

## Module 7 - Description

Tested on both the systems below-

Macbook Pro (13 inch, 2017, Two Thunderbolt 3 ports)

Operating system: mac Catalina (10.15.7)

Processor: 2.3 GHz Dual-Core Intel Core i5

Memory 8GB 2133 MHz LPDDR3

Graphics Intel Iris Plus Graphics 540 1536 MB

Safari Version 14.0

Terminal 2.1.0

Operating system: Windows 10 home (20H2) – created on this system

OS build:19042.662

Experience: Windows feature experience pack 120.2212.551.0

HP ENVY X360 convertible 15-DS1XXX

Processor AMD Rizen 5 4500U with Radeon graphics 2.38GHz

Memory 16GB

Browser version: Microsoft edge (87.0.664.57)

Tested using windows CMD terminal

**TypeScript – 4.1.2**

**Node.js version (v14.15.1)**

**Recursive list of files in the client directory present at time of testing is given in client/file-directory-list.txt**

### Set up project:

Packet.json file has all these dependencies listed below.

```
"devDependencies": {
  "awesome-typescript-loader": "^5.2.1",
  "babel-plugin-syntax-dynamic-import": "^6.18.0",
  "css-loader": "^3.3.0",
  "html-loader": "^0.5.5",
  "html-webpack-plugin": "^3.2.0",
  "style-loader": "^1.0.1",
  "ts-loader": "^6.2.1",
  "typescript": "^3.7.3",
  "webpack": "^4.41.2",
  "webpack-cli": "^3.3.10",
  "webpack-dev-server": "^3.9.0"
},
"dependencies": {
  "@material-ui/core": "^4.6.0",
  "@material-ui/icons": "^4.5.1",
  "@types/material-ui": "^0.21.7",
  "@types/react": "^16.9.16",
  "axios": "^0.19.0",
  "normalize.css": "^8.0.1",
```

```
"react": "^16.11.0",
"react-dom": "^16.11.0"
}
```

1. To install these dependencies, navigate to the client folder in terminal and run: **npm install**
2. Update **userEmail** = "<youremail@domain.com>" and **serverAddress**= "**http://localhost**" , where you should replace <youremail@domain.com> with your own email.
3. Go to client directory, **npm run build** in terminal
4. Open another terminal and start the mailbag server with command **npm run dev** in the server directory. Make sure the server has started listening on port 80
5. Open to client/dist/index.html in browser
6. The mailbag application should load all the inboxes on the left side and all clients on the right side.

### Expected behavior

1. You can click on a mailbox on the left to display all the emails in it, for e.g., clicking on mailbox "INBOX", should display all the emails from the mailbox INBOX.
2. You can click on any email, and it should get the email from the server and display it.
3. The client allows us to "**Reply**" to an email or "**Delete**" an email.
4. You can click on "**New Message**" button on top left and it should open a compose message screen with a To:, Subject: and Body: portions. Once you fill in the details and message body, you can click on "**Send**" button in the bottom and it give a brief "Waiting for server" message following which it should return to the INBOX screen and the message would be sent to server.
5. You can click on "**New Contact**" button on top and it takes you to a new screen allowing you to add a name and email. By clicking the save button, the contact is intimated to the server, and added to the contact list on the right.
6. You can view a contact by clicking on their name in the contacts list panel on the right. This shows us the name and email of the client.
7. We can "**Delete**" the contact, "**Update**" the contact, or "**Send Email**" to the contact.
8. Choosing "**Delete**" should send a HTTP Delete request to the server.
9. Choosing "**Update**" should send a HTTP PUT request to the server.
10. Choosing "**Send Email**" should take you to compose page and allow you to send an email using the HTTP POST method.

### Benefits of AJAX

- We use Axios module to use the Asynchronous Javascript and XML functionality. AJAX is very helpful at the client because it improves responsiveness significantly. When one element of the UI is being changed, the other elements need not be refreshed. This makes server requests lightweight and user experience smoother.
- Client does not need to reload whole webpage for each GET/PUT/POST/DELETE request. It only reloads a component of the page

### New function added

- Update a contact: Client has a new button to update a contact. This calls a `updateContact()` method in `state.ts` which in turn instantiates a `contactWorker` to update the contact. The `contactWorker` makes a PUT request to the server with contact details in the body and receives the updated contact. The client updates the state of contacts list and displays it.

## Updating contact1

The screenshot shows a web browser window with the address bar displaying 'desktop/testpk/mailbag/client/dist/index.html'. The browser has three tabs: 'Practice M5', 'm5 webpack - priyankakakria08@...', and 'MailBag'. The application interface features a top navigation bar with 'NEW MESSAGE' and 'NEW CONTACT' buttons. On the left, a sidebar contains buttons for 'INBOX', '[Gmail]', 'All Mail', 'Drafts', 'Important', 'Sent Mail', 'Spam', 'Starred', and 'Trash'. The main content area is divided into three sections: a header with 'Date', 'From', and 'Subject' columns; a form for updating a contact with fields for 'Name' (containing 'contact1') and 'Email' (containing 'contact1@gmail.com'); and a row of three buttons: 'DELETE', 'UPDATE CONTACT', and 'SEND EMAIL'. On the right, a contact list shows three entries: 'contact1', 'gugubhaiji', and 'helloji', each with a person icon.

| Date | From | Subject |
|------|------|---------|
|      |      |         |

Name  
contact1

Email  
contact1@gmail.com

DELETE UPDATE CONTACT SEND EMAIL

- contact1
- gugubhaiji
- helloji

## Result of updating contact1 to contact2

The screenshot shows a web application interface for managing contacts. The top bar has two buttons: "NEW MESSAGE" and "NEW CONTACT". The sidebar on the left contains a list of navigation links: INBOX, [Gmail], All Mail, Drafts, Important, Sent Mail, Spam, Starred, and Trash. The main content area is divided into three sections. The top section is a table with columns "Date", "From", and "Subject". The middle section is a form for editing a contact, with fields for "Name" (containing "contact2") and "Email" (containing "contact2@gmail.com"). The bottom section contains three buttons: "DELETE", "UPDATE CONTACT", and "SEND EMAIL". On the right side of the main content area, there is a list of contacts with their names and profile pictures: "gugubhaiji", "helloji", and "contact2".

| Date | From | Subject |
|------|------|---------|
|      |      |         |

Name  
contact2

Email  
contact2@gmail.com

DELETE UPDATE CONTACT SEND EMAIL

gugubhaiji  
helloji  
contact2

## Mailboxes loaded

The screenshot shows a web browser window with the address bar displaying 'desktop/testpk/mailbag/client/dist/index.html'. The browser tabs include 'Practice M5', 'm5 webpack - priyankakakria08@...', and 'MailBag'. The application interface features a top navigation bar with 'NEW MESSAGE' and 'NEW CONTACT' buttons. On the left, a sidebar lists mailbox categories: INBOX (highlighted in pink), [Gmail], All Mail, Drafts, Important, Sent Mail, Spam, Starred, and Trash. The main content area displays a table of email headers:

| Date      | From                                   | Subject   |
|-----------|--|---|
| 12/8/2020 | googlecommunityteam-noreply@google.com | Hi, my webmail, finish setting up your new Google Account |
| 12/8/2020 | no-reply@accounts.google.com           | Critical security alert                                   |

To the right of the email list, there is a contact list with three entries: 'gugubhaiji', 'helloji', and 'contact2', each accompanied by a person icon. At the bottom of the main content area, a large red text message reads 'Welcome to MailBag!'.