

CMPE 273-Lab 3

Dropbox

GitHub

<https://github.com/adityaparmar03/Dropbox-v3.0>

By

ADITYA PARMAR

Student ID – 011819964

Introduction:

- To developed Data storage like Dropbox where User can save their data and share with others.

System Design:

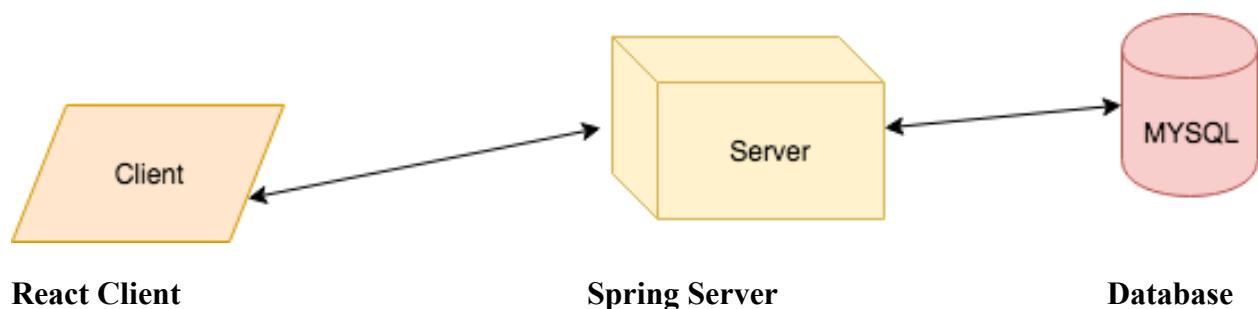
Client –

- Client is developed in React-Redux as JavaScript framework and HTML,CSS and Bootstrap for attractive UI.
- It interacts with Users and HTTP requests to sever as per user's requirements.
- React – Redux wonderfully update components.

Server –

- The “Dropbox” application server handles the requests sent by the browser i.e. Client to the server.
- Sever was developed using Spring Boot.
- Spring Boot increase development time rapidly as it has Crud Repository and Object Oriented Nature.
- When Client request, Http request handle by Spring Boot server. Fetch Data from Mysql and get back to client.

Architecture Diagram



FRONTEND



BACKEND



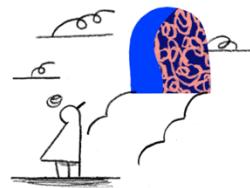
TESTING



DATABASE



User Interface



Create an Account

First name

Last name

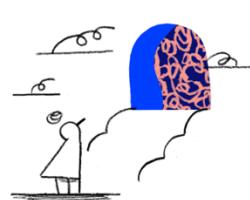
Email

Password

[Create an Account](#)

[Sign in](#)

A screenshot of a web browser window. The address bar shows the URL "localhost:3000/signin". The page content is identical to the one above, featuring the Dropbox logo, the brain/brain-like object illustration, and the "Create an Account" form fields. The browser's toolbar and status bar are visible at the top.



Create an Account

Ad

nadm a

mnc mnas

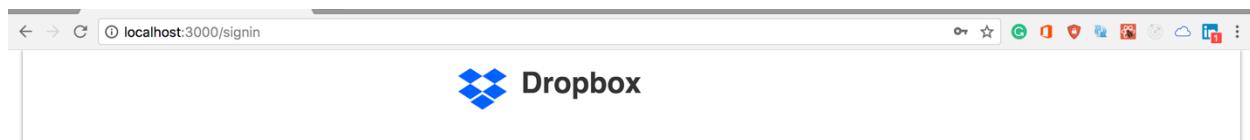
..

[Create an Account](#)

Invalid Email.

Password should between 3 to 8 characters.

[Sign in](#)



Create an Account

Ad

nadm a

mnc mnas

..

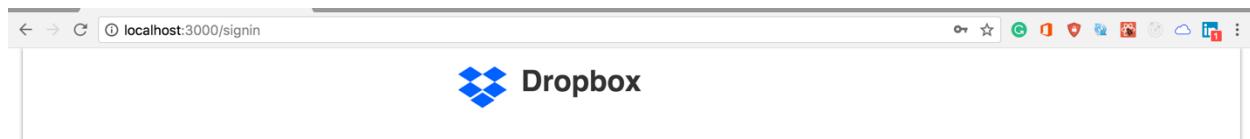
Create an Account

Validations

Invalid Email.

Password should between 3 to 8 characters.

[Sign In](#)



Create an Account

Aditya

Parmar

adityaparmar03@gmail.com

Create an Account

Account created successfully

[Sign In](#)

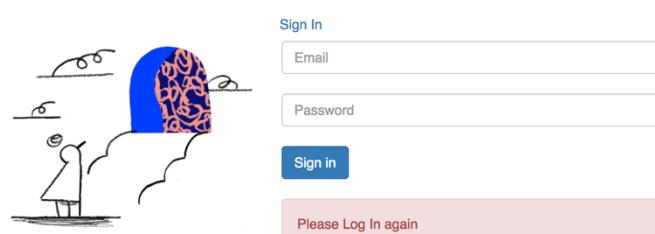
Screenshot of an IDE (IntelliJ IDEA) showing Java code for a user service. The code handles sign-up requests, checks for existing users, saves new users, and returns responses. The code is annotated with line numbers from 102 to 136.

```

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```

The code is part of the `UserService.java` class, specifically the `SignUp` method. It includes logic to check if a user already exists, save the new user to the repository, and return a response. If the user already exists, it returns an error message.



Sign In

Email

Password

Sign in

Please Log In again

Create an Account

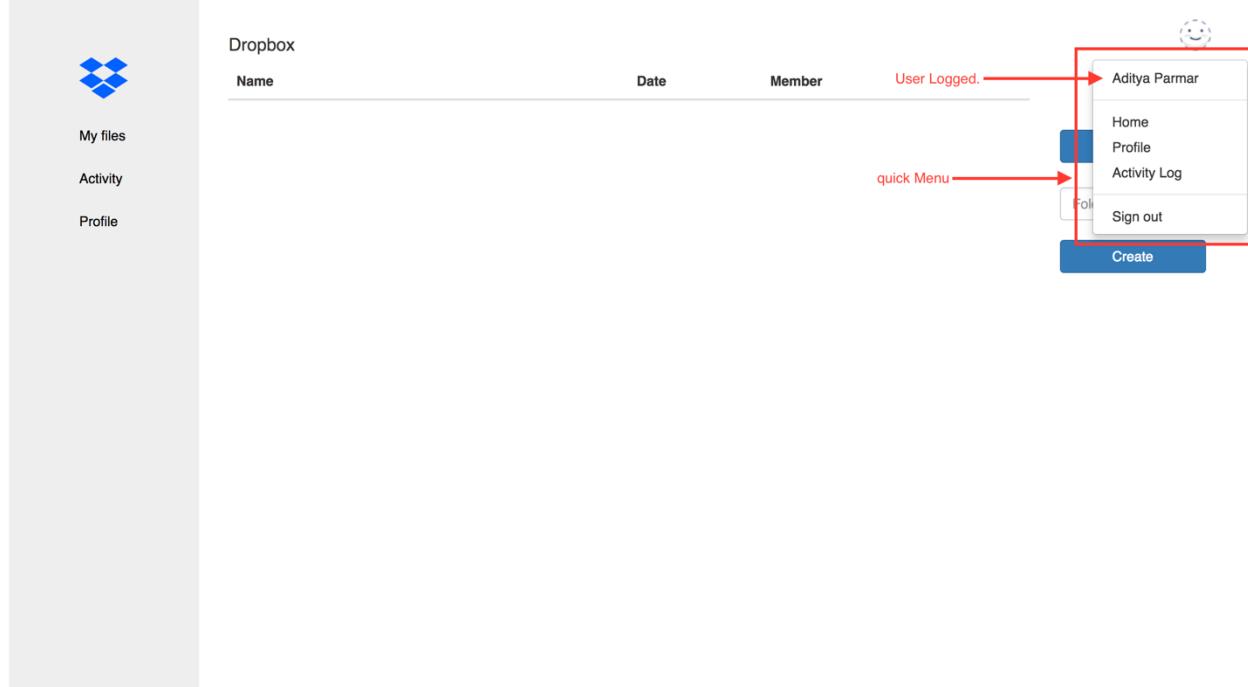
Screenshot of an IDE (IntelliJ IDEA) showing Java code for a UserService. The code handles user sign-in logic, including validation of email and password, and returns a SignInResponse object.

```

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```

The code is part of the `UserService.java` file, located in the `in.adityaparmar.server.service` package. The `SignInResponse` object is initialized and populated with user information if the sign-in is successful. If there is an exception, it is caught and an error response is returned.



Screenshot of an IDE (IntelliJ IDEA) showing Java code for a ContentService. The code is annotated with several red arrows pointing to specific UI elements or log messages.

```

    public ContentLoadResponse getFolderData(Folder folder){
        Response response = new Response();
        ContentLoadResponse contentLoadResponse = new ContentLoadResponse();

        try{
            // Get content
            List<Mapping> mapping = mappingRepository.findMappingByFolderid(folder.getContentid());
            List<Integer> contentid = mapping.stream().map(mapping1 -> mapping1.getContentid()).collect(Collectors.toList());
            contentRepository.findAllByContentidIn(contentid);

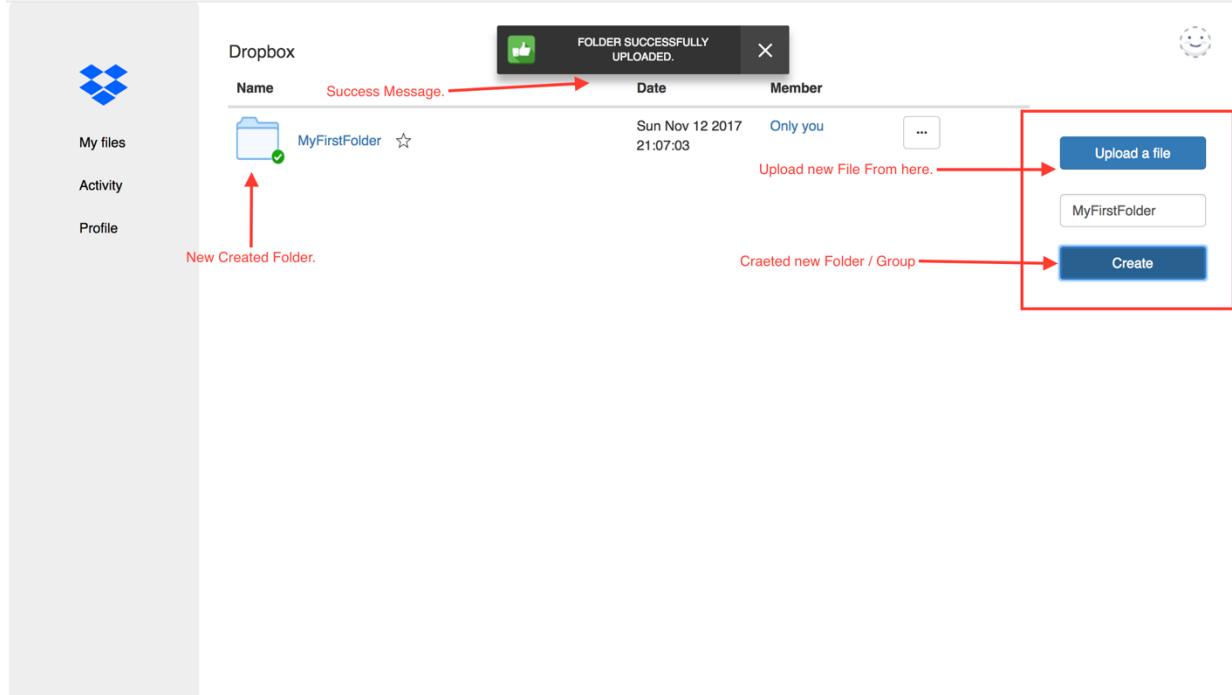
            List<Content> contents = contentRepository.findAllByContentidIn(contentid);
            List<Content> mixture = new ArrayList<>();
            for(Content content : contents){
                Content mix = new Content();
                mix.setOriginalname(content.getOriginalname());
                mix.setVirtualname(content.getVirtualname());
                mix.setDate(content.getDate());
                mix.setStar(content.getStar());
                mix.setType(content.getType());
                mix.setUserId(content.getUserId());
                mix.setMembers(Members(content.getContentid()));

                mixture.add(mix);
            }
        } catch (Exception e){
            response.setError(true);
            response.setMessage("Error occurred while fetching folder data");
            return response;
        }
        return contentLoadResponse;
    }

```

The code is annotated with several red arrows:

- An arrow points from the "Success Message." text in the code to the "FOLDER SUCCESSFULLY UPLOADED." message in the screenshot.
- An arrow points from the "Upload new File From here." text in the code to the "Upload a file" button in the screenshot.
- An arrow points from the "Craeted new Folder / Group" text in the code to the "Create" button in the screenshot.



ContentController.java

```

187     public ContentLoadResponse CreateFolder(Folder folder) {
188
189         Response response = new Response();
190         ContentLoadResponse contentLoadResponse = new ContentLoadResponse();
191         Mapping mapping = new Mapping();
192
193         try{
194             // Add content start
195             Date date = new Date();
196             Content content = new Content();
197             content.setOriginalname(folder.getFoldername());
198             content.setVirtualname(folder.getFoldername());
199             content.setStar("NO");
200             content.setDate(date.toString());
201             content.setUserid(folder.getUserid());
202             content.setType("folder");
203
204             content = contentRepository.save(content);
205
206             // End
207
208             // Mapping Start
209             mapping.setContentid(content.getContentid());
210             mapping.setFolderid(folder.getContentid());
211             mapping.setUserId(folder.getUserid());
212             mappingRepository.save(mapping);
213
214             // Mapping End
215
216             List<Mapping> mapping2 = mappingRepository.findMappingByFolderid(folder.getContentid());
217
218         }catch (Exception e){
219             response.setStatus("Error");
220             response.setMsg(e.getMessage());
221         }
222     }

```

ContentService.java

```

ContentService > getFolderData()

```

Console

```

2017-12-11 06:21:46.189 INFO 48432 --- [ main] o.s.w.s.m.a.RequestMappingHandlerMapping : Mapped "/*/{error}" onto public org.springframework.web.servlet.ModelAndView org.springframework.web.servlet.DispatcherServlet.error(javax.servlet.http.HttpServletRequest,javax.servlet.http.HttpServletResponse)
2017-12-11 06:21:46.133 INFO 48432 --- [ main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/pages/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
2017-12-11 06:21:46.133 INFO 48432 --- [ main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/webjars/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
2017-12-11 06:21:46.133 INFO 48432 --- [ main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
2017-12-11 06:21:46.163 INFO 48432 --- [ main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**/favicon.ico] onto handler of type [class org.springframework.web.servlet.ResourceHandler]
2017-12-11 06:21:46.409 INFO 48432 --- [ main] o.s.j.e.a.AnnotationBeanExporter : Registering beans for JMX exposure on startup
2017-12-11 06:21:46.473 INFO 48432 --- [ main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on ports(s): 8080 (http)

```

Endpoints

Run: ServerApplication JUnit Test JUnit Test

Mon Dec 11 00:27:35 F

Compilation completed successfully in 605ms (6 minutes ago)

Dropbox

localhost:3000/home

My files

Dropbox

Name

Favorites

- Dropbox
- adityaparmar
- All My Files
- iCloud Drive
- Applications
- Desktop
- Documents
- Downloads
- Study
- GitHub
- The Internship

283_Assignment2.pdf
151019725...ignment2.pdf
151019729...b1-report.doc
151048212...p-release.apk
151048528...73-kayak.pdf
abc.c
apache-jmeter-3.3.zip
BlueJProgram.zip
EEO_Self_Ide_ion_Form.doc
Ex_Files_Full...Java_Dev.zip
Ex_Files_Full...Java_Dev.zip
Group_Project_KAYAK.docx
Kafka Archi.png
Kafka Archi.xml
Kavak API Design (1).docx

Upload a file

MyFirstFolder

Create

The screenshot shows an IDE interface with several tabs open at the top: ContentController.java, JUnitTest.java, ServerApplication.java, ContentService.java, MappingService.java, and UserService.java. The left sidebar displays a project structure under '1: Project' and '2: Favorites'. The main editor area contains Java code for the ContentService class, specifically the `UploadFile` method. The code handles file upload logic, including creating a Content object, setting its properties (name, path, parent folder ID, user ID), saving it to a repository, and then finding all mappings for that folder and saving them. The code uses various entities like Content, Response, and Mapping, and repositories like ContentRepository and MappingRepository.

```
public ContentLoadResponse UploadFile(String name, String path, int parentfolderid, int userid) {
    Response response = new Response();
    ContentLoadResponse contentLoadResponse = new ContentLoadResponse();
    Mapping mapping = new Mapping();

    try{
        // Add content start
        Date date = new Date();
        Content content = new Content();
        content.setOriginalname(name);
        content.setVirtualname(path);
        content.setStar("NO");
        content.setDate(date.toString());
        content.setUserId(userid);
        content.setType("file");

        content = contentRepository.save(content);

        // End

        // Mapping Start
        mapping.setContentid(content.getContentid());
        mapping.setFolderid(parentfolderid);
        mapping.setUserId(userid);
        mappingRepository.save(mapping);

        // Mapping End

        List<Mapping> mapping2 = mappingRepository.findMappingByFolderid(parentfolderid);
        List<Integer> contentid = mapping2.stream().map(mapping1 -> mapping1.getContentid()).collect(Collectors.toList());
    } catch (Exception e) {
        response.setError(true);
        response.setMessage("Error occurred while uploading file");
        response.setStatus("Failure");
    }
}
```

The bottom right corner shows a terminal window with the output of a Spring boot application startup. It includes logs from the Spring framework, such as URL mapping definitions and bean registration.

```
2017-12-11 06:21:46.109 INFO 48432 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped "/*/{error}" onto public org.springframework.web.servlet.ModelAndView handleHttpRequestError(javax.servlet.http.HttpServletRequest,javax.servlet.http.HttpServletResponse)
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/pages/**] onto handler of type [class org.springframework.web.servlet.handler.SimpleUrlHandlerMapping]
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/webjars/**] onto handler of type [class org.springframework.web.servlet.handler.SimpleUrlHandlerMapping]
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**] onto handler of type [class org.springframework.web.servlet.handler.SimpleUrlHandlerMapping]
2017-12-11 06:21:46.163 INFO 48432 --- [main] o.s.j.e.a.AnnotationMBeanExporter : Registering beans for JMX exposure on startup
2017-12-11 06:21:46.408 INFO 48432 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)
```

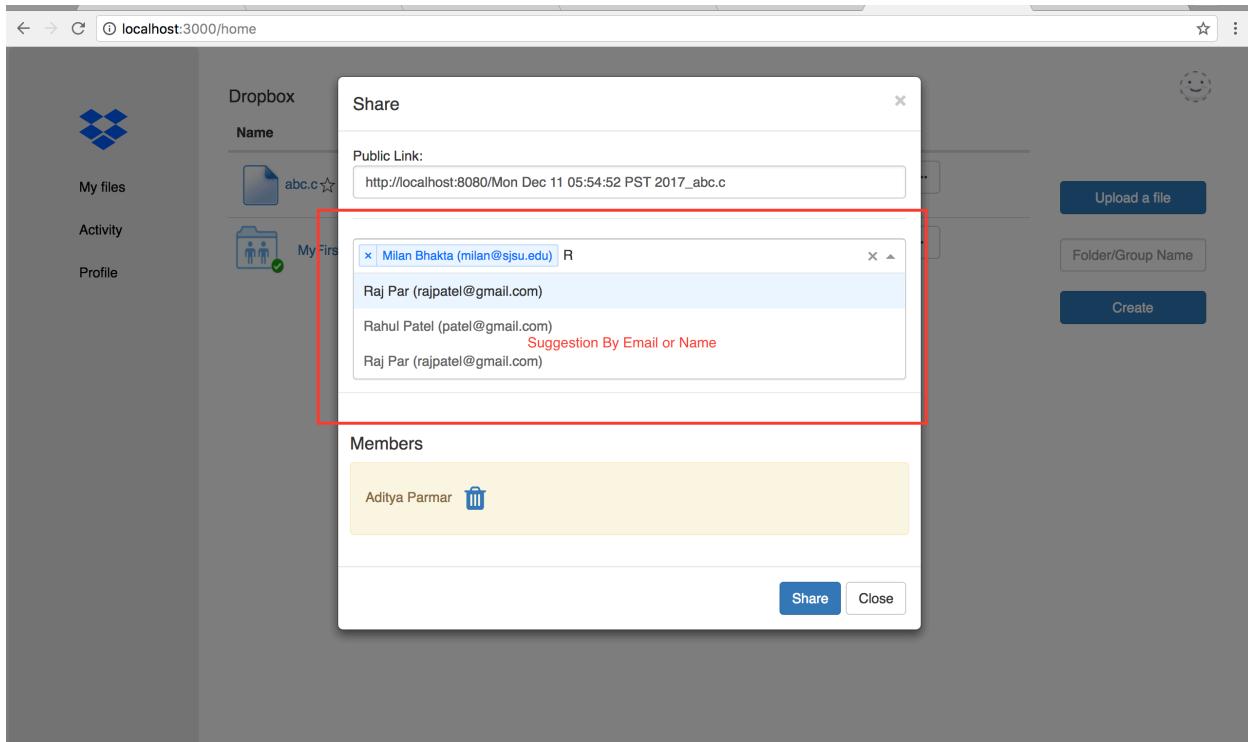
The screenshot shows a web browser window for Dropbox at localhost:3000/home. A success message "FILE SUCCESSFULLY UPLOADED." is displayed above the file list. The file "abc.c" was uploaded on Sun Nov 12 2017 at 21:07:41 by "Only you". The interface includes a sidebar with "My files", "Activity", and "Profile" links, and a main area with a "Create" button and a "MyFirstFolder" folder.

This screenshot shows the same Dropbox interface after a file has been uploaded. A context menu is open over the "abc.c" file, with the "Download" option highlighted. A red box surrounds the menu options, and a red arrow points from the "Operation" label to the "Download" option in the menu. The address bar at the bottom shows the URL "localhost:9000/files/1510549661511_abc.c", indicating the file has been downloaded.

```
server | src | main | java | in.adityaparmar | server | ServerApplication

ContentController.java | JunitTest.java | ServerApplication.java | ContentService.java | MappingService.java | UserService.java | ServerApplication

1 package in.adityaparmar.server;
2 import ...
3
4 @SpringBootApplication
5 @EnableAutoConfiguration
6 public class ServerApplication {
7
8     @Bean
9     WebMvcConfigurer configurer () {
10
11         String UPLOADED_FOLDER = System.getProperty("user.dir") + "/src/main/resources/static/";
12         String Classpath = "classpath:" + UPLOADED_FOLDER;
13
14         return new WebMvcConfigurerAdapter() {
15             @Override
16             public void addResourceHandlers (ResourceHandlerRegistry registry) {
17                 registry.addResourceHandler ("/{**}")
18                     .addResourceLocations ("classpath:/Users/adityaparmar/GitHub/Dropbox-v3.0/server/src/main/resources/static/");
19             }
20         };
21     }
22
23     public static void main(String[] args) { SpringApplication.run(ServerApplication.class, args); }
24
25 }
```



Project Structure:

```

server
  src
    main
      java
        in
          adityaparmar
            server
              ContentController.java
              UserController.java
              entity
                request
                  Delete.java
                  Folder.java
                  General.java
                  Share.java
                response
                  ContentLoadRes.java
                  Contents.java
                  Response.java
                  RootResponse.java
                  SignInResponse.java
                  SuggestionResp.java
                  Activity.java
                  Content.java
                  Mapping.java
                  User.java
                repository
                  UserRepository.java
                service
                  ContentService.java
                  MappingService.java
                  UserService.java
            ServerApplication.java
          resources
          static
        Mon Dec 11 00:27:35 F
      JUnitTest.java
      JunitTest.java
      ServerApplication.java
      UserService.java
    Mon Dec 11 00:27:35 F
  Run: ServerApplication JUnitTest JunitTest
  Favorites:
    Run
    Debug
    TODO
    Version Control
    Terminal
    Spring
  Compilation completed successfully in 605ms (9 minutes ago)
  Event Log
  179:1 CRLF: UTF-8: Git: master

```

ContentController.java (Excerpt):

```

152
153     }
154   } catch (Exception e){
155     response.setStatus("error");
156     response.setMsg("Something went wrong, Try Again.");
157     signInResponse.setUsers(data);
158     signInResponse.setResponse(response);
159   }
160   return signInResponse;
161 }

public SuggestionResponse AllUsers(String keyword){
  SuggestionResponse suggestionResponse = new SuggestionResponse();
  try{
    List<User> user = userRepository.findUsersByEmailStartsWith(keyword);
    user.addAll(userRepository.findUsersByFirstnameStartsWith(keyword));
    suggestionResponse.setUsers(user);
  } catch (Exception e){
    suggestionResponse.setUsers(null);
  }
  return suggestionResponse;
}

public List<Activity> Activities(User user){
  System.out.println(user.getId());
  return activityRepository.findAllByUserId(user.getId());
}

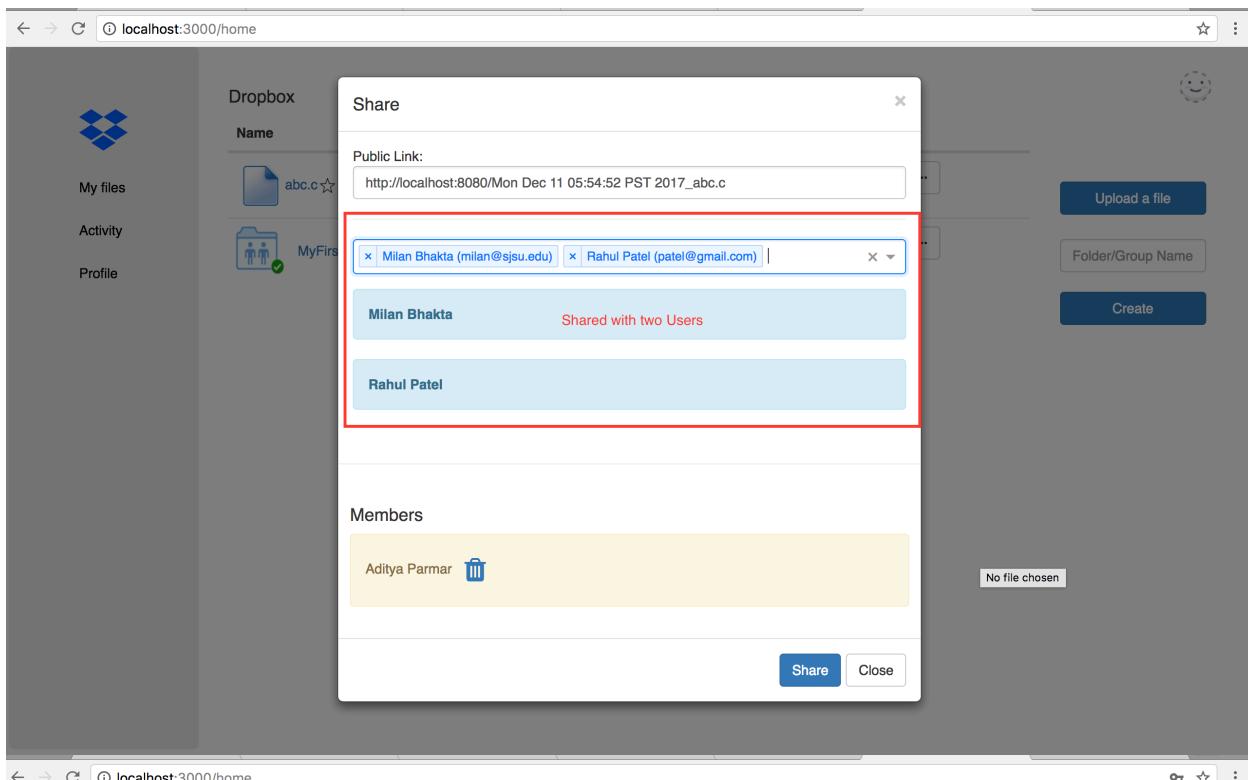
```

User Service Log (Console):

```

2017-12-11 06:21:45.109 INFO 48432 --- [main] s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped “[/{error}]” onto public org.springframework.web.servlet.ModelAndView handleHttpRequestError(javax.servlet.http.HttpServletRequest,javax.servlet.http.HttpServletResponse)
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path “/pages/**” onto handler of type [class org.springframework.web.servlet.view.InternalResourceView]
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path “[/{webjars}**]” onto handler of type [class org.springframework.web.servlet.view.JstlView]
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path “[/**]” onto handler of type [class org.springframework.web.servlet.view.JstlView]
2017-12-11 06:21:46.163 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path “[/*favicon.ico]” onto handler of type [class org.springframework.web.servlet.view.FaviconServlet]
2017-12-11 06:21:46.406 INFO 48432 --- [main] o.s.j.e.a.AnnotationBeanExporter : Registering beans for JMX exposure on startup
2017-12-11 06:21:46.473 INFO 48432 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)

```



A screenshot of the main application interface. At the top, a success message says 'ABC.C FILE SUCCESSFULLY SHARED WITH MILAN BHAKTA' with a thumbs-up icon. Below this is a table with three columns: 'Name', 'Date', and 'Member'. There are two rows of data:

Name	Date	Member
MyFirstFolder	Mon Dec 11 06:14:25 PST 2017	Only you
abc.c	Mon Dec 11 06:14:09 PST 2017	3 members

On the right side of the table are 'Upload a file', 'Create', and 'MyFirstFolder' buttons. On the far right, there's a 'No file chosen' message. The sidebar on the left includes links for 'My files', 'Activity', and 'Profile'.

```

public Response Share(Share sharedata ){
    Content content = sharedata.getContent();
    List<User> users = sharedata getUsers();
    Response response = new Response();

    try{
        for(User user : users){
            Mapping mapping = new Mapping();
            mapping.setContentId(content.getId());
            mapping.setUserId(user.getId());
            mappingRepository.save(mapping);

            response.setStatus("success");
            String msg = content.getOriginalName() + " " + content.getType() + " Successfully shared with " + user.getFirstname();
            response.setMsg(msg);
            activityRepository.save(new Activity(msg,new Date().toString(),sharedata.getUserId()));
        }
    } catch (Exception e){
        response.setStatus("error");
    }
}

```

Mon Dec 11 00:27:35

Run: ServerApplication JUnit Test JUnit Test

Console Endpoints

Endpoints

Compilation completed successfully in 605ms (10 minutes ago)

274:13 LF+ UTF-8+ Git: master

Event Log

Name	Date	Member
abc.c	Sun Nov 12 2017 21:07:41	2 members
app-release.apk	Sun Nov 12 2017 13:30:38	3 members
JOP	Sun Nov 12 2017 13:30:34	3 members
app-release.apk	Sun Nov 12 2017 02:42:32	4 members

localhost:3000/home

Dropbox

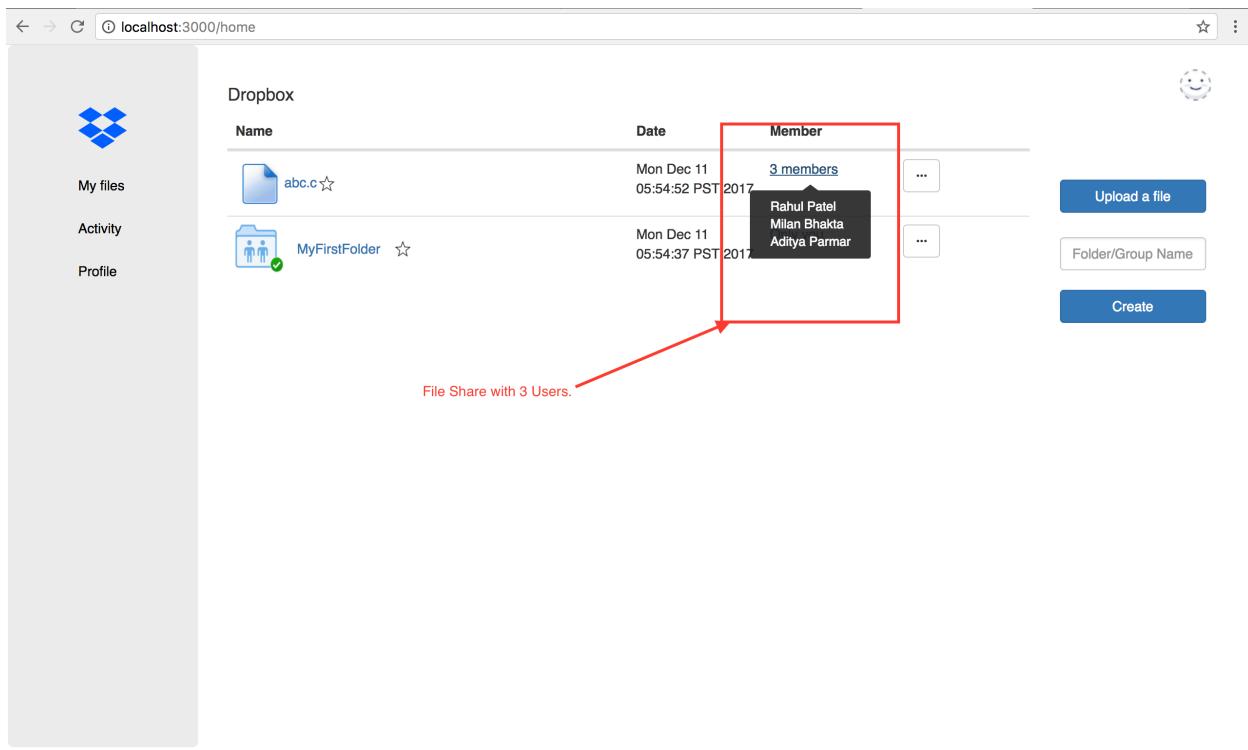
Name	Date	Member
abc.c	Mon Dec 11 05:54:52 PST 2017	3 members Rahul Patel Milan Bhakta Aditya Parmar
MyFirstFolder	Mon Dec 11 05:54:37 PST 2017	...

Upload a file

Folder/Group Name

Create

File Share with 3 Users.



localhost:3000/home

Dropbox

Name
abc.c
MyFirstFolder

Milan Bhakta (milan@sjtu.edu) Rahul Patel (patel@gmail.com)

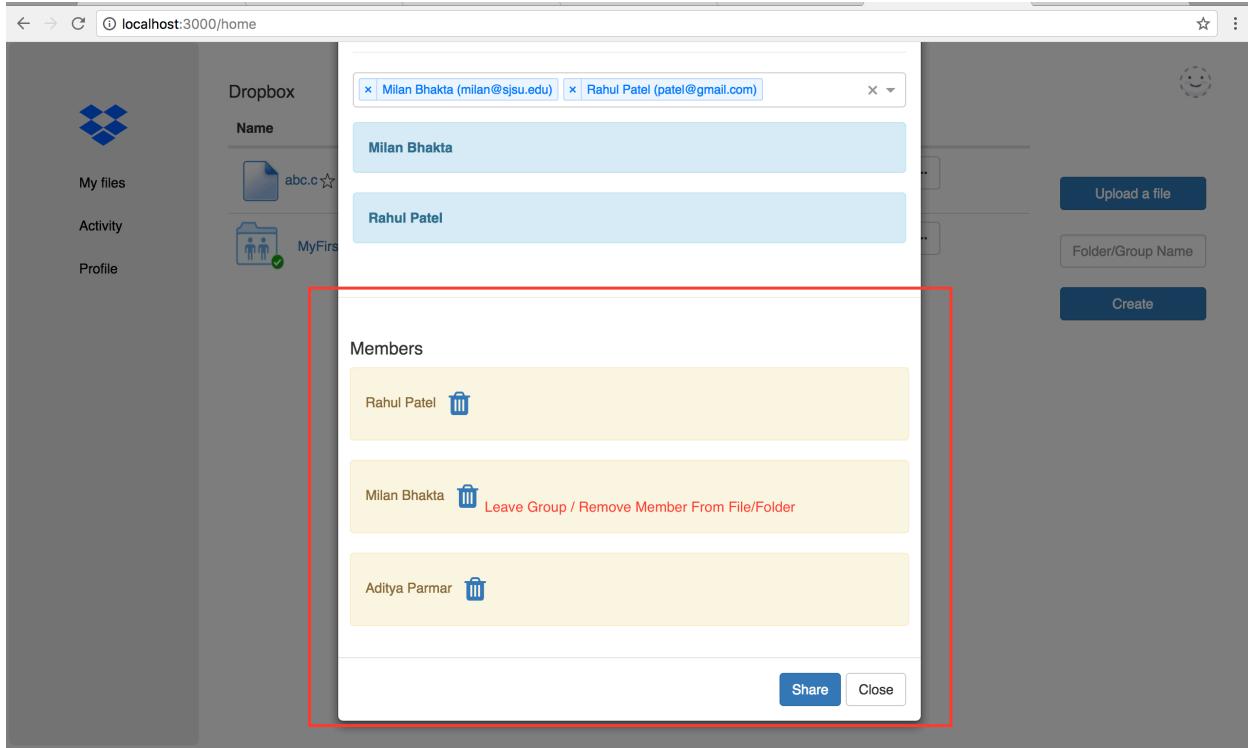
Milan Bhakta

Rahul Patel

Members

- Rahul Patel Delete
- Milan Bhakta Delete Leave Group / Remove Member From File/Folder
- Aditya Parmar Delete

Share Close



Project Structure:

```

server > src > main > java > in > adityaparmar > server > service > MappingService
  +-- controller
    +-- ContentController
    +-- UserController
  +-- entity
    +-- request
      +-- Delete
      +-- Folder
      +-- General
      +-- Share
    +-- response
      +-- ContentLoadRe
      +-- Contents
      +-- Response
      +-- RootResponse
      +-- SignInRespon
      +-- SuggestionRes
      +-- Activity
      +-- Content
      +-- Mapping
      +-- User
    +-- repository
    +-- service
      +-- ContentService
      +-- MappingService
      +-- UserService
  +-- resources
  +-- static

```

Code Editor (ContentService.java):

```

import in.adityaparmar.server.repository.MappingRepository;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

@Service
public class MappingService {

    @Autowired
    private MappingRepository mappingRepository;

    public Response RemoveMember(int contentid, int userid) {
        Response response = new Response();
        try {
            mappingRepository.deleteByContentidAndUserId(contentid, userid);
            response.setStatus("success");
            response.setMsg("Leave Group Successfully.");
        } catch (Exception e) {
            response.setStatus("error");
            response.setMsg("Something went wrong." + e);
        }
        return response;
    }
}

```

Run Tab:

- ServerApplication
- JUnit Test
- JUnit Test

Console Log:

```

2017-12-11 06:21:46.189 INFO 48432 --- [main] o.s.w.s.m.a.RequestMappingHandlerMapping : Mapped "/*/{error}" onto public org.springframework.web.servlet.ModelAndView org.springframework.web.servlet.DispatcherServlet.error(javax.servlet.http.HttpServletRequest,javax.servlet.http.HttpServletResponse)
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/pages/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/webjars/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
2017-12-11 06:21:46.163 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**/favicon.ico] onto handler of type [class org.springframework.web.servlet.ResourceHandler]
2017-12-11 06:21:46.408 INFO 48432 --- [main] o.s.j.e.a.AnnotationMBeanExporter : Registering beans for JMX exposure on startup
2017-12-11 06:21:46.473 INFO 48432 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)

```

Event Log:

localhost:3000/home

Dropbox Home Page:

Name	Date	Member
abc.c	Mon Dec 11 05:54:52 PST 2017	2 members
MyFirstFolder	Mon Dec 11 05:54:37 PST 2017	Only you

Buttons: LEAVE GROUP SUCCESSFULLY, Upload a file, Create, Folder/Group Name.

localhost:3000/home

Dropbox

MYFIRSTFOLDER FOLDER DELETED SUCCESSFULLY.

Name	Date	Member
abc.c	Sun Nov 12 2017 21:07:41	3 members

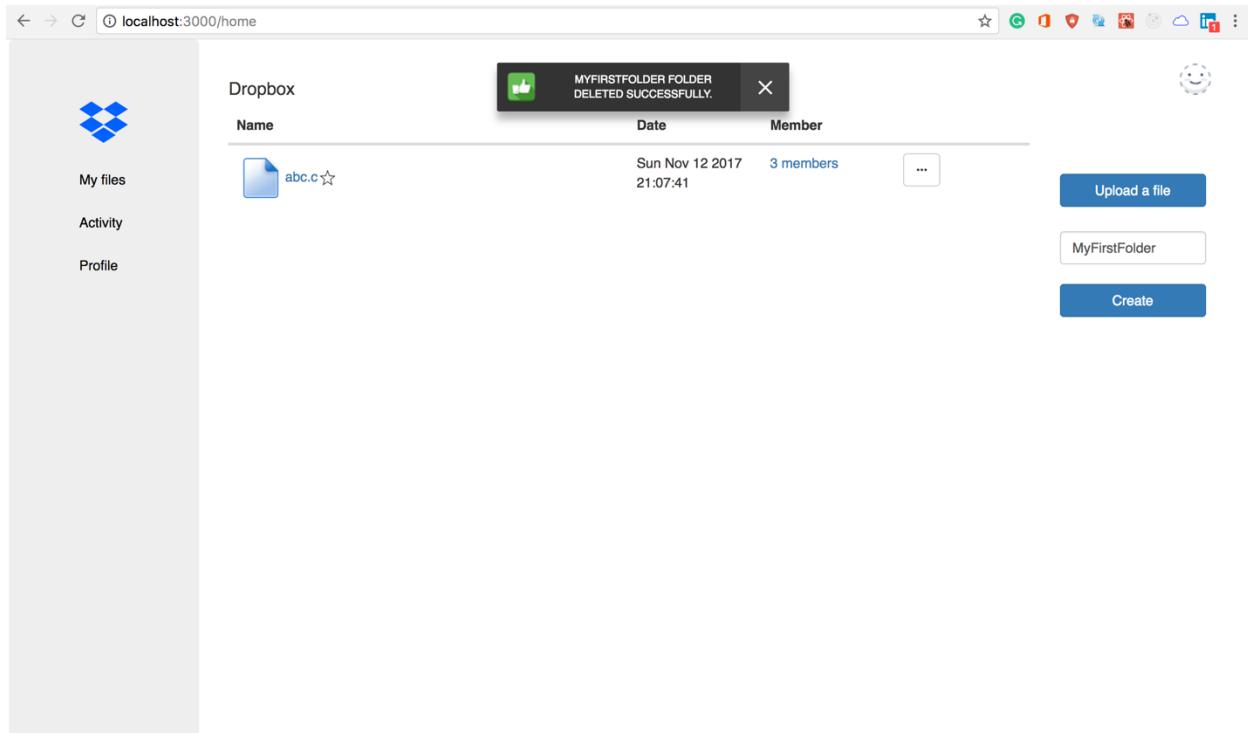
Upload a file

Create

My files

Activity

Profile



localhost:3000/home

Dropbox

DELETE SUCCESSFULLY, BUT FOLDER IS STILL SHARED WITH OTHER MEMBERS.

Name	Date	Member
abc.c	Sun Nov 12 2017 21:07:41	3 members

Upload a file

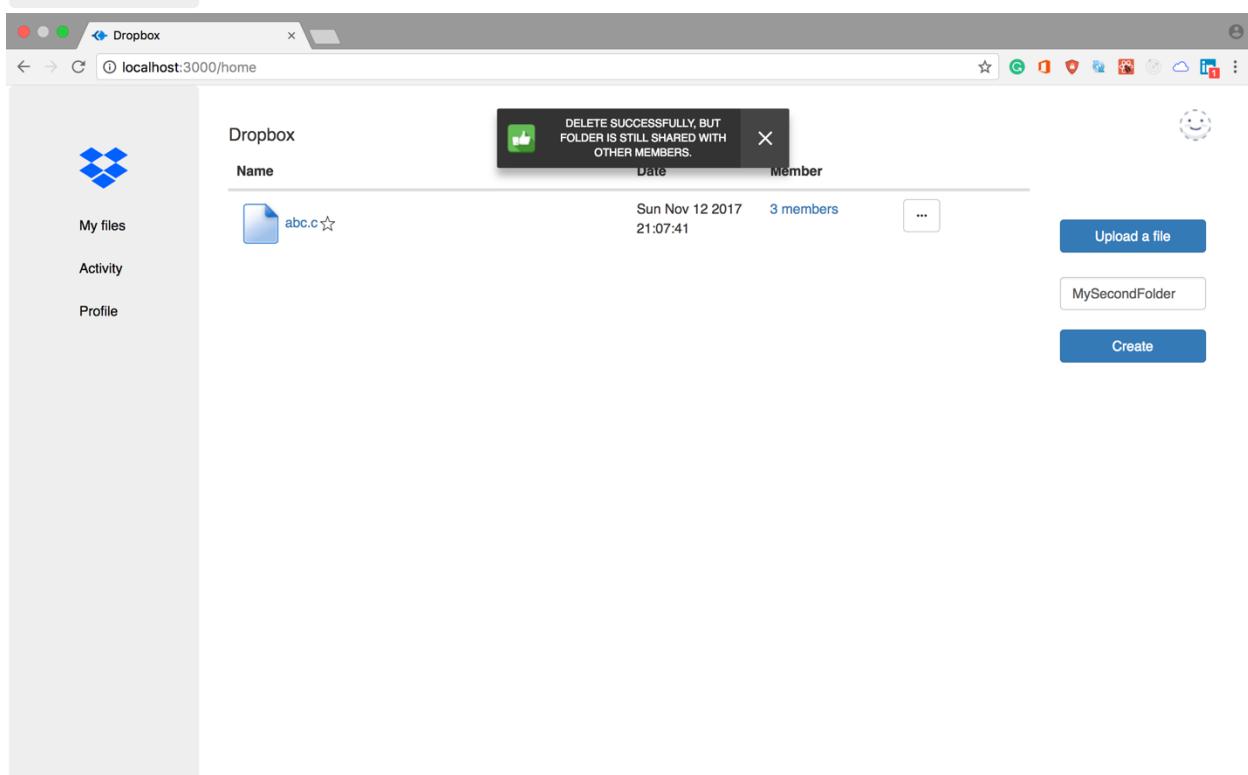
Create

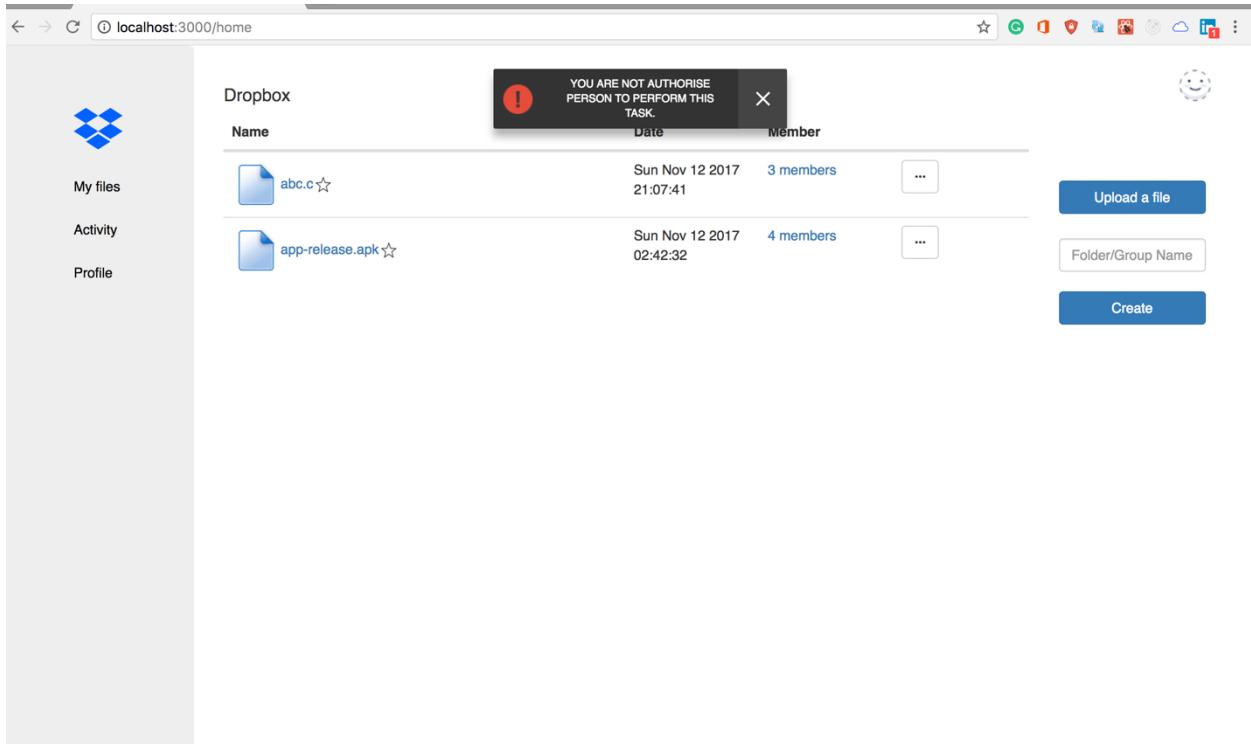
MySecondFolder

My files

Activity

Profile



A screenshot of an IDE showing Java code for the `ContentService` class. The code handles a `DeleteFile` request. It checks if the user ID in the content matches the user ID in the request. If so, it deletes the file from the repository and saves an activity log. If not, it sets an error response. A catch block handles any exceptions, setting an error response with a generic message. The IDE interface includes a project tree on the left, code editor tabs at the top, and various toolbars and panels on the right.

localhost:3000/profile

Personal Account

Email: adityaparmar03@gmail.com

Password:
.....

First Name: Aditya

Last Name: Parmar

About me:
.....

My Interests:
.....

Save

Dropbox localhost:3000/profile

Personal Account

ACCOUNT SUCCESSFULLY UPDATED.

Email: adityaparmar03@gmail.com

Password:
.....

First Name: Aditya

Last Name: Parmar

About me:
.....

My Interests:
.....

Save

Mon Dec 11 00:27:35

```

134     } catch (Exception e) {
135         response.setStatus("error");
136         response.setMsg("Something went wrong, Try Again.");
137         return response;
138     }
139 }
140
141 public SignInResponse Update(User data){
142     try{
143         User users = userRepository.save(data);
144         response.setStatus("success");
145         response.setMsg("Profile has updated successfully.");
146         signInResponse.setUsers(users);
147         signInResponse.setResponse(response);
148     }
149     catch (Exception e){
150         response.setStatus("error");
151         response.setMsg("Something went wrong, Try Again.");
152         signInResponse.setUsers(data);
153         signInResponse.setResponse(response);
154     }
155     return signInResponse;
156 }
157
158 public SuggestionResponse AllUsers(String keyword){
159     SuggestionResponse suggestionResponse = new SuggestionResponse();
160     try{
161         suggestionResponse.setUsers(userRepository.findAll());
162     }
163     catch (Exception e){
164         suggestionResponse.setStatus("error");
165         suggestionResponse.setMsg("Something went wrong, Try Again.");
166         suggestionResponse.setUsers(new ArrayList<User>());
167     }
168     return suggestionResponse;
169 }
170
171 }
```

Endpoints

- 2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped " /error" onto public org.springframework.web.servlet.ModelAndView org.springframework.web.servlet.DispatcherServlet.error(javax.servlet.http.HttpServletRequest,javax.servlet.http.HttpServletResponse)
- 2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/pages/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
- 2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/webjars/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
- 2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
- 2017-12-11 06:21:46.163 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**/favicon.ico] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
- 2017-12-11 06:21:46.408 INFO 48432 --- [main] o.s.j.e.a.AnnotationMBeanExporter : Registering beans for JMX exposure on startup
- 2017-12-11 06:21:46.473 INFO 48432 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on ports: 8080 (http)

localhost:3000/activitylog

Activity Report	
My files	Activity
	MyFirstFolder folder is successfully deleted.
Activity	abc.c file is successfully deleted.
Profile	abc.c file Successfully shared with Rahul Patel
	abc.c file Successfully shared with Milan Bhakta
	abc.c File Successfully uploaded.
	MyFirstFolder Folder Successfully Created.

The screenshot shows an IDE interface with the following details:

- Project Structure:** On the left, the project tree shows a package named `com.example` containing `response`, `repository`, `service`, and `resources`.
- Code Editor:** The main editor window displays Java code for `UserServiceImpl`. The code includes methods for handling user suggestions and activities.
- Logs:** The bottom half of the screen shows the application's log output in the `Console` tab. The log entries are as follows:

```
2017-12-11 06:21:46.109 INFO 48432 --- [main] o.s.w.s.m.m.a.RequestMappingHandlerMapping : Mapped URL path [/error] onto handler of type [public org.springframework.web.servlet.ModelAndView org.springframework.web.servlet.DispatcherServlet.error()]
```

```
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/pages/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
```

```
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/webjars/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
```

```
2017-12-11 06:21:46.133 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
```

```
2017-12-11 06:21:46.163 INFO 48432 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**/favicon.ico] onto handler of type [class org.springframework.web.servlet.HandlerInterceptor]
```

```
2017-12-11 06:21:46.408 INFO 48432 --- [main] o.s.j.e.a.AnnotationMBeanExporter : Registering beans for JMX exposure on startup
```

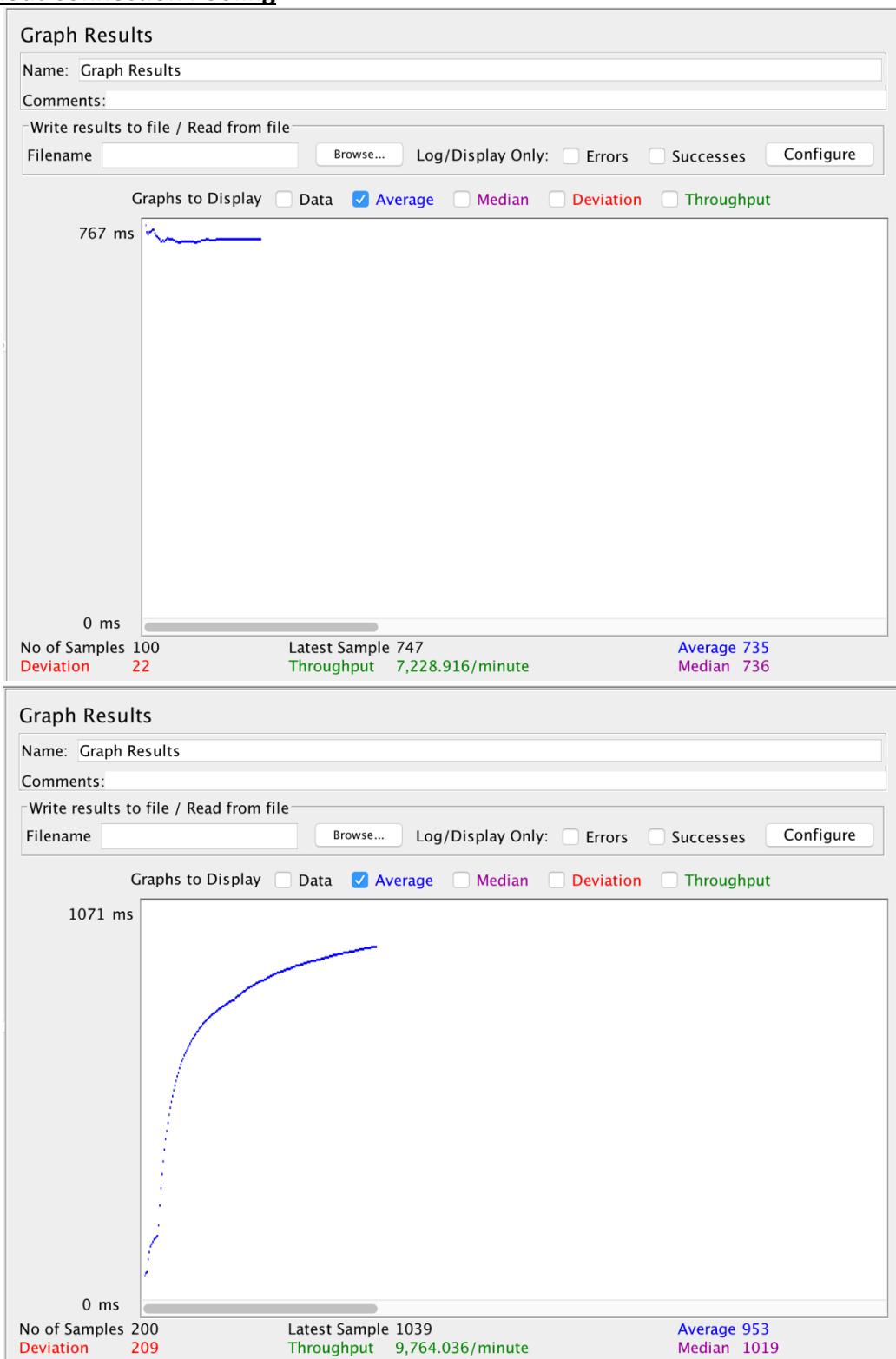
```
2017-12-11 06:21:46.473 INFO 48432 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)
```

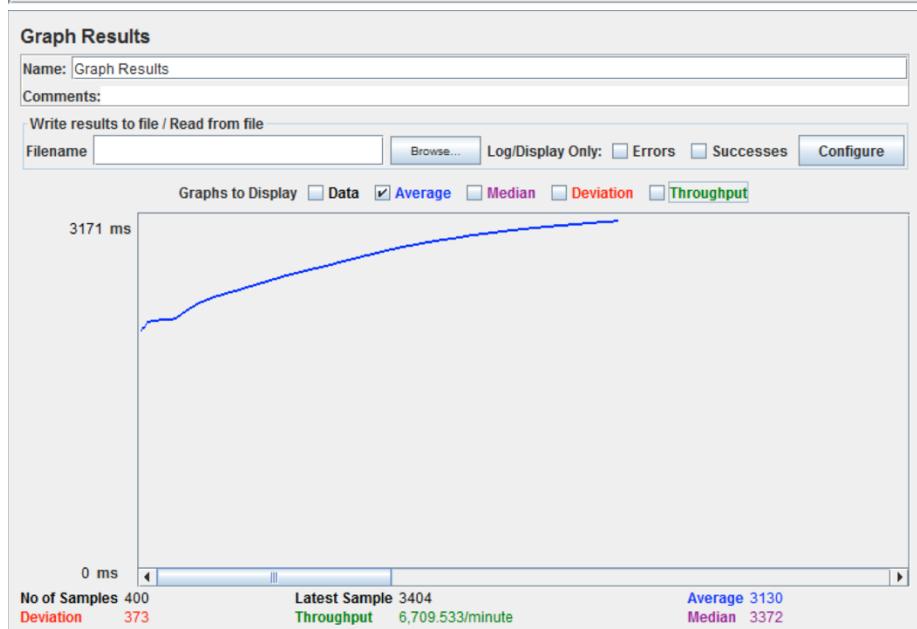
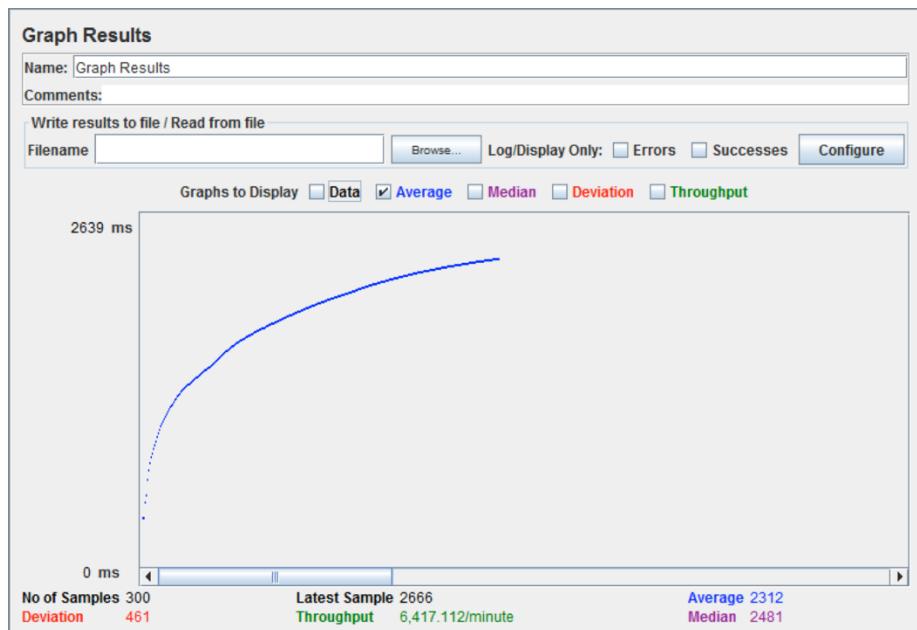
Other UI elements include a toolbar with Run, Debug, TODO, Version Control, Terminal, and Spring buttons; a status bar at the bottom; and a navigation bar at the top.

TESTING

JMeter

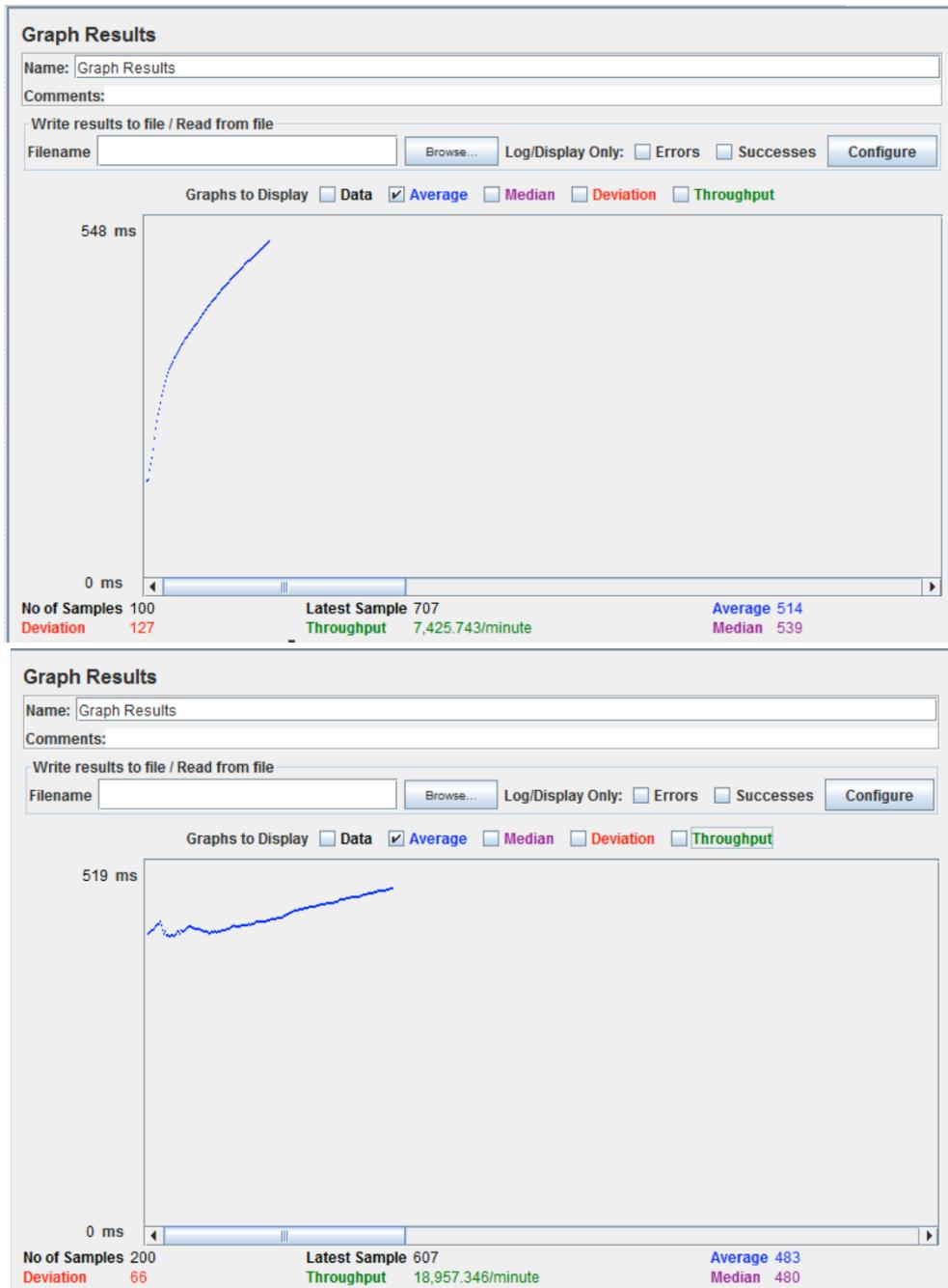
A . Without Connection Pooling

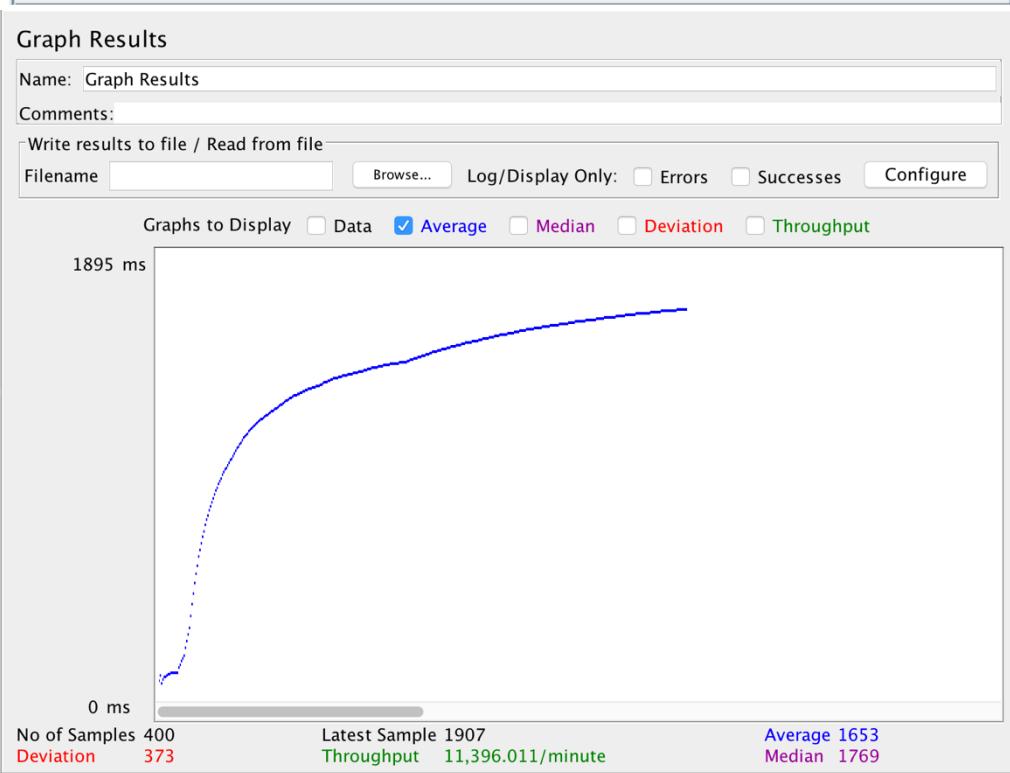
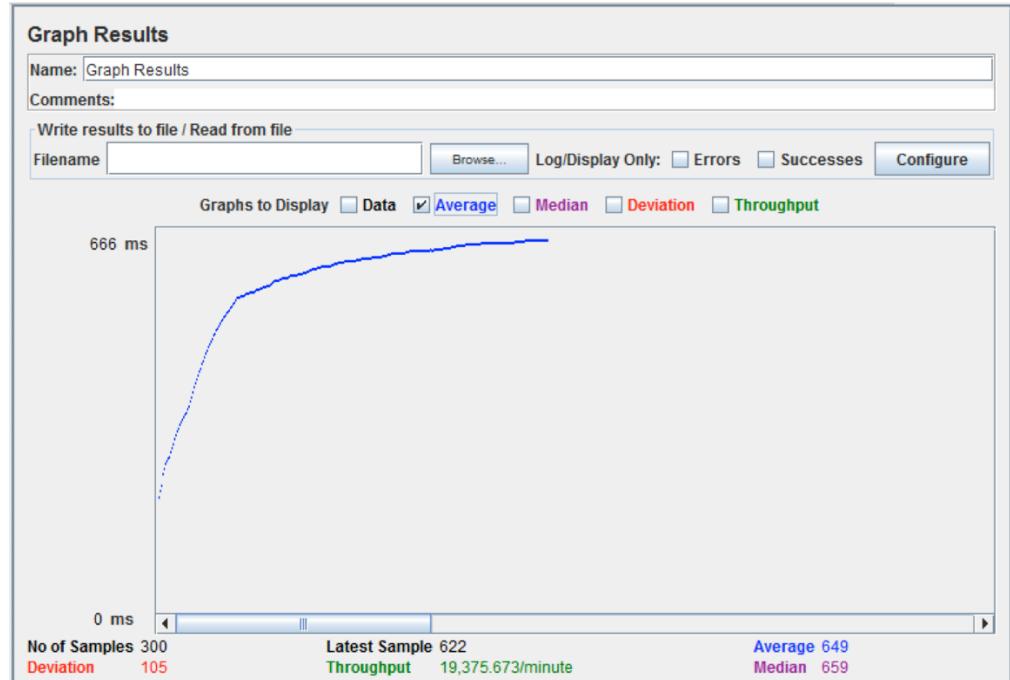


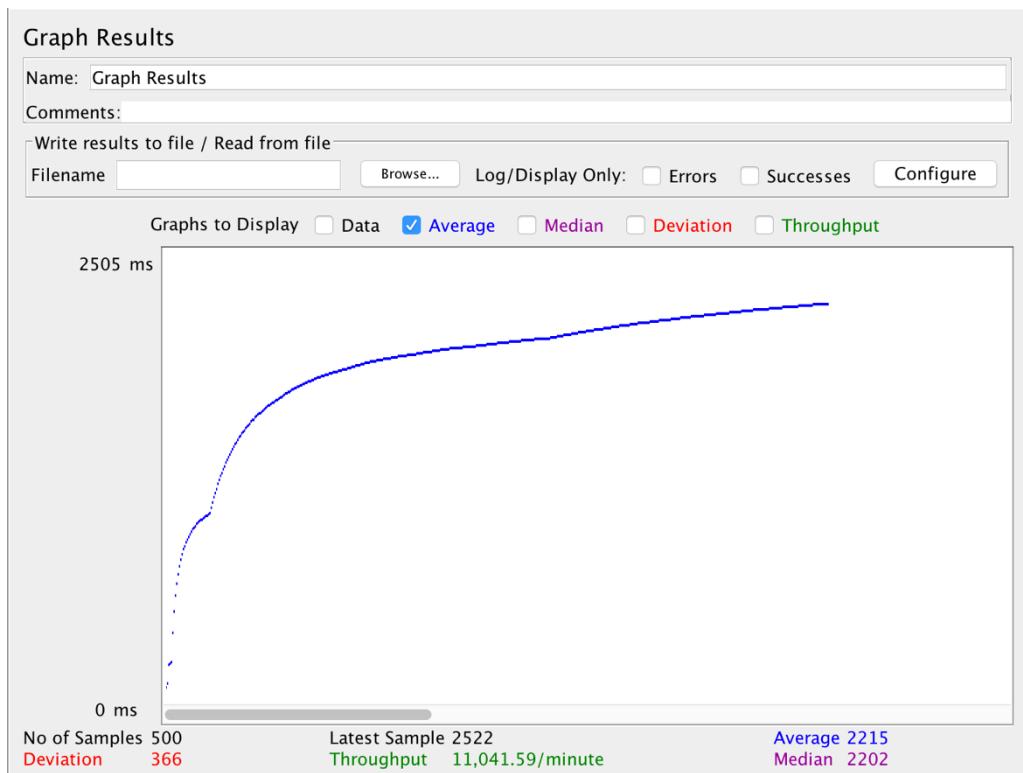




B. With Connection Pooling







Conclusion

If we compare all three case, we can see that it is beneficial to use connection pooling. If we compare the Average time of 500 concurrent users, one with in-built connection pooling has **1.6x times** better average response time. We must use connection pooling for better performance and availability.

TESTING

JUNIT

With 10-Backend Test-Cases

The screenshot shows the IntelliJ IDEA interface with the following details:

- Project:** In.adityapar
- Module:** server
- File:** JUnitTest.java
- Test Class:** JUnitTest
- Method:** SignUpNewUser()
- Status:** All 11 tests passed - 1s 569ms
- Logs:** The log output shows 11 test cases passing, each with a timestamp from 2017-12-11 05:22:37.990 to 05:22:38.680. The logs also include Spring framework initialization messages and a warning about duplicate JSON object context customizers.
- Bottom Status Bar:** Tests Passed: 11 passed (moments ago)

The screenshot shows the IntelliJ IDEA interface with the following details:

- Project View:** Shows the project structure with packages like `server`, `src`, `test`, `java`, `in`, and `adityaparmar`. Inside `src` are `MappingRepository`, `UserRepository`, `service` (containing `ContentService`, `MappingService`, `UserService`), and `ServerApplication`. The `resources` folder contains static files and `application.properties`. The `test` folder contains Java tests under `in.adityaparmar.server` and `JunitTest`.
- Code Editor:** The active editor is `JunitTest.java` with the following code:

```
39
40
41     @Before
42     public void setup() { mockMvc = MockMvcBuilders.webAppContextSetup(webApplicationContext).build(); }
43
44     @Test
45     public void SignInRightCredentials() throws Exception {
46         ...
47     }
48
49     @Test
50     public void SignInWrongCredentials() throws Exception {
51         ...
52     }
53
54     @Test
55     public void SignUpNewUser() throws Exception {
56         ...
57     }
58
59     @Test
60     public void SignUpAlreadyExistUser() throws Exception {
61         ...
62     }
63
64     @Test
65     public void CheckSession() throws Exception {
66         ...
67     }
68
69     @Test
70     public void CreateFolder() throws Exception {
71         ...
72     }
73
74     @Test
75     public void UpdateProfile() throws Exception {
76         ...
77     }
78
79     @Test
80     public void UploadFile() throws Exception {
81         ...
82     }
83
84     @Test
85     public void LoadFolder() throws Exception {
86         ...
87     }
88
89     @Test
90     public void LeaveGroup() throws Exception {
91         ...
92     }
93
94 }
```

- Run Tab:** Shows the run configuration for `JunitTest` with the message "All 11 tests passed - 1s 569ms".
- Bottom Status Bar:** Displays "Tests Passed: 11 passed (3 minutes ago)" and the current time as 9:41:15.