University of Bordeaux-PUF

DASA project

REST-File Explorer

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Abstract

This application is a service which help user to storage and share file by leveraging on existing cloud storage service. In this application, a REST based service will be devlopped to store seamlessly files on the different cloud sotrage exist in entire Internet. Example: Google Drive, DropBox...

Contents

1 Introduction

The middleware is a computer software that provides services to software applications beyond those available from the operating system. Middleware is the software that connects software components or enterprise applications. Middleware is the software layer that lies between the operating system and the applications on each side of a distributed computer network. Typically, it supports complex, distributed business software applications. To understand more about the middleware, the course DASA provide the project which make a application use the concept of middleware. This application contains 2 main part :

1. The Server side: a Rest service coding with full Java language, using Rest Jersey framework to handle the method POST,PUT,GET,DELETE from client and send the pure HTTP method to the other cloud storage.

2. The Client Side: Simply a web page made by HTML,CSS and Javscript. The client will navigate to the REST service of the server side to obtain the data form other file storage, the user will have a unique file explorer unifying the file and provide the same function like other storage services.

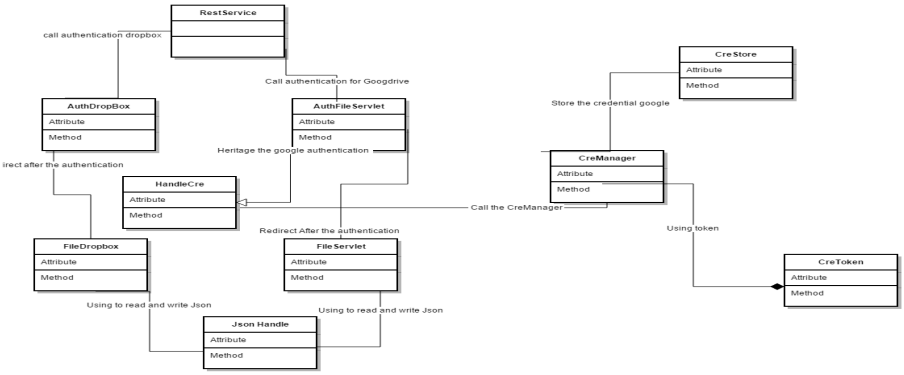
The application is developped by the Java language, supported by REST Jersey framework and managed by Maven.

2 Structure of the project

2.1 Folder structure

1. pom.xml, this file contains the dependency,plugins of Maven necessary for the project. This will show all the thing the project will need to download.
2. src, contains all the source file of the project
3. main/java, contains particularly all Java source files
4. main/webapp,contains the index page, html page,css and javascript and other presentation of the client side.
5. main/WEB-INF, contains servlet configuration files web.xml, the token of the other file storage, the json file to describe the data file of the client.
6. target, this folder contains all the classes file generated by the source code, the libaries of the project.

2.2 UML description



Explanation

1. RestService: Handle the method PUT,POST,GET,DELETE of the client and call the 2 servlet AuthFileServlet and AuthFileDropbox for the authentication of google and dropbox
2. AuthFileServlet:Request the authentication of google through HandleCre class
3. AuthFileDropbox: Reuqest the authentication of dropbox with pure HTTP
4. HandleCre: Create the credentical for google api request
5. CreManager: Provide some function for the HandleCre class can use
6. CreToken: Define the token object

7. FileServlet: Handle the file from google after the authentication.
8. FileDropbox: Handle the file from dropbox
9. JSonHandle: Read and Write Json retrive from FileServlet and FileDropbox.

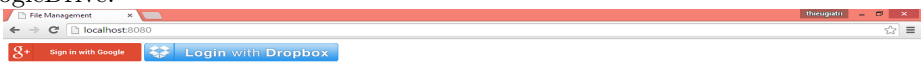
3 Framework and libary used

This application use the Jersey REST framework to create the REST service for the client. The libary is provided by google for the request of the authentication and token.

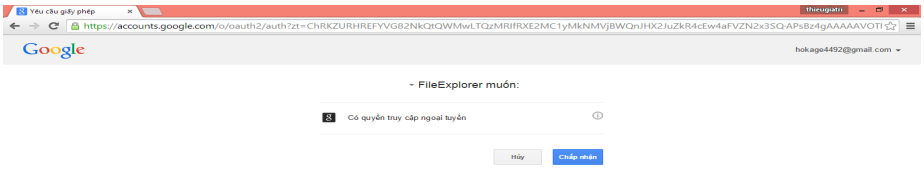
1. google-api-client
2. google-api-service-oath
3. google-oath-client-service

4 User manual

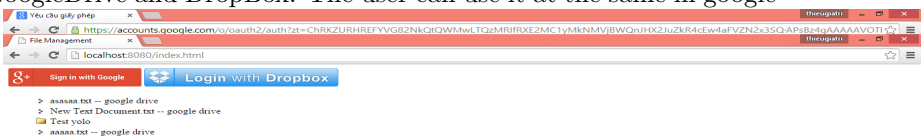
The user first will see the home page with 2 option for chose login Dropbox or GoogleDrive.



The user click the button to chose and it will redirect the user to the page authentication of Google or Dropbox.



The redirect will be at the filemanager.html which show all the file of the user from both GoogleDrive and DropBox. The user can use it at the same in google



or dropbox.

5 Feature

5.1 Feature Implemented

1. user use the google account or dropbox to acces the application
2. get file from googledrive and dropbox and combine it for the user
3. Merge the folder has a same name from googledrive and dropbox.

5.2 Feature not Implemented

1. Share file for user
2. Available file disk presentation
3. Persistence data

6 Difficuties

There many difficuties encounter in the creation of this application:

- The authentication of the google,dropbox is really complicated without sdk, because it doesn't have many documentation about this. It only have the doucmentation support for sdk.
- Problem about the plugin version of google authentication.
- Some feature cannot implement because the missing of documentation,example about the pure HTTP request re from both google and dropbox.
- Dropbox have some mistake about the getting file from metadata
- The presentation treeview the file data from json result from the google and dropbox is another problem because the lacking knowledge of javascript in this project.

But beside the difficulties, it provide to us the whole new knowledge and the way to pass through the obstacle in the programmation. Thank to thos difficulties, we have the oppertunity to learn more and understand the concept of middleware,the use of REST and Maven. It's very helpful for us in the future career.

7 Task Distribution

Member	**Task**
Phan Quang Minh Tri	Implements the server side(api authentication,Rest Jersey),writing the report
Pham Phuoc Nguyên	Implements client side (HTML,Javascript).
Nguyen Van Tan	Write structure report

8 Conclusion

This project is a review about everything we learn in the DASA course. The making of this project is very interresting and help us to deeply understand about the distribution software and the adaptation. It provide us also the knowledge about the technology like REST Jersey framework and the tool management like Maven.