

eduChat by Eduardo Morales

A simple and un-encrypted IRC

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## Introduction

The purpose of this app is to create an IRC imitation in Python and learn about socket programming. This project required outside sources to learn about Python and Serialization as I was not familiar with those. The final product, a simple IRC chat able to do the following commands:

- AWAY – Set their status to away
- HELP – Gives a full list of available commands and how to use them
- INFO – Gives more detailed information about the server
- INVITE – Invites someone to the channel. Makes the channel “invitation only”
- ISON – Returns the users that are on the server as a comma-separated list
- JOIN – Joins a channel
- KNOCK – Requests to join a channel
- LIST – Lists all the channels available
- NICK – Sets your nickname
- NOTICE – Send a private message to a person no matter if they’re away
- PART – Leave the current channel
- PASS – Set your password. Log back in to your account
- PING – Ping the server to test connection. The server responds with PONG
- PRIVMSG – Send a private message to anyone who is not away
- QUIT – Leave the server
- RULES – Request the rules of the server
- SETNAME – Change your username
- TIME – Know the current time of the server
- USERHOST – Returns information such as IP and Port of the comma-separated usernames
- USERIP – Returns IP and Port of the given username
- USERS – Returns all the users in the channel
- VERSION – Returns the version of the server
- WHO – Searches for users who are currently online that match the string after
- WHOIS – Returns online users from the given comma-separated usernames
- DIE – Shuts down the server
- KICK – Kicks someone out from a channel
- KILL – Bans the user. This username will no longer be able to connect to the server
- OPER – Make someone an operator
- SILENCE – Silence someone, their messages will not be sent
- TOPIC – Set the topic of the channel
- WALLOPS – Send a message to all operators in the server

## **Problem Statement**


My biggest issue was working around all the bugs. There were hundreds of different bugs, for example when a user didn't exist, when a channel didn't exist, when a user wasn't an operator, or when a user wasn't in the channel. Also, part of my issue was that I wanted to serialize users and channels to learn about serialization with Pickle. I got it to work but many of my commands stopped working so I went back to the previous version. This project took me a lot of tries but I was finally able to accomplish it by doing outside research and with the research provided. My best friend in the project was If statements and try/except to detect errors.

## **Methodology**

There is a "users.txt" and "channels.txt" files for the database for users and channels. I used the open function to read and write the files. I scanned the document and save the users and channels. In order to accomplish all my tasks, I took a course of Python in Treehouse and a course in Udemy on socket programming in Python. I researched on StackOverflow any questions I had regarding the programming concepts. This was of course on top of the Google Hangouts session I attended, and all the class videos posted by Professor Ortega.

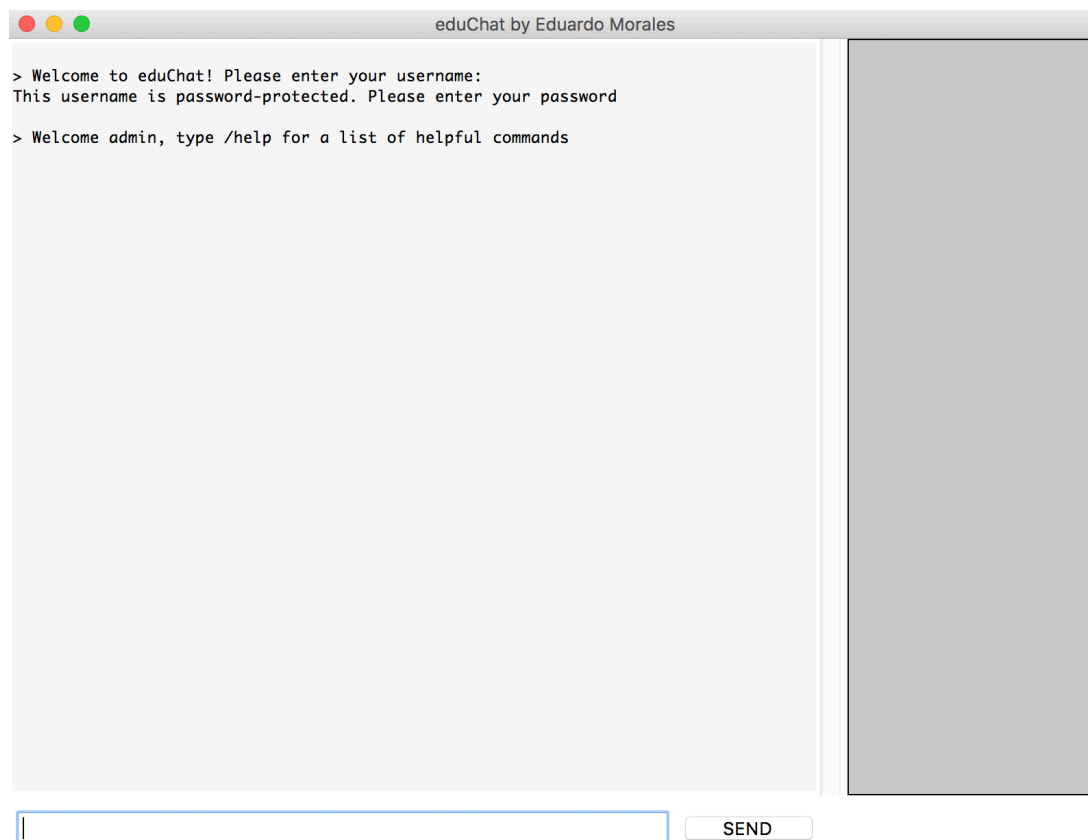
## Results

### Easy Arguments from Terminal



```
eduChatv2 — -bash — 98x24
[Eduardos-MacBook-Pro:eduChatv2 eduardomorales$ python3 Main.py -n 127.0.0.1 -p50000 -u Eduardo]
[ ]
[ ]
[ ]
[ ]
```

### Log-in with a password to an existing account

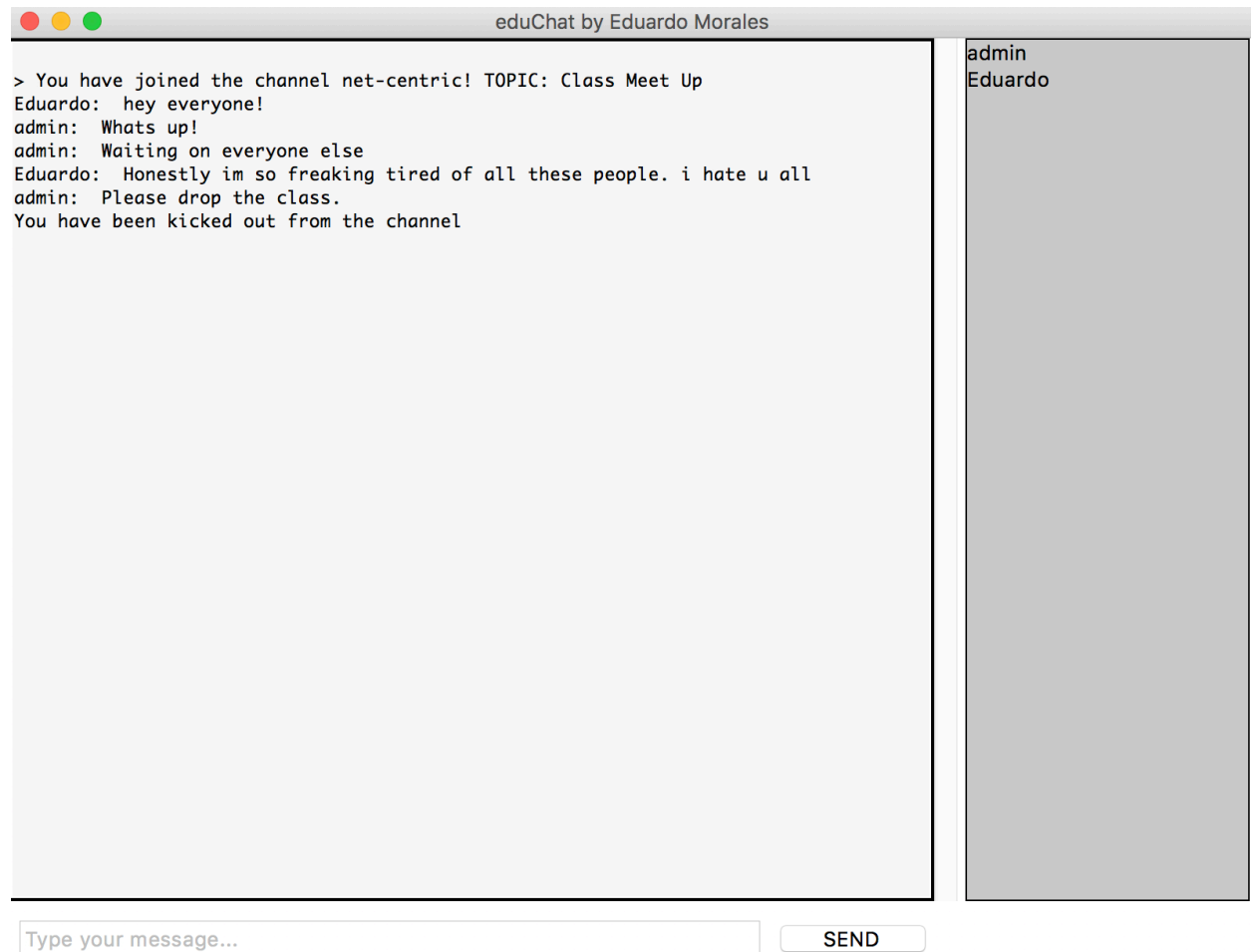


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> Welcome to eduChat! Please enter your username:  
This username is password-protected. Please enter your password

> Welcome admin, type /help for a list of helpful commands

## Kick-out users who misbehave if you are an operator



## References

Online Courses - Learn Anything, On Your Schedule. (n.d.). Retrieved March 28, 2018, from <https://www.udemy.com/>

Start Learning at Treehouse for Free. (n.d.). Retrieved March 28, 2018, from <https://teamtreehouse.com/>

Stack Overflow - Where Developers Learn, Share, & Build Careers. (n.d.). Retrieved March 28, 2018, from <https://stackoverflow.com/>