

Forum:[Hack Forums](#)

Thread: [IRC Simple Bot in Python 3](#)

lulzabar - August 15, 2016, 3:17 pm

Hi everyone! New to the forums and coding, just picked up on python about two hours ago. Posting on here to get some constructive criticism, help/tips, and any advise, which is really all the same thing in 3 different ways of saying it ?

Anywho, here is my first program in python from scratch ?

Bot features: Auto op on owner joins, channel idling, commands.

Bot commands: !op, !deop, !voice, !devoice, !kick, !ban, !unban, !lockdown, !unlockdown, !topic (lockdown is just +m or moderated channel making users have to have +v or higher to speak.)

Things I know I need to work on: Multiple channels, owners, better way to handle commands.

P.s. Made it simple if you want to use it/Test. Edit the things ONLY in #bot settings (ex. HOST, NICK, owner, bot_chan) After that just launch the code! #Basic commands is a decent skeleton if you want to implement your own like !ban, !say, etc into the bot.

Code #importing extra modules for future updates

```
import os
import sys
import time
import socket
import string
import fnmatch
```

#-----

#bot settings

HOST = ("irc.freenode.net", 6667) #server and port we're connecting to

NICK = "BBB0t" #Bots nickname

IDENT = "v v v :Testing" #First/Middle/Last Name: description/info

owner = "lulzabar" #Owner/Operator of the bot

bot_chan = "#testchanpls" #channel where commands can be used (ex: !op, !kick)

#-----

#Creating/Connecting the socket

s = socket.socket()

s.connect(HOST)

#-----

#Sending our info through socket

nick_send = ("NICK " + NICK + " \r\n")

s.sendall(bytes(str(nick_send).encode()))

ident_send = ("USER " + IDENT + " \r\n")

s.sendall(bytes(str(ident_send).encode()))

bot_join = ("JOIN " + bot_chan + " \r\n")

```
s.sendall(bytes(str(bot_join).encode()))
```

```
#-----
```

```
#Grabbing what the server is sending us
```

```
while 1:
```

```
    data = s.recv(4096).decode()
```

```
    msg = str.split(data)
```

```
    #replying to pings so we dont time out
```

```
    if (msg[0] == "PING"):
```

```
        PONG = "PONG " + msg[1] + " \r\n"
```

```
        s.sendall(bytes(str(PONG).encode()))
```

```
#-----
```

```
#making sure that the owner only can give commands
```

```
#checks if the vHost matches owners/returns True if matches
```

```
    vHost = msg[0]
```

```
    oHost = fnmatch.fnmatch(vHost, ":"+owner+"*")
```

```
#-----
```

```
#basic commands
```

```
    if oHost == True:
```

```
        if (msg[1] == "PRIVMSG"):
```

```
            if (msg[2] == bot_chan):
```

```
                if(msg[3] == "!:deop"):
```

```
                    deopMsg = (("MODE {0} -o "+msg[4]+" \r\n").format(bot_chan))
```

```
                    s.sendall(bytes(str(deopMsg).encode()))
```

```
    if oHost == True:
```

```
        if (msg[1] == "PRIVMSG"):
```

```
            if (msg[2] == bot_chan):
```

```
                if(msg[3] == "!:op"):
```

```
                    opMsg = (("MODE {0} +o "+msg[4]+" \r\n").format(bot_chan))
```

```
                    s.sendall(bytes(str(opMsg).encode()))
```

```
    if oHost == True:
```

```
        if (msg[1] == "PRIVMSG"):
```

```
            if (msg[2] == bot_chan):
```

```
                if(msg[3] == "!:voice"):
```

```
                    vUser = (("MODE {0} +v "+msg[4]+" \r\n").format(bot_chan))
```

```
                    s.sendall(bytes(str(vUser).encode()))
```

```
    if oHost == True:
```

```
        if (msg[1] == "PRIVMSG"):
```

```
            if (msg[2] == bot_chan):
```

```
                if(msg[3] == "!:devoice"):
```

```
                    dvUser = (("MODE {0} -v "+msg[4]+" \r\n").format(bot_chan))
```

```
                    s.sendall(bytes(str(dvUser).encode()))
```

```
    if oHost == True:
```

```
        if (msg[1] == "PRIVMSG"):
```

```
            if (msg[2] == bot_chan):
```

```
                if(msg[3] == "!:kick"):
```

```
                    kickUser = (("KICK {0} " + msg[4] + " \r\n").format(bot_chan))
```

```
                    s.sendall(bytes(str(kickUser).encode()))
```

```
    if oHost == True:
```

```

if (msg[1] == "JOIN"):
    if (msg[2] == bot_chan):
        opMsg = (("MODE {0} +o {1} \r\n").format(bot_chan, owner))
        s.sendall(bytes(str(opMsg).encode()))
if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            if(msg[3] == "!:topic"):
                topic = (("TOPIC {0} " + str(msg[4]) + " \r\n").format(bot_chan))
                s.sendall(bytes(str(topic).encode()))
if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            if(msg[3] == "!:ban"):
                ban = (("MODE {0} +b " + msg[4] + " \r\n").format(bot_chan))
                s.sendall(bytes(str(ban).encode()))
if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            if(msg[3] == "!:unban"):
                unban = (("MODE {0} -b " + msg[4] + " \r\n").format(bot_chan))
                s.sendall(bytes(str(unban).encode()))
if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            if(msg[3] == "!:lockdown"):
                lockdown = (("MODE {0} +m \r\n").format(bot_chan))
                s.sendall(bytes(str(lockdown).encode()))
if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            if(msg[3] == "!:unlockdown"):
                unlockdown = (("MODE {0} -m \r\n").format(bot_chan))
                s.sendall(bytes(str(unlockdown).encode()))

```

print(data) #printing what the server is sending us to console

Goodies - August 15, 2016, 10:27 pm

You should get familiar with basic programming concepts and guidelines. For example, you have TONS of code re-use opportunities here.

Without changing the functionality at all, you can rewrite all of those if statements as a far more simplified version:

PHP Code

<?php

```

if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            response = None
            if(msg[3] == "!:deop"):

```

```

        response = (("MODE {0} -o "+msg[4]+" \r\n").format(bot_chan))
    if(msg[3] == "!:lop"):
        response = (("MODE {0} +o "+msg[4]+" \r\n").format(bot_chan))
    if(msg[3] == "!:lvoice"):
        response = (("MODE {0} +v "+msg[4]+" \r\n").format(bot_chan))
    if(msg[3] == "!:ldevoice"):
        response = (("MODE {0} -v "+msg[4]+" \r\n").format(bot_chan))
    if(msg[3] == "!:lkick"):
        response = (("KICK {0} " + msg[4] + " \r\n").format(bot_chan))
    if(msg[3] == "!:ltopic"):
        response = (("TOPIC {0} " + str(msg[4]) + " \r\n").format(bot_chan))
    if(msg[3] == "!:lban"):
        response = (("MODE {0} +b " + msg[4] + " \r\n").format(bot_chan))
    if(msg[3] == "!:lunban"):
        response = (("MODE {0} -b " + msg[4] + " \r\n").format(bot_chan))
    if(msg[3] == "!:llockdown"):
        response = (("MODE {0} +m \r\n").format(bot_chan))
    if(msg[3] == "!:lunlockdown"):
        response = (("MODE {0} -m \r\n").format(bot_chan))
    if response is not None:
        s.sendall(bytes(str(response).encode()))
if (msg[1] == "JOIN"):
    if (msg[2] == bot_chan):
        response = (("MODE {0} +o {1} \r\n").format(bot_chan, owner))

```

lulzabar - August 16, 2016, 2:16 am

(Aug 15, 2016 10:27 PM)Goodies Wrote: [CITE](#) You should get familiar with basic programming concepts and guidelines. For example, you have TONS of code re-use opportunities here.

Without changing the functionality at all, you can rewrite all of those if statements as a far more simplified version:

PHP Code

```

<?php
if oHost == True:
    if (msg[1] == "PRIVMSG"):
        if (msg[2] == bot_chan):
            response = None
            if(msg[3] == "!:leop"):
                response = (("MODE {0} -o "+msg[4]+" \r\n").format(bot_chan))
            if(msg[3] == "!:lop"):
                response = (("MODE {0} +o "+msg[4]+" \r\n").format(bot_chan))
            if(msg[3] == "!:lvoice"):
                response = (("MODE {0} +v "+msg[4]+" \r\n").format(bot_chan))
            if(msg[3] == "!:ldevoice"):
                response = (("MODE {0} -v "+msg[4]+" \r\n").format(bot_chan))
            if(msg[3] == "!:lkick"):
                response = (("KICK {0} " + msg[4] + " \r\n").format(bot_chan))
            if(msg[3] == "!:ltopic"):
                response = (("TOPIC {0} " + str(msg[4]) + " \r\n").format(bot_chan))
            if(msg[3] == "!:lban"):
                response = (("MODE {0} +b " + msg[4] + " \r\n").format(bot_chan))

```

```

if(msg[3] == "!:unban"):
    response = ("MODE {0} -b " + msg[4] + " \r\n").format(bot_chan))
if(msg[3] == "!:lockdown"):
    response = ("MODE {0} +m \r\n").format(bot_chan))
if(msg[3] == "!:unlockdown"):
    response = ("MODE {0} -m \r\n").format(bot_chan))
if response is not None:
    s.sendall(bytes(str(response).encode()))
if (msg[1] == "JOIN"):
    if (msg[2] == bot_chan):
        response = ("MODE {0} +o {1} \r\n").format(bot_chan, owner))

```

That looks really clean. Thanks for the feedback, I'll definitely look into the concepts. Im sure its all over youtube!

Black?jack - August 18, 2016, 2:24 pm

Keep something in mind: `socket.recv()` is not guaranteed to only receive one line. It could receive half a line, or 2 lines, etc. You want to read your data into a buffer and then read lines from that buffer.

lulzabar - August 18, 2016, 6:21 pm

(Aug 18, 2016 02:24 PM)Black?jack Wrote: [\[CITE\]](#) Keep something in mind: `socket.recv()` is not guaranteed to only receive one line. It could receive half a line, or 2 lines, etc. You want to read your data into a buffer and then read lines from that buffer.

Thanks for this heads up. I haven't had any problems (luckily) using it for irc shenanigans but ill definitely start implementing a buffering system to handle the data!

Sleeky - September 16, 2016, 8:18 am

Nice work man, this was well detailed and explained