



MAIL SERVER

MEMBERS

- Amen Mohamed Amen 21010310.
- Andrew Safwat Fawzy 21010314.
- Ranime Ahmad El-sayed 21010531.
- Rafy Hany Said 21010504.

Lab4 OOP

Email server

How to download the project ?

- **GitHub Repository:** (CTRL + click on image)



Instruction to Run Back-End Server and Frond-End server

- **Running Back-End codes**

1. Open Back-End files to your favorite IDE to be run.
2. Use the normal Run button in your IDE.

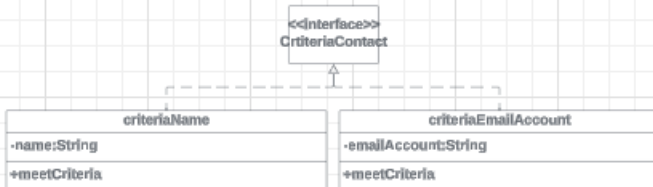
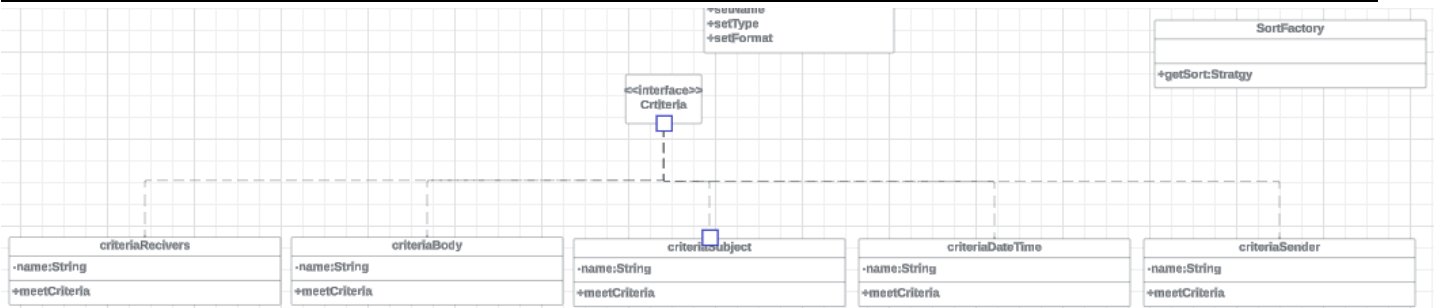
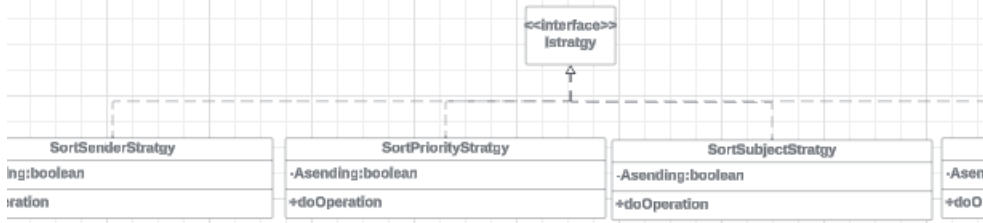
- **Running Front-End codes**

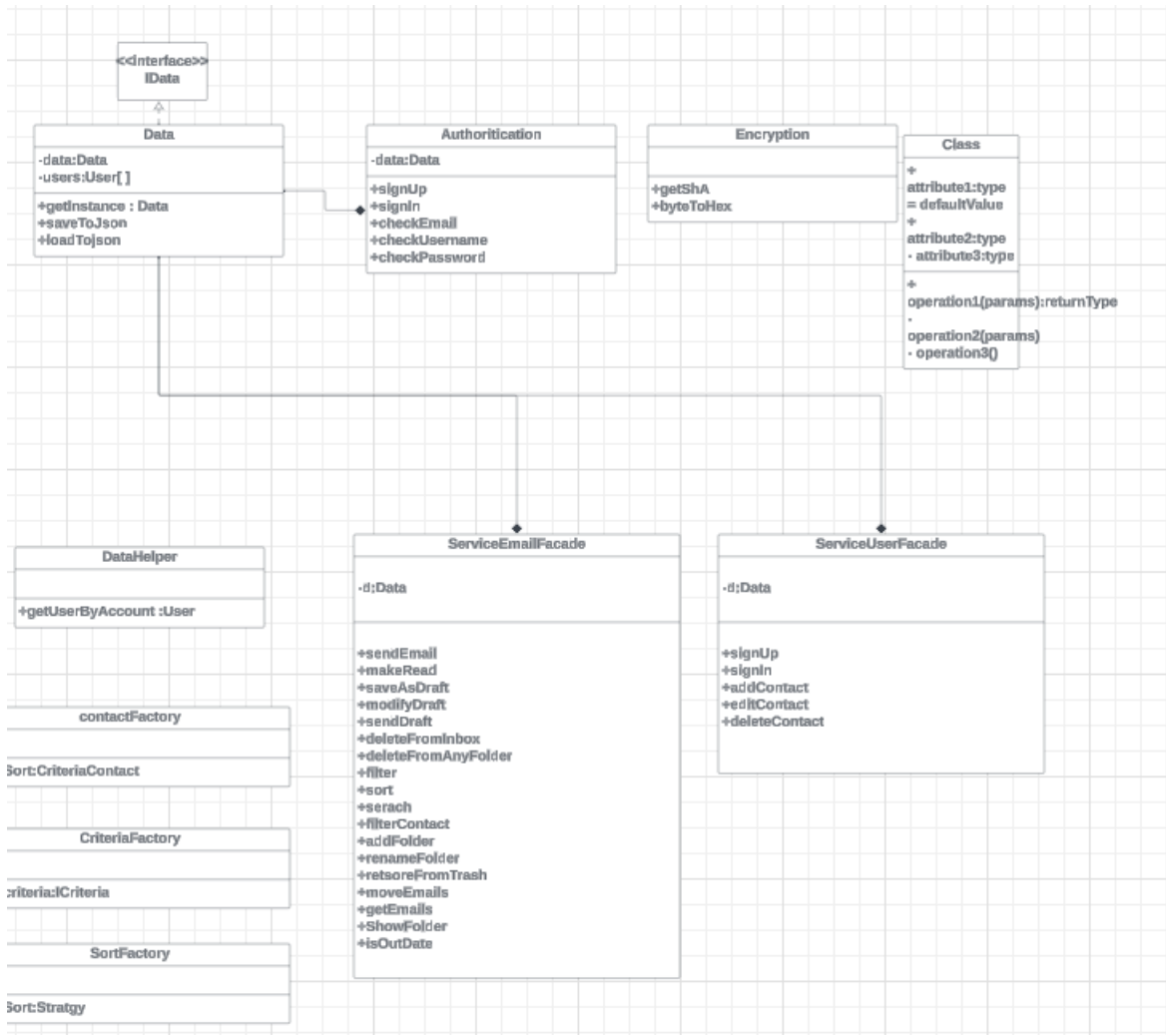
1. Install Node.js from the official website
2. Open your Command Prompt.
3. In your Command Prompt "npm install -g @Vue/cli".
4. Open Front-End files to your favorite IDE to be run.
5. Running Vue server from prompt "npm run serve".

Full UML link: (CTRL + click to view)



UML snippt :





- emailFacade : decouple the complexity from the control class used for only emails .
- UserFacade : decouple the complexity from the control class used for only users.

6. **Filter design pattern:**

- FilterEmail : to filter emails according to specific criteria .
- filterContact : to filter Contact according to specific criteria .

7. **strategy design pattern:**

- strategySort : impl. Sorting with different algorithms.

8. **Proxy design pattern:**

- Authentication : secure rubber class used to filter requests to Data in the case of sign up and log in .

9. **Adapter design pattern:**

- UserDto : used to mapped json object sent from front-end to java object used in back-end.
- Encryption : rubber password to hashed one saved in files using SHA256.

10. **Marker design pattern:**

- Acceptable : used to determine if the user is valid or not .

11. **Cache management design pattern:**

- Data : loaded once the server loaded any request access it once they go to servers no waiting for loading it when request sent .

12. **Null object:**

- NotUser: if the user wasn't acceptable user.

Important Installations for the FrontEnd:

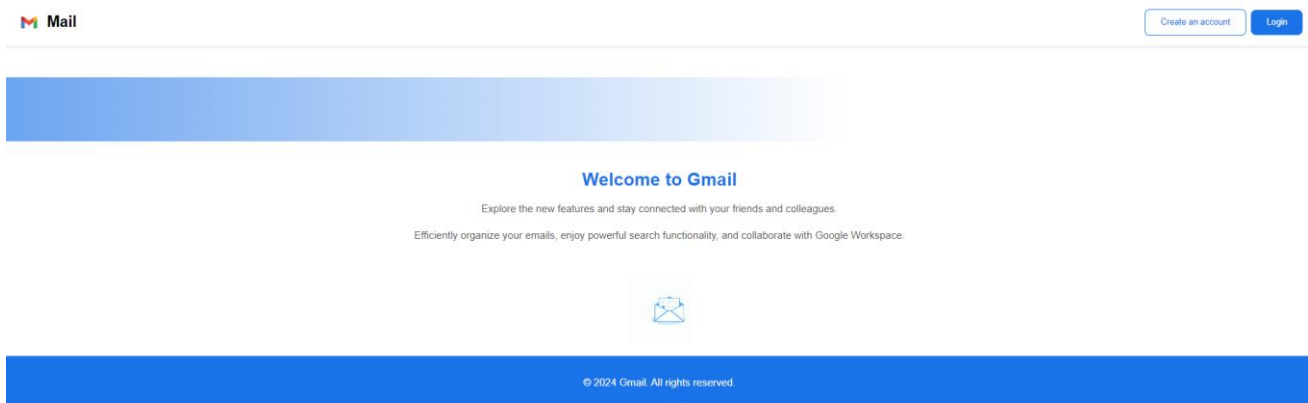
1. npm install.
2. npm install date-fns.
3. npm install --save @fortawesome/fontawesome-svg-core.
4. npm install --save @fortawesome/free-solid-svg-icons.
5. npm install --save @fortawesome/vue-fontawesome.
6. npm install animate.css --save.

Decisions & Assumptions:

1. Deleting messages from any SENT or DRAFTS will be deleted forever. While when deleting a message from INBOX, it will be sent to TRASH.
2. The SEARCH bar searches in all folders and components.
3. SORT and FILTER are applied in each component separately.
4. You can SORT by: date, priority, sender or subject in ascending or descending.
5. You can FILTER by: sender, date or subject.
6. In CONTACTS, you can search by name or email and the result is highlighted.
7. In COMPOSE, the receiptants email should be “@gmail.com” or “alexu.edu.eg”.
8. You cannot save an empty draft with no email, subject or body. You should at least enter any data in any of them.
9. You can download attachments through inbox by clicking on the attachment and it will be in your downloads.
10. In sign up, you should enter a password of at least 8 characters.

UI Snippets:

⇒ Home Page:



⇒ Sign Up:

Registration



☐ I accept all terms & conditions

Register Now

Already have an account? [Login](#)


⇒ **Login:**

Login

Login Now

Not have an account? [Sign up](#)

⇒ **Profile:**

 Gmail


 Ranime

 Search


 Compose

 Inbox

 Sent

 Contacts

 Drafts

 Trash

 Folders

 Logout

⇒ Compose:

 Gmail

 Ranime

 Search

 Compose

 Inbox

 Sent

 Contacts

 Drafts

 Trash

 Folders

 Logout

Compose Email

 To:

+


 From:

ranimeshehata@gmail.com

 Subject:

Enter subject here (max 30 characters)

Compose your email...

 Choose Attachments: No file chosen

 Send Email

 Save Draft

⇒ Inbox:

Gmail

Ranime

Search

Compose

Inbox

Sent

Contacts

Drafts

Trash

Folders

Logout

Inbox

Date



Sender

Filter Query...



Delete

Move to Folder

< 1 >

⇒ Sent:

Gmail

Ranime

Search

Compose

Inbox

Sent

Contacts

Drafts

Trash

Folders

Logout

Sent

Date



Receiver

Filter Query...



Delete

< 1 >

⇒ Contacts:

Gmail

Ranime

Search

Compose

Inbox

Sent

Contacts

Drafts

Trash

Folders

Logout

Search by name or email



Add to Contact

Enter name

Enter email account

Add Contact

Contact

Name



Email



Actions

⇒ Drafts:

Gmail

Ranime

Search

Compose

Inbox

Sent

Contacts

Drafts

Trash

Folders

Logout

Draft

Date



Redeiver

Filter Query...



Delete

< 1 >

⇒ Trash:

Gmail

Ranime

Search

Compose

Inbox

Sent

Contacts

Drafts

Trash

Folders

Logout

Trash

Date



Sender

Filter Query...



Delete Forever

Restore

Prev 1 Next

⇒ Folders:

Create New Folder

Enter folder name

Create folder



Folders

⇒ Logout:

Create an account

Login

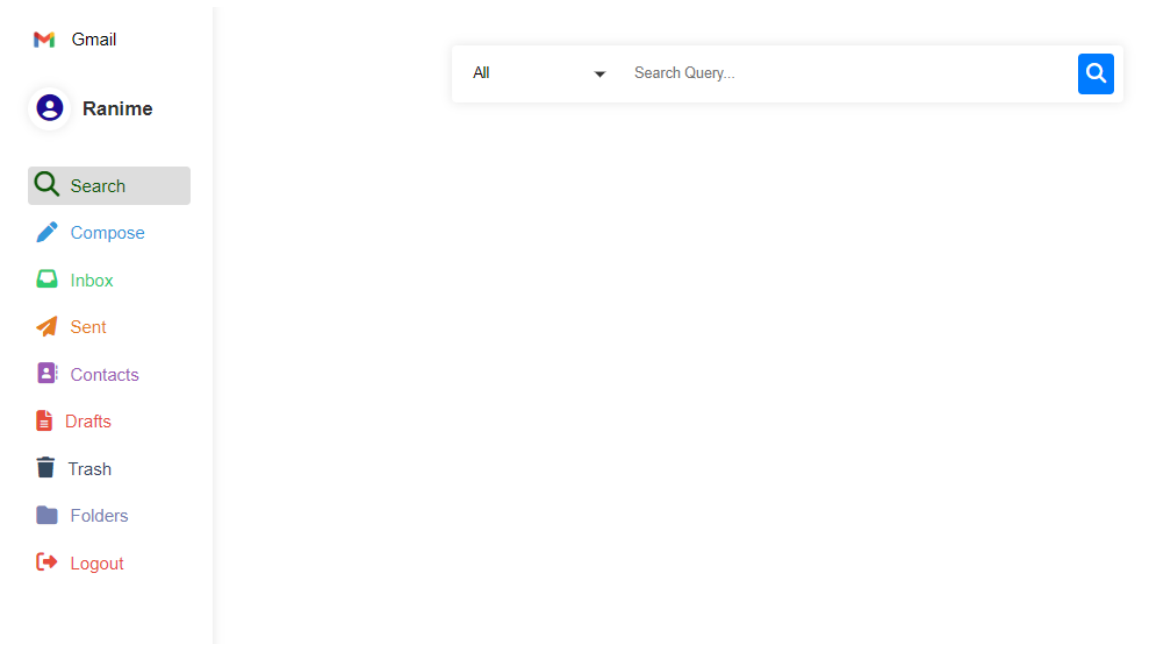
Welcome to Gmail

Explore the new features and stay connected with your friends and colleagues.

Efficiently organize your emails, enjoy powerful search functionality, and collaborate with Google Workspace.



⇒ Search:



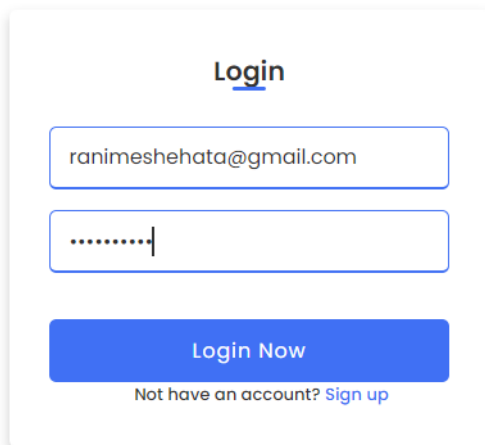
User Guide Snippets:

⇒ Sign Up:

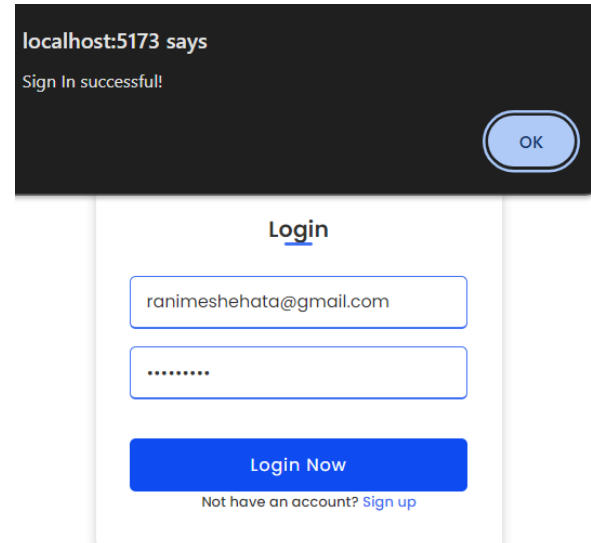
1. Enter your data: Name, email address, birthday, password and confirm password.
2. Press "Register Now".

⇒ Login:

1. Enter your data: email address and password.
2. Press "Login Now".

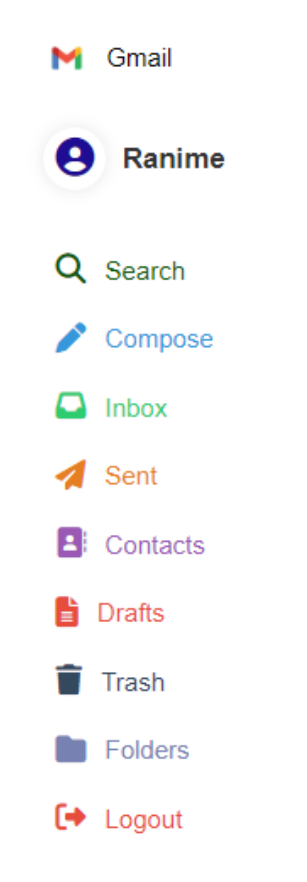


A screenshot of a login form titled "Login". It features two input fields: the first contains the email address "ranimeshehata@gmail.com", and the second contains a masked password ".....". Below the fields is a blue "Login Now" button. At the bottom, there is a link that says "Not have an account? Sign up".



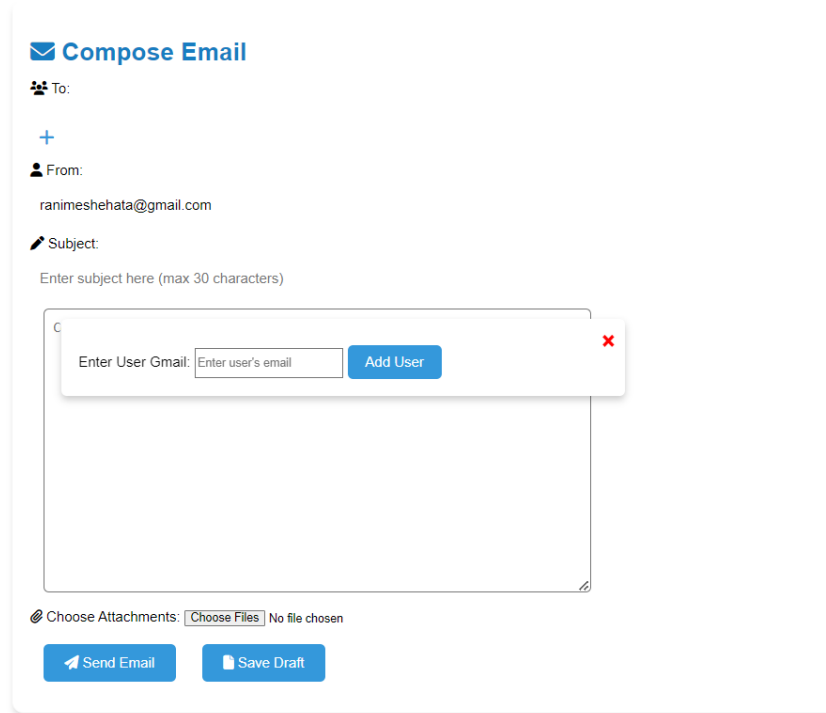
A screenshot of the login form with a success message overlay. The message box is dark with white text that reads "localhost:5173 says" and "Sign In successful!". An "OK" button is in the top right of the message box. The login form itself is slightly faded in the background, showing the same email and password fields and "Login Now" button.

⇒ **Profile page:** It's from where you can navigate to all other components.



⇒ **Compose:**

1. You can send an email to more than a user through the “+” button.



Compose Email

To:

+

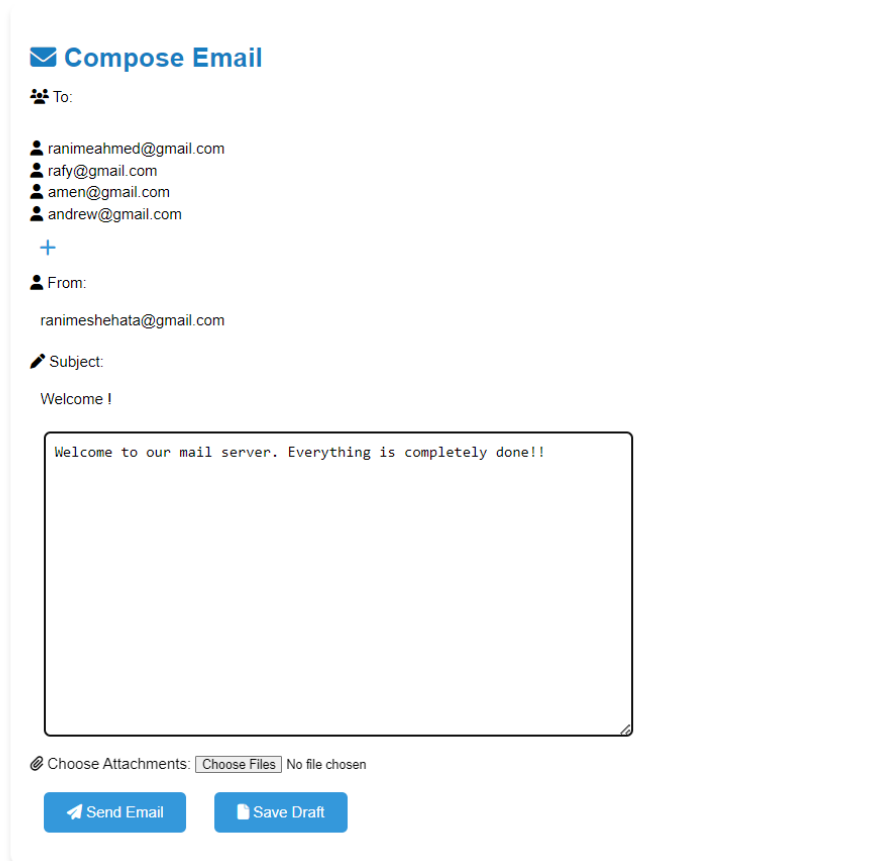
From:
ranimeshehata@gmail.com

Subject:
Enter subject here (max 30 characters)

Enter User Gmail:

Choose Attachments: No file chosen

2. Enter receiptant's email address, subject, message.



Compose Email

To:
ranimeahmed@gmail.com
rafy@gmail.com
amen@gmail.com
andrew@gmail.com

+

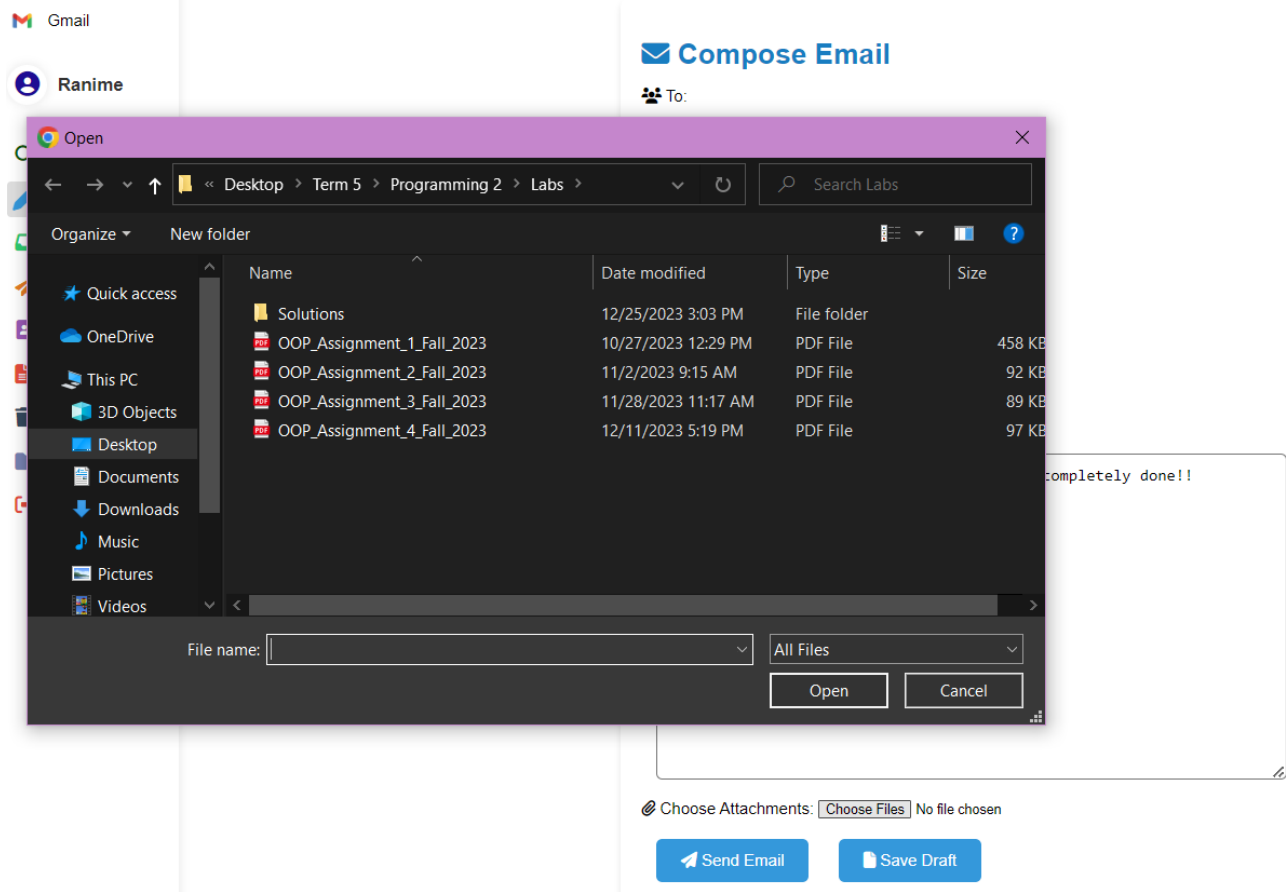
From:
ranimeshehata@gmail.com

Subject:
Welcome !

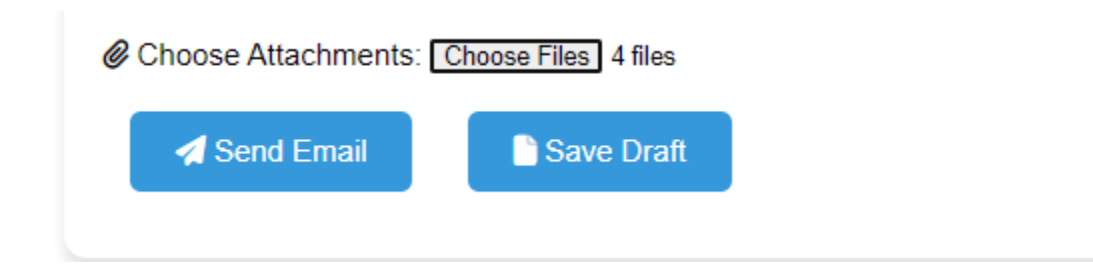
Welcome to our mail server. Everything is completely done!!

Choose Attachments: No file chosen

3. You can add an attachment through choose files.







4. Select the file(s).



5. Everything is set now! Click “Send Email”.

Compose Email


 To:

 ranimeahmed@gmail.com
 rafy@gmail.com
 amen@gmail.com
 andrew@gmail.com




 From:

ranimeshehata@gmail.com

 Subject:

Welcome !

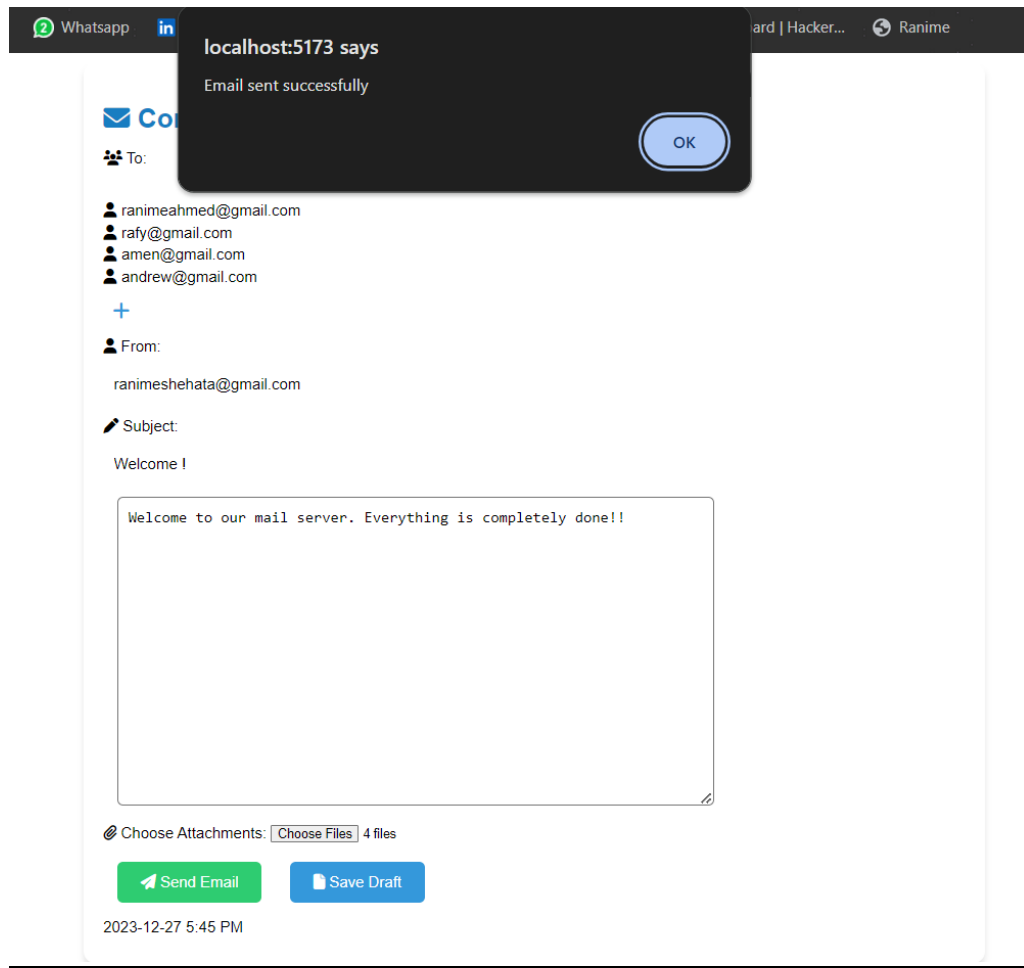
Welcome to our mail server. Everything is completely done!!

 Choose Attachments: 4 files

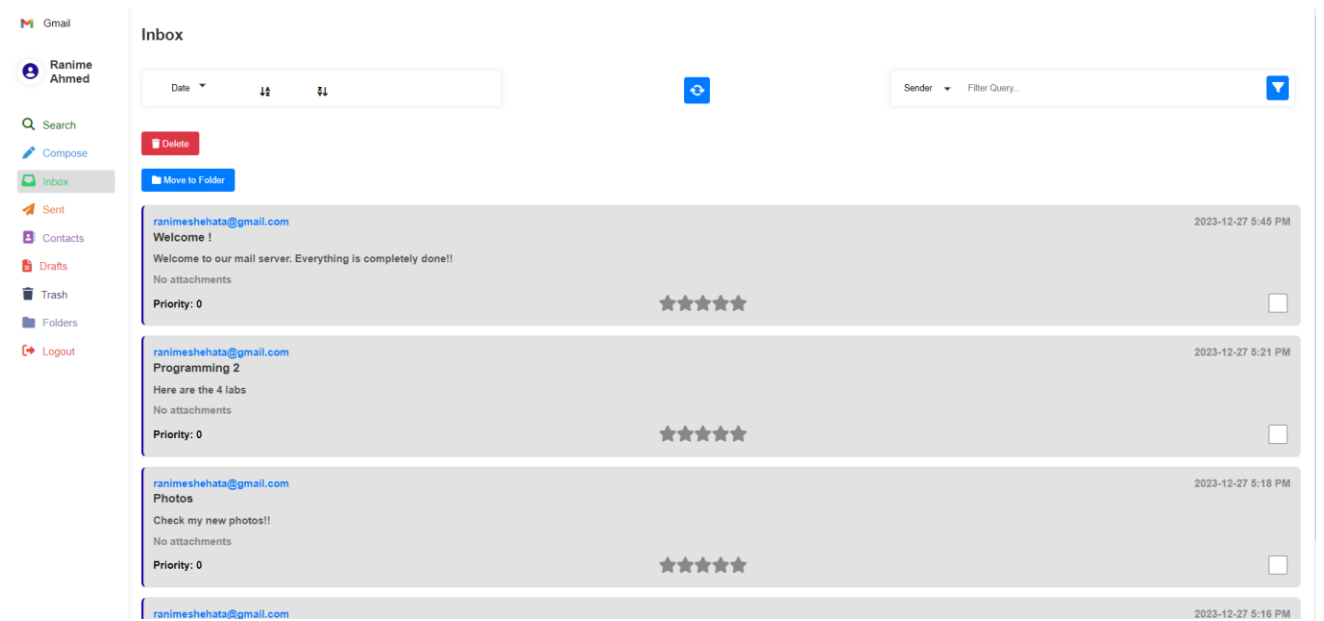
 Send Email

 Save Draft

6. Email sent Successfully. Date and time are updated below.



If you open the gmail account of one of the receiptants, you will find the email you sent in the INBOX.



✦ **Some Validations:**

1. You should enter an email address.

The screenshot shows a web-based email client interface. At the top, there's a dark header bar with icons for WhatsApp, LinkedIn, and a search bar. Below the header, a dark modal box is displayed with the text "localhost:5173 says" and "Please add at least one recipient". An "OK" button is visible in the bottom right of the modal. The email form below the modal has the following fields: "To:" with a plus icon, "From:" with the email address "ranimeshehata@gmail.com", and "Subject:" with the text "hello". The body of the email contains the text "how are you?". At the bottom of the form, there's a "Choose Attachments:" section with a "Choose Files" button and the text "No file chosen". Below the attachments section are two buttons: "Send Email" (green) and "Save Draft" (blue).

2. Check for email format "@gmail.com" or "@alexu.edu.eg".

The screenshot shows the same email client interface as above, but with a different validation error message. The dark modal box now displays the text "localhost:5173 says" and "Please enter valid email addresses with a proper format ending with @gmail.com or @alexu.edu.eg". The "OK" button is still present. The email form below the modal shows the "To:" field with the email address "user@gamil.com" (note the typo in the screenshot) and a plus icon. The "From:" and "Subject:" fields are not visible in this view. The "Choose Attachments:" section and the "Send Email" and "Save Draft" buttons are also present.

localhost:5173 says

Please enter valid email addresses with a proper format ending with
@gmail.com or @alexu.edu.eg

OK



To:

@gmail.com



✦ **Saving Draft:** by clicking on “Save Draft” button.

Compose Email

To:



From:

ranimeshehata@gmail.com

Subject:

hello

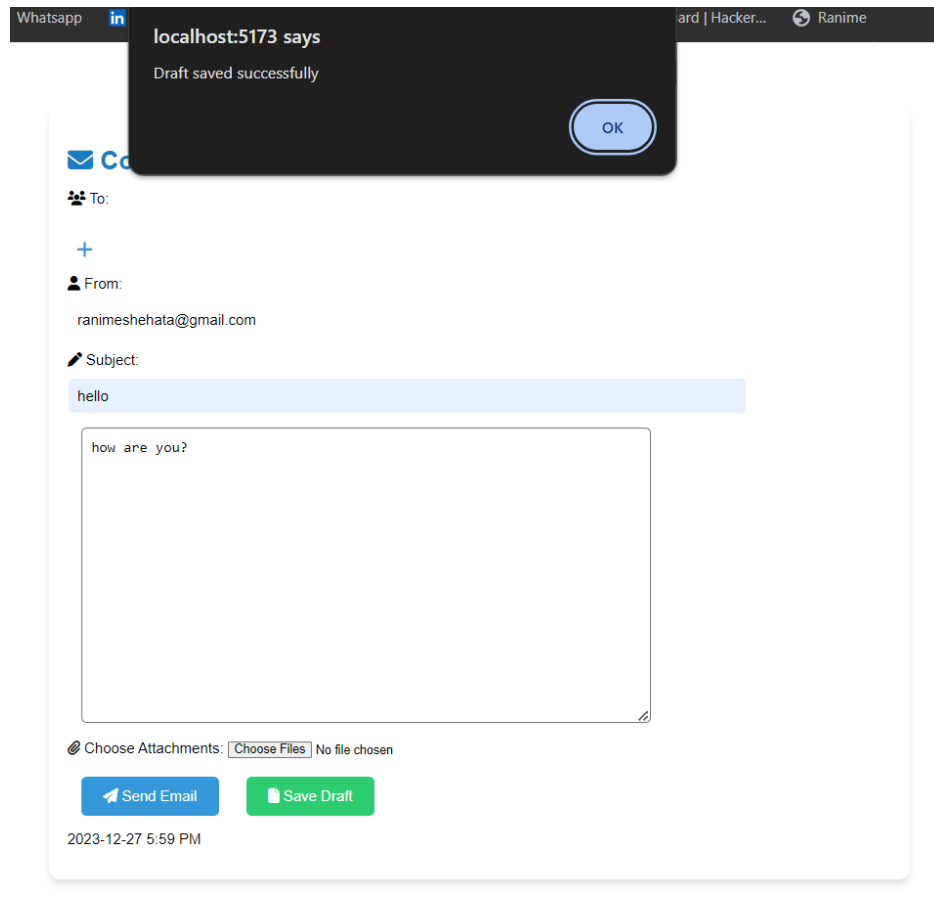
how are you?

Choose Attachments: No file chosen

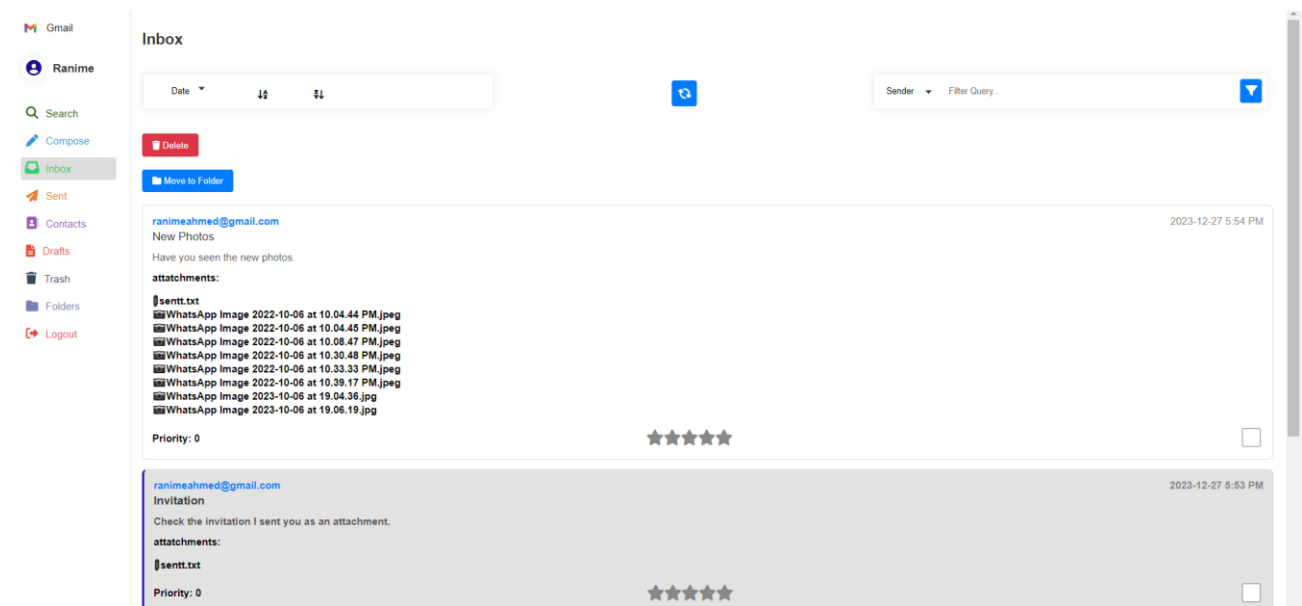
Send Email

Save Draft

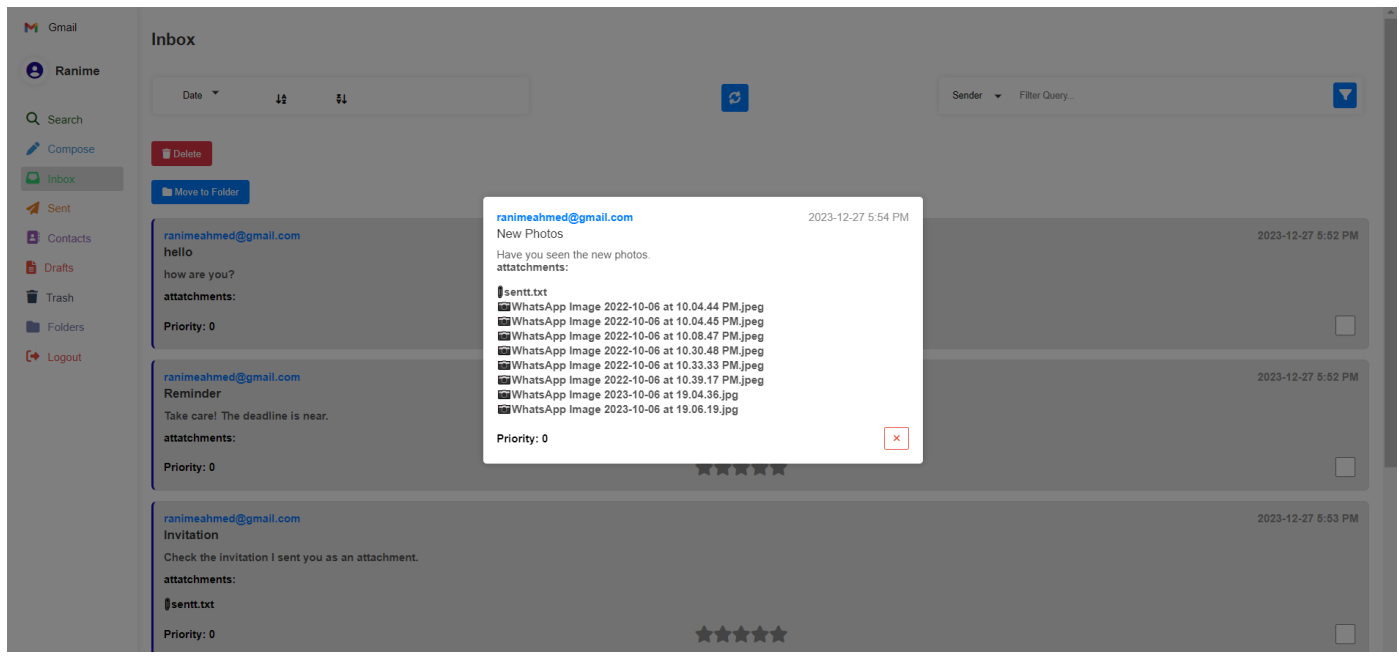
Draft is saved successfully where you can find it in “DRAFTS”.



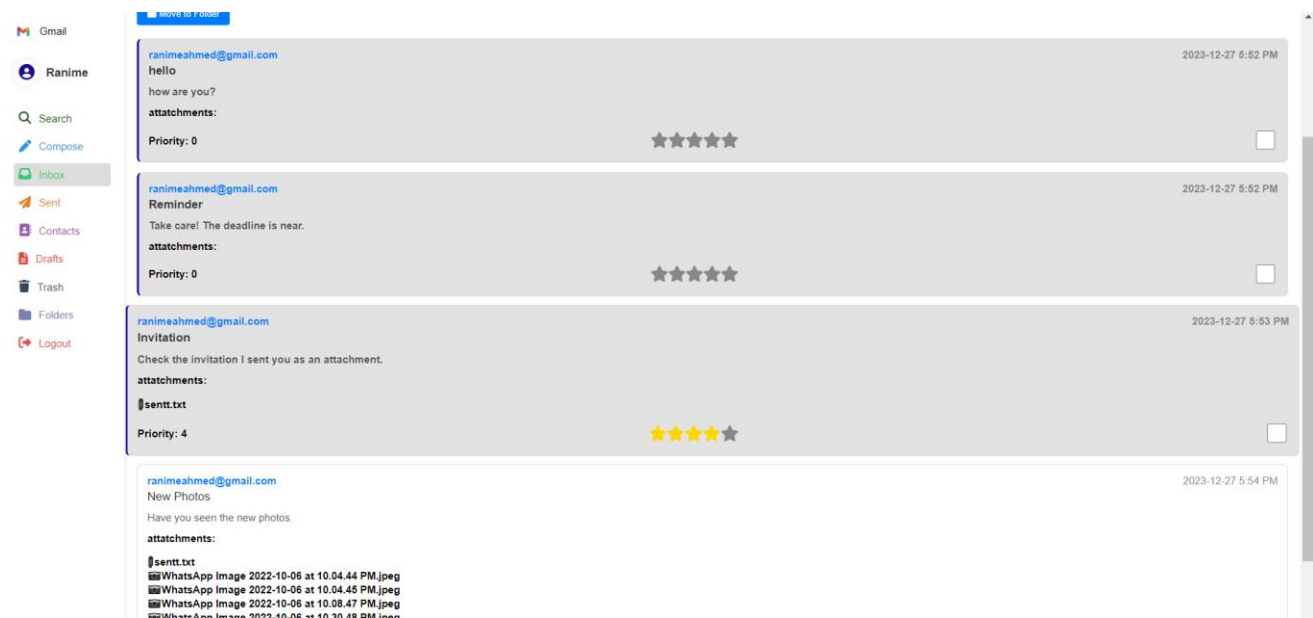
⇒ **Inbox:** You will find all the mails sent to you. The unread ones are shadowed.
Pagination is applied.



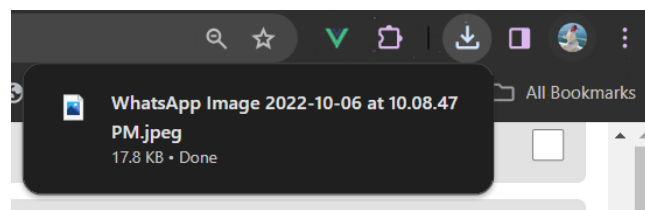
Opening a message: It pops up!



Setting message priority: Through the stars! Priority is changed to 4 now.



Opening attachments: By clicking on the attachment, it will be downloaded where you can open it.



There is a refresh button to refresh you inbox, sort and filter bars.

Inbox

Date ▾



Sender ▾

Filter Query...



You can sort by: date, sender, priority.

Inbox

Date ▾



Date

Priority

Sender

Subject

Sorting by priority:

Inbox

Priority ▾



Subject ▾

Invitation



Delete

Move to Folder

ranimeahmed@gmail.com

Reminder

2023-12-27 5:52 PM

Take care! The deadline is near.

attatchments:

Priority: 5



ranimeahmed@gmail.com

Invitation

2023-12-27 5:53 PM

Check the invitation I sent you as an attachment.

attatchments:

sentt.txt

Priority: 4



ranimeahmed@gmail.com

hello

2023-12-27 5:52 PM

how are you?

attatchments:

Priority: 2



Filter is done through sender, subject, date.

Sender

Filter Query...

Sender

Date

Subject

Filter through subject “invitation”.

Inbox

Priority

Subject

Invitation

Delete

Move to Folder

ranimeahmed@gmail.com

Invitation

2023-12-27 5:53 PM

Check the invitation I sent you as an attachment.

attachments:

senttt.txt

Priority: 4

<

1

>

Delete mails: You can select mails through the checkbox and click on “Delete” button. You can later find them in trash.

Gmail

Ranime

Search

Compose

Inbox

Sent

Contacts

Drafts

Trash

Folders

Logout

Inbox

Date

Sender

Filter Query...

Delete

Move to Folder

Type folder name here

Selected

ranimeahmed@gmail.com

Invitation

2023-12-27 5:53 PM

Check the invitation I sent you as an attachment.

attachments:

senttt.txt

Priority: 4

Selected

ranimeahmed@gmail.com

hello

2023-12-27 5:52 PM

how are you?

attachments:

Priority: 2

ranimeahmed@gmail.com

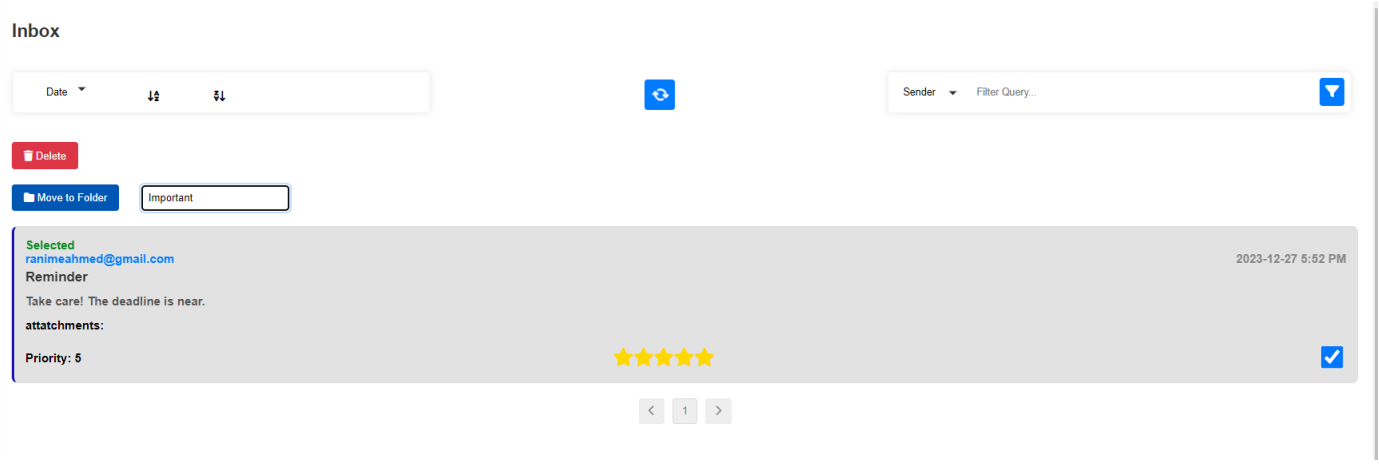
Reminder

2023-12-27 5:52 PM

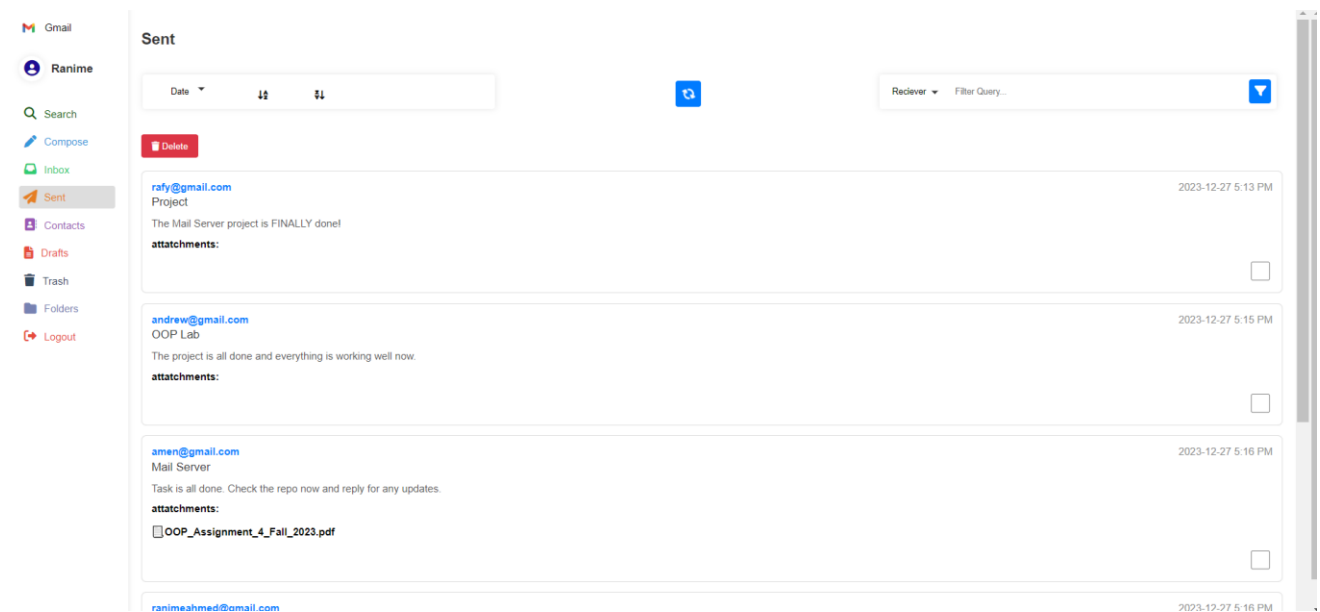
Take care! The deadline is near.

attachments:

Move to folder: You can select mails through the check box, type folder name above and click on “Move to Folder” button. A copy of the mail is sent to the folder where you can find it there.





⇒ **Sent:** It’s where you can find all the messages you sent. You can sort them or search by filter. There’s a refresh button as well. You can delete a message or a group of messages by selecting them through the checkbox and click on “Delete” button, but it will be deleted forever!





⇒ Contacts:


1. Enter the name and the email address.
2. Click on “Add Contact” button.
3. You can search for a contact by name or email.
4. You can sort the contacts alphabetically by name or email through the arrows in the table.


 Gmail


 Ranime


 Search


 Compose


 Inbox


 Sent


 **Contacts**

 Drafts

 Trash

 Folders









 Logout




Add to Contact

Add Contact

Contact

Name	↕	Email	↕	Actions
Amen Mohamed		amen@gmail.com		 
Andrew Safwat		andrew@gmail.com		 
Rafy Hany		rafy@gmail.com		 
Ranime Shehata		ranime@gmail.com		 









Search by name: The result is highlighted!



Add to Contact

Add Contact

Contact

Name	↕	Email	↕	Actions
Amen Mohamed		amen@gmail.com		 
Andrew Safwat		andrew@gmail.com		 
Rafy Hany		rafy@gmail.com		 
Ranime Shehata		ranime@gmail.com		 

You can delete or rename a contact through the red and green buttons respectively.

localhost:5173 says

Enter the new name:









Ranime Shehata New

OK Cancel









Enter email account

Add Contact

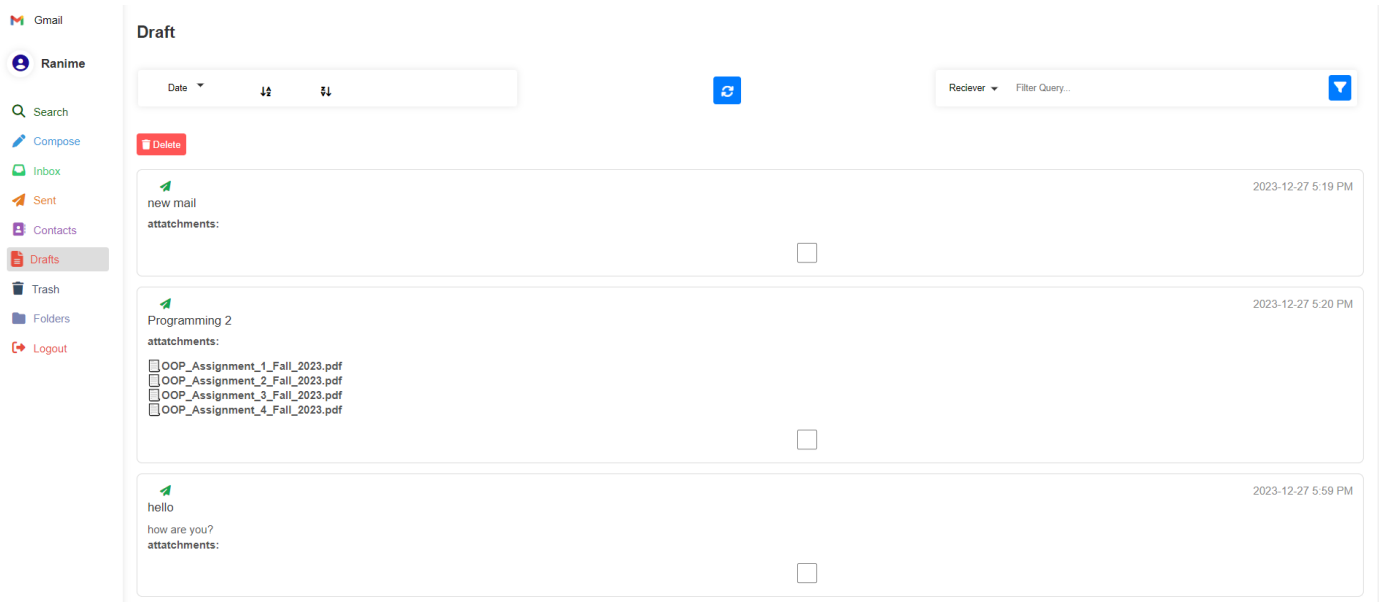
Contact

Name	Email	Actions
Amen Mohamed	amen@gmail.com	 
Andrew Safwat	andrew@gmail.com	 
Rafy Hany	rafy@gmail.com	 
Ranime Shehata	ranime@gmail.com	 

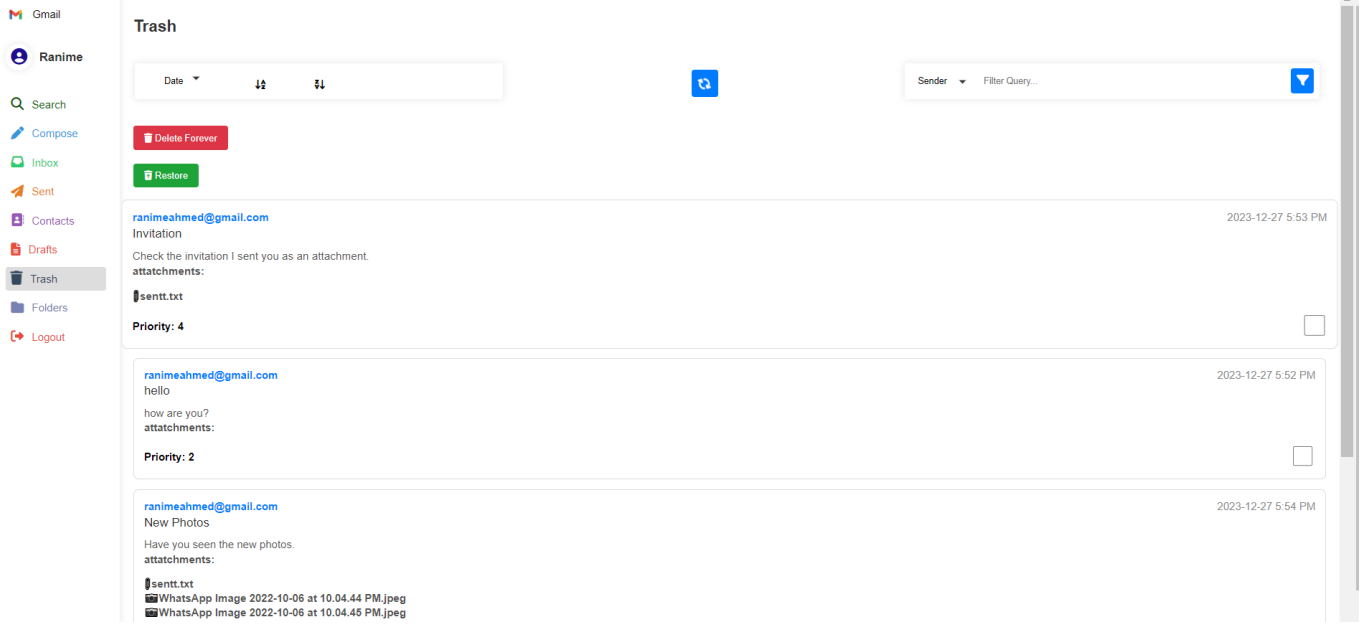
Contact

Name	Email	Actions
Amen Mohamed	amen@gmail.com	 
Andrew Safwat	andrew@gmail.com	 
Rafy Hany	rafy@gmail.com	 
Ranime Shehata New	ranime@gmail.com	 

⇒ **Drafts:** You can find all the messages you saved as a draft while composing. You can sort them or search by filter. There's a refresh button as well. You can delete a draft message or a group of messages by selecting them through the checkbox and click on "Delete" button, but it will be deleted forever!
You can send an email in drafts by clicking on the green icon. Then, you will find it in your SENT messages.



⇒ **Trash:** It's where you can find all the deleted messages from the inbox. You can sort or filter them. There's a refresh button as well. You have 2 extra options, either to select messages and delete them forever through the "Delete Forever" button or you can choose to restore them back to inbox through "Restore" button.



⇒ Folders:

1. You can Create a new folder through the “Create Folder” button.
2. You can Rename folder through the green button beside the folder name.
3. You can Delete the folder through the red button beside the folder name.
4. You delete a mail from folder through the “X” symbol in the remove column.
5. There’s a refresh button where you can refresh the folder’s page.

+ Create New Folder

Create folder

Folders

important

Priority	Sender	Date	Subject	Content	Attachment	Remove
5	ranimeahmed@gmail.com		Reminder			✕


new things


Priority	Sender	Date	Subject	Content	Attachment	Remove
1	ranimeahmed@gmail.com		New Photos			✕


Social


Priority	Sender	Date	Subject	Content	Attachment	Remove
4	ranimeahmed@gmail.com		Invitation			✕
2	ranimeahmed@gmail.com		hello			✕


⇒ **Search: It searches through all components and folders.**


 Gmail


 Ranime

 Search

 Compose

 Inbox

 Sent

All ▾ invitation 

ranimeahmed@gmail.com


Invitation


Check the invitation I sent you as an attachment.


No attachments


Priority: 4


2023-12-27 5:53 PM


 Gmail


 Ranime


 Search


 Compose


 Inbox


 Sent

 Contacts

 Drafts

 Trash

 Folders

All ▾ project 

ranimeshehata@gmail.com

Project

The Mail Server project is FINALLY done!

No attachments

Priority: 0

2023-12-27 5:13 PM

ranimeshehata@gmail.com

OOP Lab

The project is all done and everything is working well now.

No attachments

Priority: 0

2023-12-27 5:15 PM

You can choose to search by body, date, receiver, priority or subject:

All



project



All

Reciever

Body

Date

Priority

Subject

mail.

ject is FINALLY done!