FILE UPLOAD AND DOWNLOAD WITH MULTIPART

FOGUE KAMGA DILANE – SOFTWARE ENGINEER

AGENDA

- ❑ Concept Study
- ❑ Create Service for File Storage
- ❑ Define Data Models
- ❑ Create Controller for upload & download Files
- ❑ Configure Multipart File for Servlet
- ❑ Handle File Upload Exception
- ❑ Initialize Storage
- ❑ Run & Test
- ❑ Conclusion

Concept Study

When we develop an application, there are high chances that the users to upload and download files. Sometimes, it could be a resume for a job application, passport, transcripts, and much more. In order to allow these functionalities, we need to incorporate File upload/ download in our application and Multipart is the best practice for this.

Spring Boot allows us to enable this multipart easily.

Concept Study

❑ Technology

- Java 8
- Spring Boot 2
- Maven 4

❑ Create a Spring Boot Project including all dependencies using Spring intialzr

- Spring Web
- Lombok

Create Service for File Storage

❑ What is File Storage Service?

File Storage Service helps us to initialize storage, save new file, load file, get list of Files' info, delete all files.

❑ Rate Limiting Example

Firstly, we need an interface that will be autowired in the Controller. Secondly, Now we create implementation of the interface . We will proceed as follow

- ✓ Create a FileStrorage interface
- ✓ Create a FileStrorage class

Define Data Models

❑ What does Define Data Models mean?

The data model contains the File Info class which contains information of the uploaded file.

❑ Data Models Example

We will just create our FileInfo class. We will proceed as follow

✓ Create a FileInfo class with name as a attribute

Create Controller for upload & download Files

In controller package, we create FilesController as follow

- ➢ **@CrossOrigin is for configuring allowed origins.**
- ➢ **@Controller annotation is used to define a controller.**
- ➢ **@GetMapping and @PostMapping annotation is for mapping HTTP GET & POST requests onto specific handler methods:**

- **POST /upload: uploadFile()**
- **GET /files: getListFiles()**
- **GET /files/[filename]: getFile()**

- ➢ **We use @Autowired to inject implementation of FilesStorageService bean to local variable.**

Configure Multipart File for Servlet

We define the maximum file size that can be uploaded in application.properties as following

- ✓ **spring.servlet.multipart.max-file-size=2MB**
- ✓ **spring.servlet.multipart.max-request-size=10MB**

spring.servlet.multipart.max-file-size: max file size for each request.
spring.servlet.multipart.max-request-size: max request size for a multipart/form-data.

Handle File Upload Exception

This is where we handle the case in that a request exceeds Max Upload Size. The system will throw MaxUploadSizeExceededException and we are going to use @ControllerAdvice with @ExceptionHandlerannotation for handling the exceptions

Initialize Storage

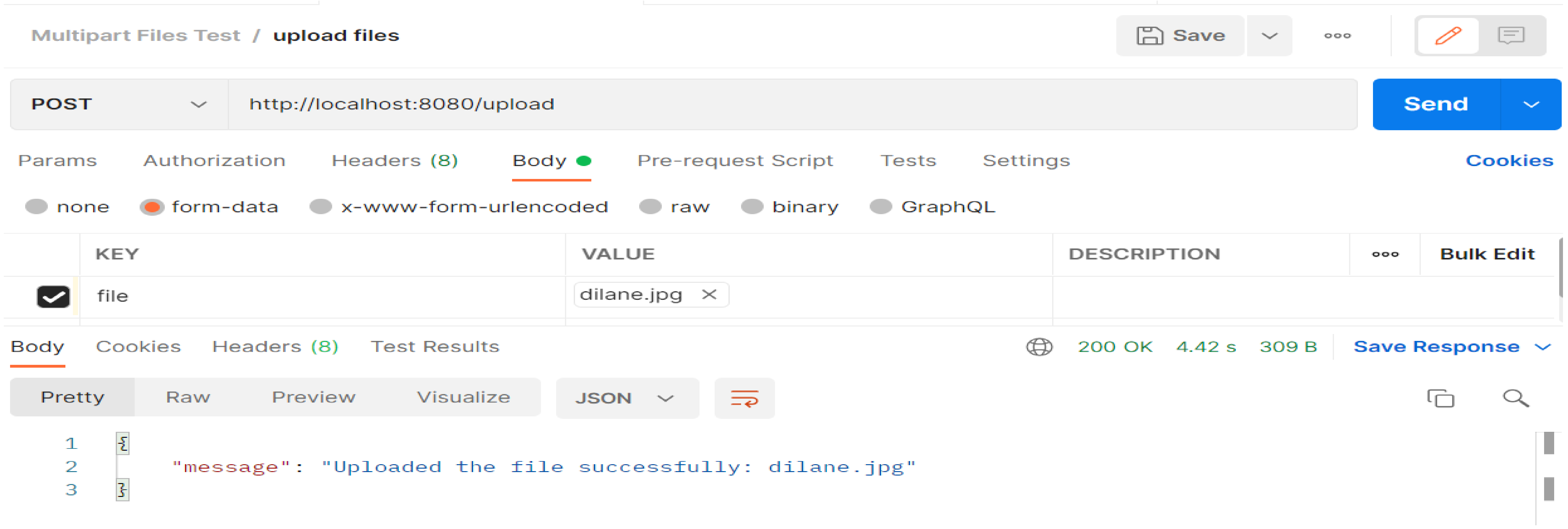
We need to run init() method of FilesStorageService (and also deleteAll() if necessary). So we open SpringBootUploadFilesApplication.java and implement CommandLineRunner for run()

Run & Test

- ❑ Run the application

  We will run our application using Intellij

- ❑ Upload some files



Multipart Files Test / upload files

POST http://localhost:8080/upload

Body: form-data

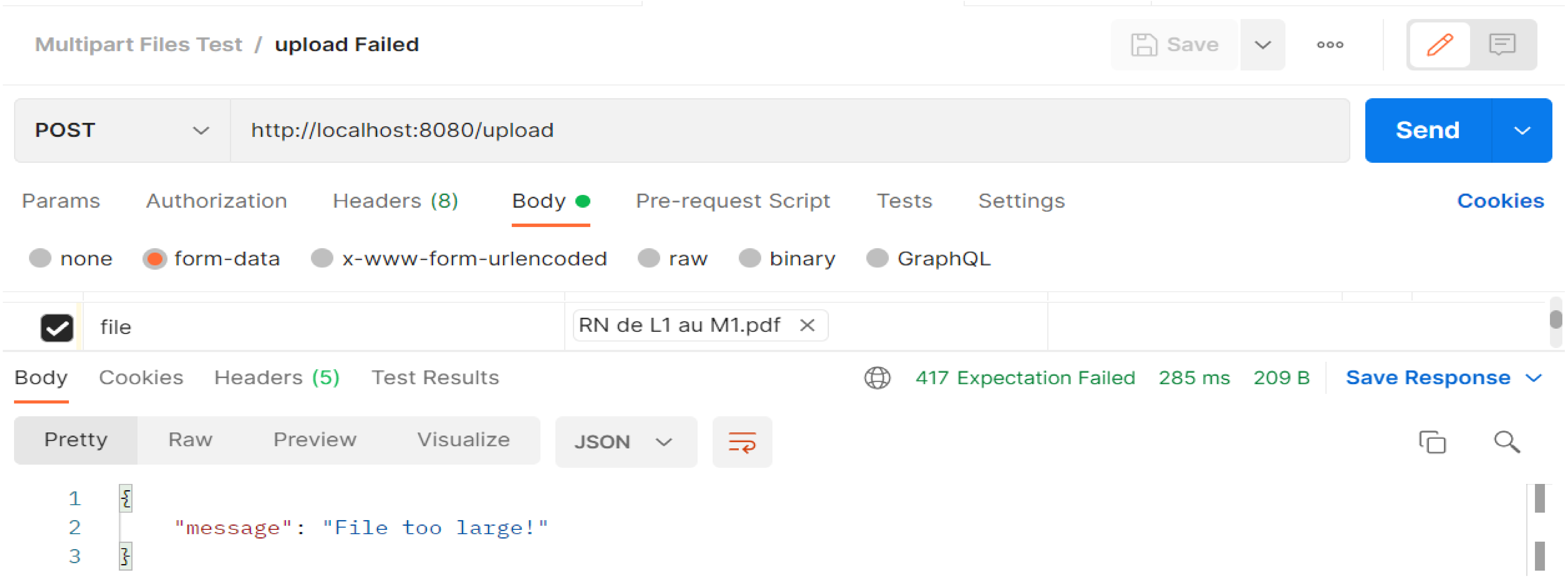
KEY	VALUE	DESCRIPTION
✓ file	dilane.jpg	

200 OK 4.42 s 309 B

```
{
    "message": "Uploaded the file successfully: dilane.jpg"
}
```

Run & Test

❑ Upload a file with size larger than max file size (2MB)


Multipart Files Test / upload Failed

POST http://localhost:8080/upload

Body: form-data

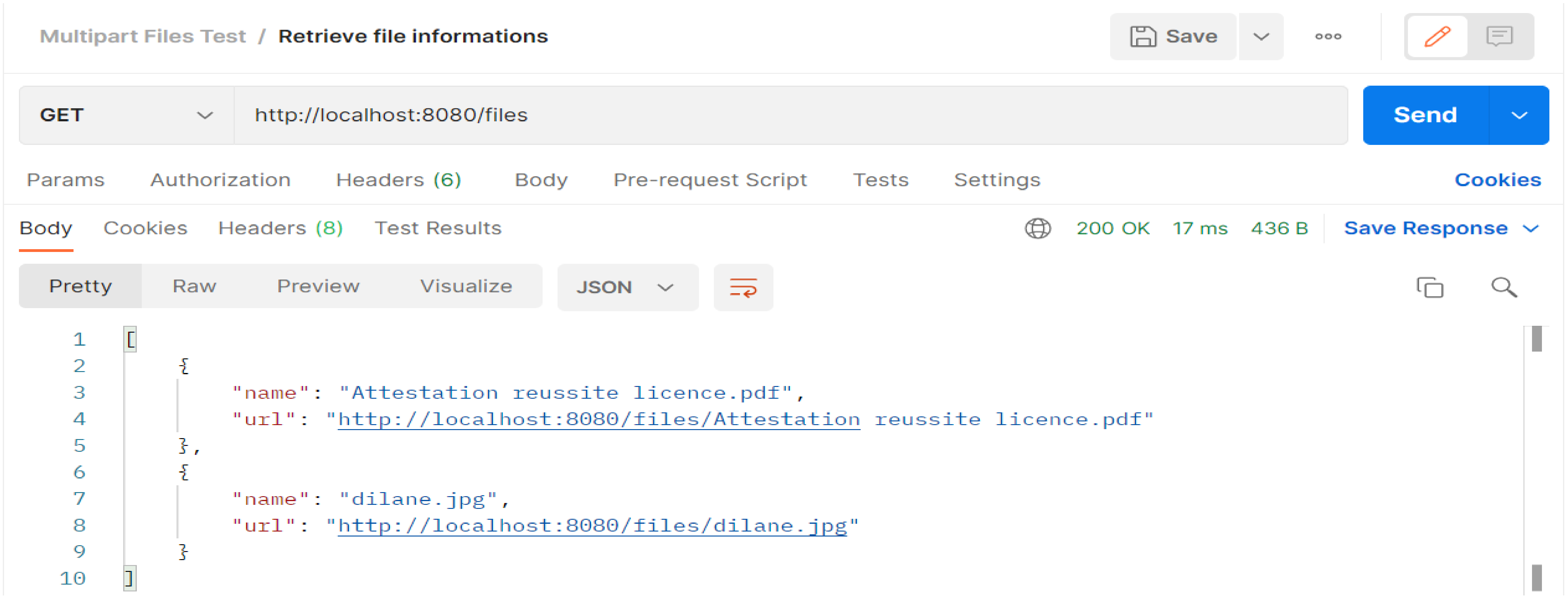
file: RN de L1 au M1.pdf

417 Expectation Failed 285 ms 209 B

```
{
    "message": "File too large!"
}
```

Run & Test

❑ Retrieve list of Files information



```
[
    {
        "name": "Attestation reussite licence.pdf",
        "url": "http://localhost:8080/files/Attestation reussite licence.pdf"
    },
    {
        "name": "dilane.jpg",
        "url": "http://localhost:8080/files/dilane.jpg"
    }
]
```

Conclusion

We have learned how to create Spring Boot File Upload Rest Api Application to upload multipart files and get files' information with static folder via Restful API.. The links of our resources and github repository are attached below

https://www.bezkoder.com/spring-boot-file-upload/

https://github.com/Dilane-Kamga/MultipartFile.git

MERCI

Pour votre attention