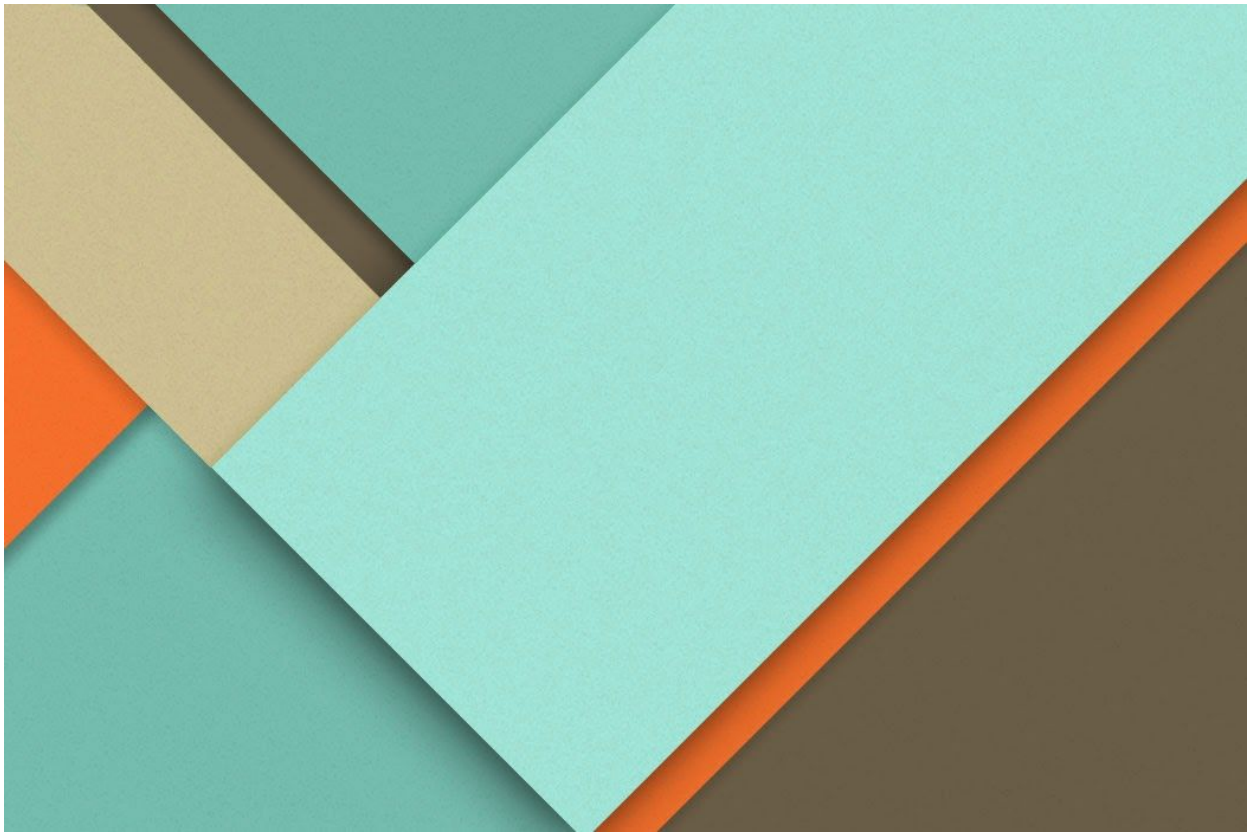


Web Based Email Program

12.26.2020

Names and IDs :

Ahmed Gamal Mahmoud Hefny (18010083)

Ahmed Yasser Mohamed Mohamed Elqotb (18010276)

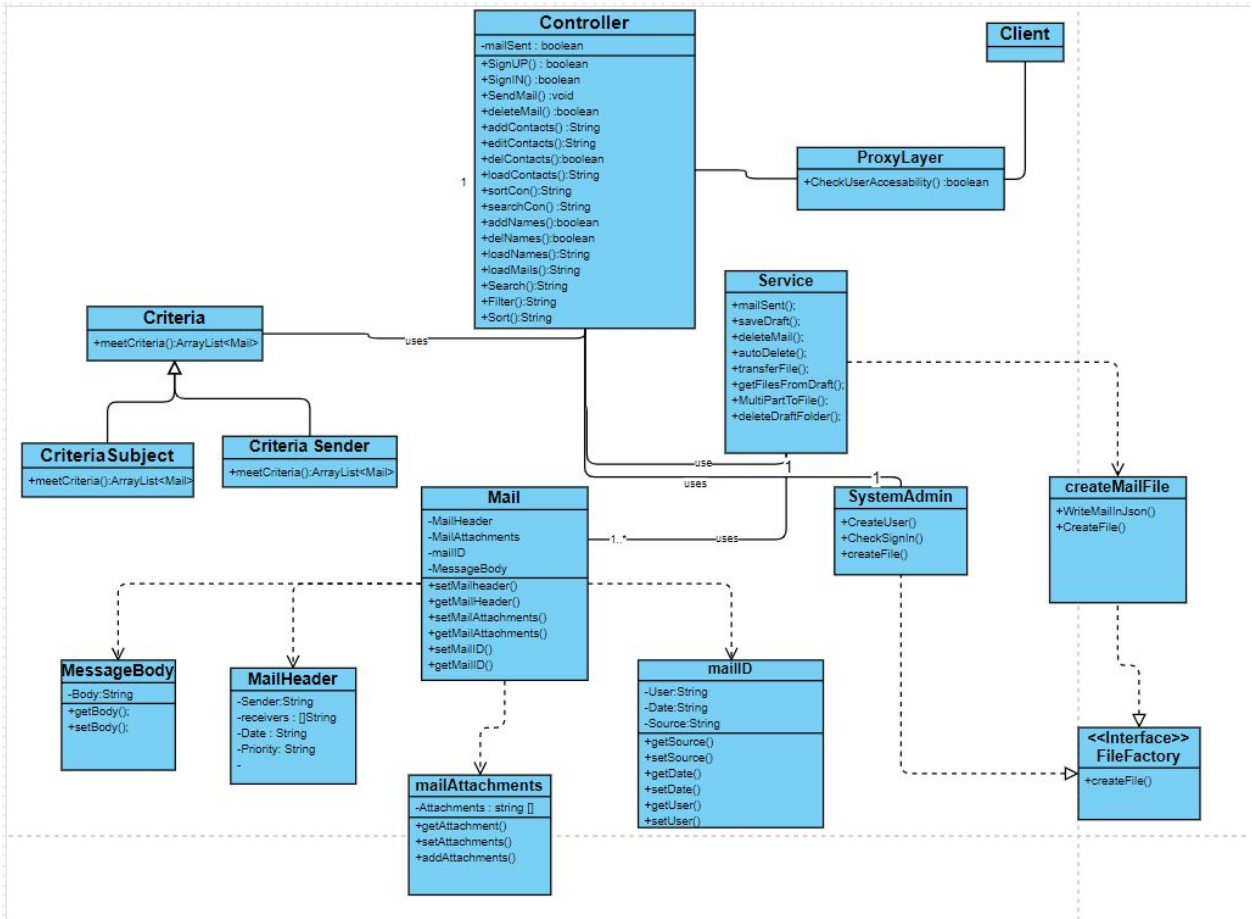
Marwan mohamed saad abougabal (18011736)

Mohamed Mofreh Elgazar (18011626)

How to run the code :

1. Open the backend folder in your IDE
2. In your IDE , Go to src > main > java > Main > DemoApplication.java
3. Run DemoApplication.java
4. Then open the frontend folder through IDE or vscode
5. Open the terminal and type “npm run serve” and wait until it runs
6. Open your browser and type “localhost:8080” and the web should run

UML Diagram



Design Patterns usage description

1- Proxy Pattern :

This pattern plays an important role in keeping the server secure as it rejects any request from unregistered users to use it's features such as sending emails , adding contacts .

2- Factory Method :

Created an interface that has a method called createFile and made each concrete class needed to create files with extra manipulations to implement this method the way required it . I used it as the example of pizza store in Head First book .

3- Facade Pattern :

This pattern was used to create the mail object as it needed to consist of other objects to facilitate operations on it especially in frontEnd and got the idea from the example in Doctor's lecture .

4- Singleton Pattern :

This design pattern is used in SystemAdmin class as It requires only one instance to handle main system operations instead of creating new Instances as creation of SystemAdmin object costs time and to avoid using it twice in same time to handle the calls that need time doing by it .

5- Filter Pattern :

We used this pattern in filtering mails in a specific folder according to subject or sender. Even users can do double filter by filtering according to both subject and sender .

Decisions and Assumptions

I. In order to view sent attachments , you must click on it and it will be downloaded in your downloads directory.
II. Passwords shouldn't be less than 8 characters.
III. You can't sign up an account unless you fill all the required data.
IV. Email address for the project must be in the format : example@mail.com
V. Mail Server can contain up to 10 mails per page
VI. In order to send email to multiple receivers , You must separate their email address by a ","
VII. You can upload any type of attachments
VIII. ATTENTION : Maximum size of the attachments is 1 GigaByte , and if the size exceeded 20 MB it will take a few seconds to send the mail ^_^
IX. When searching by priority , User must type exactly (Superhigh , high , medium , low)
X. When applying search and filter in (inbox , trash , sent , draft) , User must enter the full word that he wants to search or filter for BUT in case of searching in (contacts) > User can search by one character or half a word or a full word.
XI. Every email has its own color according to priority decided [Superhigh : red / high : blue / medium : yellow / low : green]
XII. You can travel through inbox and trash and other files through Menu bar at the top right OR through the drawer at the top left
XIII. Filter is applied to Sender OR subject OR both sender and subject
XIV. Search is applied to Sender / Subject / Priority
XV. Sort is applied to Sender / Subject / Priority and Date
XVI. By default emails are sorted according to date from newest to oldest , If changed to priority then it will be sorted from Super High to low , Incase of sender and subject it is sorted from a → z.
XVII. Delete can be done to single or multiple selected mails
XVIII. In draft mails , If there are any attachments drafted with the mail then it will appear to the user when he decides to RESEND these mails again, also allowed to remove some of these attachments if he want. he will be able to add new attachments alongside the old attachments.
XIX. In draft mails , If any data was assigned to the mail , Then it will be loaded when the user decided to send these emails again

How to use the Application

After Opening the program as mentioned before in " How to run the code " part , You shall find yourself in a web page containing Sign in form ..

ATTENTION : if you want to open already made account with testing (username : ahmed.gamal@mail.com // password : 12345678)

ALSO : if you want to open any pre-existing account , kindly go to backend folder then to System folder then choose any email (example@mail.com-password) in this form.

1. If you want to sign in, fill data of email and password correctly and then push the sign in button.
2. If you don't have an email, click on sign up button and create a new email after filling all data sign up button will be available , push it.
3. After that you will be in the inbox page.
4. You have a toolbar in the top of page and it has many function
5. You have menu in left that shows your email , compose button and pages you can move to (inbox,sent,trash,draft,contacts)
6. On the other side of the toolbar you will find the name of the current page , a menu that has pages you can move to (inbox,sent,trash,draft,contacts) and sign out button if you want to sign out .
7. If you want to send/draft an email click on compose button , a popup will be shown ,

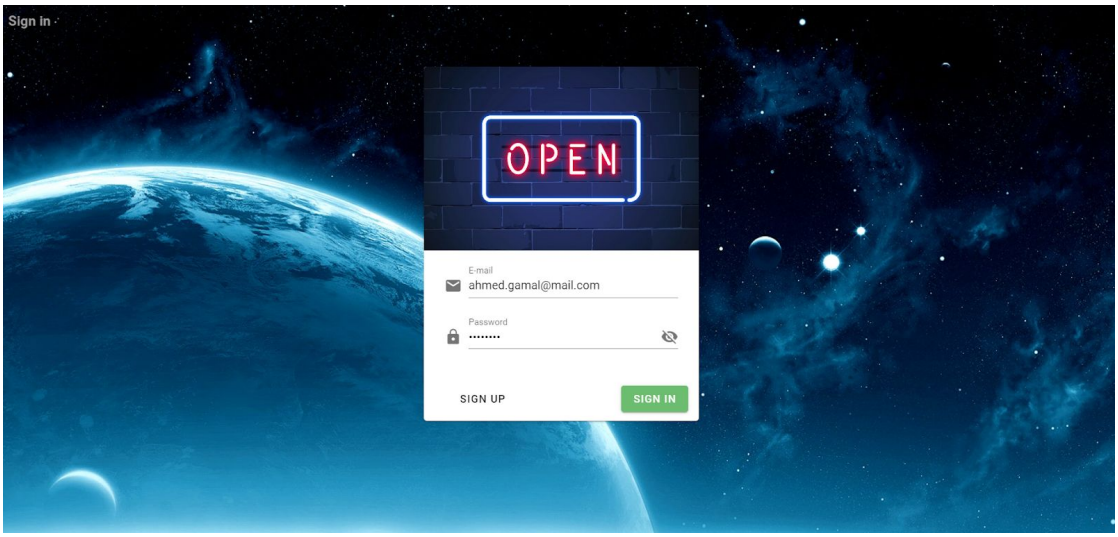
   In case of send you must fill all data except attachments , in case of draft you should fill at least one of data otherwise nothing is saved.

8. In inbox you will have a search/filter toolbar click on menu , choose search or filter , choose the type of search or filter then a text field will appear then type what you want , if you want to done click on "Right" button , if you want to cancel click on cancel button.
9. If you have emails you can click on it and it will be shown , if you have an attachment you can click on it and it will be downloaded then if you want to close ok click on ok button.
10. If you want to delete an email click on the checkbox , when you click on at least one checkbox a toolbar will be shown , you can select more than one email , if you want to delete click on delete button , if you want to cancel click on close button.
11. If you want to sort your emails click on sort by button and you will have a menu to choose thing you want to sort by.
12. If you want to refresh the page click on the refresh button.
13. If you want to go to the next or previous page click on their buttons as each page has at most 10 mails.

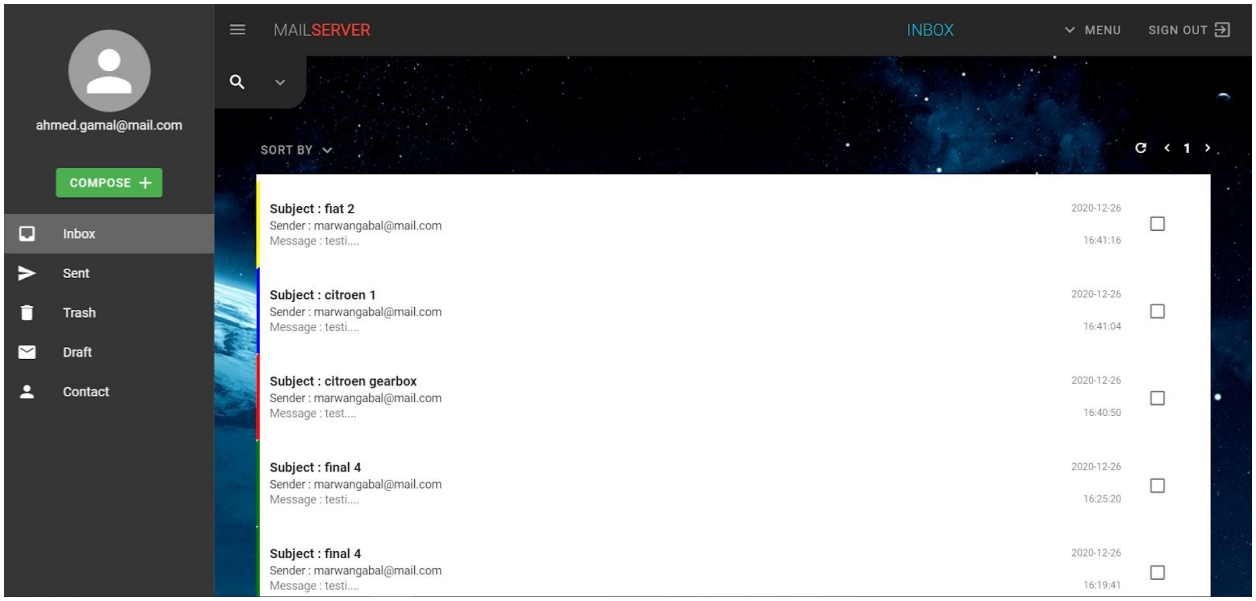
14. And so in sent ,trash , draft.
15. Except in draft if you click on a mail , send/draft popup will appear with data you have filled before , if there are old attachments you will see it and if you want to cancel one of them you can , there is no search or filter in Draft.
16. In Contacts, if you want to add new contact click on add new contact and fill data.
17. If you want to open contact click on it and popup will appear then you can close , edit contact name and add new email.
18. You can delete contacts the same as in inbox.
19. You can sort ascending or descending , refresh contacts and move between pages
20. You can search in contact to click on the search checkbox then type what you want to search for.

SnapShots of the UI program

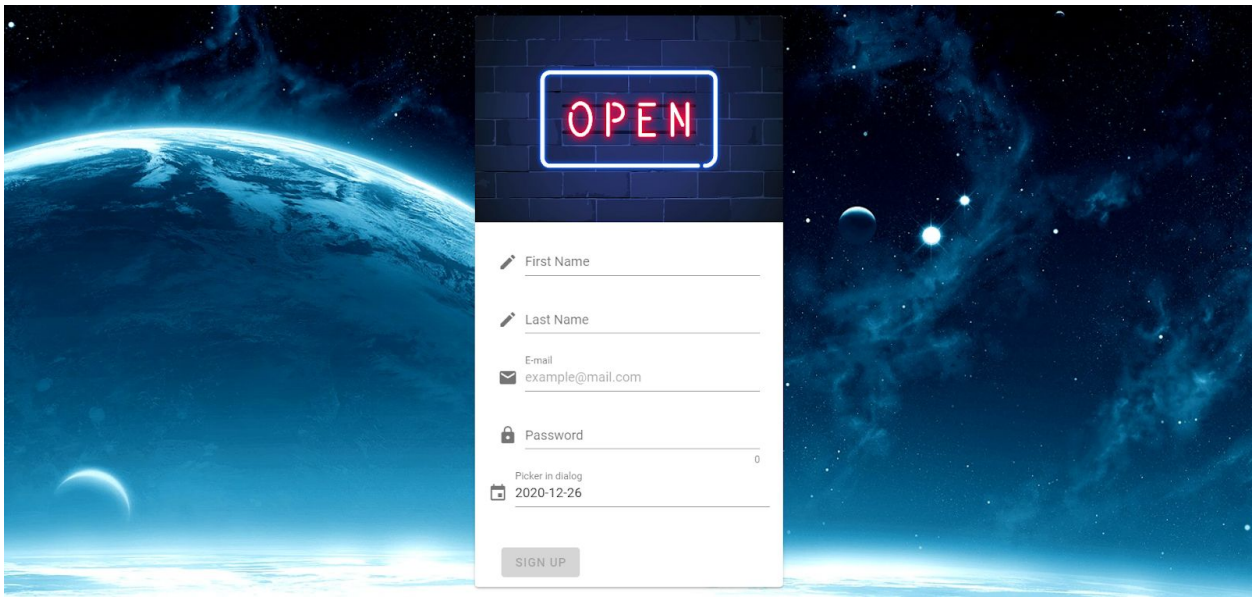
Signing in:

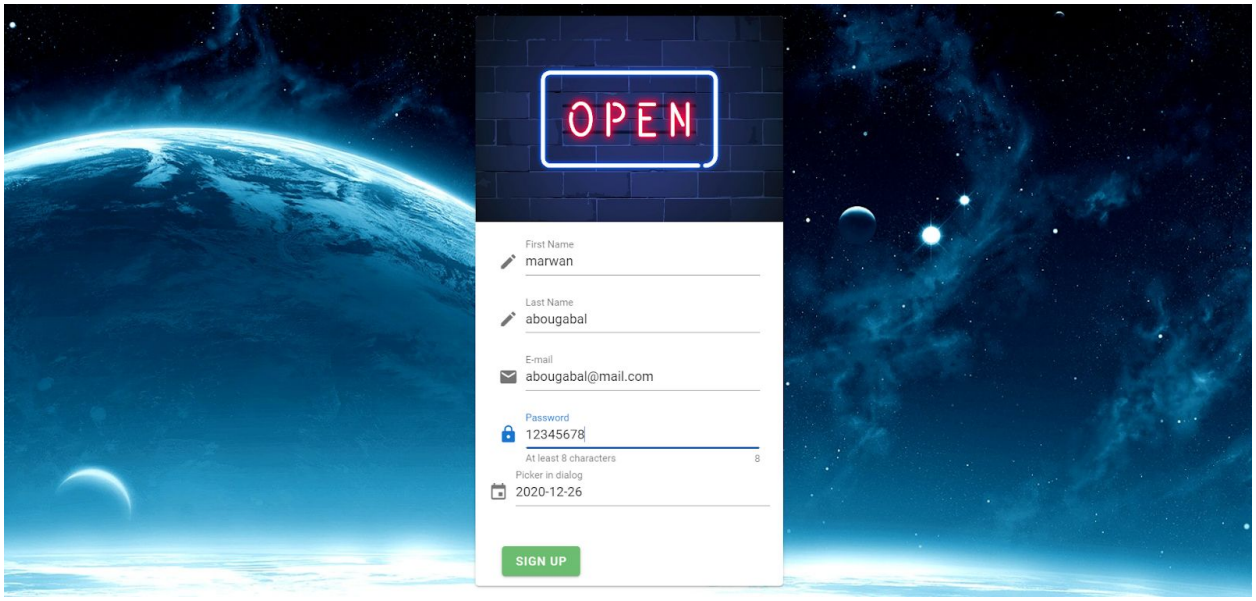


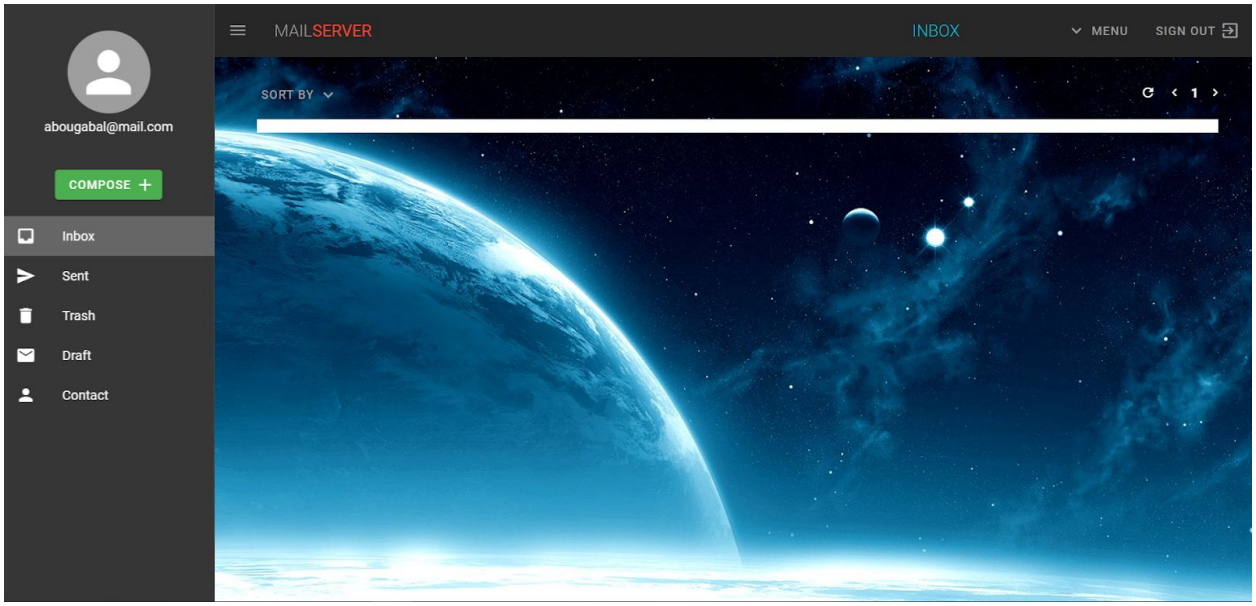
After signing in:



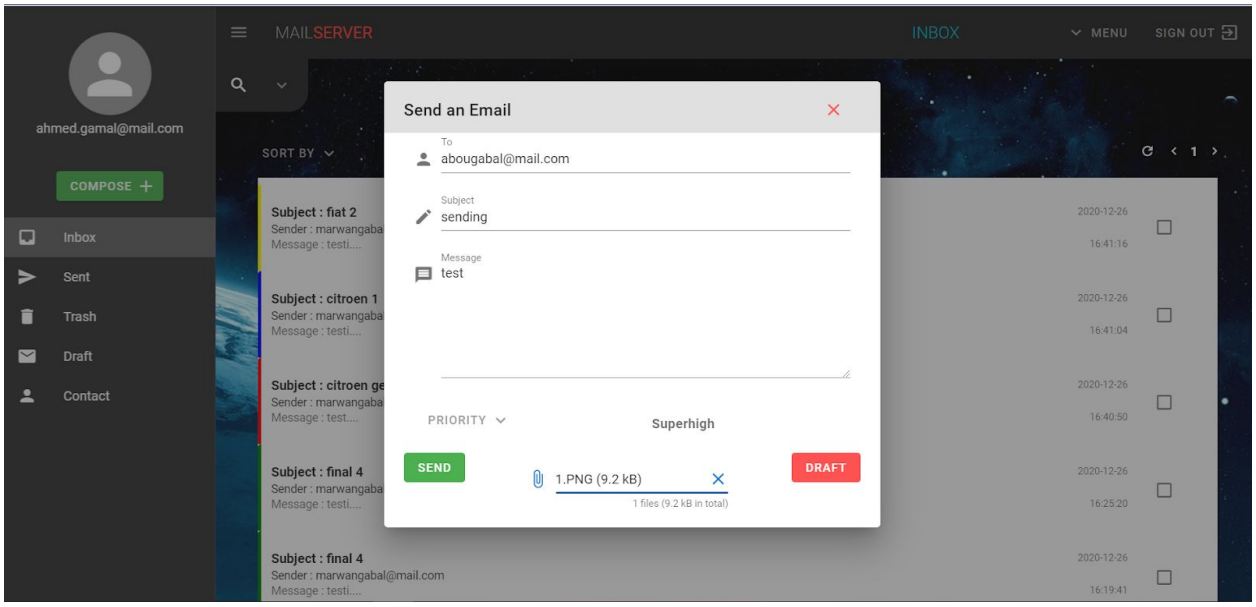
Signing up:

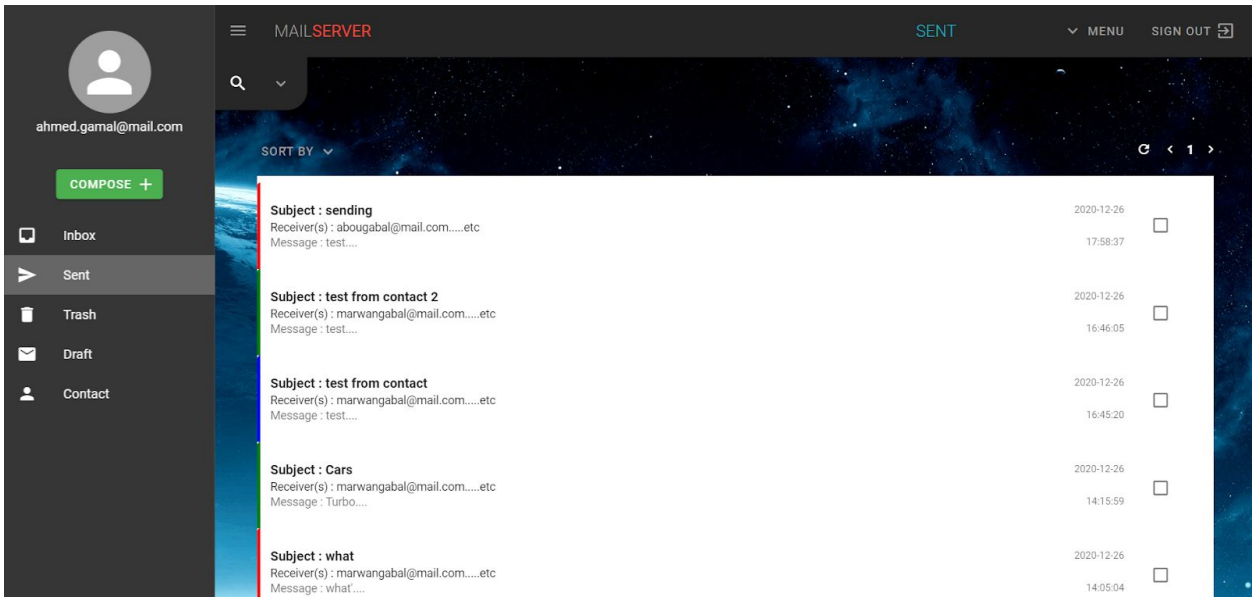


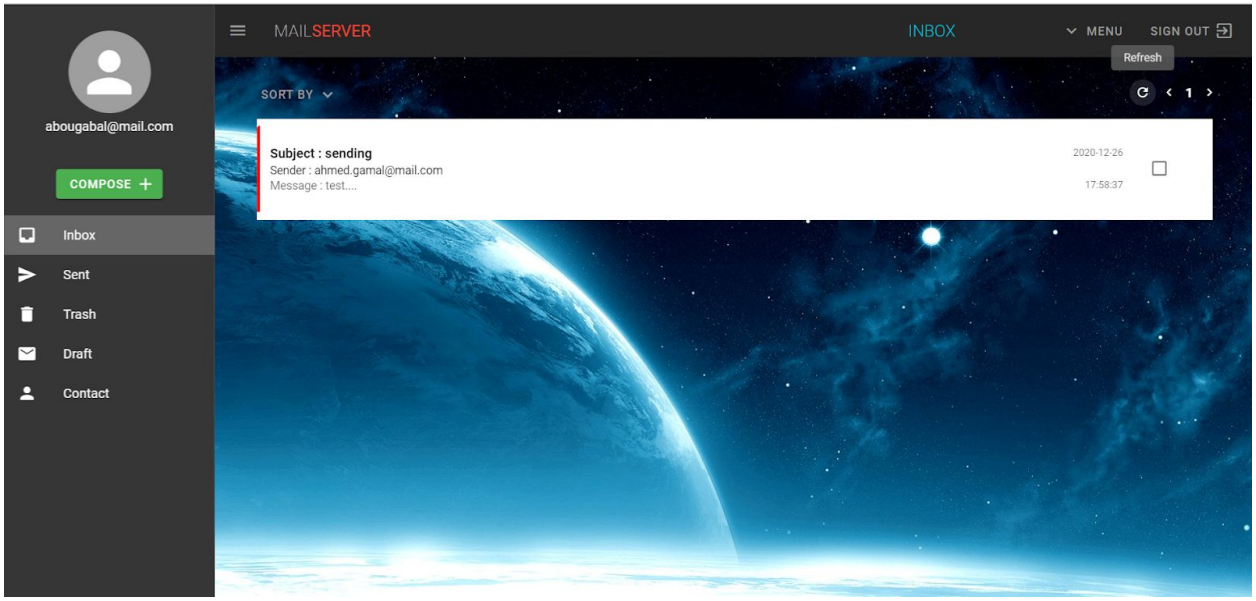

OPEN
First Name
marwan
Last Name
abougabal
E-mail
abougabal@mail.com
Password
12345678
At least 8 characters
8
Picker in dialog
2020-12-26
SIGN UP


MAILSERVER
INBOX
MENU
SIGN OUT
abougabal@mail.com
COMPOSE
Inbox
Sent
Trash
Draft
Contact
SORT BY
1

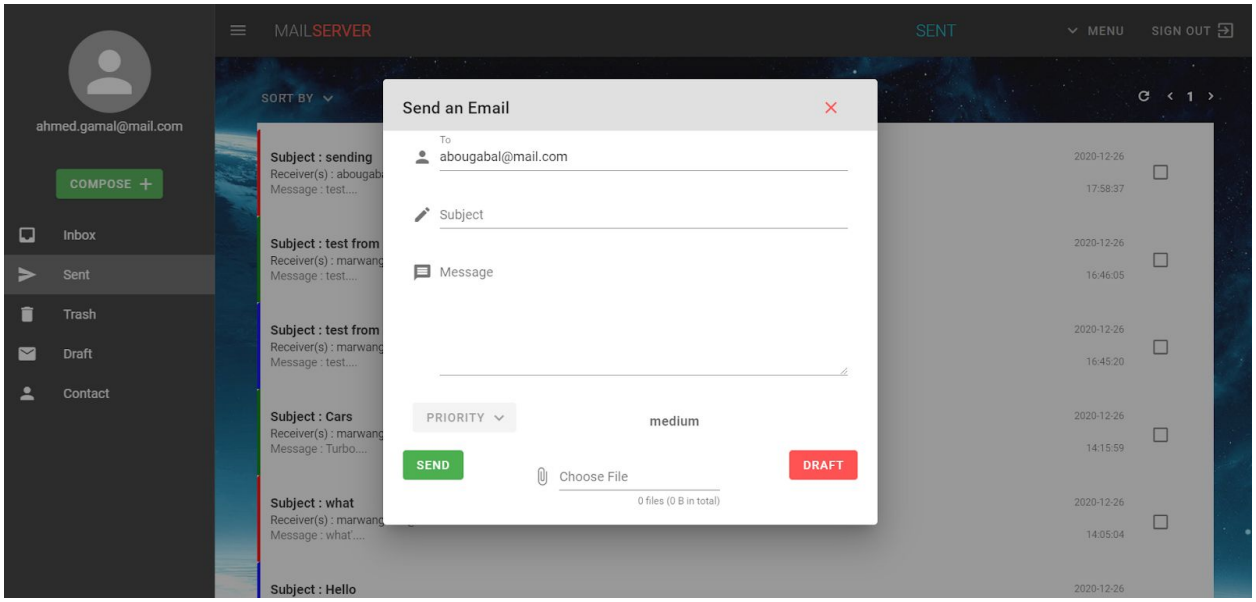
Sending an email :

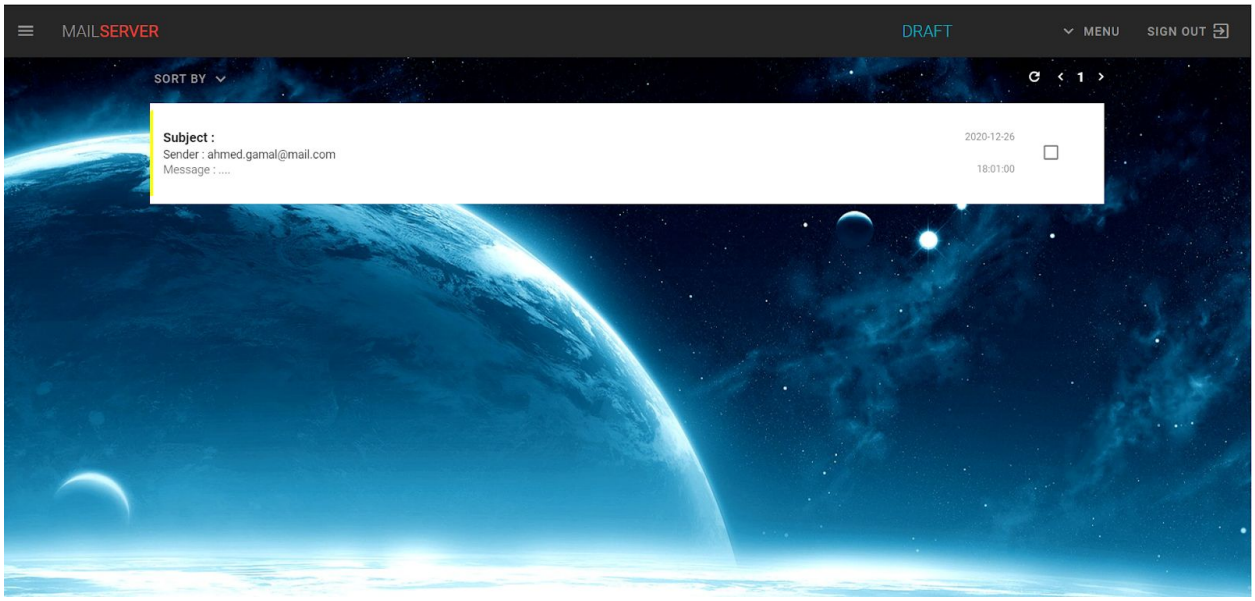


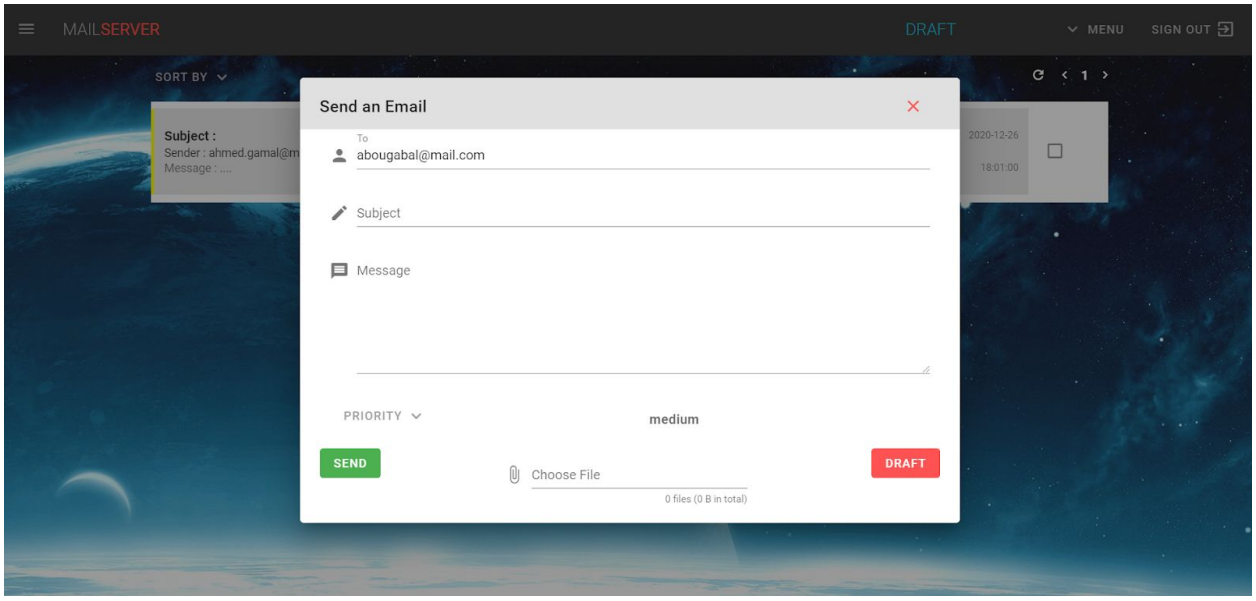




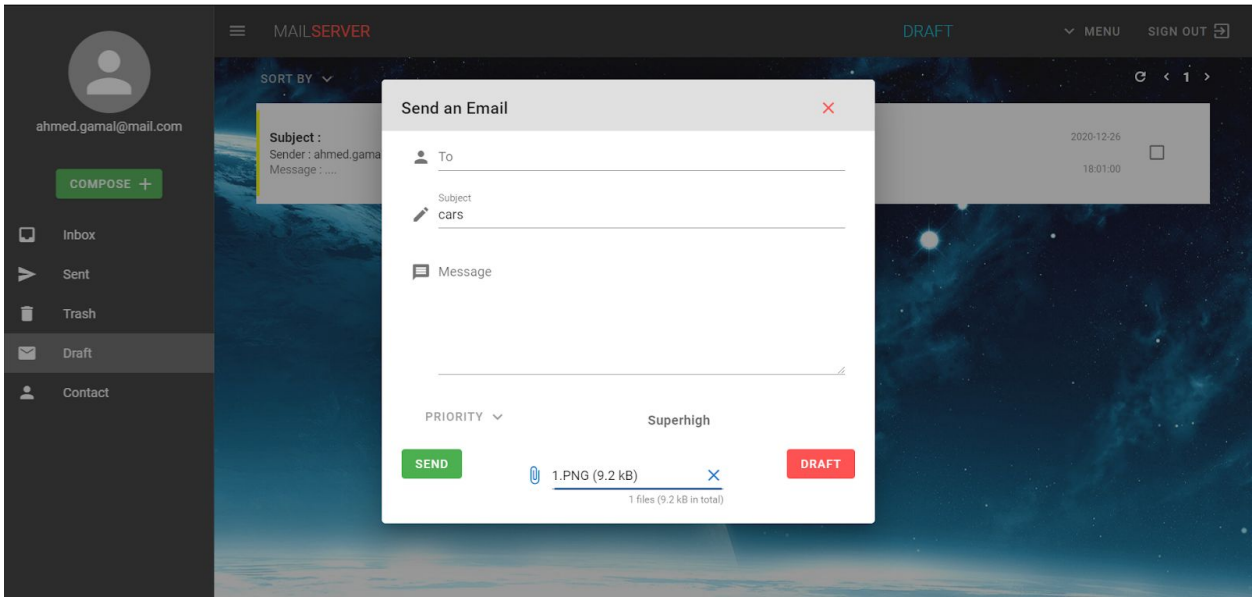
Draft without attachments:

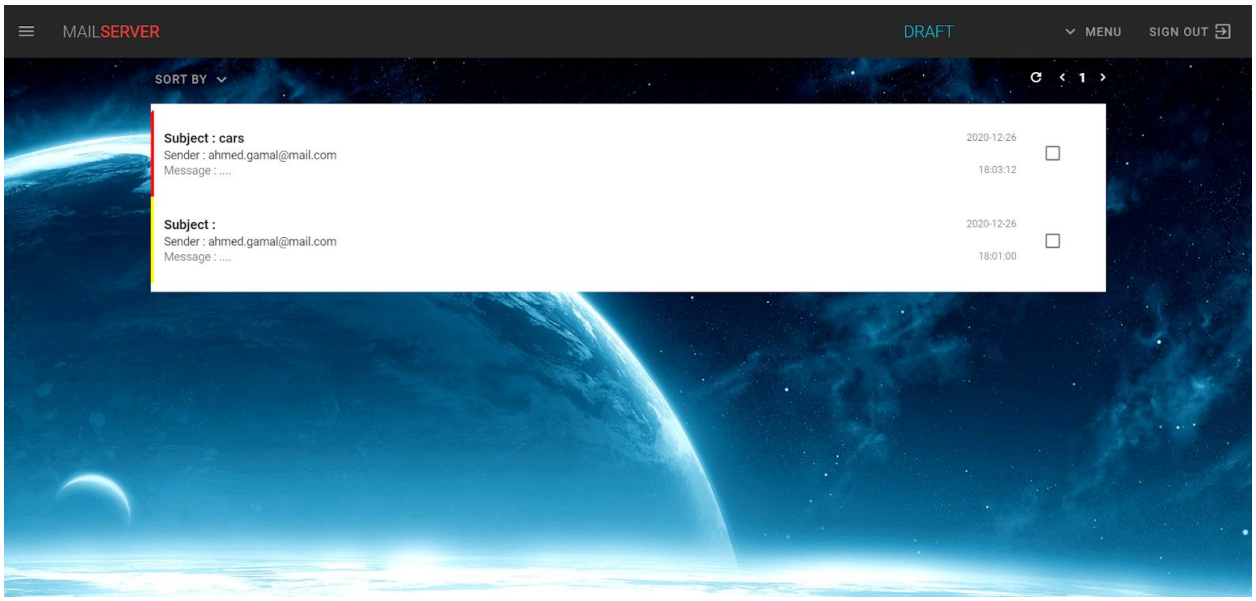


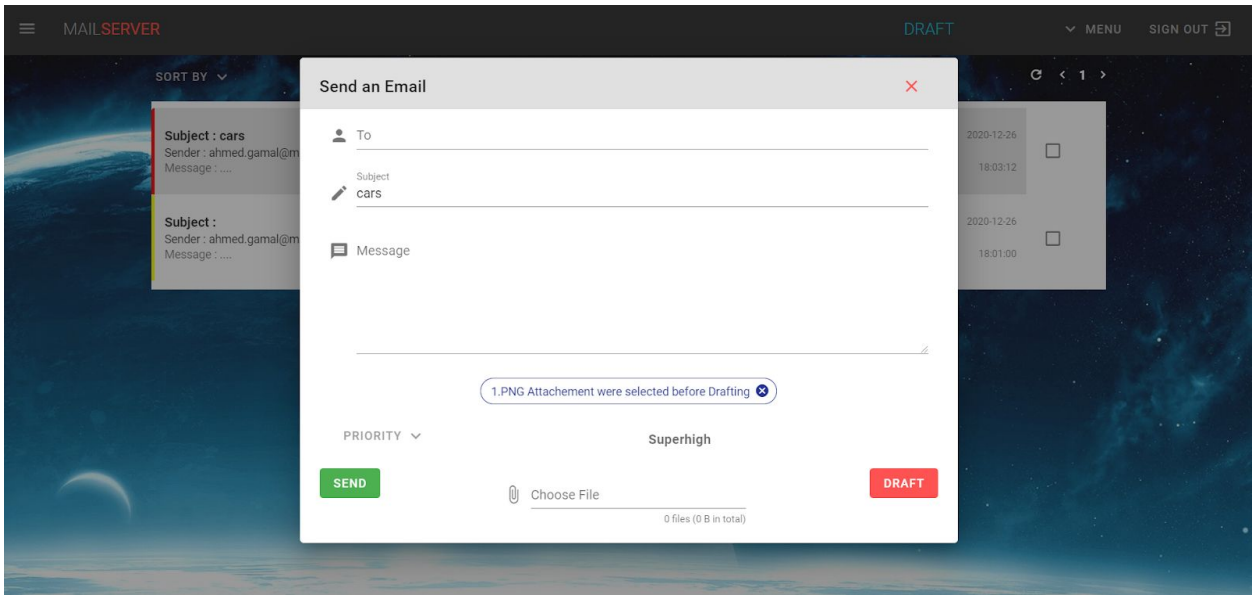

MAILSERVER
DRAFT
MENU
SIGN OUT
SORT BY
1
Subject :
Sender : ahmed.gamal@mail.com
Message : ....
2020-12-26
18:01:00


MAILSERVER
DRAFT
MENU
SIGN OUT
SORT BY
1
Send an Email
To
abougabal@mail.com
Subject
Message
PRIORITY
medium
SEND
Choose File
0 files (0 B in total)
DRAFT

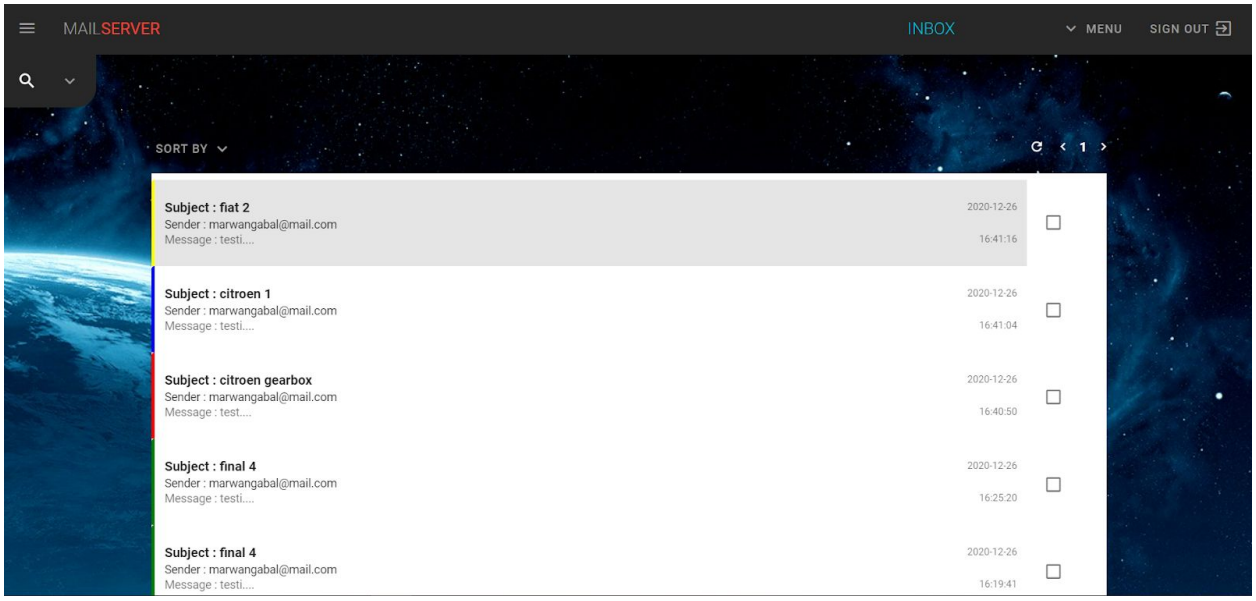
Draft with attachment:

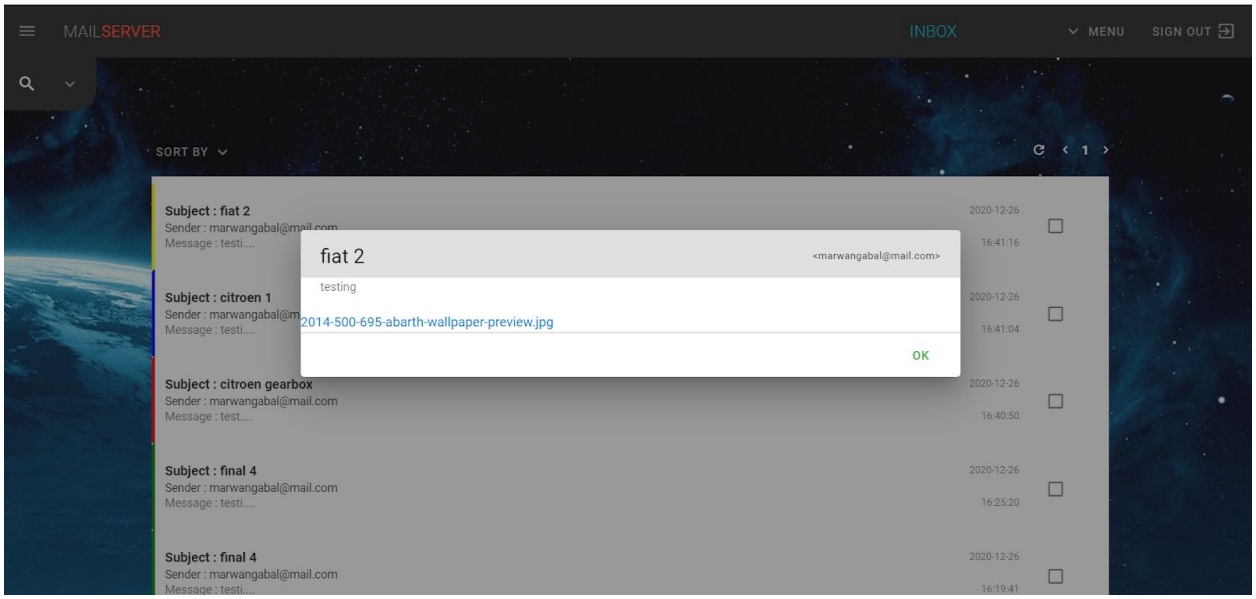




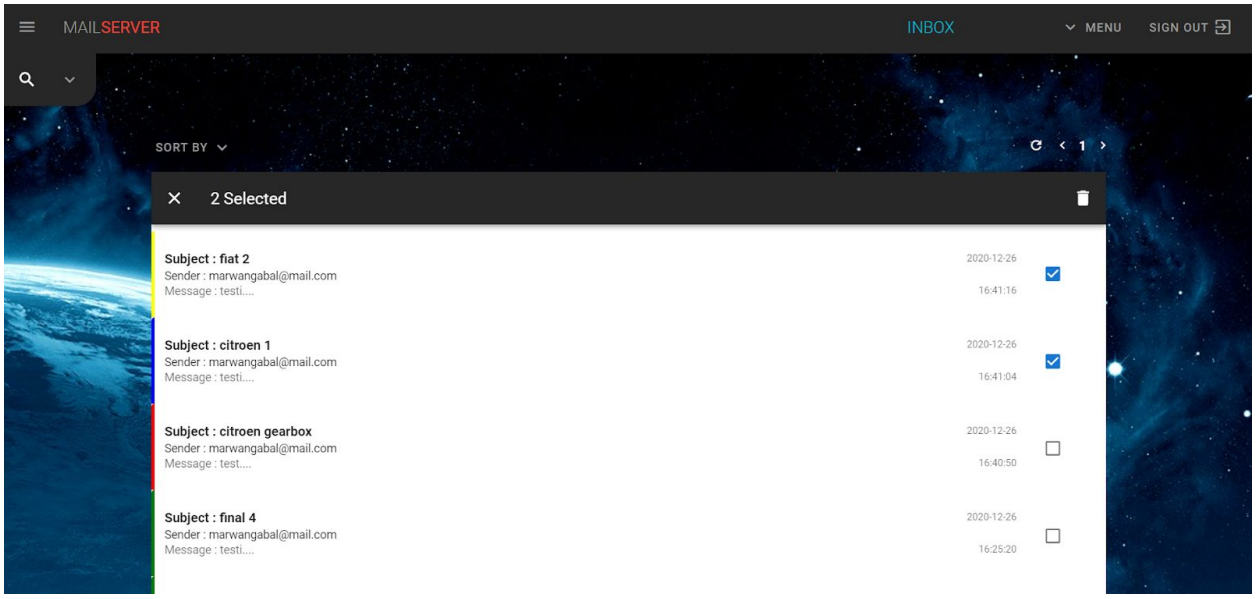

MAILSERVER
DRAFT
MENU
SIGN OUT
SORT BY
Send an Email
To
Subject
cars
Message
1.PNG Attachement were selected before Drafting
PRIORITY
Superhigh
SEND
Choose File
0 files (0 B in total)
DRAFT
Subject : cars
Sender : ahmed.gamal@m
Message : ....
Subject :
Sender : ahmed.gamal@m
Message : ....
2020-12-26
18:03:12
2020-12-26
18:01:00

Inbox :

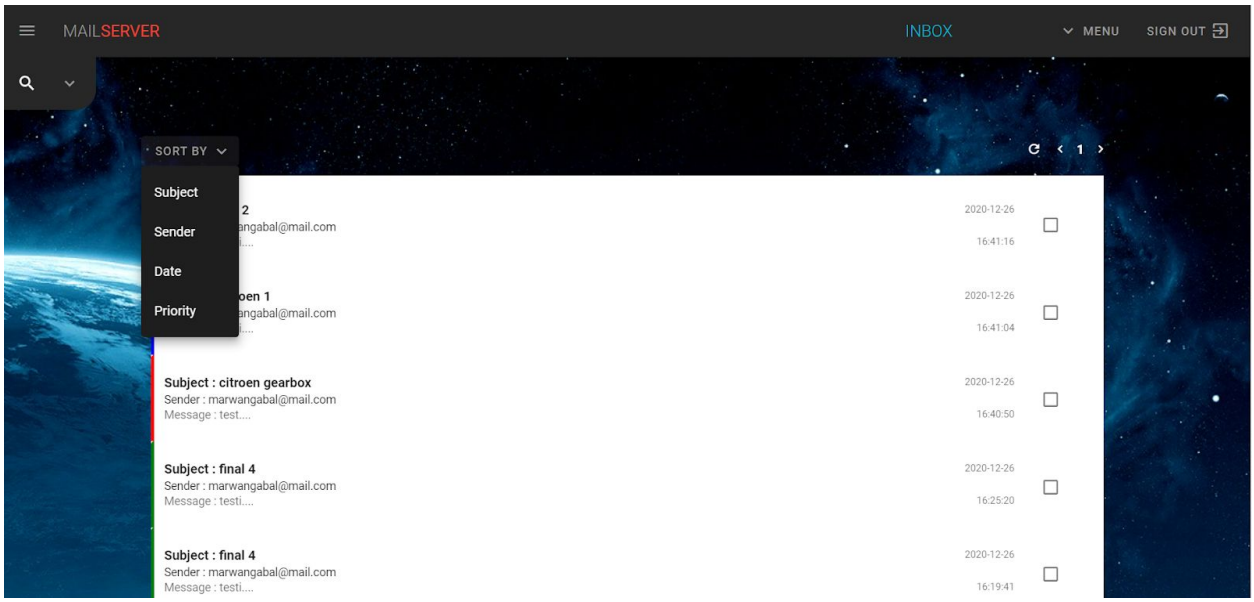

MAILSERVER
INBOX
MENU
SIGN OUT
SORT BY
Subject : fiat 2
Sender : marwangabal@mail.com
Message : testi....
2020-12-26
16:41:16
Subject : citroen 1
Sender : marwangabal@mail.com
Message : testi....
2020-12-26
16:41:04
Subject : citroen gearbox
Sender : marwangabal@mail.com
Message : test....
2020-12-26
16:40:50
Subject : final 4
Sender : marwangabal@mail.com
Message : testi....
2020-12-26
16:25:20
Subject : final 4
Sender : marwangabal@mail.com
Message : testi....
2020-12-26
16:19:41



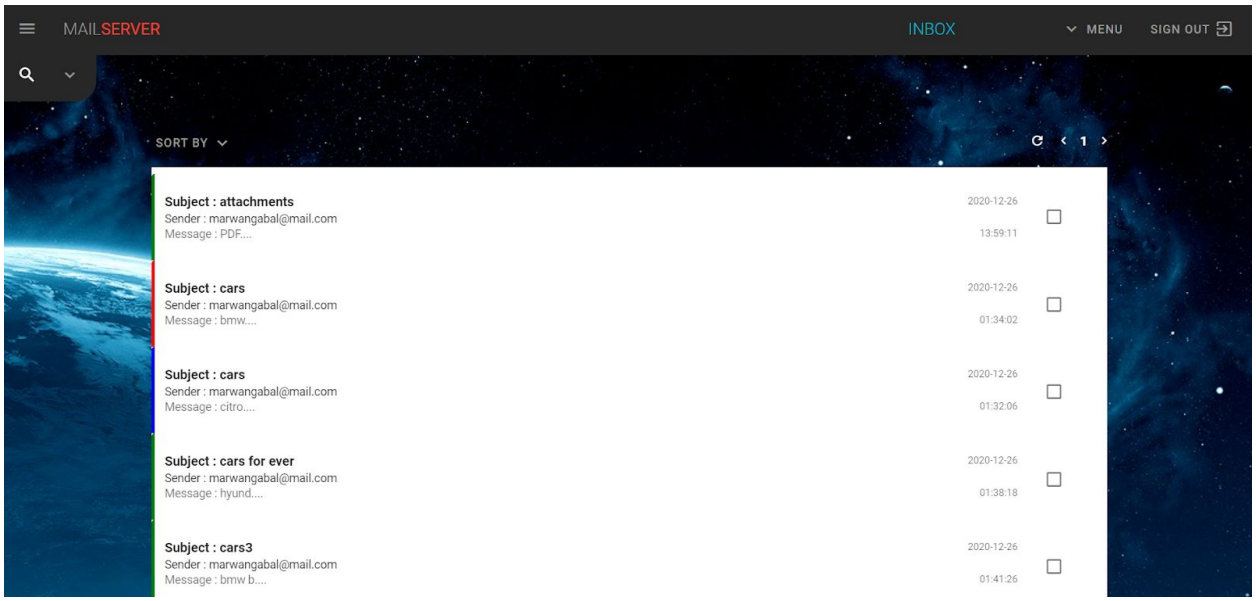
Delete from inbox:



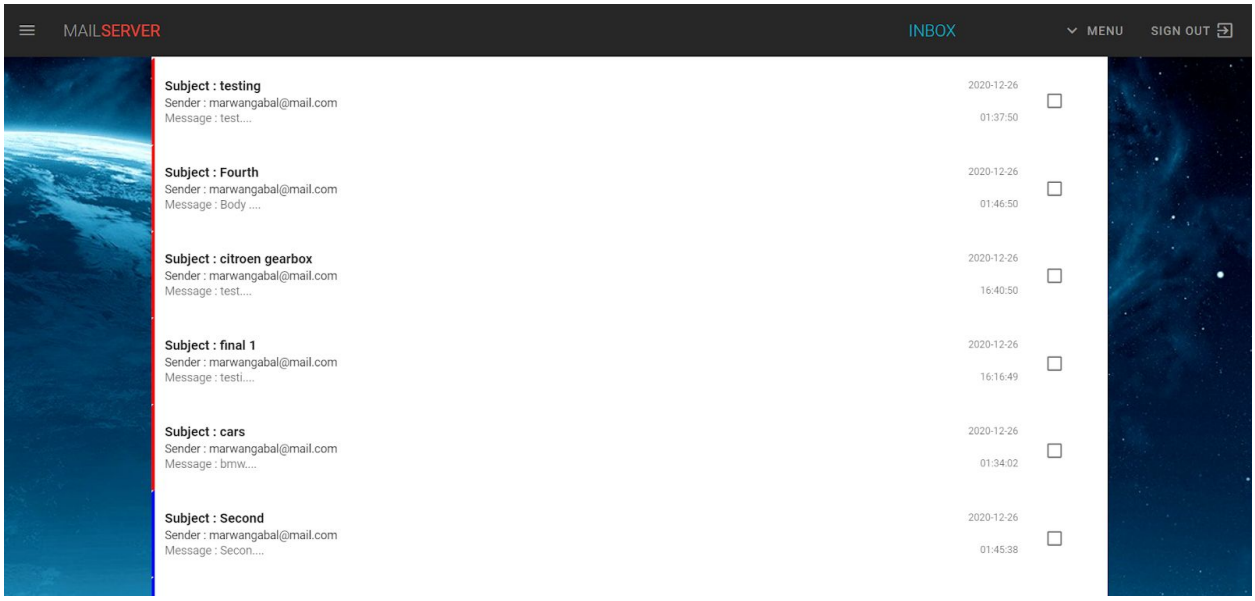
Sort in inbox:



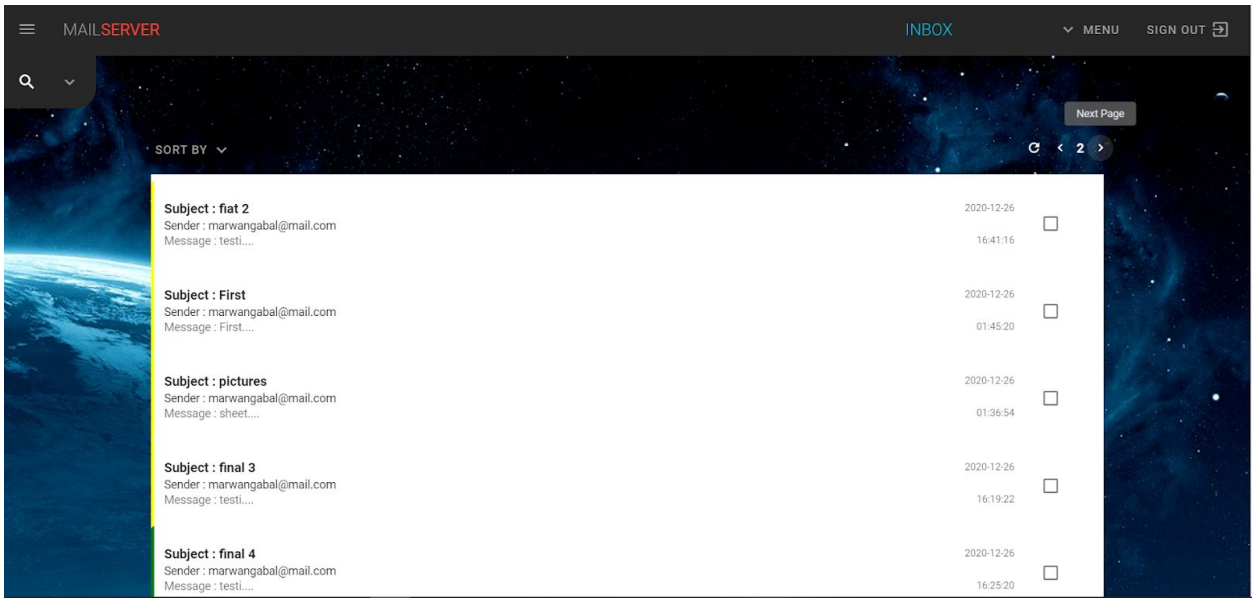
Sort Subject:

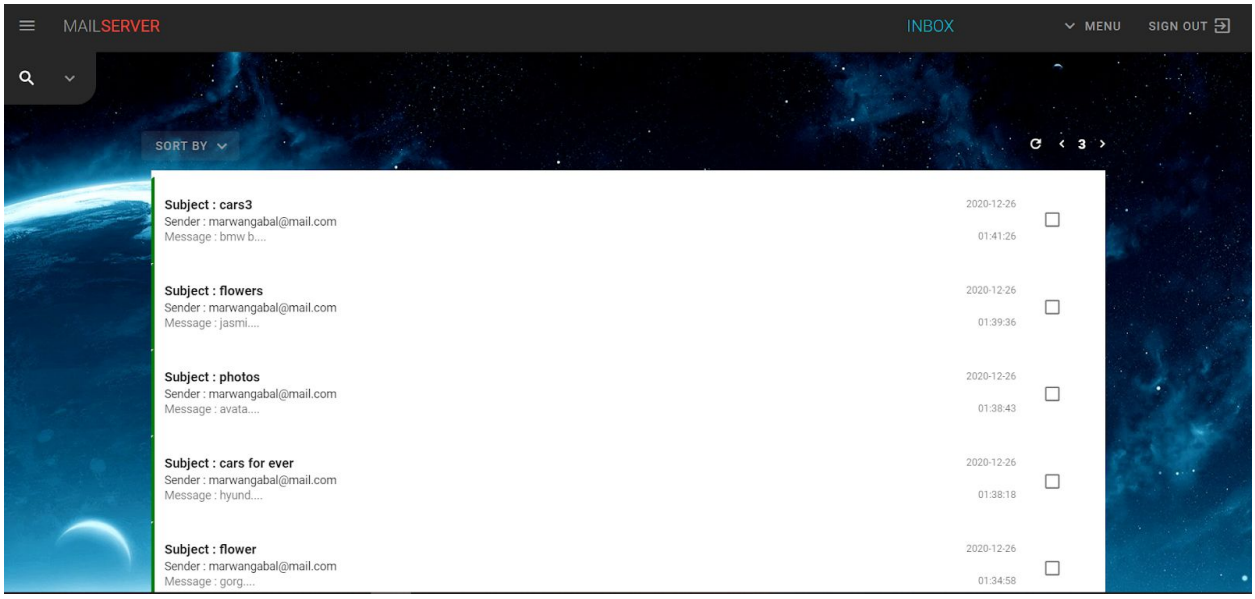


Sort priority:

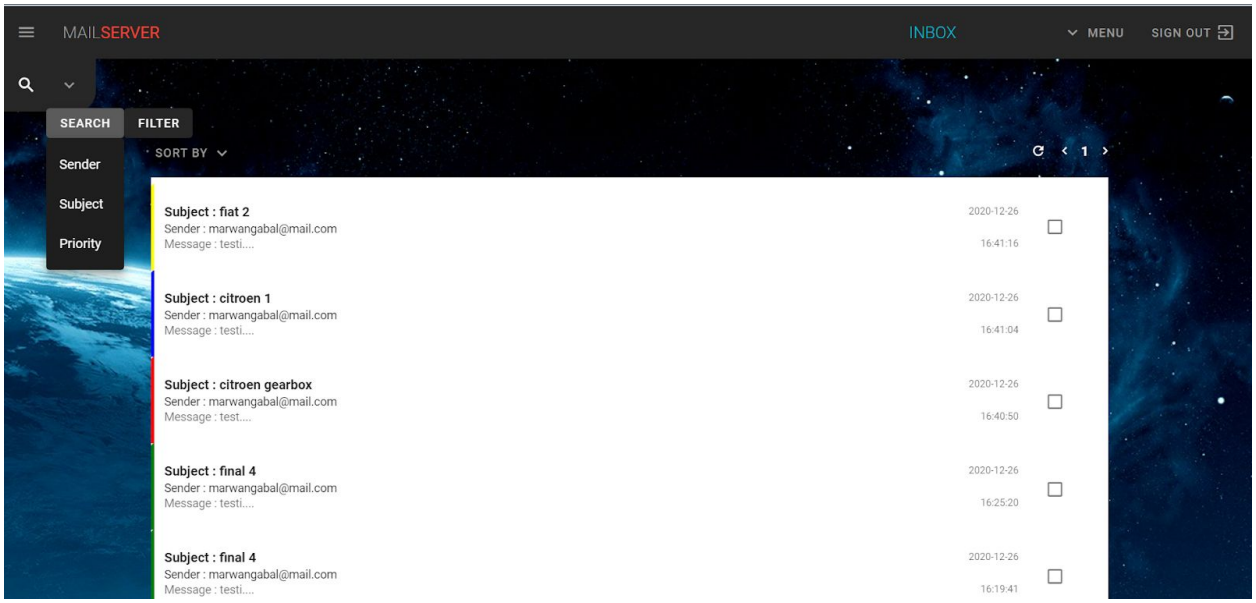


Paging after sort priority:

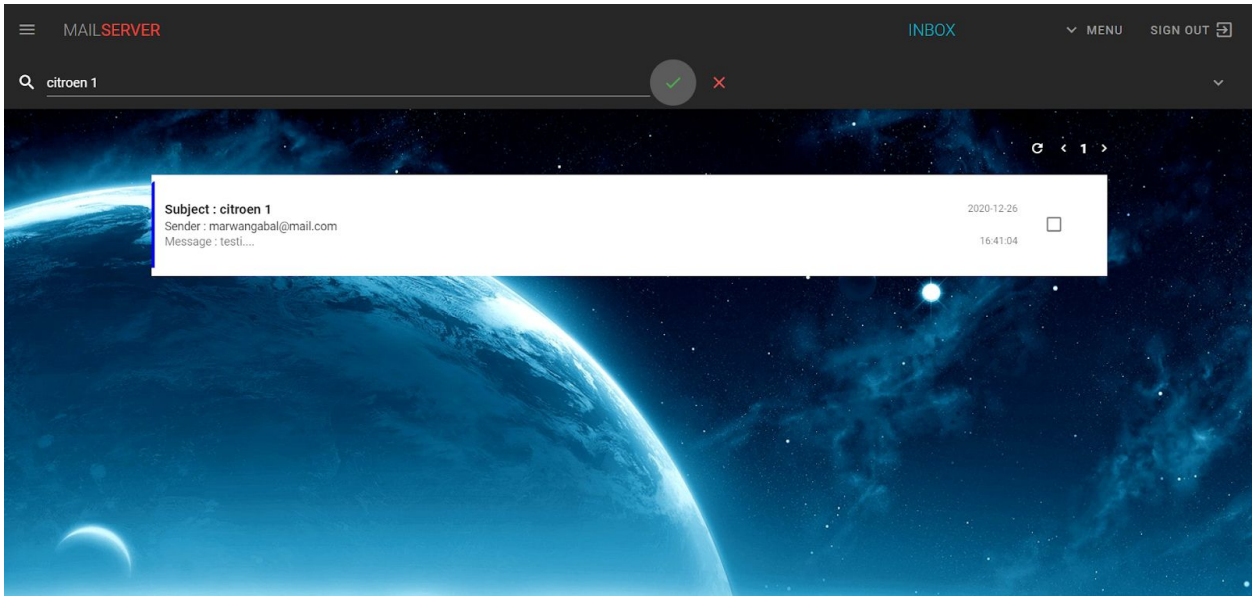




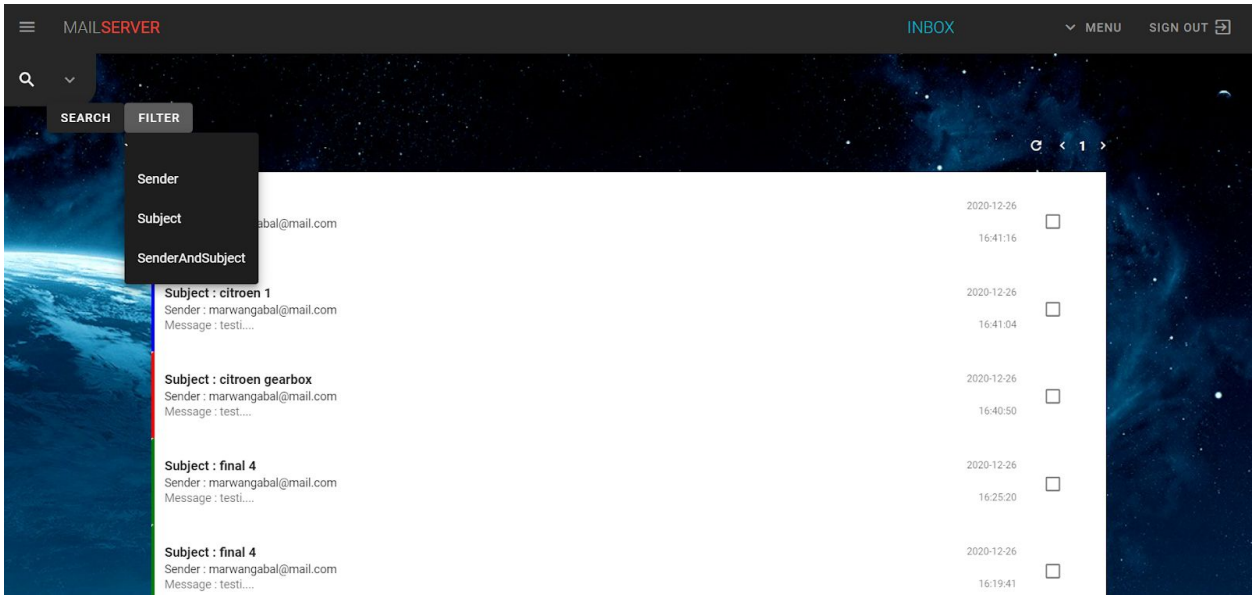
Search:



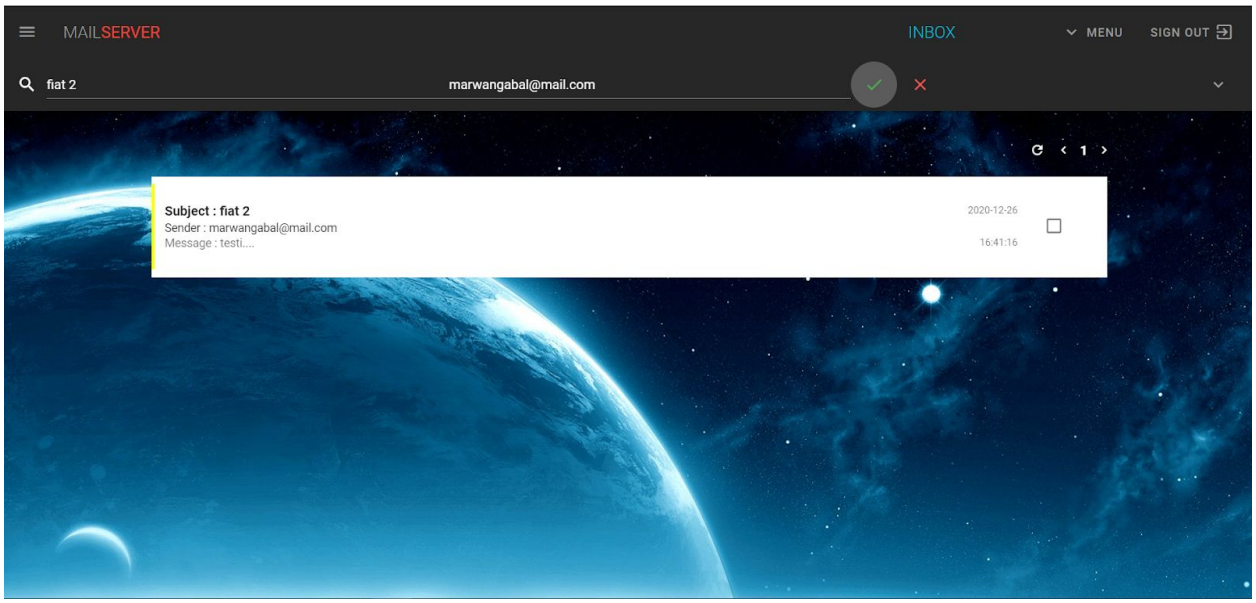
Search Subject :



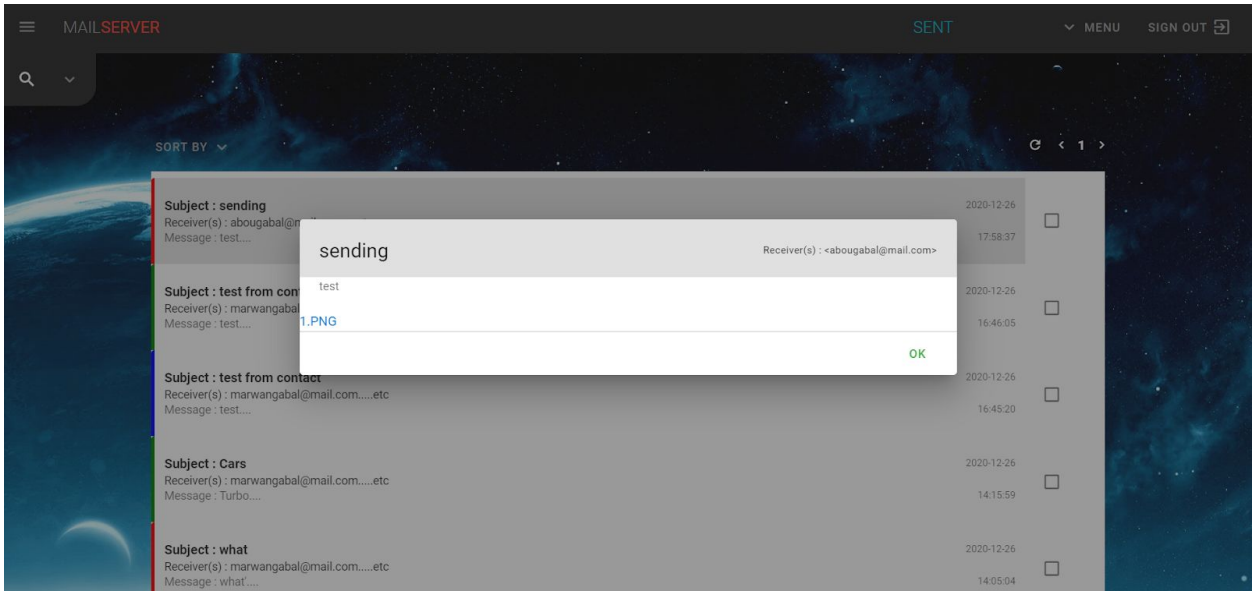
Filter:

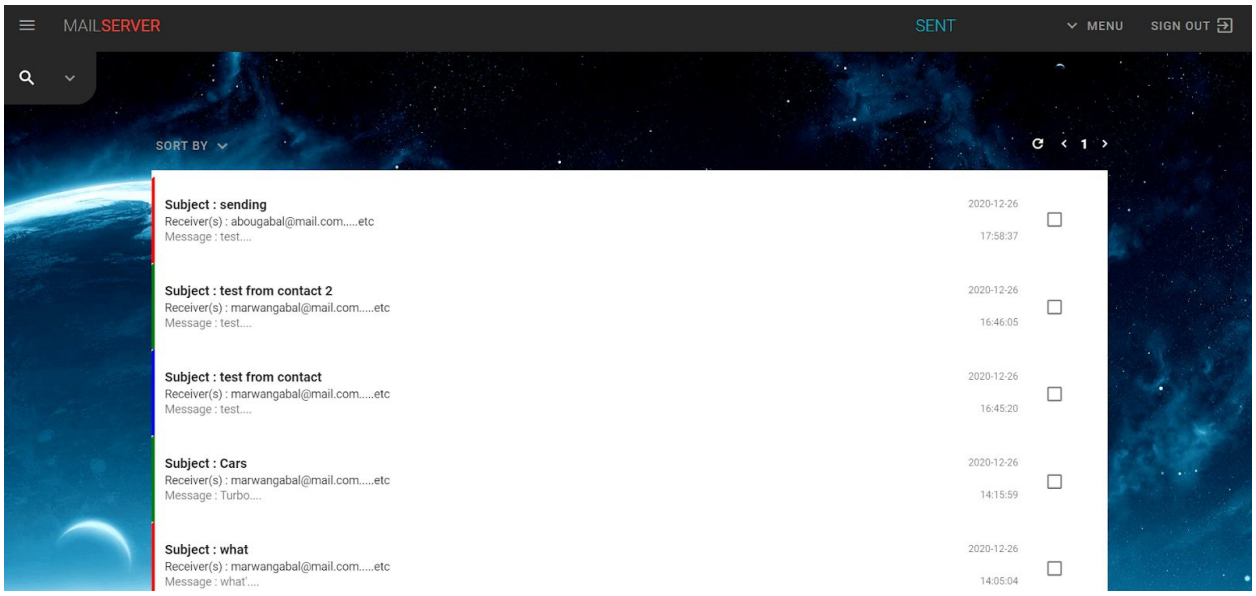


Filter SenderAndSubject:

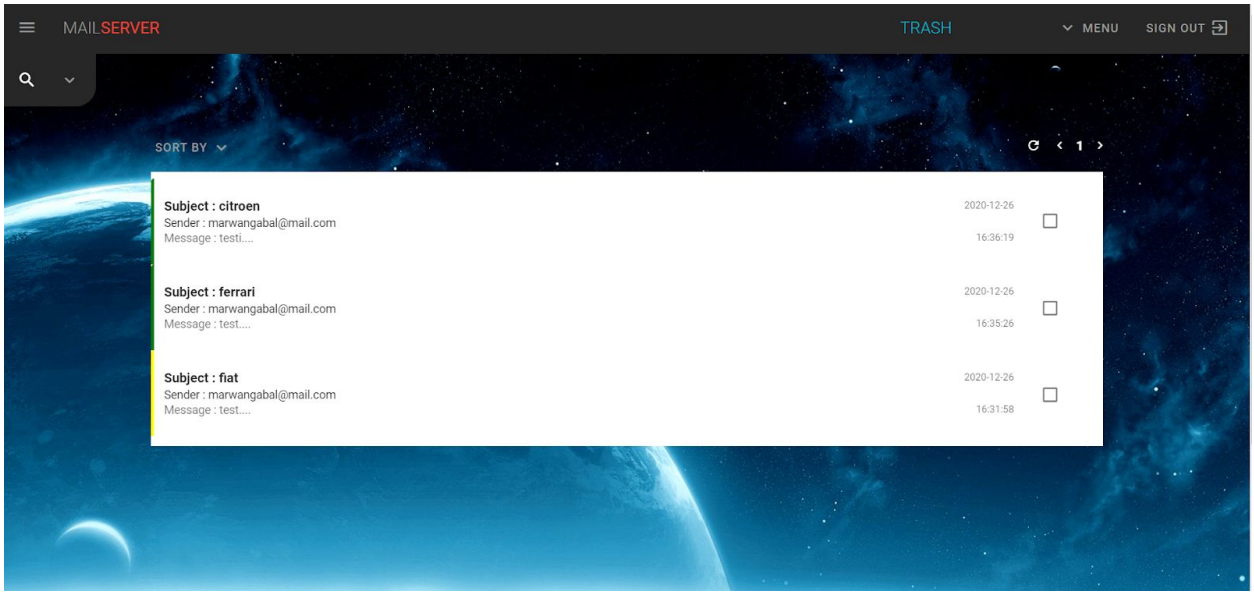


Sent:

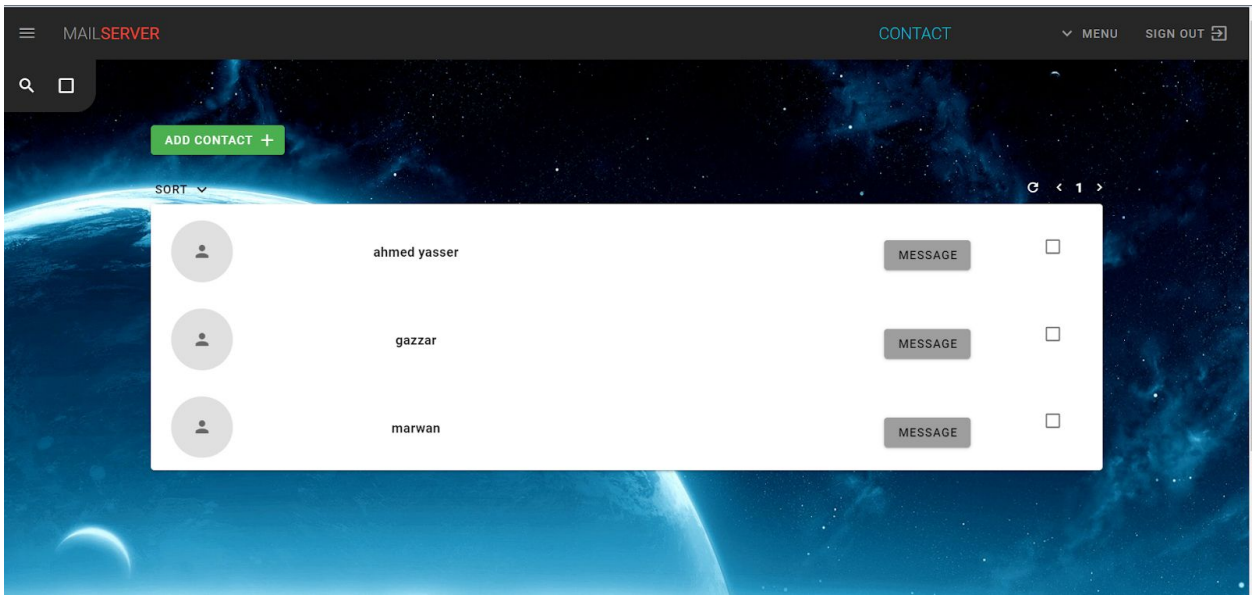

MAILSERVER
SENT
MENU
SIGN OUT
SORT BY
1
Subject : sending
Receiver(s) : abougabal@
Message : test....
2020-12-26
17:58:37
sending
Receiver(s) : <abougabal@mail.com>
test
1.PNG
OK
Subject : test from con
Receiver(s) : marwangaba
Message : test....
2020-12-26
16:46:05
Subject : test from contact
Receiver(s) : marwangabal@mail.com.....etc
Message : test....
2020-12-26
16:45:20
Subject : Cars
Receiver(s) : marwangabal@mail.com.....etc
Message : Turbo....
2020-12-26
14:15:59
Subject : what
Receiver(s) : marwangabal@mail.com.....etc
Message : what'....
2020-12-26
14:05:04


MAILSERVER
SENT
MENU
SIGN OUT
SORT BY
1
Subject : sending
Receiver(s) : abougabal@mail.com.....etc
Message : test....
2020-12-26
17:58:37
Subject : test from contact 2
Receiver(s) : marwangabal@mail.com.....etc
Message : test....
2020-12-26
16:46:05
Subject : test from contact
Receiver(s) : marwangabal@mail.com.....etc
Message : test....
2020-12-26
16:45:20
Subject : Cars
Receiver(s) : marwangabal@mail.com.....etc
Message : Turbo....
2020-12-26
14:15:59
Subject : what
Receiver(s) : marwangabal@mail.com.....etc
Message : what'....
2020-12-26
14:05:04

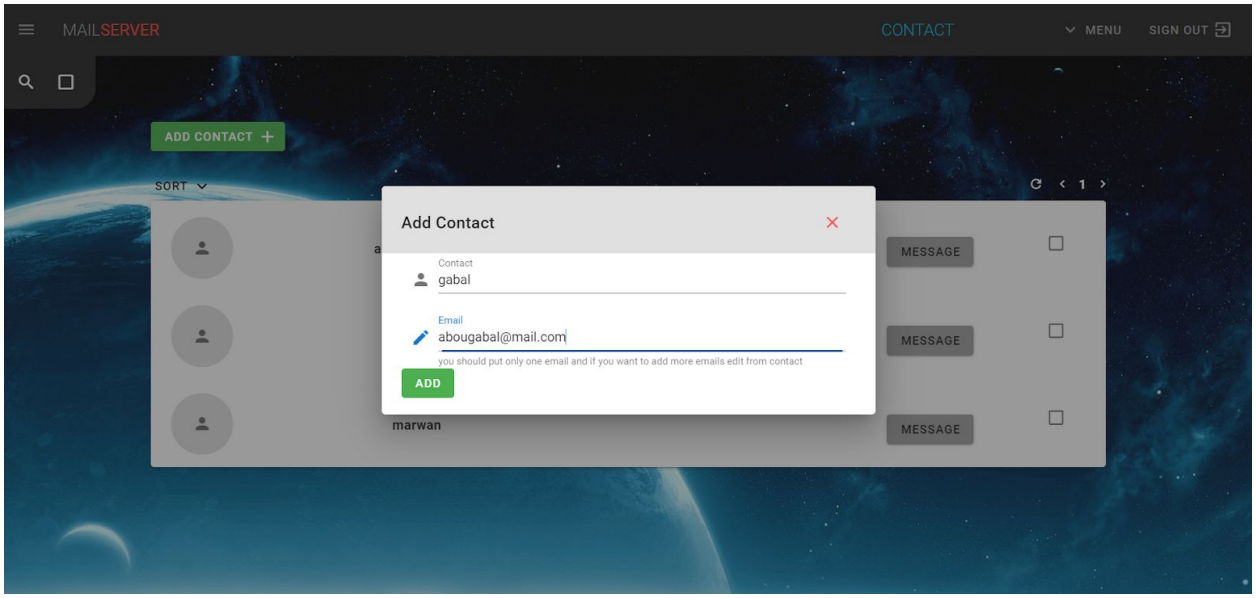
Trash:

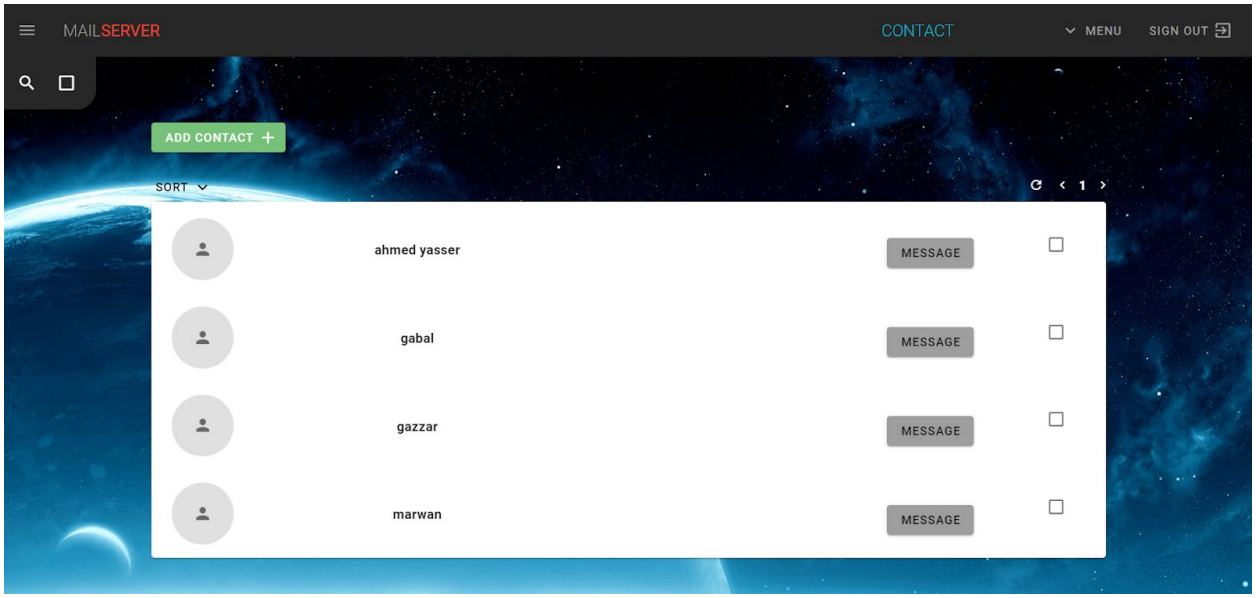


Contact:

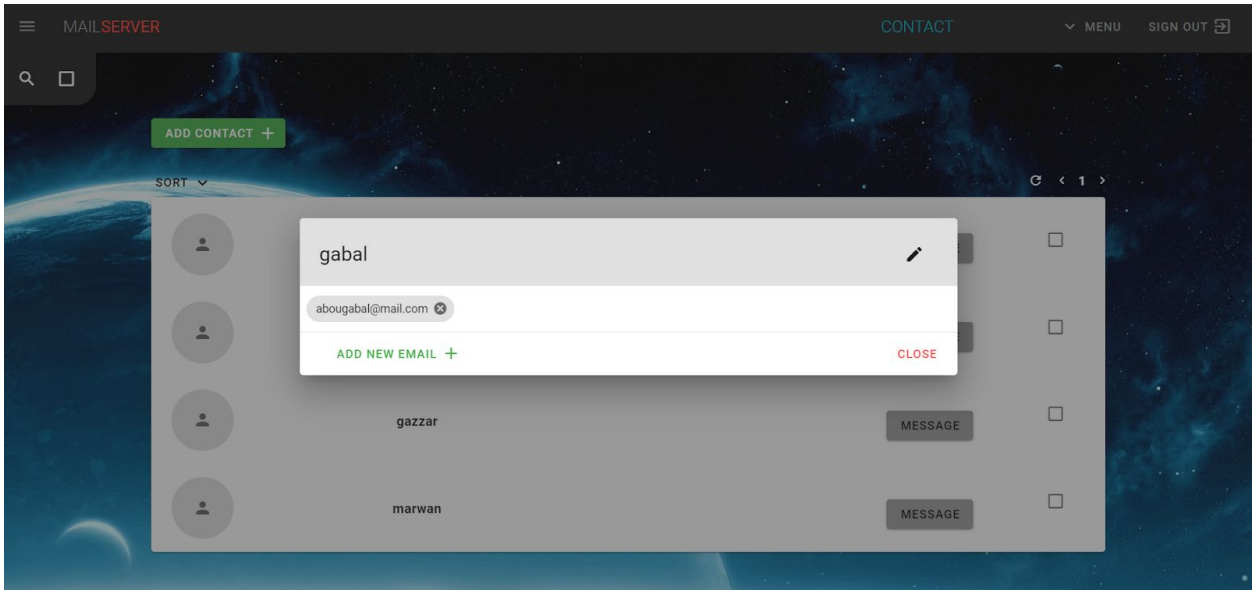


Add contact:

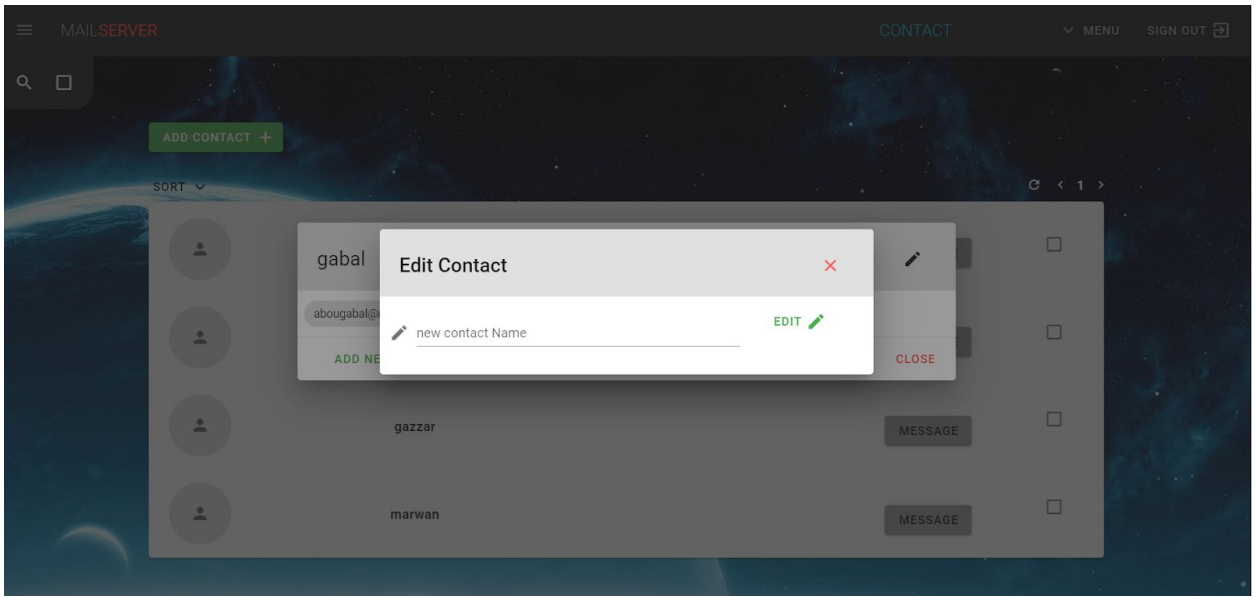

MAILSERVER
CONTACT
MENU
SIGN OUT
ADD CONTACT
SORT
1
Add Contact
Contact
gabal
Email
abougabal@mail.com
you should put only one email and if you want to add more emails edit from contact
ADD
marwan
MESSAGE
MESSAGE
MESSAGE


MAILSERVER
CONTACT
MENU
SIGN OUT
ADD CONTACT
SORT
1
ahmed yasser
gabal
gazzar
marwan
MESSAGE
MESSAGE
MESSAGE
MESSAGE

Contact view:



Edit:



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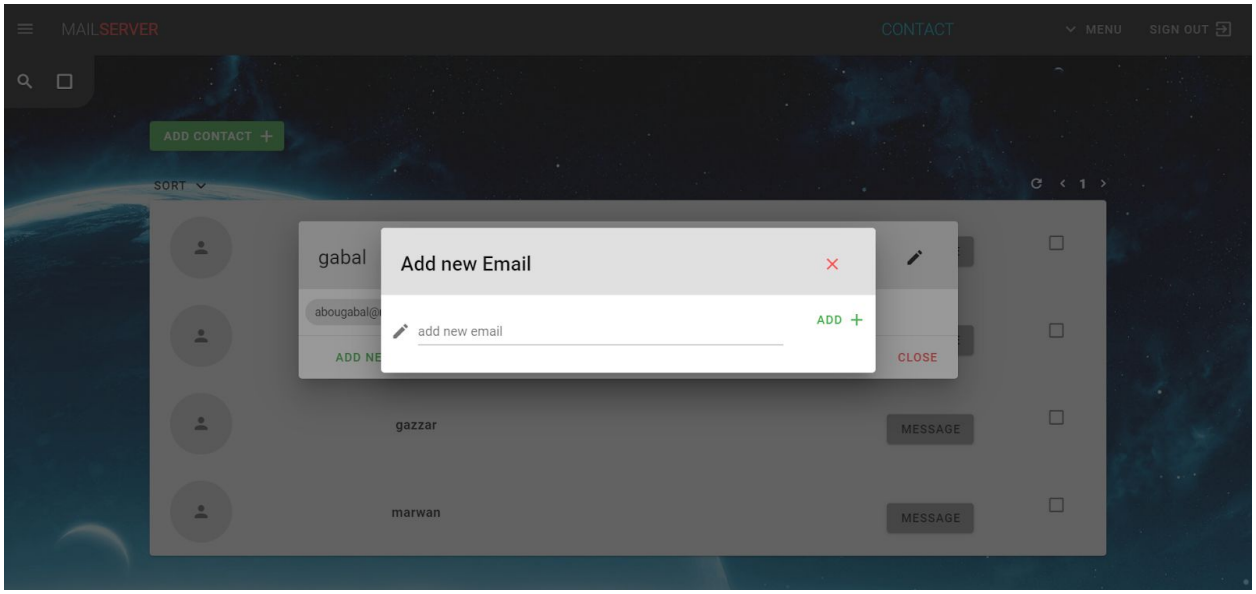

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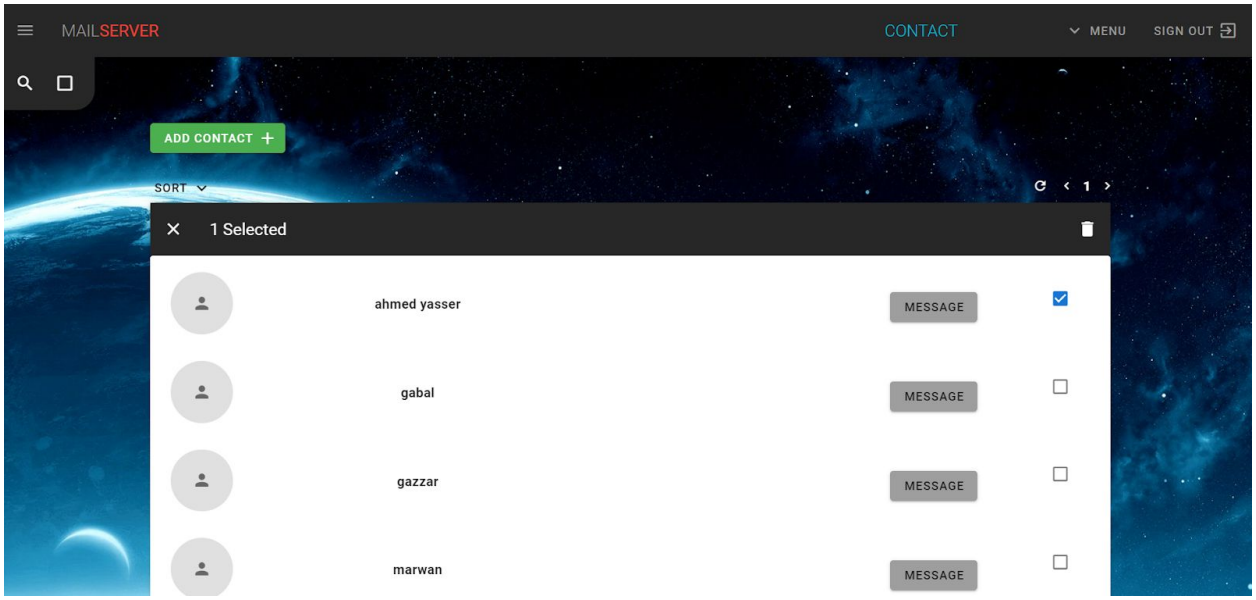

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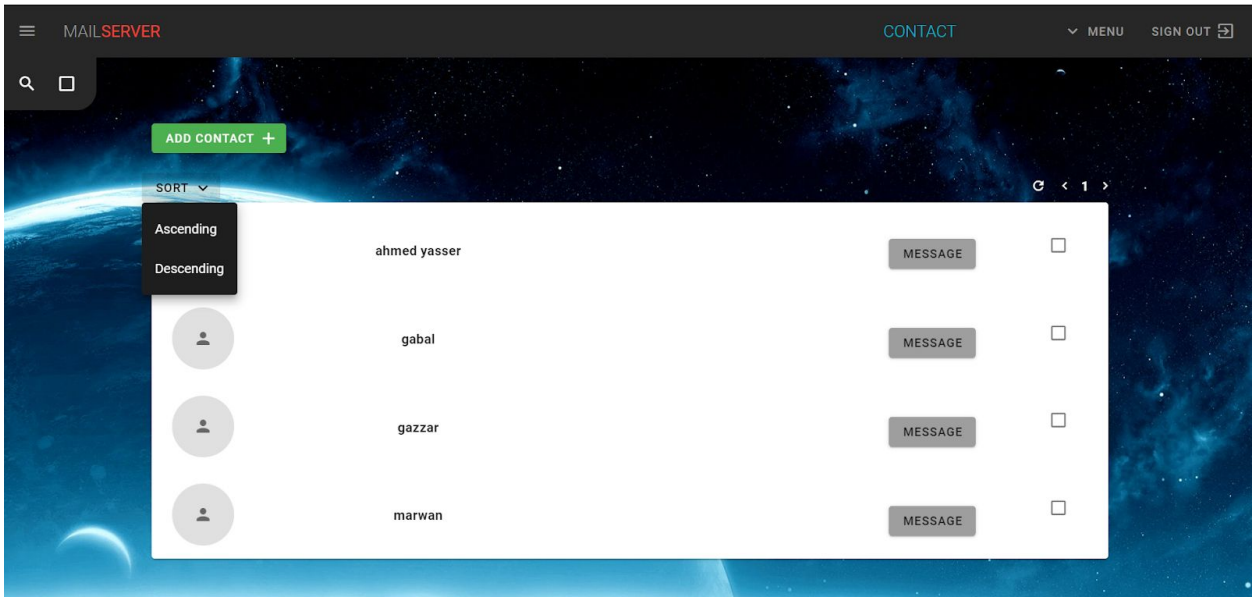

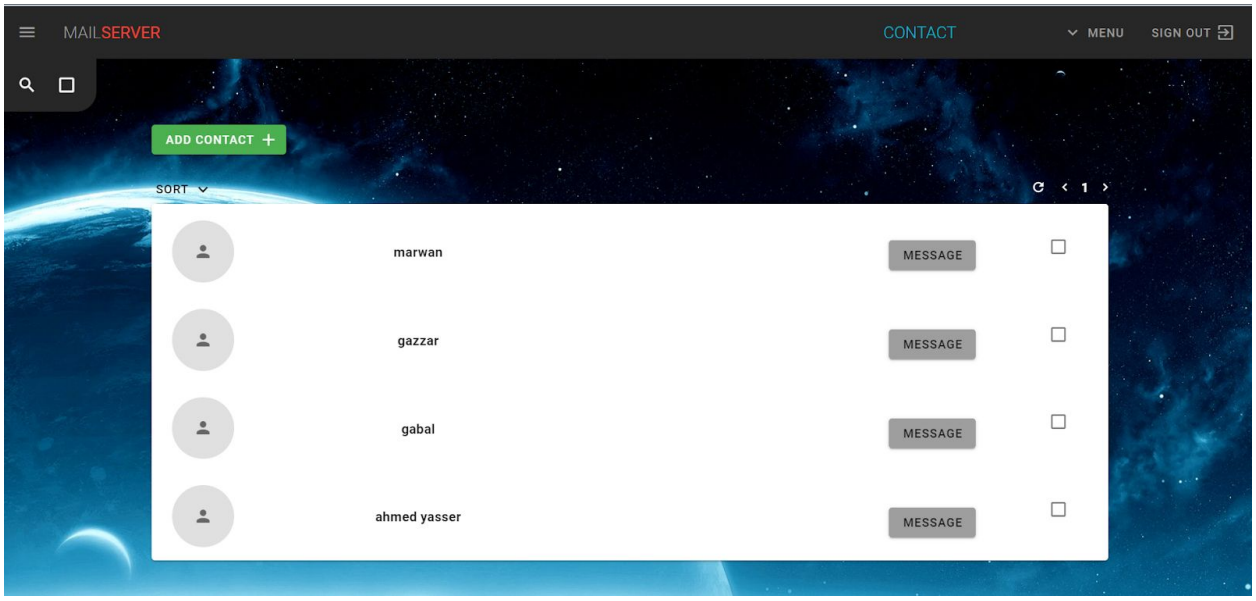

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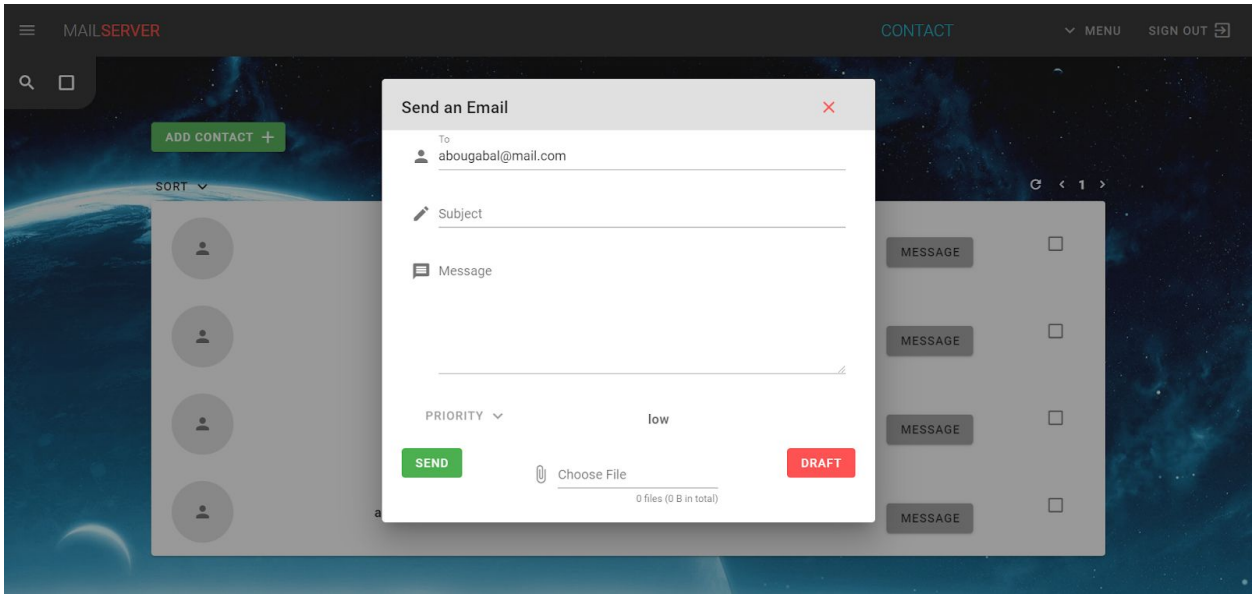
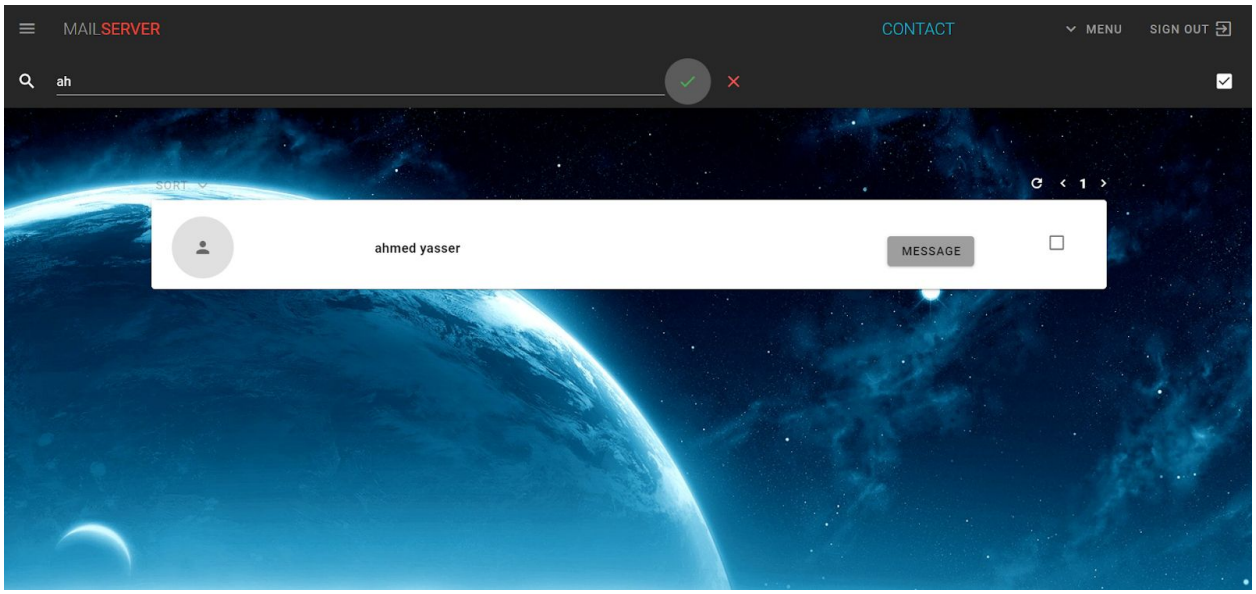
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