


HostIT

↗ Module	 <u>4FAP</u>
▼ Type	Projet

Introduction

You work for SovereignCloud as architect which must design and build a new highly scalable storage platform for non-tech savvy peoples.

This platform intend for permit the following things:

- Managing file thought a web interface
- Synchronize file from desktop

Your platform will be purposed as a Beta service for your current customers during 6 months to improve the product and determine the pricelist and list of the plans.

During this period, customer will not be limited by a quota (however, you must be ready to implement it).

Subject



You must use Micro-Service architecture for this project (APIs, Front, etc..)

Application (5 points)

Web app (3 points)

A user could register a new tenant from the homepage, all authentication must include 2FA.



The user validation process is mandatory to avoid security issue such as ddos and spamming.

You must configure also a system to block ip address if you observe bruteforce on authentication endpoints.

Once authenticated, the user must be able to create folder and put file inside from his webbrowser via drag and drop.

of course, the user must able to delete a file / directory.

Desktop APP (2 points)

The desktop app permit to login and then, synchronise file from your local directory and the remote directory

Data & IA (5 points)

HostIT Business planification and Roadmap (2 points)

From all the data you have (of course, extracted from the API !), you must be able to easily generate diagrams to determine:

- average file size by size (0mb - 5mb : 90%, 5mb - 1GB: 5%, >5GB: 5%)
- percentage of files type (ex: 30% of microsoft word documents, 20% of zip , 50% of pdf).
- file quantity by directory(ex: ~ 12K file per directory).
- file quantity by user
- etc... (feel free to add or permit generation of theses diagrams)

Theses data will be used to determine the next step such as "integrate file editor from the web browser".

Customer type detection (3 points)

Marketing and IT departement are sure we have different customer types:

1. non tech-savvy
2. tech-savvy.
3. people who used HostIT as huge video storage



For this PoC, you can consider "huge video" as more than 30mb.

We want to detect and recognize the customer type automatically according to the file which are stored to determine: "who are the HostIT user and how to target correctly our users".

This analysis run everyday, and the list of people in the 3. category must be reported to Sales in order to be blocked or redirected to another solution provided by SovereignCloud.

Infrastructure (5 points)

Architecture and setup (3 points)

You are free to make your choice as long you respect the following criterias:

- Your solution (the storage of course) is easily scallable (you must provide the procedure to scale-up)
- Your solution is highly available

If one of theses points is not respected, you will have 0 on this part.

Backup (2 points)



Local backup will be considered as non-existent backup ;-)

You must implement a backup solution of your project.

Feel free to choose your backup solution or implement your own backup solution.

You will be evaluated on the backup solution and his performance ! (performance of backup = time to perform a backup of the system & time to restore a backup).

Bonus (5 points)

Feel free to improve subject as you want 🚀 ✨

Annexes

- S3 Storage

Rules

This project must be your creation and done by your own. Plagiarism or copy / past are forbidden and will result of a 0.

This is project can be done in group of 3 students maximum.

Each group containing more than 3 members will be discarded and not evaluated.

Delivery

You must deliver a **ZIP** containing:

- 2 Technicals Documentation (.pdf)
 - Infrastructure
 - Application, features documentation
- Projects files (.zip).

⚠ File extension should be strictly respected. If you deliver file in a different format than expected, the file will be entirely discarded.