfully**.

*You should submit the flow diagram of that part, including the code, and you will present it during the frontal presentation of your project.*

## Second Part

### Build your feature for our Social Network

In this part, you should build your innovative feature on our social media.

This part is more flexible, and we will give you the ability and the flexibility to build non-defined features.

The grade will take into consideration innovation, execution, and teamwork.

You can find the supported services that you can use “free” in the lab [here](#). We will appreciate using services that we didn’t use in the class.

For idea validation, feel free to reach out by mail or by WhatsApp.

To create minimal criteria, you must use:

- At least two Lambda functions.
- At least one SQS.
- At least one Table in any DB.

If you need help or validation that your idea is good enough for the project, reach out.

An example of ideas:

- Interact with social networks by mail and summary mail through Chat GPT (Open AI API).
- Image upload classification and automatic tags for image posts.
- Many more 😊

Good luck!