IRC协议分析笔记

Author: Luo Zijun
Date: 2014-06-01
Version: 0.1
Copyright: Open
Category: IRC,Protocol,Python

Contents

介绍

PyIRC是我为将来集 IRC/XMPP等协议为一体的bot写的 针对 IRC协议方面的库，我的设想是该BOT能在常用的通信协议里面游走，通过自定义的方式向我推送信息，执行我发送的指令，查找资料等。

目前，对于IRC的协议并未完全支持，但是可以处理一些事情了。 鉴于中文圈里面对于这些协议的资料少之又少，所以我会继续完善这个协议，特别是文档这块。

通信流程

建立连接

```python
import sys,time,socket,os,string

HOST="irc.freenode.net"
PORT=6667
NICK="pybot"
IDENT="PyBot"
REALNAME="ipybot"

s=socket.socket( )
s.connect((HOST, PORT))
s.send("NICK %s\n" % 'bot_nick')
s.send("USER %s %s bla :%s\n" % ('username', HOST, 'realname'))
```

加入房间

```python
s.send('JOIN #chinese\n')
```

响应服务器的PING检测

PING命令并不是服务器必需发送给你的，但你要保证服务器一旦发送给你PING消息，你需要把PING消息的随机字符返回给服务器，证明你还在线。

```python
# ['PING', 'asimov.freenode.net\r']
readbuffer = s.recv(4096)
temp=string.split(readbuffer, "\n")[0].split(' :')
if temp[0] == 'PING':
    s.send("PONG %s\r\n" % temp[1].replace('\r',''))
```

代码及消息类型

消息类型

- NOTICE
- PRIVMSG
- PUBMSG

代码

未完成……

- 001（公告）
- 002（描述主机地址及版本）
- 003（描述服务器创建时间）
- 004（）

```
[':asimov.freenode.net NOTICE *', '*** Looking up your hostname...\r']
[':asimov.freenode.net NOTICE *', '*** Checking Ident\r']
[':asimov.freenode.net 001 bot_nick', 'Welcome to the freenode Internet Relay Chat Network bot_nick\r']
```

例子：

明文消息结束标识符

是应该使用 "rn" 还是 "r" 还是 "n" ？ 由于历史原因，IRC RFC 规定的是"rn"，但是绝大部分服务器支持"n"结束符（FreeNode/AOL）。 推荐大家使用"n"结束符标识，同时为了兼容性对"rn"做下替换处理。

```
"Recv Message"
Message.replace('\r\n','\n')
"Send Message"
sock.send('JOIN #test\r\n')
```

所以当我们在使用"n"时推荐使用 "n" 来对标识，

附录

关于IRC的一些标准资料。

IRC Numeric CODE

```
# Numeric table mostly stolen from the Perl IRC module (Net::IRC).
numeric_events = {
   "001": "welcome",
   "002": "yourhost",
   "003": "created",
   "004": "myinfo",
   "005": "featurelist",  # XXX
   "200": "tracelink",
   "201": "traceconnecting",
   "202": "tracehandshake",
   "203": "traceunknown",
   "204": "traceoperator",
   "205": "traceuser",
   "206": "traceserver",
   "207": "traceservice",
   "208": "tracenewtype",
   "209": "traceclass",
   "210": "tracereconnect",
   "211": "statslinkinfo",
   "212": "statscommands",
   "213": "statscline",
   "214": "statsnline",
   "215": "statsiline",
   "216": "statskline",
   "217": "statsqline",
   "218": "statsyline",
   "219": "endofstats",
   "221": "umodeis",
   "231": "serviceinfo",
   "232": "endofservices",
   "233": "service",
   "234": "servlist",
   "235": "servlistend",
   "241": "statslline",
   "242": "statsuptime",
   "243": "statsoline",
   "244": "statshline",
   "250": "luserconns",
   "251": "luserclient",
   "252": "luserop",
   "253": "luserunknown",
   "254": "luserchannels",
   "255": "luserme",
   "256": "adminme",
   "257": "adminloc1",
   "258": "adminloc2",
   "259": "adminemail",
   "261": "tracelog",
   "262": "endoftrace",
   "263": "tryagain",
   "265": "n_local",
   "266": "n_global",
   "300": "none",
   "301": "away",
```

```
    "302": "userhost",
    "303": "ison",
    "305": "unaway",
    "306": "nowaway",
    "311": "whoisuser",
    "312": "whoisserver",
    "313": "whoisoperator",
    "314": "whowasuser",
    "315": "endofwho",
    "316": "whoischanop",
    "317": "whoisidle",
    "318": "endofwhois",
    "319": "whoischannels",
    "321": "liststart",
    "322": "list",
    "323": "listend",
    "324": "channelmodeis",
    "329": "channelcreate",
    "331": "notopic",
    "332": "currenttopic",
    "333": "topicinfo",
    "341": "inviting",
    "342": "summoning",
    "346": "invitelist",
    "347": "endofinvitelist",
    "348": "exceptlist",
    "349": "endofexceptlist",
    "351": "version",
    "352": "whoreply",
    "353": "namreply",
    "361": "killdone",
    "362": "closing",
    "363": "closeend",
    "364": "links",
    "365": "endoflinks",
    "366": "endofnames",
    "367": "banlist",
    "368": "endofbanlist",
    "369": "endofwhowas",
    "371": "info",
    "372": "motd",
    "373": "infostart",
    "374": "endofinfo",
    "375": "motdstart",
    "376": "endofmotd",
    "377": "motd2",      # 1997-10-16 -- tkil
    "381": "youreoper",
    "382": "rehashing",
    "384": "myportis",
    "391": "time",
    "392": "usersstart",
    "393": "users",
    "394": "endofusers",
    "395": "nousers",
    "401": "nosuchnick",
    "402": "nosuchserver",
```

```
    "403": "nosuchchannel",
    "404": "cannotsendtochan",
    "405": "toomanychannels",
    "406": "wasnosuchnick",
    "407": "toomanytargets",
    "409": "noorigin",
    "411": "norecipient",
    "412": "notexttosend",
    "413": "notoplevel",
    "414": "wildtoplevel",
    "421": "unknowncommand",
    "422": "nomotd",
    "423": "noadmininfo",
    "424": "fileerror",
    "431": "nonicknamegiven",
    "432": "erroneusnickname", # Thiss iz how its speld in thee RFC.
    "433": "nicknameinuse",
    "436": "nickcollision",
    "437": "unavailresource",  # "Nick temporally unavailable"
    "441": "usernotinchannel",
    "442": "notonchannel",
    "443": "useronchannel",
    "444": "nologin",
    "445": "summondisabled",
    "446": "usersdisabled",
    "451": "notregistered",
    "461": "needmoreparams",
    "462": "alreadyregistered",
    "463": "nopermforhost",
    "464": "passwdmismatch",
    "465": "yourebannedcreep", # I love this one...
    "466": "youwillbebanned",
    "467": "keyset",
    "471": "channelisfull",
    "472": "unknownmode",
    "473": "inviteonlychan",
    "474": "bannedfromchan",
    "475": "badchannelkey",
    "476": "badchanmask",
    "477": "nochanmodes", # "Channel doesn't support modes"
    "478": "banlistfull",
    "481": "noprivileges",
    "482": "chanoprivsneeded",
    "483": "cantkillserver",
    "484": "restricted",   # Connection is restricted
    "485": "uniqopprivsneeded",
    "491": "nooperhost",
    "492": "noservicehost",
    "501": "umodeunknownflag",
    "502": "usersdontmatch",
}
```

IRC Protocol String

```python
protocol_events = [
    # IRC protocol events
    "error",
    "join",
    "kick",
    "mode",
    "part",
    "ping",
    "privmsg",
    "privnotice",
    "pubmsg",
    "pubnotice",
    "quit",
    "invite",
    "pong",
]
```

IRC DCC

资料暂时欠缺。