

Assignment 4 – Mail Client



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How to run our code :

Open the command prompt or inside a vs-code terminal write vue.ui.

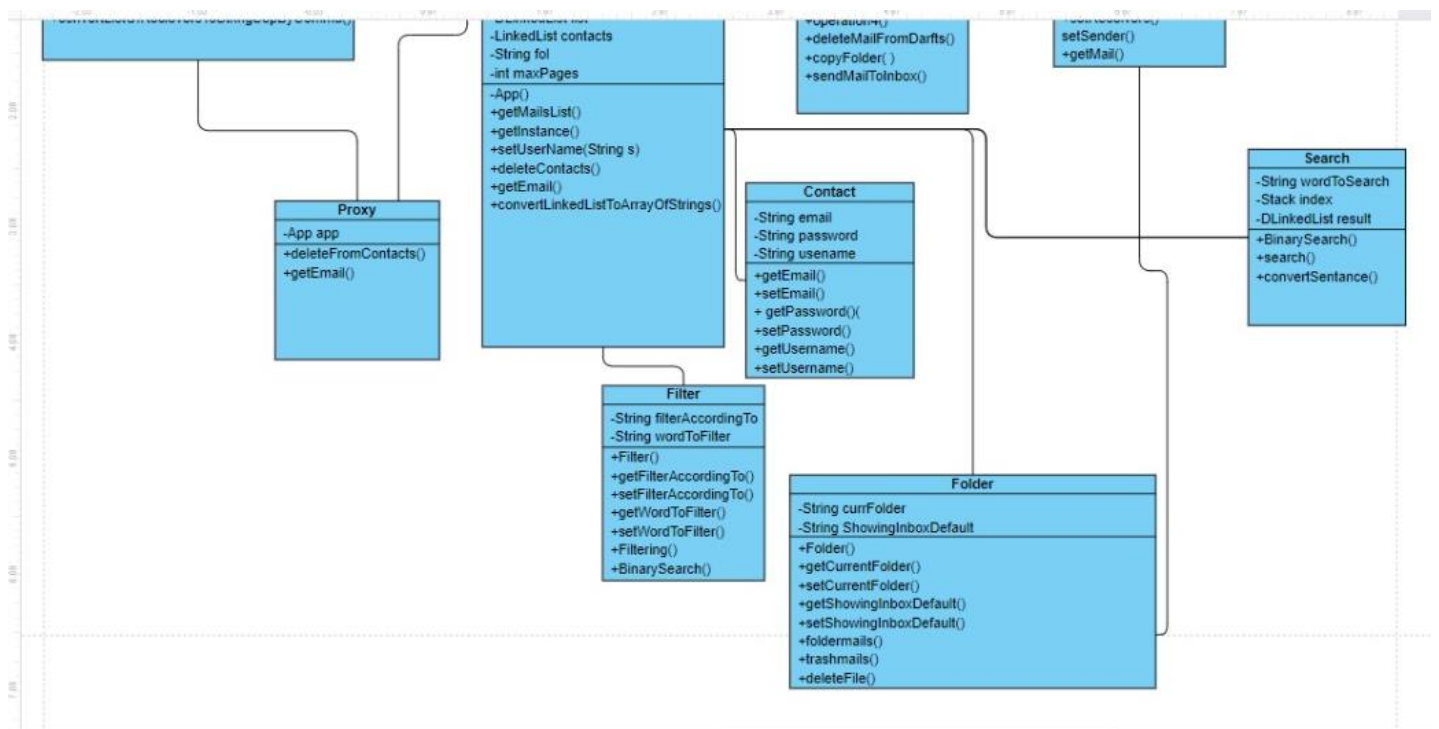
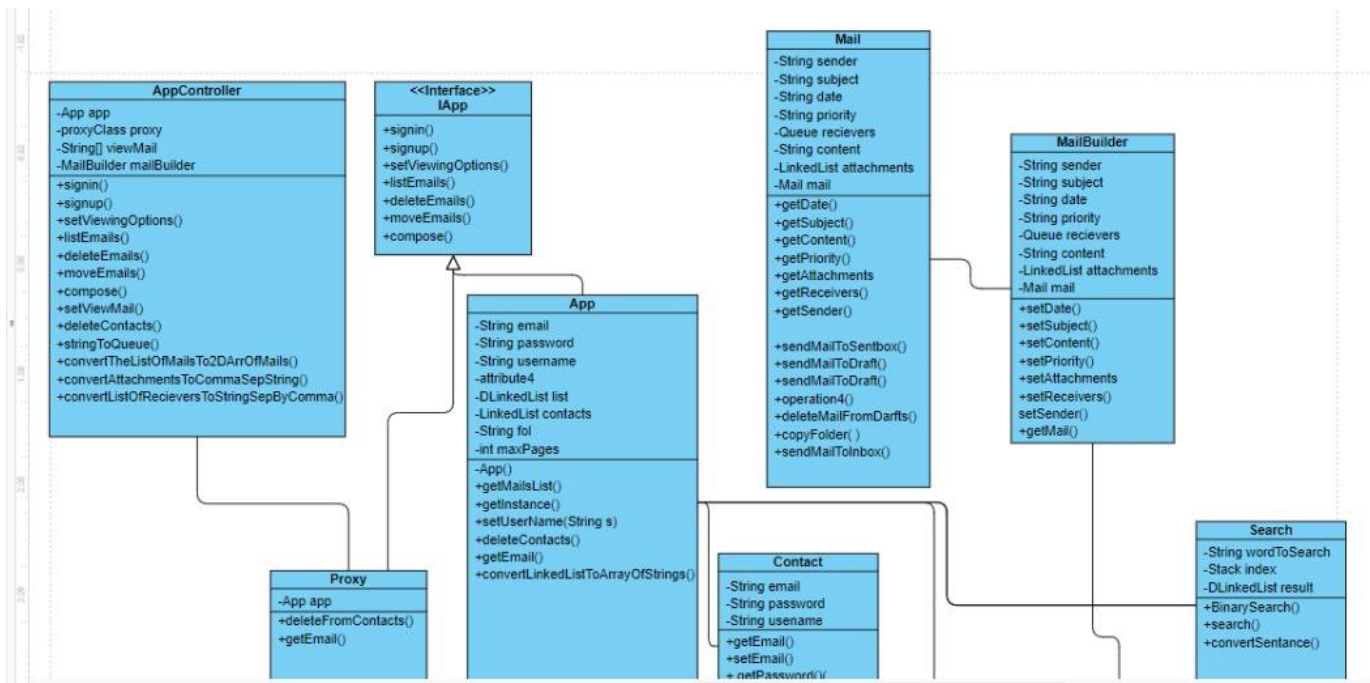
If you opened the command don't close it , this will take you to the browser where you

have to import the vue folder of our project then turn in the serve from the icon run task ,

then you have to run the spring boot with the port written In the properties file inside it ,

don't close it will running the app, go to the vs-code and start running the project .

UML Diagram:



Design patterns applied in the code :

1-Builder design pattern: we have made class mail builder to create instance of the class mail so this means we don't have any setters in the mail we have only getters in mail and we can't say `Mail m=new Mail()` we can't create instance of mail but the class mail builder has the same attributes of class Mail ,it contains setters for this attributes and finally it has method `getMail()` to get mail instance .

2-Proxy design pattern : we have made proxy class which is responsible for applying services in class app both of them implement the same interface `IApp` but we don't deal with the app class we deal with proxy and in the proxy class if there are validations it checks them before calling the service from class app for example in sign in in the proxy it checks that the email and password are true and the email is already in the file `emails.json` which contains all the emails for the users who signed up after this check if the email,password are true so it calls `app.sign up()` so it only provide the app service if the validation is true.

3-Fascade design pattern: we have made class app controller which deals with the front end it takes strings from front end and uses them to create whole object for example the method `sign up` it takes. email,user name,password and creates whole object of `Contact` class from email,password,username then it calls the proxy to check validtions so that if valid ->sign up is successfully made.

4-Singleton design pattern : we have made the app class singleton so that it has only one instance as we don't need this app class to have more than an instance we want all the other calls to deal with this single instance deal with its attributes .for example any instance from proxy should deal with this single instance of app in the method `setViewOptions` in proxy this method will load the mails from required folder then the method `ListEmails(int page)` will take the page number then return a part of this list to be shown in the page so if in every method we create new instance of app we will not be able to reach the list to take part of it . and also the only class which deals with app is the proxy class .

5-Cache Management : *we applied this in the trash the max number of days for mails to remain in the trash is 30 days after that the mails are deleted automatically .*

Assumptions and design decision:

1-in the sign up the user couldn't have an email includes \ : * ? " < > |

2-the design of the json schema:

There is only one folder named as accounts.

- **Inside it each user have signed up has folder named with his email**
- **And file includes all the users data (name ,email,password)**

Inside each user folder there are:

- **4 folders (Drafts,Inbox,sent,Trash)**
- **And file includes the user contacts**

Inside each folder of these four there are:

- **Folder for each mail**
- **Index file that contains some data of each mail (sender,priority,subject ,date)**

Inside each mail folder there are:

- **Folder for attachments of this mail**
- **Message file that contains all the rest data of the mail (content , recievers)**

Inside the attachments folder there is:

- **List file that contains the attachments list**

3-in the profile page:

The moves:

- **You can only move multiple mails from sent box to draft .and an error message appear if you tried to do something else .**
- **You can send mail which was written as drafts and an error message appear if you tried to do something else such as sending more than one mail at the same time .**
- **You can delete from any folder except the trash**

Sort \$ filter \$ search:

- *When the icon sort clicked the user will be able to choose sort according to what*
- *When the icon filter clicked the user will be able to choose filter according to what and then he should enter a word to filter about it and then press the key board enter to apply that filter to the current folder mails*
- *When the user write any word at the search field then the key board enter to apply it then it will show the mails that contains this word*
- *When the user click the icon index to open the index box then an box will appear to ask the user what is the default way to show his mails if he chose default it will be dataDes (from the most recent) if he chose priority it will be according to each mail priority*

Paging:

- *The application uses a paging systems of 10 mails per page*
- *If the user where on page 2 in inbox and clicked on sent box icon it will show page 1 in sent box*
- *If the user clicked next page and there aren't any other pages it will show an error message that there isn't any other mails to show*
- *If the user where on page 1 and clicked previous icon it will never do any thing*

The compose icon:

- *If the user clicked it ,it will take him to a new tab to fill the required fields*
- *The from field will be filled automatically and the user doesn't have an option to manually fill it*
- *If the user didn't enter at least one receiver or fake receiver that doesn't have an account or didn't enter the subject or priority or content an error message will appear*
- *If the user repeated a receiver we will delete it and not sent it two times*
- *If the sender account doesn't have these receivers of the composed mail they will be added to his contacts automatically.*
- *It the user double clicked on any entered receiver or attachment it will delete it*

- *If the user clicked the open button next to the attachments menu and select one of them it will open this attachment and if the provided path doesn't contain any file it will make an error message*
- *The mail composed has to procedural one to be saved to draft and the other to be sent to the entered receivers.*

The view mail tab:

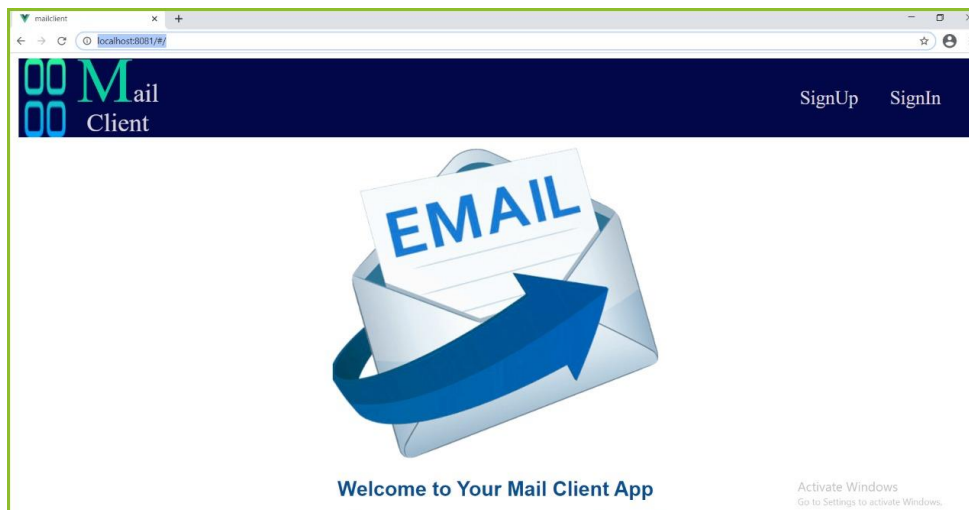
- *If the user double clicked on any mail it will be opened in a new tab*
- *On click at any attachment it will open it and if the provided path doesn't contain any file it will make an error message*

The contacts:

- *If the user clicked on the icon contacts in the profile menu it will take him to a new tab*
- *It shows the contact that added automatically to him when the user click on show contacts icon.*
- *If the user clicked on the add contact it then will enable him to add a new contact manually to his contacts*
- *The user can delete only one contact per time and if he choose multiple contacts it will only delete the first selected one*
- *The user can search his contacts also he can sort them by the email*

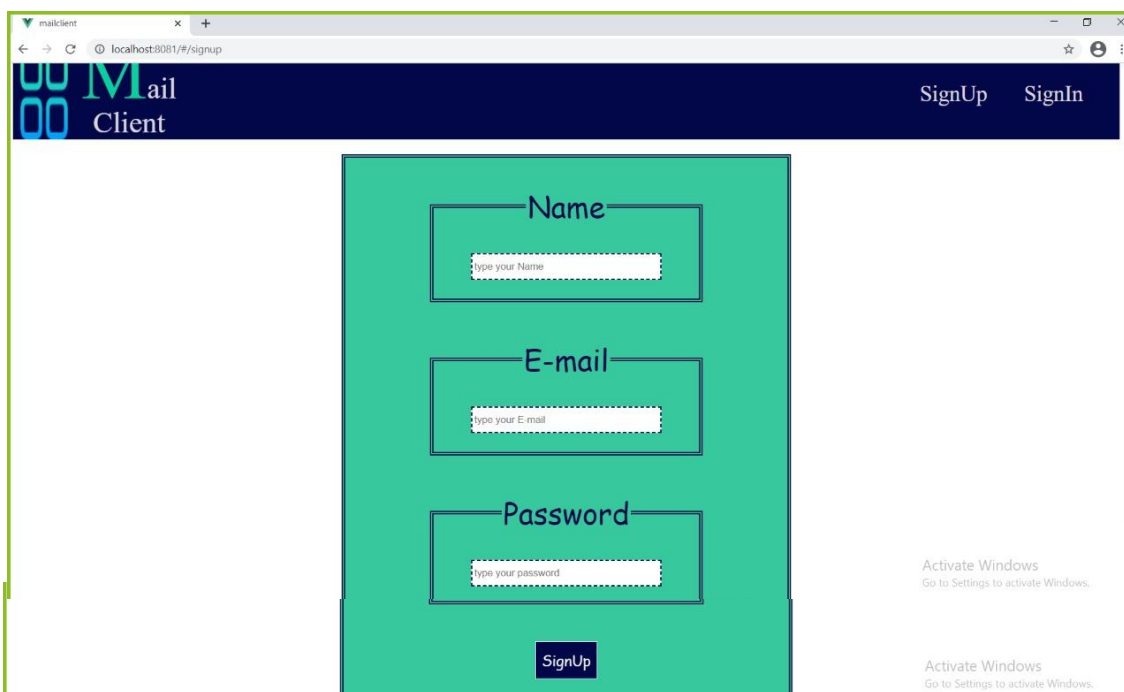
Snapshots of the UI and a user guide that explains how to use the application.

On opening the application a welcome sign will appear and a tool bar at the top of the window to choose “sign up” or “sign in”:



On clicking the signup button the following window will appear:

Note: The E-mail cannot contain \ : * ? " < > |

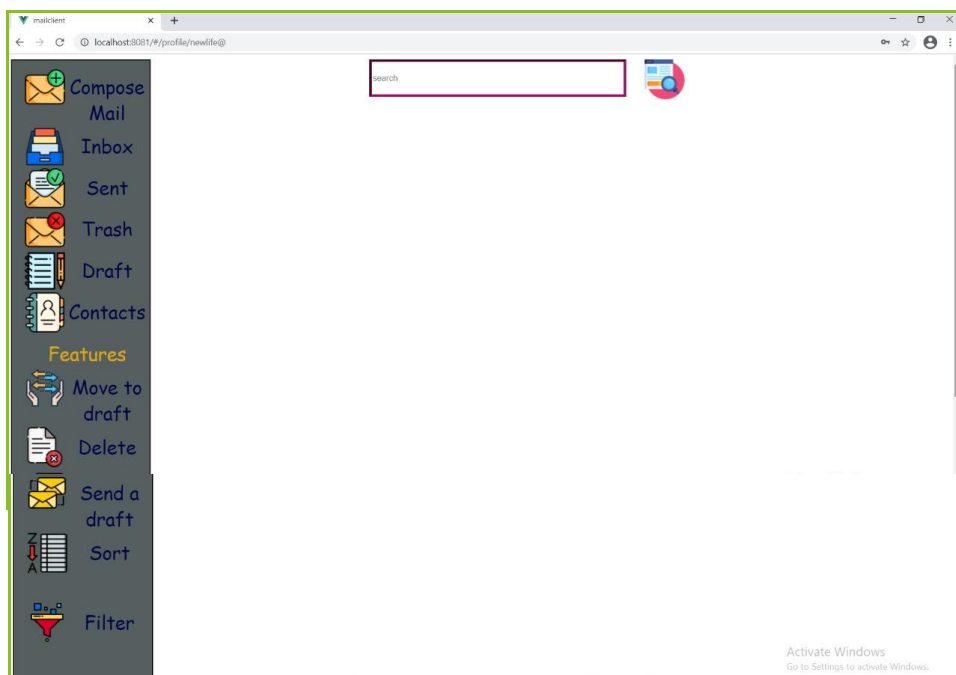


On clicking the signin button the following window will appear:

Note: If you signed in with a non existing account or with the wrong password an alert message will appear to you.

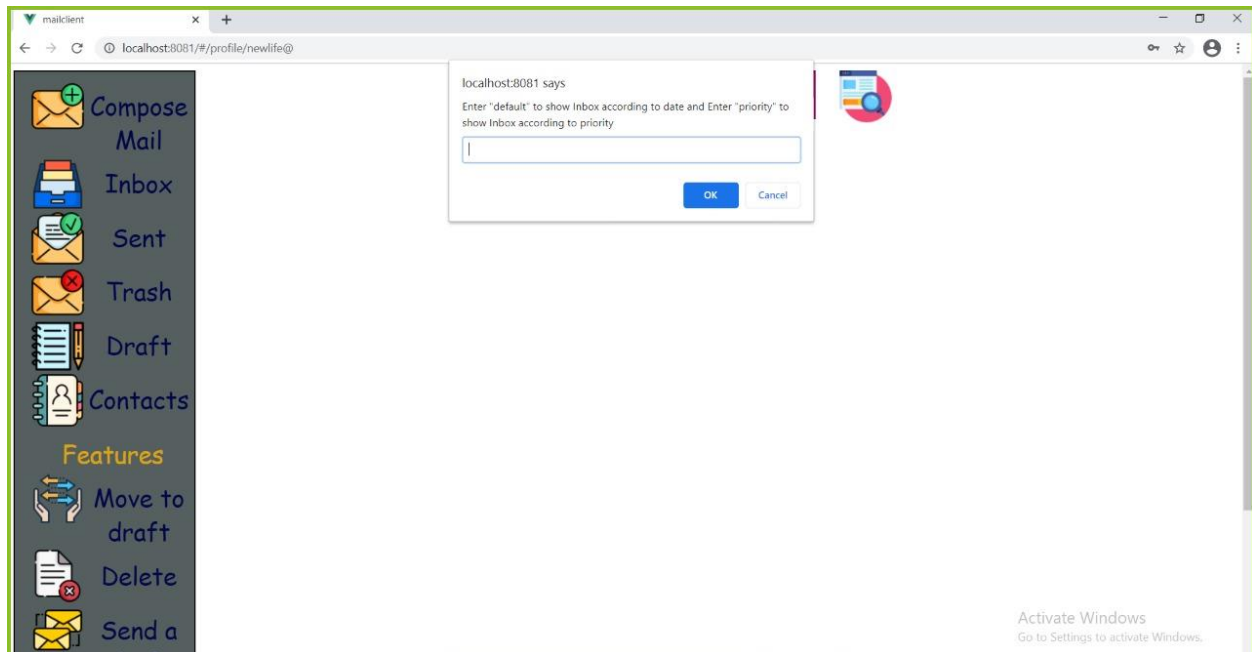


On signing in or signing up your profile window will appear:

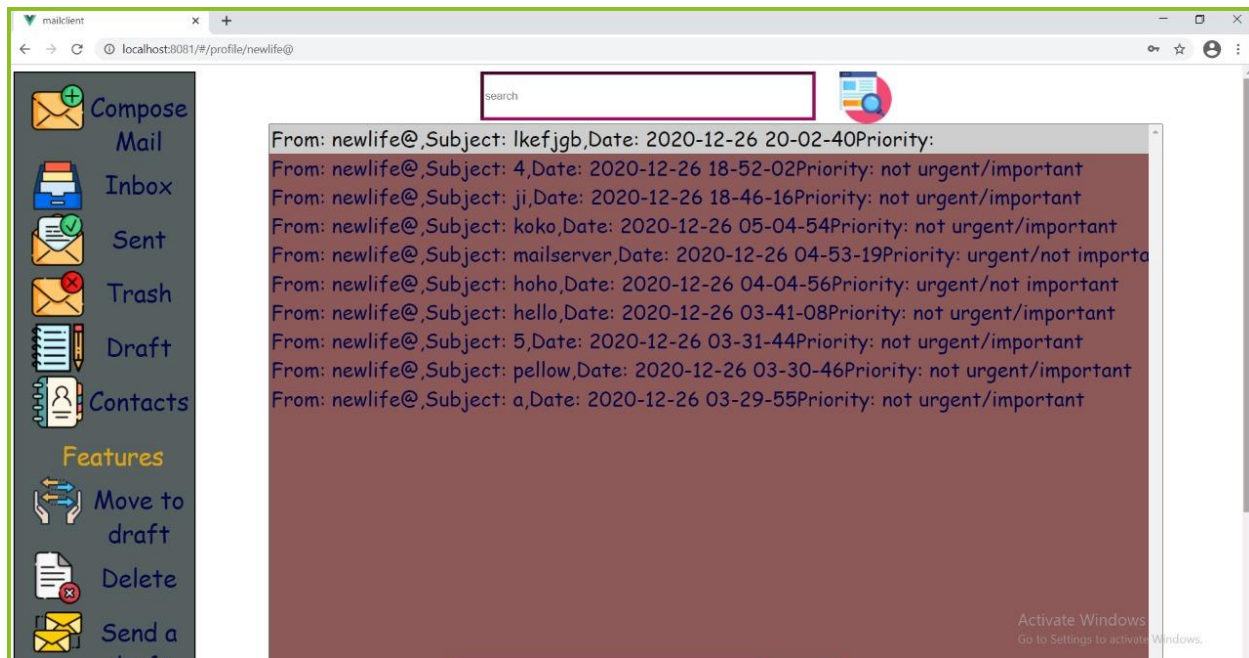


If you want to open inbox, sent, Trash or Drafts simply click on its icon and the list of mails in that folder will appear:

Note: If you want to open the inbox a message will appear to you asking if you want to show the inbox according to default “date” or priority



For example : here I clicked the sent icon

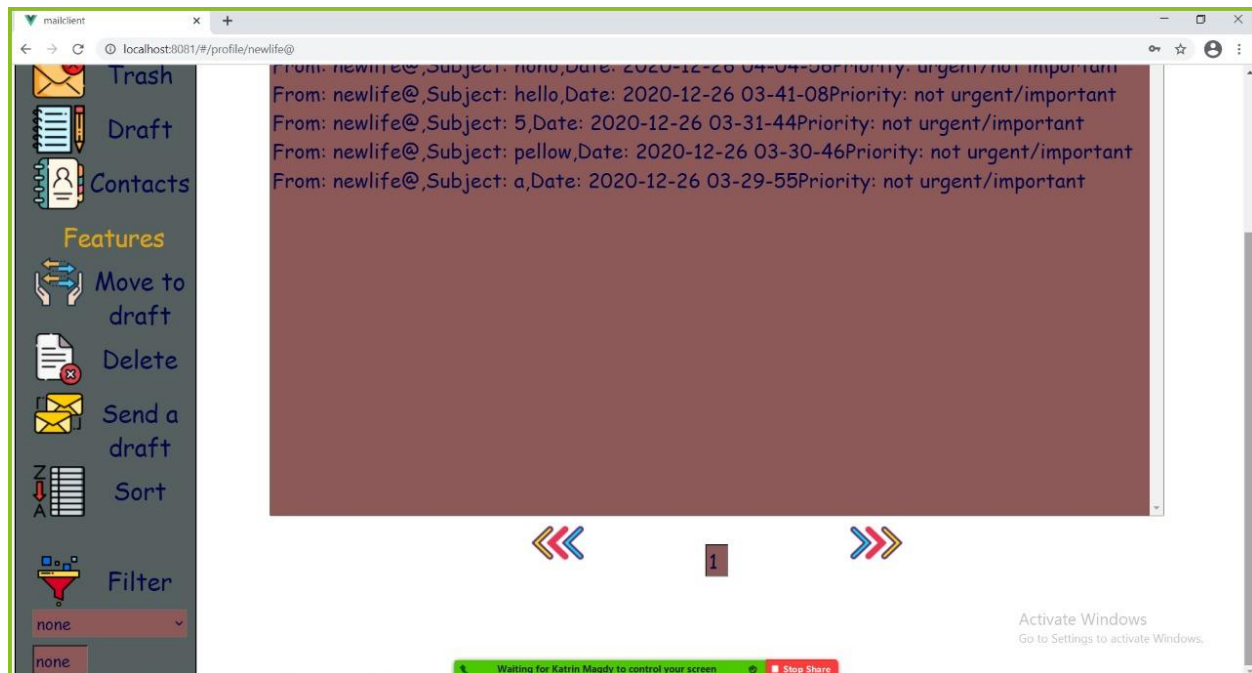


If you want to search in the mails in the folder you selected , simply enter the word you want to search and click Enter from the keyboard.

If you want to sort click on sort icon and a drop down menu will appear simply select what you want and the sort will be applied



If you want to filter click on filter icon and a drop down menu will appear simply select what you want and the filter according to and enter the word you want to filter and click Enter on the keyboard.



The application uses a paging system of 10 mails per page to show the mails.



On clicking the compose icon the following page will appear in a new tab.

Compose Mail

From

newlife@

TO

Recievers

Subject

Subject

Content

Activate Windows
Go to Settings to activate Windows.

Attachments

Enter the path of your attachment

open

Priority

None

Send Draft

Activate Windows
Go to Settings to activate Windows.

***To enter multiple receivers type them one by one in the text box and click enter they will appear in the menu.**

***To delete an entered receiver simply double click on it and it will be deleted**

***The subject cannot contain \ : * ? " < > |**

***To enter an attachment write the full path of the attachment you want and click enter and it will appear in the menu bellow it.**

***To delete an entered attachment simply double click on it and it will be deleted.**

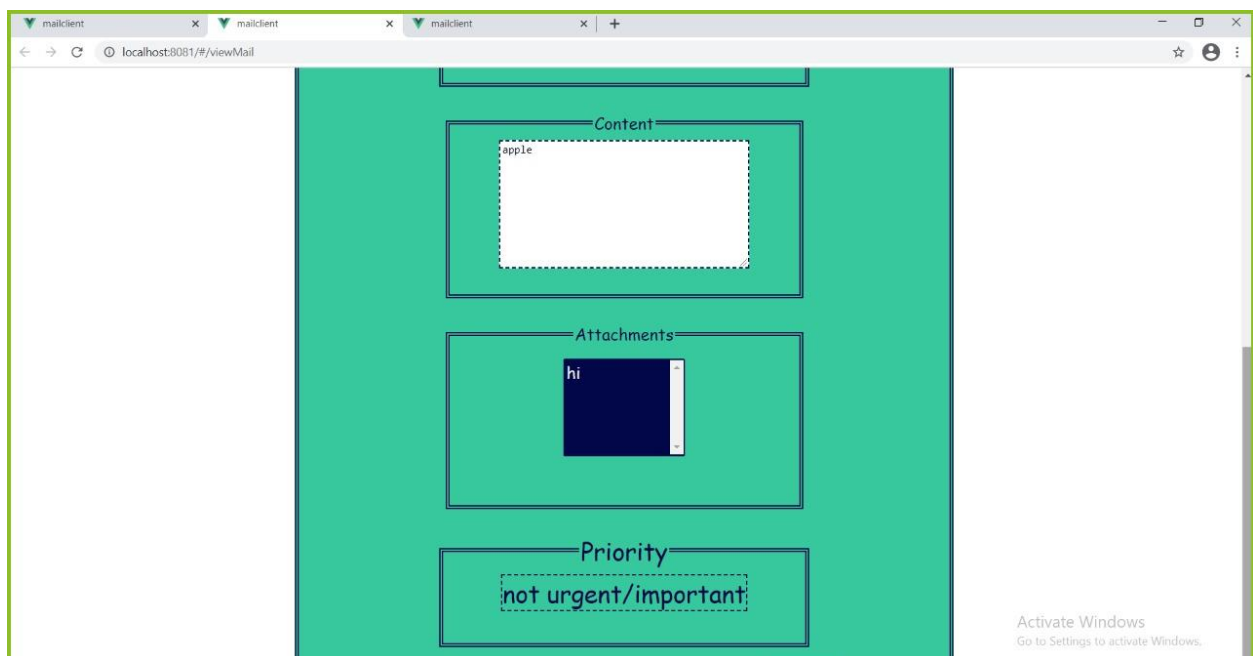
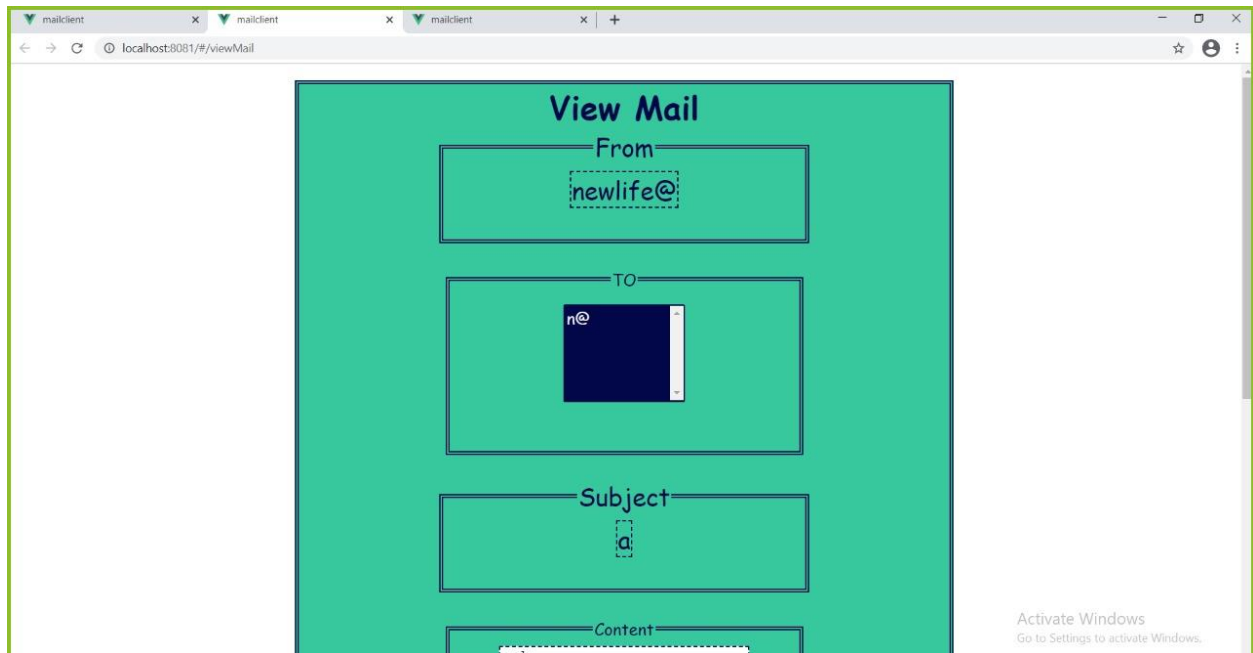
***To open an attachment click on it and then click on the “open” button next to the menu and it will open , if the attachment path is wrong an alert message will appear to you.**

***You can choose the priority by simply selecting what you want from the drop down menu**

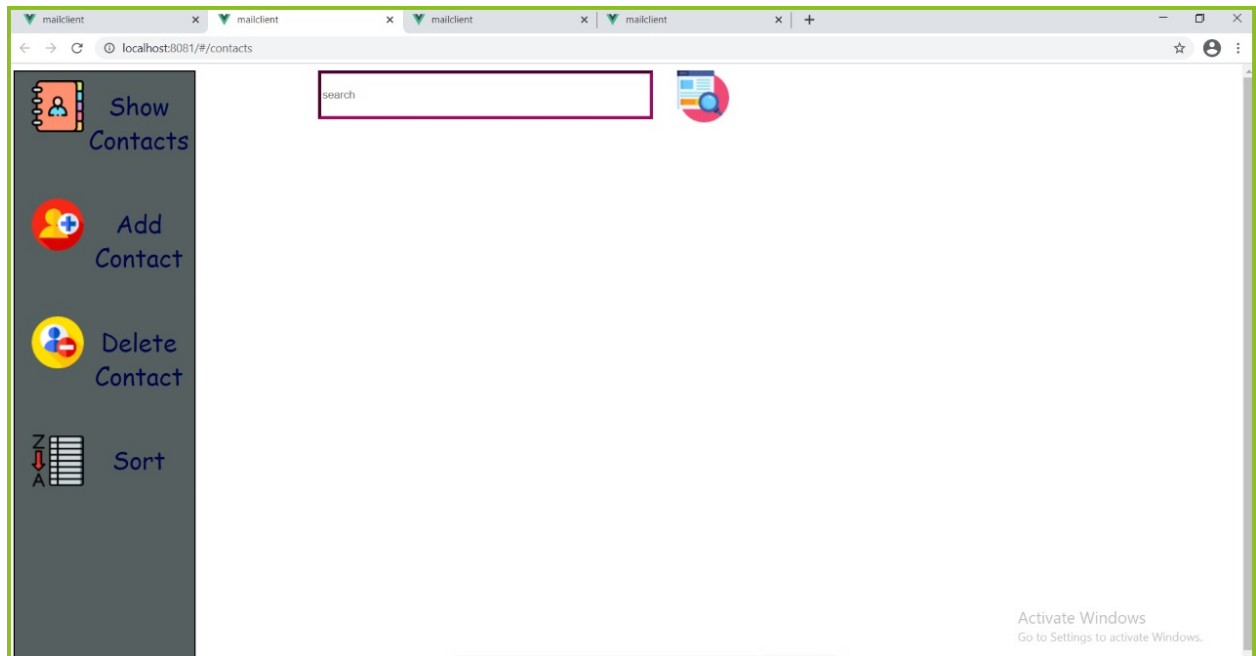
***Priority must be selected it cannot be None.**

***You an either send the composed mail to the receivers by clicking the send button or you can send it to your draft by clicking the draft button.**

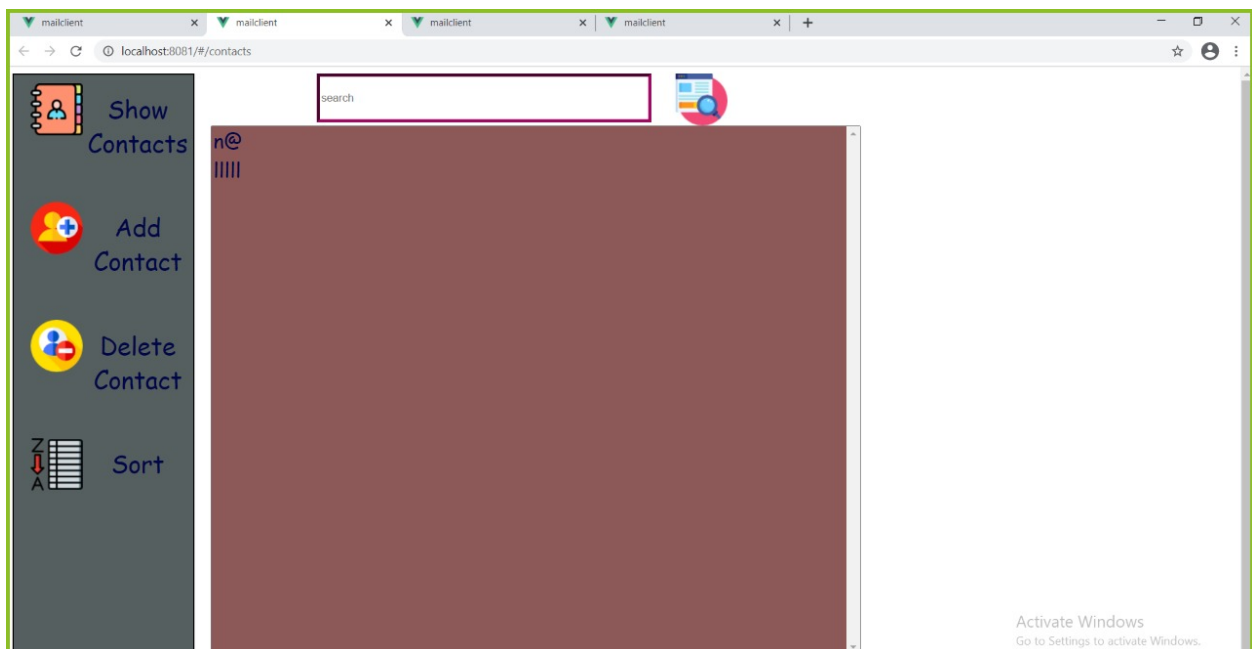
If you want to view an email simply double click on it and the following window will appear in a new tab with the data of the mail.



If you want to view your contact simply click on the contact icon in your profile window and the following window will appear in a new tab.

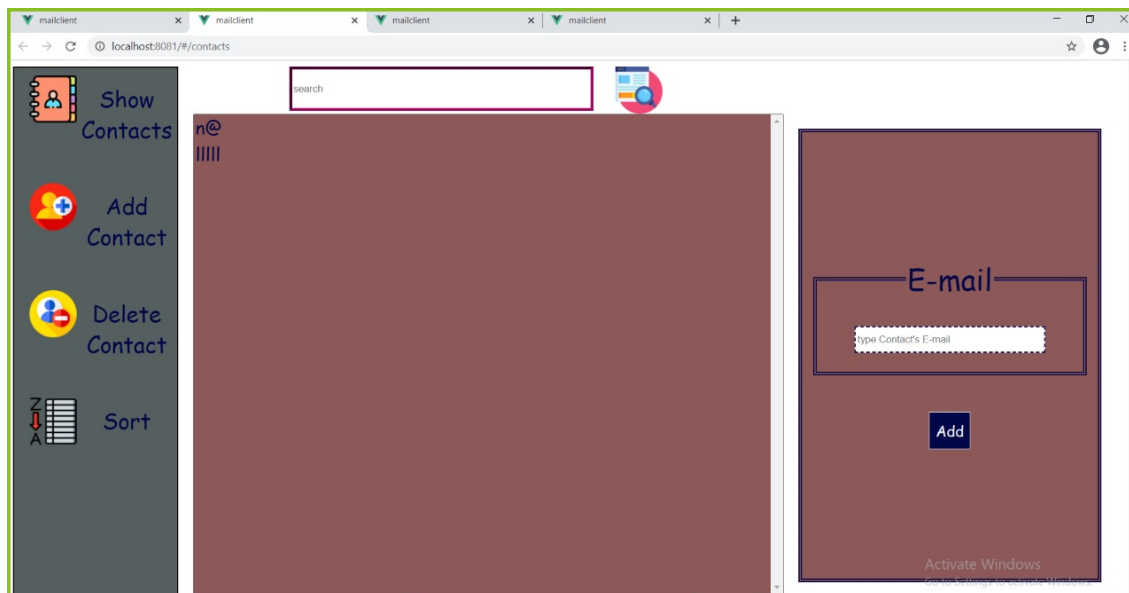


To show your contacts click on the Show Contacts icon



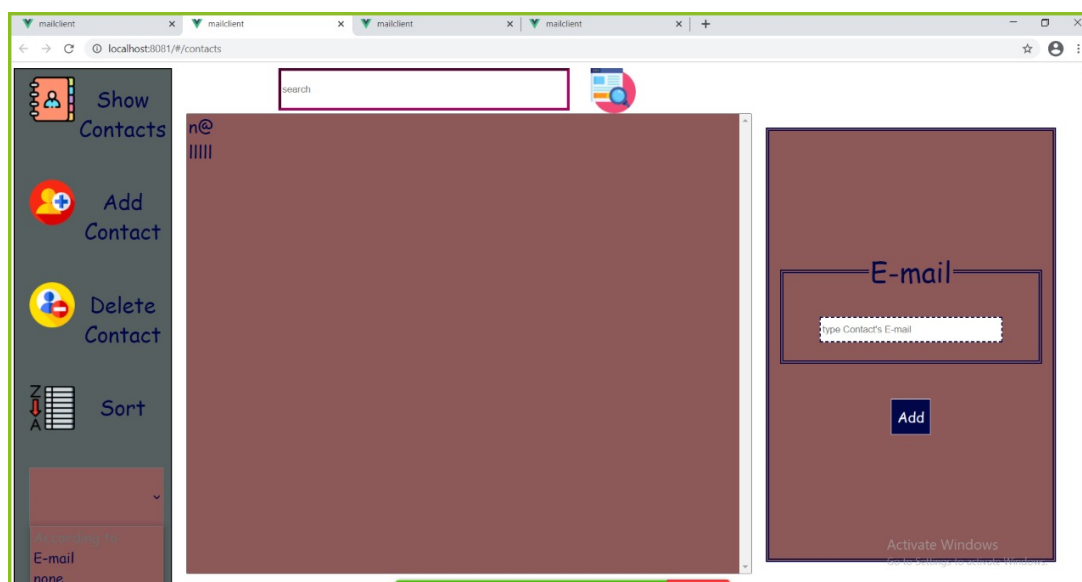
To add a contact click on Add Contact icon and a place will appear to add the contact you want.

Simply type the contact you want to add in the text box and click the Add button and it will be added.



To sort click on the sort button and a drop down menu will appear choose what you want and it will be applied

To search type the word you want to search in the text box and click enter and it will be applied.



***you can bulk move or delete mails from the folders.**

Note: You can only move from sent to draft by clicking the Move to draft icon, you cannot move from anywhere else or an alert message will appear to you

Note: You cannot delete mails in trash , if you did an alert message will appear.



***In draft if you want to send a mail in draft to its receivers simply click on it and click the Send a draft icon.**