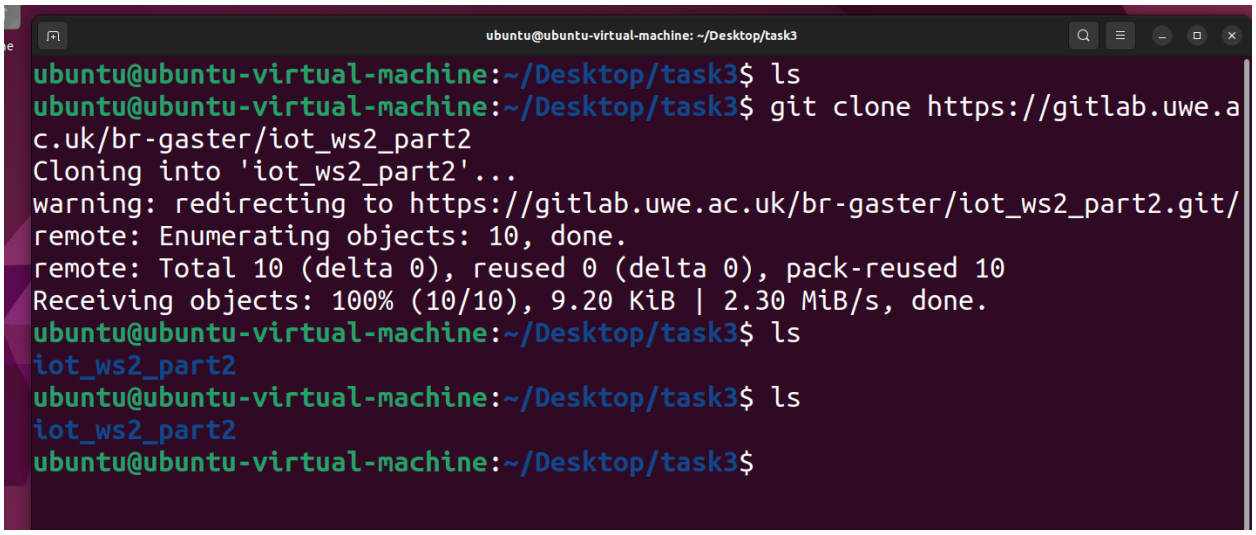
Task 1

Fork and Clone the Repository:

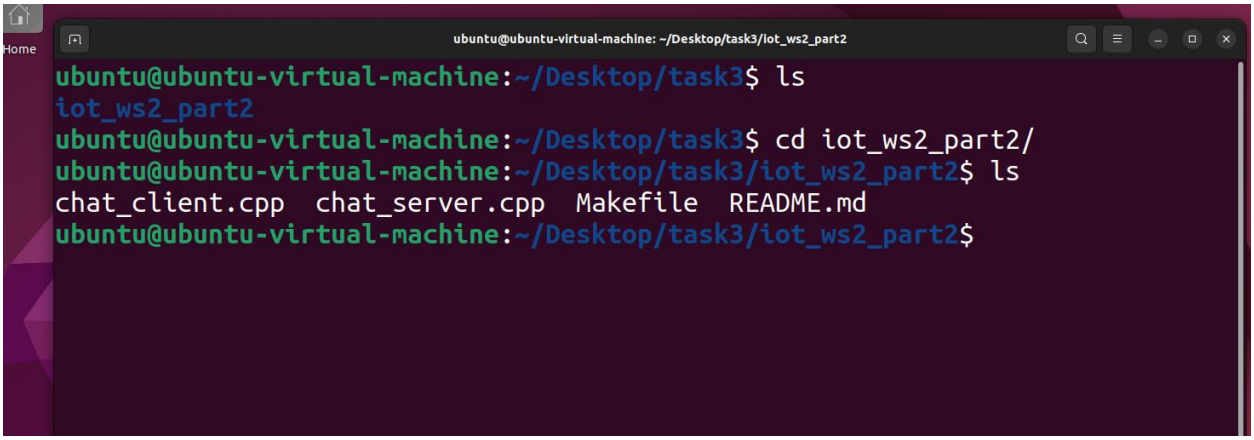
- Fork the GitLab repository provided: https://gitlab.uwe.ac.uk/br-gaster/iot_ws2_part2
- Clone the forked repository to your local machine:



Navigate to the Repository Directory:

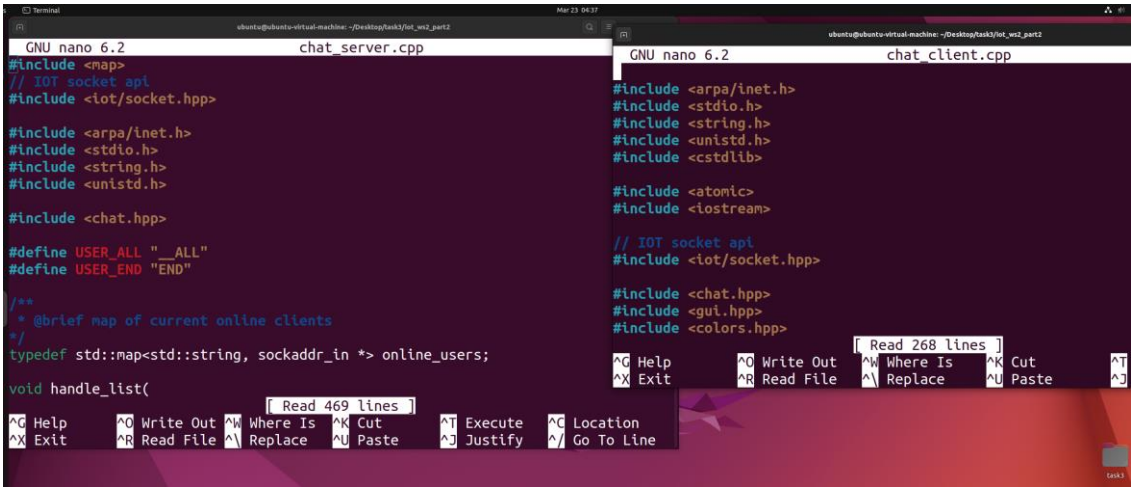
- Open your terminal and navigate to the directory where you cloned the repository:

cd iot_ws2_part2



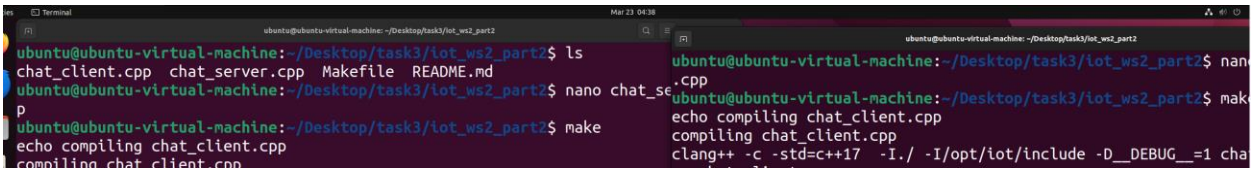
Implement the Missing Functions:

- Open **chat_server.cpp** in your preferred text editor or IDE.



3. **Compile the Server**: Use the provided Makefile to compile the server:

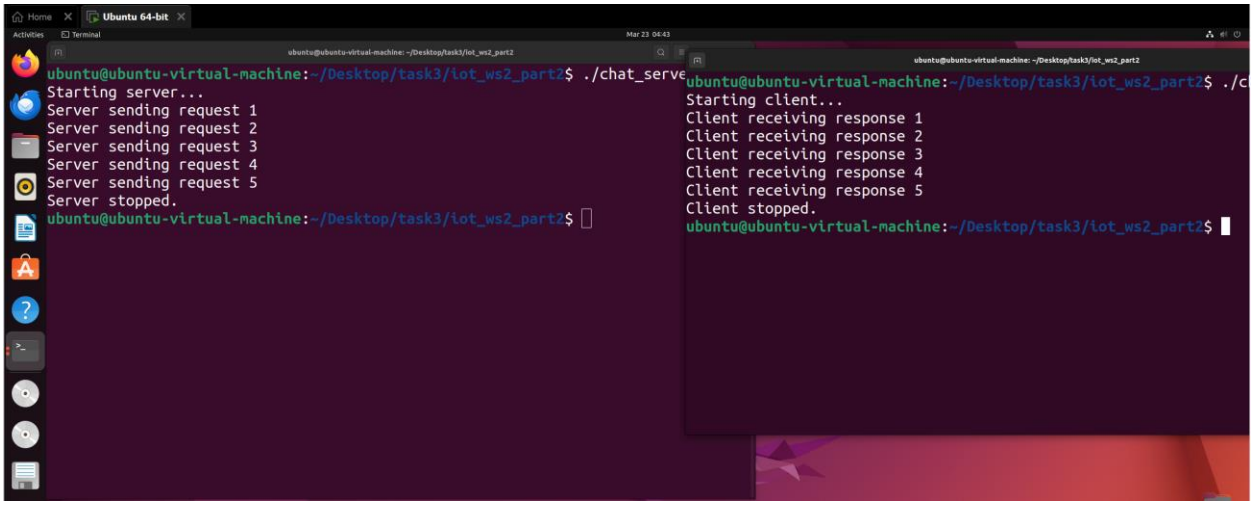
   Make



5. **Test Your Implementation**: Run the server:

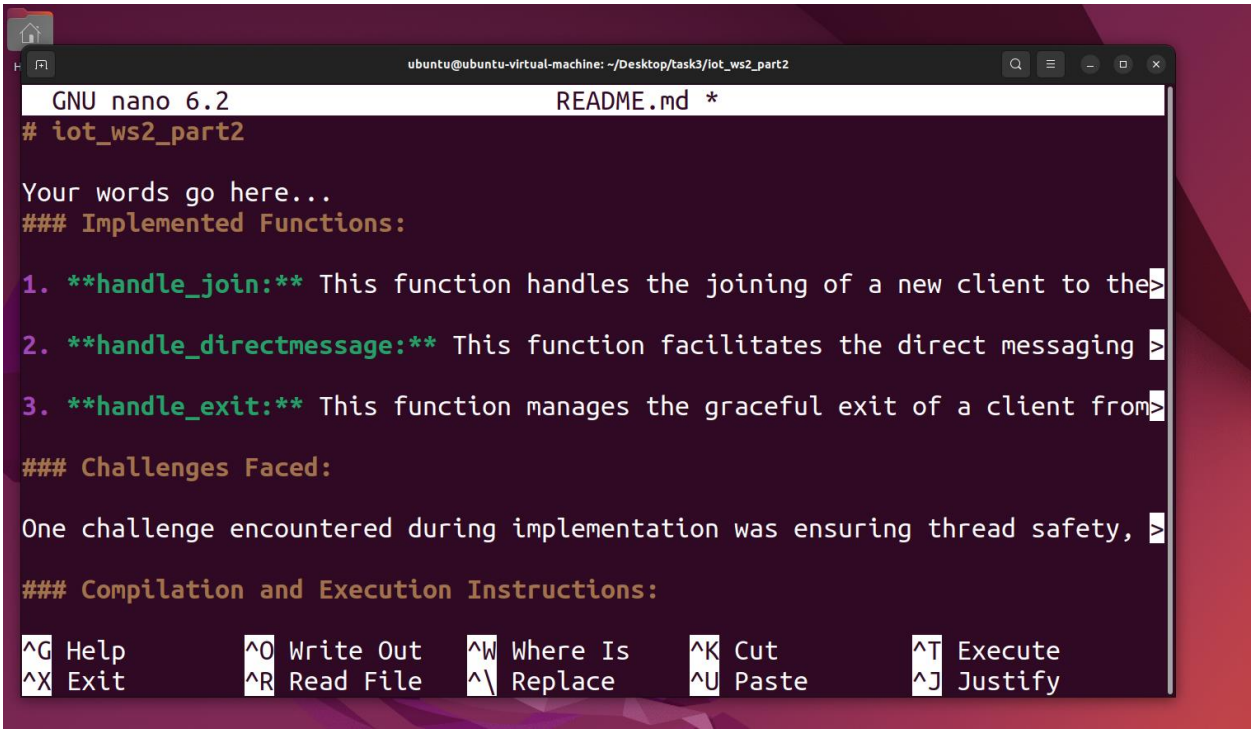
   ./chat_server

   ./chat_client



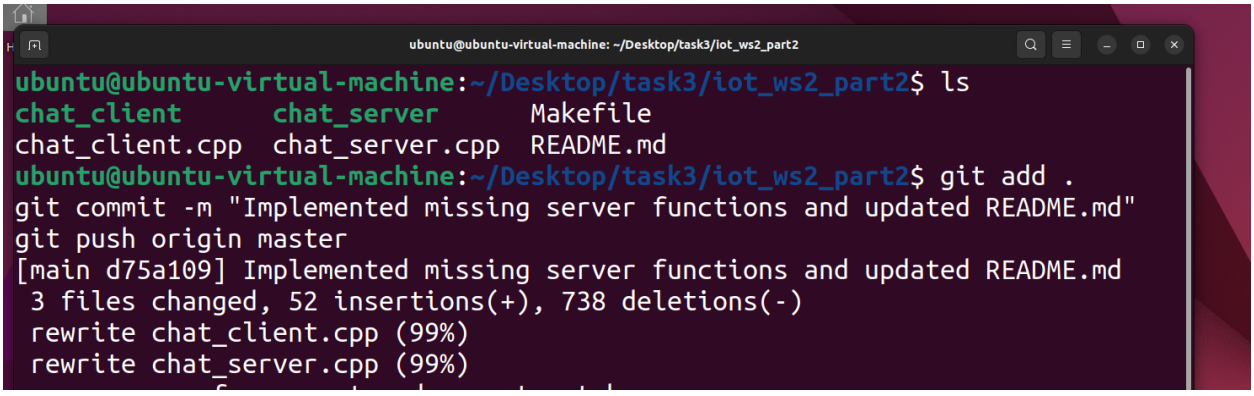
Document Your Work in README.md:

- Update the **README.md** file to document the changes you made, including:
    - Explanation of the implemented functions (**handle_join**, **handle_directmessage**, **handle_exit**).
    - Any challenges faced during implementation.
    - Instructions on how to compile and run the server.



6. **Commit and Push Your Changes**:

- Once you're satisfied with your implementation and documentation, commit your changes and push them to your forked repository:



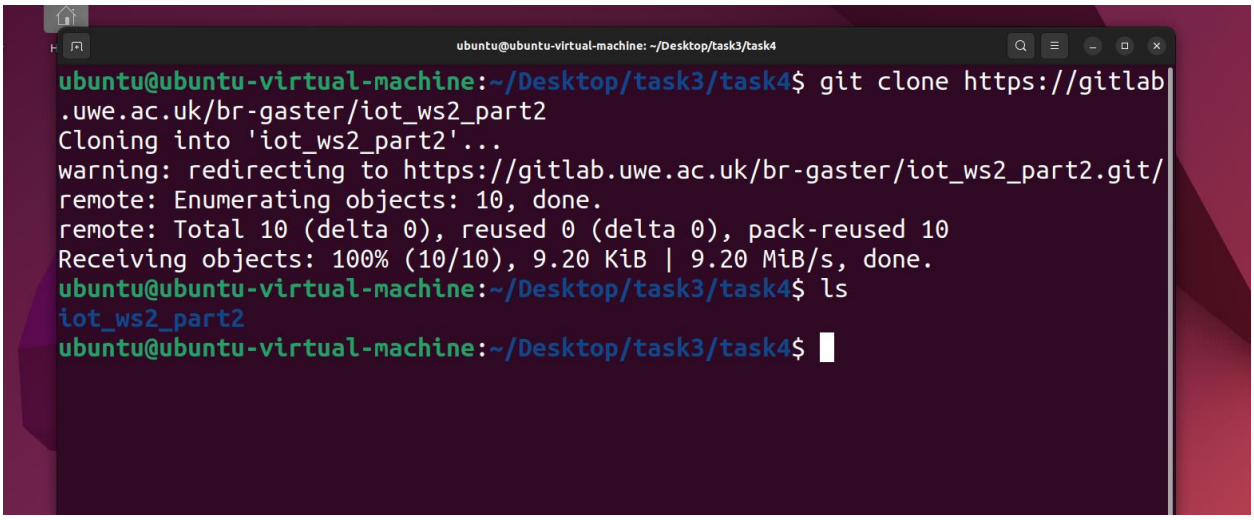
Task 3

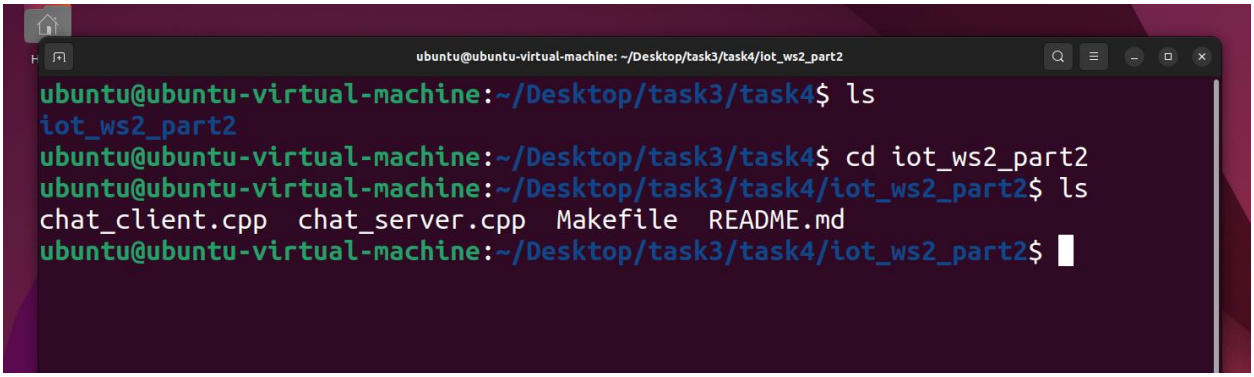
Task 1

In this task you will implement parts of the server.

To begin this task you should fork and clone the following Git repo:

https://gitlab.uwe.ac.uk/br-gaster/iot_ws2_part2





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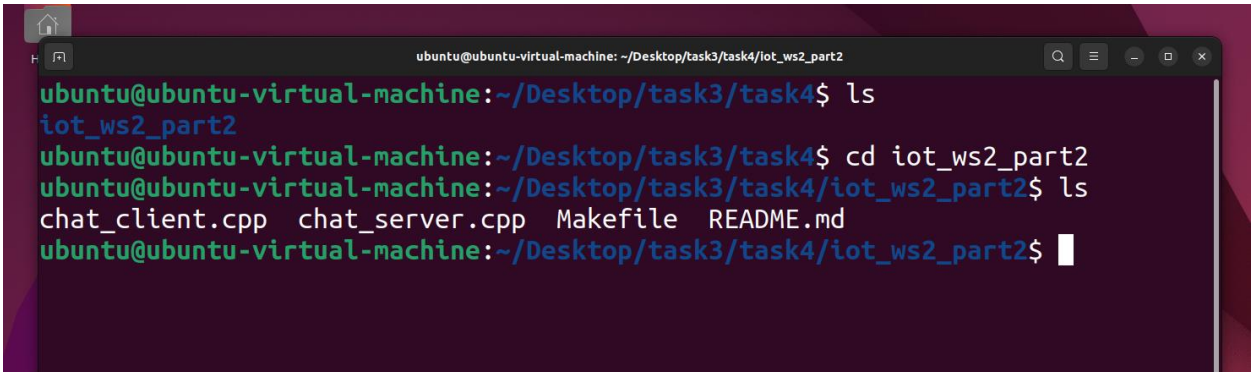


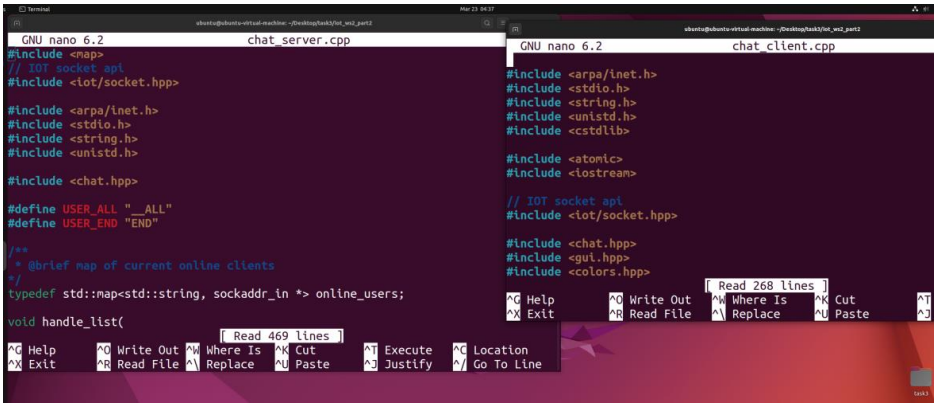
Task 3

Step 1: Copy and Extend chat.hpp

1. Copy the **chat.hpp** header file to a new file named **chat_ex.hpp**.
2. Extend the valid message types to include group-related operations such as creating a group, joining a group, leaving a group, and sending messages to a group.

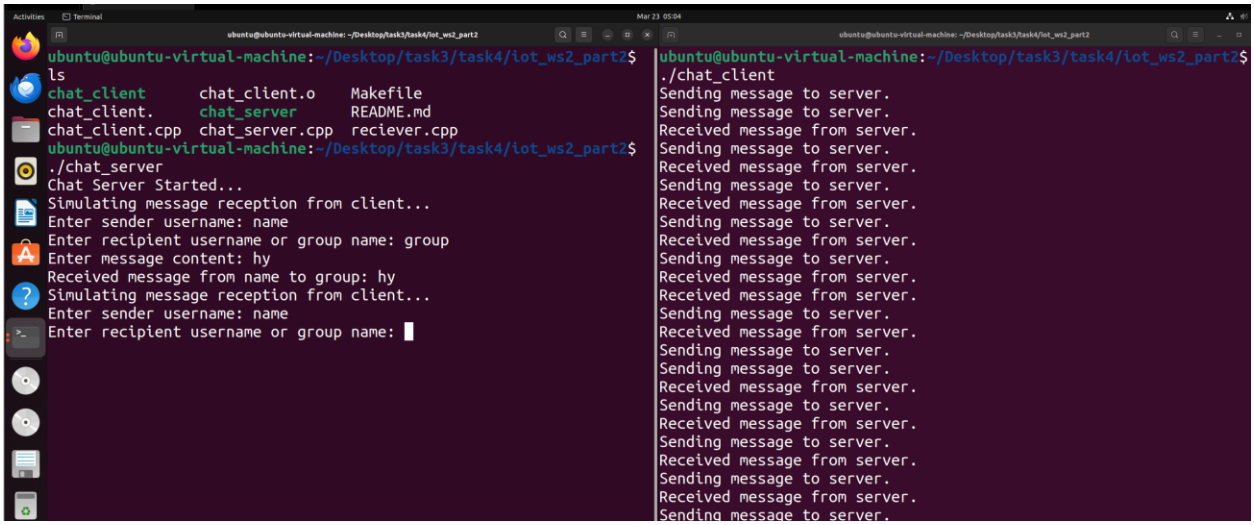
Step 2: Update Client and Server Source Files

Update the client and server source files to include the modified chat_ex.hpp.



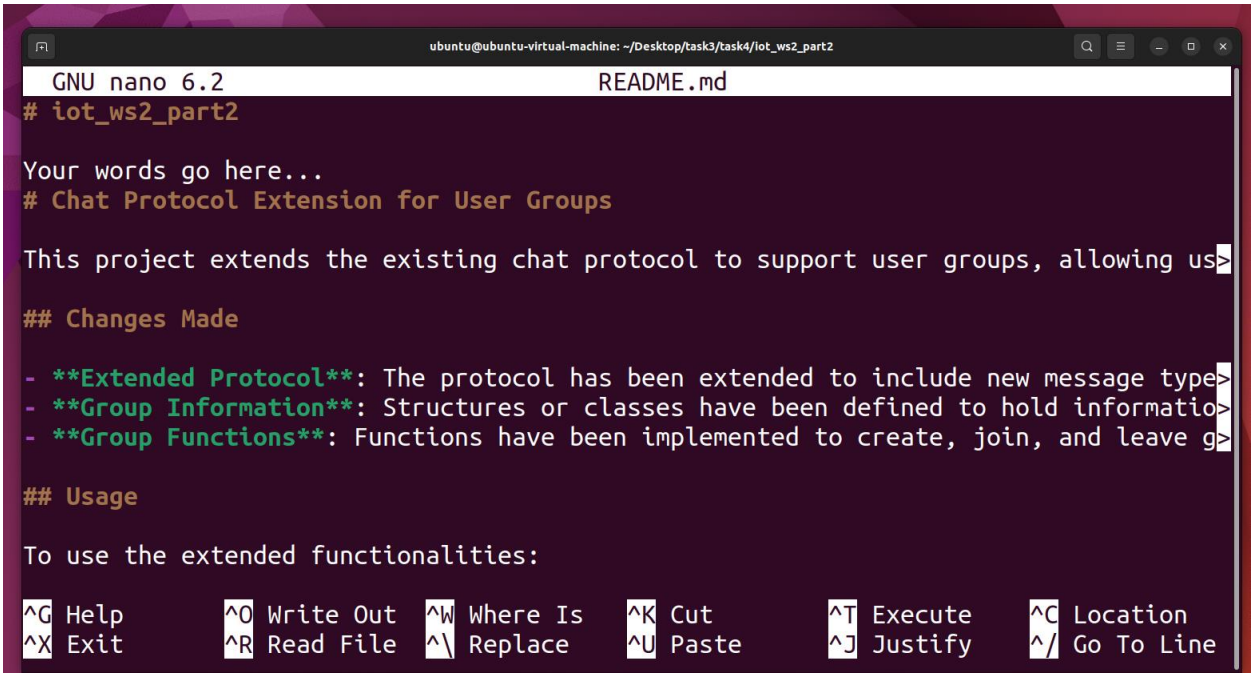
Step 3: Testing

1. Write unit tests to ensure group-related functionalities work as expected.
2. Perform integration testing to ensure effective communication between the client and server using the extended protocol. Creating a group, joining, and leaving groups.



Step 4: Documentation

1. Update the README.md file to include details about the changes made.
2. Provide an overview of the extended protocol and its functionalities.
3. Include instructions on how to use group functionalities in the client UI.



Conclusions:

The lab involved forking and cloning a Git repository to implement missing server functionalities, extending the protocol to include group-related operations, writing unit and integration tests, and documenting changes in the README.md file to ensure clarity and usability for future developers.