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# **irc3 Documentation**

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<b>1</b>	<b>Installation</b>	<b>3</b>
<b>2</b>	<b>Quick start</b>	<b>5</b>
<b>3</b>	<b>Documentation</b>	<b>9</b>
3.1	irc3.dec decorators	9
3.2	irc3.utils Utils	10
3.3	irc3.rfc RFC1459	12
3.4	irc3.dcc DCC	44
3.5	Reloadable plugins	45
3.6	irc3.plugins.asynchronous Asynchronous events	46
3.7	irc3.plugins.autocommand Autocommand plugin	48
3.8	irc3.plugins.autojoins Auto join plugin	49
3.9	irc3.plugins.casefold casefolding plugin	49
3.10	irc3.plugins.command Command plugin	49
3.11	irc3.plugins.core Core plugin	53
3.12	irc3.plugins.cron Cron plugin	53
3.13	irc3.plugins.ctcp CTCP replies	54
3.14	irc3.plugins.dcc DCC Chat plugin	54
3.15	irc3.plugins.feeds Feeds plugin	55
3.16	irc3.plugins.fifo Fifo plugin	57
3.17	irc3.plugins.human Human plugin	57
3.18	irc3.plugins.log Log plugin	57
3.19	irc3.plugins.logger Channel logger plugin	58
3.20	irc3.plugins.pager Paginate large output	58
3.21	irc3.plugins.quakenet QuakeNet authorization	59
3.22	irc3.plugins.sasl SASL authentication	59
3.23	irc3.plugins.search Search plugin	60
3.24	irc3.plugins.shell_command Shell commands	60
3.25	irc3.plugins.slack Slack plugin	60
3.26	irc3.plugins.social Social networking	61
3.27	irc3.plugins.storage Storage plugin	62
3.28	irc3.plugins.uptime Uptime plugin	64
3.29	irc3.plugins.userlist User list plugin	64
3.30	irc3.plugins.web Web plugin	65
3.31	Contribute	65

<b>4 Indices and tables</b>	<b>67</b>
<b>Python Module Index</b>	<b>69</b>
<b>Index</b>	<b>71</b>

**build** passing**coverage** 95%

A pluggable irc client library based on python's [asyncio](#).



Requires python 3.5+

Python 2 is no longer supported, but if you don't have a choice you can use an older version:

```
$ pip install "irc3<0.9"
```

Source: <https://github.com/gawel/irc3/>

Docs: <https://irc3.readthedocs.io/>

Irc: <irc://irc.freenode.net/irc3> (www)

I've spent hours writing this software, with love. Please consider tipping if you like it:

BTC: 1PruQAwByDndFZ7vTeJhyWefAghaZx9RZg

ETH: 0xb6418036d8E06c60C4D91c17d72Df6e1e5b15CE6

LTC: LY6CdZcDbxnBX9GFBj45TqVj8NyKBBqsmT



# CHAPTER 1

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## Installation

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Using pip:

```
$ pip install irc3
```





## CHAPTER 2

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### Quick start

---

irc3 provides a basic template to help you to quickly test a bot. Here is how to create a bot named `mybot`.

Create a new directory and cd to it:

```
$ mkdir mybot
$ cd mybot
```

Then use the template:

```
$ python -m irc3.template mybot
```

This will create an almost ready to use `config.ini` file and a simple plugin named `mybot_plugin.py` that says «Hi» when the bot or someone else joins a channel and includes an `echo` command.

Here is what the config file will look like:

```
[bot]
nick = mybot
username = mybot

host = localhost
port = 6667

# uncomment this if you want ssl support
# ssl = true
# uncomment this if you don't want to check the certificate
# ssl_verify = CERT_NONE

# uncomment this if you want to use sasl authentication
# sasl_username = mybot
# sasl_password = yourpassword

includes =
    irc3.plugins.command
#    irc3.plugins.uptime
```

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```
# irc3.plugins.ctcp
mybot_plugin

# the bot will join #mybot_channel
# ${#} is replaced by the # char
autojoins =
    ${#}mybot_channel

# Autojoin delay, disabled by default
# float or int value
# autojoin_delay = 3.1

# The maximum amount of lines irc3 sends at once.
# Default to 4, set to 0 to disable
# flood_burst = 10

# The number of lines per $flood_rate_delay seconds irc3 sends after reaching
# the $flood_burst limit.
# Default to 1
# flood_rate = 2

# The bot will send $flood_rate messages per $flood_rate_delay seconds
# Default to 1
# flood_rate_delay = 5

[irc3.plugins.command]
# command plugin configuration

# set command char
cmd = !

# set guard policy
guard = irc3.plugins.command.mask_based_policy

[irc3.plugins.command.masks]
# this section is used by the guard to secure the bot's command
# change your nickname and uncomment the line below
# mynick!*@* = all_permissions
* = view
```

And here is the plugin:

```
# -*- coding: utf-8 -*-
from irc3.plugins.command import command
import irc3

@irc3.plugin
class Plugin:

    def __init__(self, bot):
        self.bot = bot

    @irc3.event(irc3.rfc.JOIN)
    def say_hi(self, mask, channel, **kw):
        """Say hi when someone join a channel"""
        if mask.nick != self.bot.nick:
```

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```
        self.bot.privmsg(channel, 'Hi %s!' % mask.nick)
    else:
        self.bot.privmsg(channel, 'Hi!')

@command(permission='view')
def echo(self, mask, target, args):
    """Echo

        %%echo <message>...
    """
    yield ' '.join(args['<message>'])
```

Have a look at those file and edit the config file for your needs. You may have to edit:

- the autojoin channel
- your irc mask in the `irc3.plugins.command.mask` section

Once you're done with editing, run:

```
$ irc3 config.ini
```

Check the help of the `irc3` command.

```
$ irc3 -h
```

If you're enjoying it, you can check for more detailed docs below. And some more examples here: <https://github.com/gawel/irc3/tree/master/examples>



## 3.1 irc3.dec decorators

### 3.1.1 plugin

`irc3.dec.plugin` (*wrapped*)  
register a class as plugin

### 3.1.2 bot event

**class** `irc3.dec.event` (*regexp*, *callback=None*, *iotype='in'*, *venusian\_category='irc3.rfc1459'*)  
register a method or function an irc event callback:

```
>>> @event ('^:\S+ 353 [^\s#]+(?:<channel>\S+) :(?:<nicknames>.*)')
... def on_names(bot, channel=None, nicknames=None):
...     '''this will catch nickname when you enter a channel'''
...     print(channel, nicknames.split(':'))
```

The callback can be either a function or a plugin method

If you specify the *iotype* parameter to “out” then the event will be triggered when the regexp match something sent by the bot.

For example this event will repeat private messages sent by the bot to the `#irc3` channel:

```
>>> @event (r'PRIVMSG (?:<target>[^\s#]+) :(?:<data>.*)', iotype='out')
... def msg3(bot, target=None, data=None):
...     bot.privmsg('#irc3',
...                 '<{0}> {1}: {2}'.format(bot.nick, target, data))
```

### 3.1.3 bot extend

`irc3.dec.extend(func)`

Allow to extend a bot:

Create a module with some useful routine:

```
# -*- coding: utf-8 -*-
import irc3

@irc3.extend
def my_usefull_function(bot, *args):
    return 'my_usefull_function(*%s)' % (args,)

@irc3.plugin
class MyPlugin(object):

    def __init__(self, bot):
        self.bot = bot

    @irc3.extend
    def my_usefull_method(self, *args):
        return 'my_usefull_method(*%s)' % (args,)
```

Now you can use those routine in your bot:

```
>>> bot = IrcBot()
>>> bot.include('myextends')
>>> print(bot.my_usefull_function(1))
my_usefull_function(*(1,))
>>> print(bot.my_usefull_method(2))
my_usefull_method(*(2,))
```

## 3.2 irc3.utils Utils

**class** `irc3.utils.IrcString`

Argument wrapper

**hostname**

return host name:

```
>>> print(IrcString('foo!user@host').hostname)
host
>>> IrcString('#foo').hostname is None
True
>>> IrcString('irc.freenode.net').hostname is None
True
```

**is\_channel**

return True if the string is a channel:

```
>>> IrcString('#channel').is_channel
True
```

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```
>>> IrcString('&channel').is_channel
True
```

**is\_nick**

return True if the string is a nickname:

```
>>> IrcString('foo').is_nick
True
```

**is\_server**

return True if the string is a server:

```
>>> IrcString('irc.freenode.net').is_server
True
```

**lnick**

return nick name in lowercase:

```
>>> print(IrcString('Foo').lnick)
foo
```

**nick**

return nick name:

```
>>> print(IrcString('foo').nick)
foo
>>> print(IrcString('foo!user@host').nick)
foo
>>> IrcString('#foo').nick is None
True
>>> IrcString('irc.freenode.net').nick is None
True
```

**tagdict**

return a dict converted from this string interpreted as a tag-string

```
>>> from pprint import pprint
>>> dict_ = IrcString('aaa=bbb;ccc;example.com/ddd=eee').tagdict
>>> pprint({str(k): str(v) for k, v in dict_.items()})
{'aaa': 'bbb', 'ccc': 'None', 'example.com/ddd': 'eee'}
```

**username**

return user name:

```
>>> print(IrcString('foo!user@host').username)
user
>>> IrcString('#foo').username is None
True
>>> IrcString('irc.freenode.net').username is None
True
```

`irc3.utils.as_list(value)`  
clever string splitting:

```
>>> print(as_list('value'))
['value']
```

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```
>>> print(as_list('v1 v2'))
['v1', 'v2']
>>> print(as_list(None))
[]
>>> print(as_list(['v1']))
['v1']
```

**irc3.utils.as\_channel** (*value*)

Always return a channel name:

```
>>> print(as_channel('chan'))
#chan
>>> print(as_channel('#chan'))
#chan
>>> print(as_channel('&chan'))
&chan
```

**irc3.utils.split\_message** (*message*, *max\_length*)

Split long messages

**class** **irc3.utils.Logger** (*name*, *level=0*)Replace the default logger to add a `set_irc_targets()` method**set\_irc\_targets** (*bot*, *\*targets*)

Add a irc Handler using bot and log to targets (can be nicks or channels:

```
>>> log = logging.getLogger('irc.mymodule')
>>> log.set_irc_targets(bot, '#chan', 'admin')
```

**class** **irc3.utils.Config**

Simple dict wrapper:

```
>>> c = Config(dict(a=True))
>>> c.a
True
```

**irc3.utils.parse\_config** (*main\_section*, *\*filenames*)

parse config files

**irc3.utils.extract\_config** (*config*, *prefix*)

return all keys with the same prefix without the prefix

**irc3.utils.maybedotted** (*name*)

Resolve dotted names:

```
>>> maybedotted('irc3.config')
<module 'irc3.config' from '...'>
>>> maybedotted('irc3.utils.IrcString')
<class 'irc3.utils.IrcString'>
```

## 3.3 irc3.rfc RFC1459

### 3.3.1 Replies (REPL)



## 259 - RPL\_ADMINEMAIL

Format :{srv} 259 {nick} :{admin\_info}

Match ^:(?P<srv>\S+) 259 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ADMINEMAIL)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 257 - RPL\_ADMINLOC1

Format :{srv} 257 {nick} :{admin\_info}

Match ^:(?P<srv>\S+) 257 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ADMINLOC1)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 258 - RPL\_ADMINLOC2

Format :{srv} 258 {nick} :{admin\_info}

Match ^:(?P<srv>\S+) 258 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ADMINLOC2)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 256 - RPL\_ADMINME

Format :{srv} 256 {nick} {server} :Administrative info

Match ^:(?P<srv>\S+) 256 (?P<me>\S+) (?P<server>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ADMINME)
def myevent(bot, srv=None, me=None, server=None, data=None):
    # do something
```

## 301 - RPL\_AWAY

Format :{srv} 301 {nick} {nick} :{away\_message}

Match ^:(?P<srv>\S+) 301 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_AWAY)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 367 - RPL\_BANLIST

Format :{srv} 367 {nick} {channel} {banid}

Match ^:(?P<srv>\S+) 367 (?P<me>\S+) (?P<channel>\S+) (?P<banid>\S+)

Example:

```
@irc3.event(rfc.RPL_BANLIST)
def myevent(bot, srv=None, me=None, channel=None, banid=None):
    # do something
```

### 324 - RPL\_CHANNELMODEIS

Format :{srv} 324 {nick} {channel} {mode} {mode\_params}

Match ^:(?P<srv>\S+) 324 (?P<me>\S+) (?P<channel>\S+) (?P<mode>\S+) (?P<mode\_params>\S+)

Example:

```
@irc3.event(rfc.RPL_CHANNELMODEIS)
def myevent(bot, srv=None, me=None, channel=None, mode=None, mode_params=None):
    # do something
```

### 368 - RPL\_ENDOFBANLIST

Format :{srv} 368 {nick} {channel} :End of channel ban list

Match ^:(?P<srv>\S+) 368 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFBANLIST)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 374 - RPL\_ENDOFINFO

Format :{srv} 374 {nick} :End of /INFO list

Match ^:(?P<srv>\S+) 374 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFINFO)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 365 - RPL\_ENDOFLINKS

Format :{srv} 365 {nick} {mask} :End of /LINKS list

Match ^: (?P<srv>\S+) 365 (?P<me>\S+) (?P<mask>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFLINKS)
def myevent(bot, srv=None, me=None, mask=None, data=None):
    # do something
```

### 376 - RPL\_ENDOFMOTD

Format :{srv} 376 {nick} :End of /MOTD command

Match ^: (?P<srv>\S+) 376 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFMOTD)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 366 - RPL\_ENDOFNAMES

Format :{srv} 366 {nick} {channel} :End of /NAMES list

Match ^: (?P<srv>\S+) 366 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFNAMES)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 219 - RPL\_ENDOFSTATS

Format :{srv} 219 {nick} {stats\_letter} :End of /STATS report

Match ^: (?P<srv>\S+) 219 (?P<me>\S+) (?P<stats\_letter>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFSTATS)
def myevent(bot, srv=None, me=None, stats_letter=None, data=None):
    # do something
```

### 394 - RPL\_ENDOFUSERS

Format :{srv} 394 {nick} :End of users

Match ^: (?P<srv>\S+) 394 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFUSERS)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 315 - RPL\_ENDOFWHO

Format :{srv} 315 {nick} {nick} :End of /WHO list

Match ^: (?P<srv>\S+) 315 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFWHO)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 318 - RPL\_ENDOFWHOIS

Format :{srv} 318 {nick} {nick} :End of /WHOIS list

Match ^: (?P<srv>\S+) 318 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFWHOIS)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 369 - RPL\_ENDOFWHOWAS

Format :{srv} 369 {nick} {nick} :End of WHOWAS

Match ^: (?P<srv>\S+) 369 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ENDOFWHOWAS)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 371 - RPL\_INFO

Format :{srv} 371 {nick} :{string}

Match ^: (?P<srv>\S+) 371 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_INFO)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 341 - RPL\_INVITING

Format :{srv} 341 {nick} {channel} {nick}

Match ^:(?P<srv>\S+) 341 (?P<me>\S+) (?P<channel>\S+) (?P<nick>\S+)

Example:

```
@irc3.event(rfc.RPL_INVITING)
def myevent(bot, srv=None, me=None, channel=None, nick=None):
    # do something
```

### 303 - RPL\_ISON

Format :{srv} 303 {nick} :{nicknames}

Match ^:(?P<srv>\S+) 303 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_ISON)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 364 - RPL\_LINKS

Format :{srv} 364 {nick} {mask} {server} :{hopcount} {server\_info}

Match ^:(?P<srv>\S+) 364 (?P<me>\S+) (?P<mask>\S+) (?P<server>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_LINKS)
def myevent(bot, srv=None, me=None, mask=None, server=None, data=None):
    # do something
```

### 322 - RPL\_LIST

Format :{srv} 322 {nick} {channel} {visible} :{topic}

Match ^:(?P<srv>\S+) 322 (?P<me>\S+) (?P<channel>\S+) (?P<visible>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_LIST)
def myevent(bot, srv=None, me=None, channel=None, visible=None, data=None):
    # do something
```

### 323 - RPL\_LISTEND

Format :{srv} 323 {nick} :End of /LIST

Match ^:(?P<srv>\S+) 323 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_LISTEND)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 321 - RPL\_LISTSTART

Format :{srv} 321 {nick} Channel :Users Name

Match ^:(?P<srv>\S+) 321 (?P<me>\S+) Channel :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_LISTSTART)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 254 - RPL\_USERCHANNELS

Format :{srv} 254 {nick} {x} :channels formed

Match ^:(?P<srv>\S+) 254 (?P<me>\S+) (?P<x>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_USERCHANNELS)
def myevent(bot, srv=None, me=None, x=None, data=None):
    # do something
```

### 251 - RPL\_USERCLIENT

Format :{srv} 251 {nick} :There are {x} users and {y} invisible on {z} servers

Match ^:(?P<srv>\S+) 251 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_USERCLIENT)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 255 - RPL\_USERME

Format :{srv} 255 {nick} :I have {x} clients and {y}

Match ^:(?P<srv>\S+) 255 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_USERME)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 252 - RPL\_LUSEROP

Format :{srv} 252 {nick} {x} :operator(s) online

Match ^: (?P<srv>\S+) 252 (?P<me>\S+) (?P<x>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_LUSEROP)
def myevent(bot, srv=None, me=None, x=None, data=None):
    # do something
```

## 253 - RPL\_LUSERUNKNOWN

Format :{srv} 253 {nick} {x} :unknown connection(s)

Match ^: (?P<srv>\S+) 253 (?P<me>\S+) (?P<x>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_LUSERUNKNOWN)
def myevent(bot, srv=None, me=None, x=None, data=None):
    # do something
```

## 372 - RPL\_MOTD

Format :{srv} 372 {nick} :- {text}

Match ^: (?P<srv>\S+) 372 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_MOTD)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 375 - RPL\_MOTDSTART

Format :{srv} 375 {nick} :- {server} Message of the day -

Match ^: (?P<srv>\S+) 375 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_MOTDSTART)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 353 - RPL\_NAMREPLY

Format :{srv} 353 {nick} {m} {channel} :{nicknames}

Match ^: (?P<srv>\S+) 353 (?P<me>\S+) (?P<m>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_NAMREPLY)
def myevent(bot, srv=None, me=None, m=None, channel=None, data=None):
    # do something
```

### 331 - RPL\_NOTOPIC

Format :{srv} 331 {nick} {channel} :No topic is set

Match ^:(?P<srv>\S+) 331 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_NOTOPIC)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 395 - RPL\_NOUSERS

Format :{srv} 395 {nick} :Nobody logged in

Match ^:(?P<srv>\S+) 395 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_NOUSERS)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 306 - RPL\_NOWAWAY

Format :{srv} 306 {nick} :You have been marked as being away

Match ^:(?P<srv>\S+) 306 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_NOWAWAY)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 382 - RPL\_REHASHING

Format :{srv} 382 {nick} {config\_file} :Rehashing

Match ^:(?P<srv>\S+) 382 (?P<me>\S+) (?P<config\_file>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_REHASHING)
def myevent(bot, srv=None, me=None, config_file=None, data=None):
    # do something
```



## 213 - RPL\_STATSCLINE

Format :{srv} 213 {nick} C {host} \* {nick} {port} {class}

Match ^:(?P<srv>\S+) 213 (?P<me>\S+) C (?P<host>\S+) . (?P<nick>\S+) (?P<port>\S+) (?P<class>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSCLINE)
def myevent(bot, srv=None, me=None, host=None, nick=None, port=None, class=None):
    # do something
```

## 212 - RPL\_STATSCOMMANDS

Format :{srv} 212 {nick} {cmd} {count}

Match ^:(?P<srv>\S+) 212 (?P<me>\S+) (?P<cmd>\S+) (?P<count>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSCOMMANDS)
def myevent(bot, srv=None, me=None, cmd=None, count=None):
    # do something
```

## 244 - RPL\_STATSHLINE

Format :{srv} 244 {nick} H {hostmask} \* {servername}

Match ^:(?P<srv>\S+) 244 (?P<me>\S+) H (?P<hostmask>\S+) . (?P<servername>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSHLINE)
def myevent(bot, srv=None, me=None, hostmask=None, servername=None):
    # do something
```

## 215 - RPL\_STATSILINE

Format :{srv} 215 {nick} I {host} \* {host1} {port} {class}

Match ^:(?P<srv>\S+) 215 (?P<me>\S+) I (?P<host>\S+) . (?P<host1>\S+) (?P<port>\S+) (?P<class>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSILINE)
def myevent(bot, srv=None, me=None, host=None, host1=None, port=None, class=None):
    # do something
```

## 216 - RPL\_STATSILINE

Format :{srv} 216 {nick} K {host} \* {username} {port} {class}

Match ^:(?P<srv>\S+) 216 (?P<me>\S+) K (?P<host>\S+) . (?P<username>\S+) (?P<port>\S+) (?P<class>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSKLINE)
def myevent(bot, srv=None, me=None, host=None, username=None, port=None, class=None):
    # do something
```

## 211 - RPL\_STATSLINKINFO

Format :{srv} 211 {nick} :{linkname} {sendq} {sent\_messages} {received\_bytes} {time\_open}

Match ^:(?P<srv>\S+) 211 (?P<me>\S+) (?P<linkname>\S+) (?P<sendq>\S+) (?P<sent\_messages>\S+) (?P<received\_bytes>\S+) (?P<time\_open>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSLINKINFO)
def myevent(bot, srv=None, me=None, linkname=None, sendq=None, sent_messages=None,
    received_bytes=None, time_open=None):
    # do something
```

## 241 - RPL\_STATSLLINE

Format :{srv} 241 {nick} L {hostmask} \* {servername} {maxdepth}

Match ^:(?P<srv>\S+) 241 (?P<me>\S+) L (?P<hostmask>\S+) . (?P<servername>\S+) (?P<maxdepth>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSLLINE)
def myevent(bot, srv=None, me=None, hostmask=None, servername=None, maxdepth=None):
    # do something
```

## 214 - RPL\_STATSNLN

Format :{srv} 214 {nick} N {host} \* {nick} {port} {class}

Match ^:(?P<srv>\S+) 214 (?P<me>\S+) N (?P<host>\S+) . (?P<nick>\S+) (?P<port>\S+) (?P<class>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSNLN)
def myevent(bot, srv=None, me=None, host=None, nick=None, port=None, class=None):
    # do something
```

## 243 - RPL\_STATSOLN

Format :{srv} 243 {nick} O {hostmask} \* {nick}

Match ^:(?P<srv>\S+) 243 (?P<me>\S+) O (?P<hostmask>\S+) . (?P<nick>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSOLINE)
def myevent(bot, srv=None, me=None, hostmask=None, nick=None):
    # do something
```

## 242 - RPL\_STATSUPTIME

Format :{srv} 242 {nick} :Server Up{days}days {hours}

Match ^:(?P<srv>\S+) 242 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_STATSUPTIME)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 218 - RPL\_STATSYLINE

Format :{srv} 218 {nick} frequency> {max\_sendq}

Match ^:(?P<srv>\S+) 218 (?P<me>\S+) frequency> (?P<max\_sendq>\S+)

Example:

```
@irc3.event(rfc.RPL_STATSYLINE)
def myevent(bot, srv=None, me=None, max_sendq=None):
    # do something
```

## 342 - RPL\_SUMMONING

Format :{srv} 342 {nick} {nick} :Summoning user to IRC

Match ^:(?P<srv>\S+) 342 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_SUMMONING)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

## 391 - RPL\_TIME

Format :{srv} 391 {nick} {server} :{string\_showing\_server's\_local\_time}

Match ^:(?P<srv>\S+) 391 (?P<me>\S+) (?P<server>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_TIME)
def myevent(bot, srv=None, me=None, server=None, data=None):
    # do something
```

### 332 - RPL\_TOPIC

Format :{srv} 332 {nick} {channel} :{topic}

Match ^:(?P<srv>\S+) 332 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_TOPIC)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 201 - RPL\_TRACECONNECTING

Format :{srv} 201 {nick} Try. {class} {server}

Match ^:(?P<srv>\S+) 201 (?P<me>\S+) Try. (?P<class>\S+) (?P<server>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACECONNECTING)
def myevent(bot, srv=None, me=None, class=None, server=None):
    # do something
```

### 202 - RPL\_TRACEHANDSHAKE

Format :{srv} 202 {nick} H.S. {class} {server}

Match ^:(?P<srv>\S+) 202 (?P<me>\S+) H.S. (?P<class>\S+) (?P<server>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACEHANDSHAKE)
def myevent(bot, srv=None, me=None, class=None, server=None):
    # do something
```

### 200 - RPL\_TRACELINK

Format :{srv} 200 {nick} {next\_server}

Match ^:(?P<srv>\S+) 200 (?P<me>\S+) (?P<next\_server>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACELINK)
def myevent(bot, srv=None, me=None, next_server=None):
    # do something
```

### 261 - RPL\_TRACELOG

Format :{srv} 261 {nick} File {logfile} {debug\_level}

Match ^:(?P<srv>\S+) 261 (?P<me>\S+) File (?P<logfile>\S+) (?P<debug\_level>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACELOG)
def myevent(bot, srv=None, me=None, logfile=None, debug_level=None):
    # do something
```

## 208 - RPL\_TRACENEWTYPE

Format :{srv} 208 {nick} {newtype} 0 {client}

Match ^: (?P<srv>\S+) 208 (?P<me>\S+) (?P<newtype>\S+) 0 (?P<client>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACENEWTYPE)
def myevent(bot, srv=None, me=None, newtype=None, client=None):
    # do something
```

## 204 - RPL\_TRACEOPERATOR

Format :{srv} 204 {nick} Oper {class} {nick}

Match ^: (?P<srv>\S+) 204 (?P<me>\S+) Oper (?P<class>\S+) (?P<nick>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACEOPERATOR)
def myevent(bot, srv=None, me=None, class=None, nick=None):
    # do something
```

## 206 - RPL\_TRACESERVER

Format :{srv} 206 {nick} {mask}

Match ^: (?P<srv>\S+) 206 (?P<me>\S+) (?P<mask>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACESERVER)
def myevent(bot, srv=None, me=None, mask=None):
    # do something
```

## 203 - RPL\_TRACEUNKNOWN

Format :{srv} 203 {nick} ???? {class} [{clientip}]

Match ^: (?P<srv>\S+) 203 (?P<me>\S+) \S+ (?P<class>\S+) [(?P<clientip>\S+)]

Example:

```
@irc3.event(rfc.RPL_TRACEUNKNOWN)
def myevent(bot, srv=None, me=None, class=None, clientip=None):
    # do something
```

## 205 - RPL\_TRACEUSER

Format :{srv} 205 {nick} User {class} {nick}

Match ^: (?P<srv>\S+) 205 (?P<me>\S+) User (?P<class>\S+) (?P<nick>\S+)

Example:

```
@irc3.event(rfc.RPL_TRACEUSER)
def myevent(bot, srv=None, me=None, class=None, nick=None):
    # do something
```

## 221 - RPL\_UMODEIS

Format :{srv} 221 {nick} {user\_mode\_string}

Match ^: (?P<srv>\S+) 221 (?P<me>\S+) (?P<user\_mode\_string>\S+)

Example:

```
@irc3.event(rfc.RPL_UMODEIS)
def myevent(bot, srv=None, me=None, user_mode_string=None):
    # do something
```

## 305 - RPL\_UNAWAY

Format :{srv} 305 {nick} :You are no longer marked as being away

Match ^: (?P<srv>\S+) 305 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_UNAWAY)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 302 - RPL\_USERHOST

Format :{srv} 302 {nick} :[{reply}{{space}}{reply}]]

Match ^: (?P<srv>\S+) 302 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_USERHOST)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 393 - RPL\_USERS

Format :{srv} 393 {nick} {x} {y} {z}

Match ^: (?P<srv>\S+) 393 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_USERS)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 392 - RPL\_USERSSTART

Format :{srv} 392 {nick} :UserID Terminal Host

Match ^:(?P<srv>\S+) 392 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_USERSSTART)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 351 - RPL\_VERSION

Format :{srv} 351 {nick} {version}.{debuglevel} {server} :{comments}

Match ^:(?P<srv>\S+) 351 (?P<me>\S+) (?P<version>\S+).(P<debuglevel>\S+) (?P<server>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_VERSION)
def myevent(bot, srv=None, me=None, version=None, debuglevel=None, server=None,
    ↪data=None):
    # do something
```

### 319 - RPL\_WHOSCHANNELS

Format :{srv} 319 {nick} :{channels}

Match ^:(?P<srv>\S+) 319 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_WHOSCHANNELS)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 317 - RPL\_WHOSIDLE

Format :{srv} 317 {nick} {nick} {x} :seconds idle

Match ^:(?P<srv>\S+) 317 (?P<me>\S+) (?P<nick>\S+) (?P<x>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_WHOSIDLE)
def myevent(bot, srv=None, me=None, nick=None, x=None, data=None):
    # do something
```

### 313 - RPL\_WHOSOPERATOR

Format :{srv} 313 {nick} {nick} :is an IRC operator

Match ^:(?P<srv>\S+) 313 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_WHOSOPERATOR)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 312 - RPL\_WHOSSERVER

Format :{srv} 312 {nick} {nick} {server} :{server\_info}

Match ^:(?P<srv>\S+) 312 (?P<me>\S+) (?P<nick>\S+) (?P<server>\S+) :(?P<data>.\*
\*)

Example:

```
@irc3.event(rfc.RPL_WHOSSERVER)
def myevent(bot, srv=None, me=None, nick=None, server=None, data=None):
    # do something
```

### 311 - RPL\_WHOSUSER

Format :{srv} 311 {nick} {nick} {username} {host} {m} :{realname}

Match ^:(?P<srv>\S+) 311 (?P<me>\S+) (?P<nick>\S+) (?P<username>\S+) (?
P<host>\S+) (?P<m>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_WHOSUSER)
def myevent(bot, srv=None, me=None, nick=None, username=None, host=None, m=None,
↳data=None):
    # do something
```

### 352 - RPL\_WHOREPLY

Format :{srv} 352 {nick} :{channel} {username} {host} {server} {nick} {modes}
:{hopcount} {realname}

Match ^:(?P<srv>\S+) 352 (?P<me>\S+) (?P<channel>\S+) (?P<username>\S+) (?
P<host>\S+) (?P<server>\S+) (?P<nick>\S+) (?P<modes>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_WHOREPLY)
def myevent(bot, srv=None, me=None, channel=None, username=None, host=None,
↳server=None, nick=None, modes=None, data=None):
    # do something
```



### 314 - RPL\_WHOWASUSER

Format :{srv} 314 {nick} {nick} {username} {host} \* :{realname}

Match ^:(?P<srv>\S+) 314 (?P<me>\S+) (?P<nick>\S+) (?P<username>\S+) (?P<host>\S+) . :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_WHOWASUSER)
def myevent(bot, srv=None, me=None, nick=None, username=None, host=None, data=None):
    # do something
```

### 381 - RPL\_YOUREOPER

Format :{srv} 381 {nick} :You are now an IRC operator

Match ^:(?P<srv>\S+) 381 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.RPL_YOUREOPER)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 3.3.2 Errors (ERR)

### 462 - ERR\_ALREADYREGISTERED

Format :{srv} 462 {nick} :You may not reregister

Match ^:(?P<srv>\S+) 462 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_ALREADYREGISTERED)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 475 - ERR\_BADCHANNELKEY

Format :{srv} 475 {nick} {channel} :Cannot join channel (+k)

Match ^:(?P<srv>\S+) 475 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_BADCHANNELKEY)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

#### 474 - ERR\_BANNEDFROMCHAN

Format :{srv} 474 {nick} {channel} :Cannot join channel (+b)

Match ^:(?P<srv>\S+) 474 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_BANNEDFROMCHAN)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

#### 404 - ERR\_CANNOTSENDTOCHAN

Format :{srv} 404 {nick} {channel} :Cannot send to channel

Match ^:(?P<srv>\S+) 404 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_CANNOTSENDTOCHAN)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

#### 483 - ERR\_CANTKILLSERVER

Format :{srv} 483 {nick} :You cant kill a server!

Match ^:(?P<srv>\S+) 483 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_CANTKILLSERVER)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

#### 471 - ERR\_CHANNELISFULL

Format :{srv} 471 {nick} {channel} :Cannot join channel (+l)

Match ^:(?P<srv>\S+) 471 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_CHANNELISFULL)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

#### 482 - ERR\_CHANOPRIVSNEEDED

Format :{srv} 482 {nick} {channel} :You're not channel operator

Match ^:(?P<srv>\S+) 482 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_CHANOPRIVSNEEDED)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 432 - ERR\_ERRONEUSNICKNAME

Format :{srv} 432 {nick} {nick} :Erroneus nickname

Match ^:(?P<srv>\S+) 432 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_ERRONEUSNICKNAME)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 473 - ERR\_INVITEONLYCHAN

Format :{srv} 473 {nick} {channel} :Cannot join channel (+i)

Match ^:(?P<srv>\S+) 473 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_INVITEONLYCHAN)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 467 - ERR\_KEYSET

Format :{srv} 467 {nick} {channel} :Channel key already set

Match ^:(?P<srv>\S+) 467 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_KEYSET)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 461 - ERR\_NEEDMOREPARAMS

Format :{srv} 461 {nick} {cmd} :Not enough parameters

Match ^:(?P<srv>\S+) 461 (?P<me>\S+) (?P<cmd>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NEEDMOREPARAMS)
def myevent(bot, srv=None, me=None, cmd=None, data=None):
    # do something
```

## ERR\_NICK

Match `^(@(?P<tags>\S+) )?:(?P<srv>\S+) (?P<retcode>(432|433|436)) (?P<me>\S+) (?P<nick>\S+) :(?P<data>.*)`

Example:

```
@irc3.event(rfc.ERR_NICK)
def myevent(bot, srv=None, retcode=None, me=None, nick=None, data=None, tags=None):
    # do something
```

## 436 - ERR\_NICKCOLLISION

Format `{srv} 436 {nick} {nick} :Nickname collision KILL`

Match `^(?P<srv>\S+) 436 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.*)`

Example:

```
@irc3.event(rfc.ERR_NICKCOLLISION)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

## 433 - ERR\_NICKNAMEINUSE

Format `{srv} 433 {nick} {nick} :Nickname is already in use`

Match `^(?P<srv>\S+) 433 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.*)`

Example:

```
@irc3.event(rfc.ERR_NICKNAMEINUSE)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

## 423 - ERR\_NOADMININFO

Format `{srv} 423 {nick} {server} :No administrative info available`

Match `^(?P<srv>\S+) 423 (?P<me>\S+) (?P<server>\S+) :(?P<data>.*)`

Example:

```
@irc3.event(rfc.ERR_NOADMININFO)
def myevent(bot, srv=None, me=None, server=None, data=None):
    # do something
```

## 444 - ERR\_NOLOGIN

Format `{srv} 444 {nick} {nick} :User not logged in`

Match `^(?P<srv>\S+) 444 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.*)`

Example:

```
@irc3.event(rfc.ERR_NOLOGIN)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

## 422 - ERR\_NOMOTD

Format :{srv} 422 {nick} :MOTD File is missing

Match ^:(?P<srv>\S+) 422 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOMOTD)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 431 - ERR\_NONICKNAMEGIVEN

Format :{srv} 431 {nick} :No nickname given

Match ^:(?P<srv>\S+) 431 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NONICKNAMEGIVEN)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 491 - ERR\_NOOPERHOST

Format :{srv} 491 {nick} :No O-lines for your host

Match ^:(?P<srv>\S+) 491 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOOPERHOST)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 409 - ERR\_NOORIGIN

Format :{srv} 409 {nick} :No origin specified

Match ^:(?P<srv>\S+) 409 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOORIGIN)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 463 - ERR\_NOPERMFORHOST

Format :{srv} 463 {nick} :Your host isn't among the privileged

Match ^: (?P<srv>\S+) 463 (?P<me>\S+) : (?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOPERMFORHOST)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 481 - ERR\_NOPRIVILEGES

Format :{srv} 481 {nick} :Permission Denied- You're not an IRC operator

Match ^: (?P<srv>\S+) 481 (?P<me>\S+) : (?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOPRIVILEGES)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 411 - ERR\_NORECIPIENT

Format :{srv} 411 {nick} :No recipient given ({cmd})

Match ^: (?P<srv>\S+) 411 (?P<me>\S+) : (?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NORECIPIENT)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 403 - ERR\_NOSUCHCHANNEL

Format :{srv} 403 {nick} {channel} :No such channel

Match ^: (?P<srv>\S+) 403 (?P<me>\S+) (?P<channel>\S+) : (?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOSUCHCHANNEL)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 401 - ERR\_NOSUCHNICK

Format :{srv} 401 {nick} {nick} :No such nick/channel

Match ^: (?P<srv>\S+) 401 (?P<me>\S+) (?P<nick>\S+) : (?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOSUCHNICK)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

## 402 - ERR\_NOSUCHSERVER

Format :{srv} 402 {nick} {server} :No such server

Match ^:(?P<srv>\S+) 402 (?P<me>\S+) (?P<server>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOSUCHSERVER)
def myevent(bot, srv=None, me=None, server=None, data=None):
    # do something
```

## 412 - ERR\_NOTEXTTOSEND

Format :{srv} 412 {nick} :No text to send

Match ^:(?P<srv>\S+) 412 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOTEXTTOSEND)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

## 442 - ERR\_NOTONCHANNEL

Format :{srv} 442 {nick} {channel} :You're not on that channel

Match ^:(?P<srv>\S+) 442 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOTONCHANNEL)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

## 413 - ERR\_NOTOPLEVEL

Format :{srv} 413 {nick} {mask} :No toplevel domain specified

Match ^:(?P<srv>\S+) 413 (?P<me>\S+) (?P<mask>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOTOPLEVEL)
def myevent(bot, srv=None, me=None, mask=None, data=None):
    # do something
```

### 451 - ERR\_NOTREGISTERED

Format :{srv} 451 {nick} :You have not registered

Match ^:(?P<srv>\S+) 451 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_NOTREGISTERED)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 464 - ERR\_PASSWDMISMATCH

Format :{srv} 464 {nick} :Password incorrect

Match ^:(?P<srv>\S+) 464 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_PASSWDMISMATCH)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 445 - ERR\_SUMMONDISABLED

Format :{srv} 445 {nick} :SUMMON has been disabled

Match ^:(?P<srv>\S+) 445 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_SUMMONDISABLED)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 405 - ERR\_TOOMANYCHANNELS

Format :{srv} 405 {nick} {channel} :You have joined too many channels

Match ^:(?P<srv>\S+) 405 (?P<me>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_TOOMANYCHANNELS)
def myevent(bot, srv=None, me=None, channel=None, data=None):
    # do something
```

### 407 - ERR\_TOOMANYTARGETS

Format :{srv} 407 {nick} {target} :Duplicate recipients. No message delivered

Match ^:(?P<srv>\S+) 407 (?P<me>\S+) (?P<target>\S+) :(?P<data>.\*)

Example:



```
@irc3.event(rfc.ERR_TOOMANYTARGETS)
def myevent(bot, srv=None, me=None, target=None, data=None):
    # do something
```

### 501 - ERR\_UMODEUNKNOWNFLAG

Format :{srv} 501 {nick} :Unknown MODE flag

Match ^:(?P<srv>\S+) 501 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_UMODEUNKNOWNFLAG)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 421 - ERR\_UNKNOWNCOMMAND

Format :{srv} 421 {nick} {cmd} :Unknown command

Match ^:(?P<srv>\S+) 421 (?P<me>\S+) (?P<cmd>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_UNKNOWNCOMMAND)
def myevent(bot, srv=None, me=None, cmd=None, data=None):
    # do something
```

### 472 - ERR\_UNKNOWNMODE

Format :{srv} 472 {nick} {char} :is unknown mode char to me

Match ^:(?P<srv>\S+) 472 (?P<me>\S+) (?P<char>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_UNKNOWNMODE)
def myevent(bot, srv=None, me=None, char=None, data=None):
    # do something
```

### 441 - ERR\_USERNOTINCHANNEL

Format :{srv} 441 {nick} {nick} {channel} :They aren't on that channel

Match ^:(?P<srv>\S+) 441 (?P<me>\S+) (?P<nick>\S+) (?P<channel>\S+) :(?P<data>.\*  
\*)

Example:

```
@irc3.event(rfc.ERR_USERNOTINCHANNEL)
def myevent(bot, srv=None, me=None, nick=None, channel=None, data=None):
    # do something
```

### 443 - ERR\_USERONCHANNEL

Format :{srv} 443 {nick} {nick} {channel} :is already on channel

Match ^:(?P<srv>\S+) 443 (?P<me>\S+) (?P<nick>\S+) (?P<channel>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_USERONCHANNEL)
def myevent(bot, srv=None, me=None, nick=None, channel=None, data=None):
    # do something
```

### 446 - ERR\_USERSDISABLED

Format :{srv} 446 {nick} :USERS has been disabled

Match ^:(?P<srv>\S+) 446 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_USERSDISABLED)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 502 - ERR\_USERSDONTMATCH

Format :{srv} 502 {nick} :Cant change mode for other users

Match ^:(?P<srv>\S+) 502 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_USERSDONTMATCH)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 406 - ERR\_WASNOSUCHNICK

Format :{srv} 406 {nick} {nick} :There was no such nickname

Match ^:(?P<srv>\S+) 406 (?P<me>\S+) (?P<nick>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_WASNOSUCHNICK)
def myevent(bot, srv=None, me=None, nick=None, data=None):
    # do something
```

### 414 - ERR\_WILDTOPLEVEL

Format :{srv} 414 {nick} {mask} :Wildcard in toplevel domain

Match ^:(?P<srv>\S+) 414 (?P<me>\S+) (?P<mask>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_WILDTOPLEVEL)
def myevent(bot, srv=None, me=None, mask=None, data=None):
    # do something
```

#### 465 - ERR\_YOUREBANNEDCREEP

Format :{srv} 465 {nick} :You are banned from this server

Match ^:(?P<srv>\S+) 465 (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.ERR_YOUREBANNEDCREEP)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

### 3.3.3 Misc

#### CONNECTED

Match ^:(?P<srv>\S+) (376|422) (?P<me>\S+) :(?P<data>.\*)

Example:

```
@irc3.event(rfc.CONNECTED)
def myevent(bot, srv=None, me=None, data=None):
    # do something
```

#### CTCP

Match ^(@(?P<tags>\S+) )?: (?P<mask>\S+!\S+@\S+) (?P<event>(PRIVMSG|NOTICE))  
{nick} :(?P<ctcp>.\*)\$

Example:

```
@irc3.event(rfc.CTCP)
def myevent(bot, mask=None, event=None, ctcp=None, tags=None):
    # do something
```

Out Match ^(?P<event>(PRIVMSG|NOTICE)) (?P<target>\S+) :(?P<ctcp>.\*)\$

Example:

```
@irc3.event(rfc.CTCP, iotype="out")
def myevent(bot, event=None, target=None, ctcp=None):
    # do something
```

#### INVITE

Match ^(@(?P<tags>\S+) )?: (?P<mask>\S+!\S+@\S+) INVITE {nick} :?(?  
P<channel>\S+)\$

Example:

```
@irc3.event(rfc.INVITE)
def myevent(bot, mask=None, channel=None, tags=None):
    # do something
```

## JOIN

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+) JOIN :?(?P<channel>\S+)`

Example:

```
@irc3.event(rfc.JOIN)
def myevent(bot, mask=None, channel=None, tags=None):
    # do something
```

Out Match `^JOIN :?(?P<channel>\S+)`

Example:

```
@irc3.event(rfc.JOIN, iotype="out")
def myevent(bot, channel=None):
    # do something
```

## JOIN\_PART\_QUIT

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+) (?P<event>JOIN|PART|QUIT) \s*:*(?P<channel>\S*) (\s+: (?P<data>.*) | $)`

Example:

```
@irc3.event(rfc.JOIN_PART_QUIT)
def myevent(bot, mask=None, event=None, channel=None, data=None, tags=None):
    # do something
```

Out Match `^(?P<event>JOIN|PART|QUIT) \s*:*(?P<channel>\S*) (\s+: (?P<data>.*) | $)`

Example:

```
@irc3.event(rfc.JOIN_PART_QUIT, iotype="out")
def myevent(bot, event=None, channel=None, data=None):
    # do something
```

## KICK

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+) (?P<event>KICK) \s+(?P<channel>\S+) \s*(?P<target>\S+) (\s+: (?P<data>.*) | $)`

Example:

```
@irc3.event(rfc.KICK)
def myevent(bot, mask=None, event=None, channel=None, target=None, data=None,
    ↪tags=None):
    # do something
```

Out Match `^(?P<event>KICK)\s+(?P<channel>\S+)\s*(?P<target>\S+) (\s+: (?P<data>.*)) | $)`

Example:

```
@irc3.event(rfc.KICK, iotype="out")
def myevent(bot, event=None, channel=None, target=None, data=None):
    # do something
```

## MODE

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+) (?P<event>MODE)\s+(?P<target>\S+)\s+(?P<modes>\S+) (\s+: (?P<data>.*)) | $)`

Example:

```
@irc3.event(rfc.MODE)
def myevent(bot, mask=None, event=None, target=None, modes=None, data=None,
    ↪tags=None):
    # do something
```

Out Match `^(?P<event>MODE)\s+(?P<target>\S+)\s+(?P<modes>\S+) (\s+: (?P<data>.*)) | $)`

Example:

```
@irc3.event(rfc.MODE, iotype="out")
def myevent(bot, event=None, target=None, modes=None, data=None):
    # do something
```

## MY\_PRIVMSG

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+!\S+@\S+) (?P<event>(PRIVMSG|NOTICE)) (?P<target>(#\S+|{nick})) :{nick}[:,\s]\s*(?P<data>\S+.*)$`

Example:

```
@irc3.event(rfc.MY_PRIVMSG)
def myevent(bot, mask=None, event=None, target=None, data=None, tags=None):
    # do something
```

Out Match `^(?P<event>(PRIVMSG|NOTICE)) (?P<target>\S+) :(?P<data>.*)$`

Example:

```
@irc3.event(rfc.MY_PRIVMSG, iotype="out")
def myevent(bot, event=None, target=None, data=None):
    # do something
```

## NEW\_NICK

Match `^(@(?P<tags>\S+) )?: (?P<nick>\S+) NICK :?(?P<new_nick>\S+)`

Example:

```
@irc3.event(rfc.NEW_NICK)
def myevent(bot, nick=None, new_nick=None, tags=None):
    # do something
```

Out Match ^NICK :?(?P<new\_nick>\S+)

Example:

```
@irc3.event(rfc.NEW_NICK, iotype="out")
def myevent(bot, new_nick=None):
    # do something
```

## PART

Match ^(@(?P<tags>\S+) )?: (?P<mask>\S+) PART (?P<channel>\S+) (\s+: (?P<data>.\*)) | \$)

Example:

```
@irc3.event(rfc.PART)
def myevent(bot, mask=None, channel=None, data=None, tags=None):
    # do something
```

Out Match PART (?P<channel>\S+) (\s+: (?P<data>.\*)) | \$)

Example:

```
@irc3.event(rfc.PART, iotype="out")
def myevent(bot, channel=None, data=None):
    # do something
```

## PING

Match ^PING :?(?P<data>.\*)

Example:

```
@irc3.event(rfc.PING)
def myevent(bot, data=None):
    # do something
```

## PONG

Match ^(@(?P<tags>\S+) )?: (?P<server>\S+) PONG (?P=server) :?(?P<data>.\*)

Example:

```
@irc3.event(rfc.PONG)
def myevent(bot, server=None, data=None, tags=None):
    # do something
```

## PRIVMSG

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+!\S+@\S+) (?P<event>(PRIVMSG|NOTICE)) (?P<target>\S+) : (?P<data>.*)$`

Example:

```
@irc3.event(rfc.PRIVMSG)
def myevent(bot, mask=None, event=None, target=None, data=None, tags=None):
    # do something
```

Out Match `^(?P<event>(PRIVMSG|NOTICE)) (?P<target>\S+) : (?P<data>.*)$`

Example:

```
@irc3.event(rfc.PRIVMSG, iotype="out")
def myevent(bot, event=None, target=None, data=None):
    # do something
```

## QUIT

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+) QUIT(\s+: (?P<data>.*) | $)`

Example:

```
@irc3.event(rfc.QUIT)
def myevent(bot, mask=None, data=None, tags=None):
    # do something
```

Out Match `^QUIT(\s+: (?P<data>.*) | $)`

Example:

```
@irc3.event(rfc.QUIT, iotype="out")
def myevent(bot, data=None):
    # do something
```

## TOPIC

Match `^(@(?P<tags>\S+) )?: (?P<mask>\S+!\S+@\S+) TOPIC (?P<channel>\S+) : (?P<data>.*)$`

Example:

```
@irc3.event(rfc.TOPIC)
def myevent(bot, mask=None, channel=None, data=None, tags=None):
    # do something
```

Out Match `^TOPIC (?P<channel>\S+) : (?P<data>.*)$`

Example:

```
@irc3.event(rfc.TOPIC, iotype="out")
def myevent(bot, channel=None, data=None):
    # do something
```

## 3.4 irc3.dcc DCC

See `dcc_chat()`, `dcc_get()` and `dcc_send()`

Here is a simple plugin to send a generated file:

```
# -*- coding: utf-8 -*-
import os
import string
import tempfile
import irc3
from irc3.plugins.command import command

@irc3.plugin
class DCC(object):

    filename = os.path.join(tempfile.gettempdir(), 'to_send')

    def __init__(self, bot):
        self.bot = bot
        if not os.path.isfile(self.filename):
            # create a file to send
            with open(self.filename, 'wb') as fd:
                for i in range(64 * 2048):
                    fd.write(string.ascii_letters.encode('utf8'))

    @command
    async def send(self, mask, target, args):
        """ DCC SEND command

        %%send
        """
        conn = await self.bot.dcc_send(mask, self.filename)
        self.bot.log.debug('%s ready', conn)
```

### 3.4.1 API

**class** `irc3.dcc.DCCManager` (*bot*)

Manage DCC connections

**create** (*name\_or\_class*, *mask*, *filepath=None*, *\*\*kwargs*)

Create a new DCC connection. Return an `asyncio.Protocol`

**is\_allowed** (*name\_or\_class*, *mask*)

Return True is a new connection is allowed

**resume** (*mask*, *filename*, *port*, *pos*)

Resume a DCC send

**class** `irc3.dcc.DCCChat` (*\*\*kwargs*)

DCC CHAT implementation

**connection\_made** (*transport*)

Called when a connection is made.

The argument is the transport representing the pipe connection. To receive data, wait for `data_received()` calls. When the connection is closed, `connection_lost()` is called.



```

data_received (data)
    data received

decode (data)
    Decode data with bot's encoding

class irc3.dcc.DCCSend (**kwargs)
    DCC SEND implementation

    connection_made (transport)
        Called when a connection is made.

        The argument is the transport representing the pipe connection. To receive data, wait for data_received()
        calls. When the connection is closed, connection_lost() is called.

    data_received (data)
        Called when some data is received.

        The argument is a bytes object.

class irc3.dcc.DCCGet (**kwargs)
    DCC GET implementation

    connection_made (transport)
        Called when a connection is made.

        The argument is the transport representing the pipe connection. To receive data, wait for data_received()
        calls. When the connection is closed, connection_lost() is called.

    data_received (data)
        Called when some data is received.

        The argument is a bytes object.

```

## 3.5 Reloadable plugins

**Note:** if you just want the bot to restart when you change a file during development you can use [hupper](#):

```

$ pip install hupper
$ hupper -m irc3 config.ini

```

irc3 provides a way to reload plugins without restarting the bot.

To do that, your plugin should provide a `reload` class method:

```

class Plugin(object):

    def __init__(self, bot):
        self.bot = bot

    @classmethod
    def reload(cls, old):
        """this method should return a ready to use plugin instance.
        cls is the newly reloaded class. old is the old instance.
        """
        return cls(old.bot)

```

Plugins can also implement a few hooks to help take care of reloads:

```
class Plugin(object):

    def __init__(self, bot):
        self.bot = bot

    def before_reload(self):
        """Do stuff before reload"""

    def after_reload(self):
        """Do stuff after reload"""
```

To reload a plugin, just call the `reload()` method with module name(s) to reload:

```
>>> bot.reload('mycommands')
```

## 3.6 irc3.plugins.asynchronous Asynchronous events

This module provide a way to catch data from various predefined events.

### 3.6.1 Usage

You'll have to define a subclass of `AsyncEvents`:

```
class Whois(AsyncEvents):

    # the command will fail if we do not have a result after 30s
    timeout = 20

    # send this line before listening to events
    send_line = 'WHOIS {nick} {nick}'

    # when those events occurs, we can add them to the result list
    events = (
        # (?i) is for IGNORECASE. This will match either Nick or nick
        {'match': "(?i)^\S+ 301 \S+ {nick} :(?P<away>.*)"},
        {'match': "(?i)^\S+ 311 \S+ {nick} (?P<username>\S+) (?P<host>\S+) . "
         ":(?P<realname>.*) (?i)"},
        {'match': "(?i)^\S+ 312 \S+ {nick} (?P<server>\S+) "
         ":(?P<server_desc>.*)"},
        {'match': "(?i)^\S+ 317 \S+ {nick} (?P<idle>[0-9]+).*"},
        {'match': "(?i)^\S+ 319 \S+ {nick} :(?P<channels>.*)", 'multi': True},
        {'match': "(?i)^\S+ 330 \S+ {nick} (?P<account>\S+) "
         ":(?P<account_desc>.*)"},
        {'match': "(?i)^\S+ 671 \S+ {nick} :(?P<connection>.*)"},
        # if final=True then a result is returned when the event occurs
        {'match': "(?i)^\S+ (?P<retcode>(318|401)) \S+ (?P<nick>{nick}) :.*",
         'final': True},
    )

    def process_results(self, results=None, **value):
        """take results list of all events and put them in a dict"""
        channels = []
        for res in results:
```

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```

        channels.extend(res.pop('channels', '').split())
        value.update(res)
    value['channels'] = channels
    value['success'] = value.get('retcode') == '318'
    return value

```

Notice that regexps and `send_line` contains some *{nick}*. This will be substituted later with the keyword arguments passed to the instance.

Then you're able to use it in a plugin:

```

class MyPlugin:

    def __init__(self, bot):
        self.bot = bot
        self.whois = Whois(bot)

    def do_whois(self):
        # remember {nick} in the regexp? Here it is
        whois = await self.whois(nick='gawel')
        if int(whois['idle']) / 60 > 10:
            self.bot.privmsg('gawel', 'Wake up dude')

```

**Warning:** Your code should always check if the result has been set before timeout by using `result['timeout']` which is True when the bot failed to get a result before 30s (you can override the default value per call)

**Warning:** Do not over use this feature. If you're making a lot of calls at the same time you should experience some weird behavior since irc do not allow to identify responses for a command. That's why the exemple use *{nick}* in the regexp to filter events efficiently. But two concurrent call for the same nick can still fail.

## 3.6.2 API

**class** `irc3.asynchronous.AsyncEvents` (*context*)

Asynchronous events

**\_\_call\_\_** (*\*\*kwargs*)

Register events; and callbacks then return a *asyncio.Future*. Events regexp are compiled with *params*

**process\_results** (*results=None, \*\*value*)

Process results. results is a list of dict caught during event. value is a dict containing some metadata (like `timeout=(True/False)`).

**class** `irc3.plugins.asynchronous.Async` (*context*)

Asynchronous plugin. Extend the bot with some common commands using *AsyncEvents*

**async\_who\_channel\_flags** (*channel, flags, timeout*)

Creates and calls a class from `WhoChannelFlags` with needed match rule for WHO command on channels with flags.

**channel\_bans** (*channel, timeout=20*)

Send a MODE +b and return a Future which will contain recieved data: .. code-block:: py

```
result = await bot.async_cmds.channel_bans('#irc3')
```

**ctcp\_async** (*nick, ctcp, timeout=20*)

Send a CTCP and return a Future which will contain recieved data:

```
result = await bot.async_cmds.ctcp('irc3', 'version')
```

**ison** (*\*nicknames, \*\*kwargs*)

Send a ISON and return a Future which will contain recieved data:

```
result = await bot.async_cmds.ison('gawel', 'irc3')
```

**names** (*channel, timeout=20*)

Send a NAMES and return a Future which will contain recieved data:

```
result = await bot.async_cmds.names('#irc3')
```

**who** (*target, flags=None, timeout=20*)

Send a WHO and return a Future which will contain recieved data:

```
result = await bot.async_cmds.who('gawel')
result = await bot.async_cmds.who('#irc3')
result = await bot.async_cmds.who('#irc3', 'an')
# or
result = await bot.async_cmds.who('#irc3', ['a', 'n'])
```

**whois** (*nick, timeout=20*)

Send a WHOIS and return a Future which will contain recieved data:

```
result = await bot.async_cmds.whois('gawel')
```

## 3.7 irc3.plugins.autocommand Autocommand plugin

This plugin allows to send IRC commands to the server after connecting. This could be usable for authorization, cloaking, requesting invite to invite only channel and other use cases. It also allows to set delays between IRC commands via the `/sleep` command.

Usage:

This example will authorize on Freenode:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.autocommand
...
... autocommands =
...     PRIVMSG NickServ :IDENTIFY nick password
... """)
>>> bot = IrcBot(**config)
```

Here's another, more complicated example:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.autocommand
```

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```

...
... autocommands =
...     AUTH user password
...     MODE {nick} +x
...     /sleep 2
...     PRIVMSG Q :INVITE #inviteonly
...     """
>>> bot = IrcBot(**config)

```

It will authorize on QuakeNet, cloak and request an invite to #inviteonly after a 2 second delay.

### 3.8 irc3.plugins.autojoins Auto join plugin

Auto join channels. The bot will retry to join when kicked and will retry to join each 30s when an error occurs.

Usage:

```

>>> bot = IrcBot(autojoins=['#chan1', '#chan2'])
>>> bot.include('irc3.plugins.autojoins')

```

### 3.9 irc3.plugins.casefold casefolding plugin

This command introduces a *bot.casefold* function that casefolds strings based on the current casemapping of the IRC server.

This lets you casefold nicks and channel names so that on a server using rfc1459 casemapping, #cool[chan] and #Cool{Chan} are seen as the same channel.

Usage:

```

>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.casefold
...     """)
>>> bot = IrcBot(**config)

```

Returning casefolded strings:

```

>>> bot.casefold('ThisIsANick')
'thisisanick'
>>> bot.casefold('#WeirdChannelNames[]')
'#weirdchannelnames{}'

```

### 3.10 irc3.plugins.command Command plugin

Introduce a @command decorator

The decorator use `docopts` to parse command arguments.

### 3.10.1 Usage

Create a python module with some commands:

```
# -*- coding: utf-8 -*-
from irc3.plugins.command import command

@command
def echo(bot, mask, target, args):
    """Echo command

    %%echo <words>...
    """
    yield ' '.join(args['<words>'])

@command(permission='admin', public=False)
def adduser(bot, mask, target, args):
    """Add a user

    %%adduser <name> <password>
    """
    bot.privmsg(mask.nick, 'User added')

@command(show_in_help_list=False)
def my_secret_operation(bot, mask, target, args):
    """Do something you don't want in !help all the time

    %%my_secret_operation
    """
    yield "I like turtles"
```

And register it:

```
>>> bot = IrcBot()
>>> bot.include('irc3.plugins.command') # register the plugin
>>> bot.include('mycommands')          # register your commands
```

Check the result:

```
>>> bot.test(':gawel!user@host PRIVMSG #chan :!echo foo')
PRIVMSG #chan :foo
```

In the docstring, %% is replaced by the command character. ! by default. You can override it by passing a cmd parameter to bot's config.

When a command is not public, you can't use it on a channel:

```
>>> bot.test(':gawel!user@host PRIVMSG #chan :!adduser foo pass')
PRIVMSG gawel :You can only use the 'adduser' command in private.
```

If a command is tagged with show\_in\_help\_list=False, it won't be shown on the result of !help.

```
>>> bot.test(':gawel!user@host PRIVMSG #chan :!help')
PRIVMSG #chan :Available commands: !adduser, !echo, !help
```

View extra info about a command by specifying it to !help.

```
>>> bot.test(':gawel!user@host PRIVMSG #chan :!help echo')
PRIVMSG #chan :Echo command
PRIVMSG #chan :!echo <words>...
>>> bot.test(':gawel!user@host PRIVMSG #chan :!help nonexistent')
PRIVMSG #chan :No such command. Try !help for an overview of all commands.
```

### 3.10.2 Guard

You can use a guard to prevent untrusted users to run some commands. The *free\_policy* is used by default.

There is two builtin policy:

```
class irc3.plugins.command.free_policy(bot)
    Default policy

class irc3.plugins.command.mask_based_policy(bot)
    Allow only valid masks. Able to take care or permissions
```

Mask based guard using permissions:

```
>>> config = ini2config("""
... [bot]
... nick = nono
... includes =
...     irc3.plugins.command
...     mycommands
... [irc3.plugins.command]
... guard = irc3.plugins.command.mask_based_policy
... [irc3.plugins.command.masks]
... gawel!*@* = all_permissions
... foo!*@* = help
... """)
>>> bot = IrcBot(**config)
```

foo is allowed to use command without permissions:

```
>>> bot.test(':foo!u@h PRIVMSG nono :!echo got the power')
PRIVMSG foo :got the power
```

foo is not allowed to use command except those with the help permission:

```
>>> bot.test(':foo!u@h PRIVMSG nono :!ping')
PRIVMSG foo :You are not allowed to use the 'ping' command
```

gawel is allowed:

```
>>> bot.test(':gawel!u@h PRIVMSG nono :!ping')
NOTICE gawel :PONG gawel!
```

### 3.10.3 Async commands

Commands can be coroutines:

```
# -*- coding: utf-8 -*-
from irc3.plugins.command import command
from irc3.compat import Queue
import irc3

@irc3.plugin
class AsyncCommands(object):
    """Async commands example. This is what it's look like on irc::

        <gawel> !get
        <gawel> !put item
        <irc3> items added to queue
        <irc3> item
    """

    def __init__(self, bot):
        self.bot = bot
        self.queue = Queue()

    @command
    def put(self, mask, target, args):
        """Put items in queue

        %%put <words>...
        """
        for w in args['<words>']:
            self.queue.put_nowait(w)
        yield 'items added to queue'

    @command
    async def get(self, self, mask, target, args):
        """Async get items from the queue

        %%get
        """
        messages = []
        message = await self.queue.get()
        messages.append(message)
        while not self.queue.empty():
            message = await self.queue.get()
            messages.append(message)
        return messages
```

### 3.10.4 Available options

The plugin accept the folowing options:

```
[irc3.plugins.command]
cmd = !
use_shlex = true
antiflood = true
casesensitive = true
guard = irc3.plugins.command.mask_based_policy
```



### 3.10.5 Command arguments

The `command()` decorator accept the following arguments:

**name:** if set, use this name as the command name instead of the function name.

**permission:** if set, this permission will be required to run the command. See Guard section

**use\_shlex:** if *False*, do not use *shlex* to parse command line.

**options\_first:** if *True* use docopt's `options_first` options. Allow to have args that starts with - as arguments.

**error\_format:** allow to customize error messages. must be a callable that accept keyword arguments *cmd*, *args* and *exc*. For example, `error_format="Error for {cmd}"`.format will work.

**quiet:** if *True* don't show errors

## 3.11 irc3.plugins.core Core plugin

Core events

**class** `irc3.plugins.core.Core` (*bot*)

**badnick** (*me=None, nick=None, \*\*kw*)

Use alt nick on nick error

**connected** (*\*\*kwargs*)

trigger the server\_ready event

**ping** (*data*)

PING reply

**pong** (*event='PONG', data='', \*\*kw*)

PONG/PING

**recompile** (*nick=None, new\_nick=None, \*\*kw*)

recompile regexp on new nick

**set\_config** (*data=None, \*\*kwargs*)

Store server config

Usage:

```
>>> bot = IrcBot()
>>> bot.include('irc3.plugins.core')
```

## 3.12 irc3.plugins.cron Cron plugin

Introduce a `@cron` decorator

Install aiocron:

```
$ pip install aiocron
```

Create a python module with some crons:

```
# -*- coding: utf-8 -*-
from irc3.plugins.cron import cron

@cron('30 8 * * *')
def wakeup(bot):
    bot.privmsg('#irc3', "It's time to wake up!")

@cron('0 */2 * * *')
def take_a_break(bot):
    bot.privmsg('#irc3', "It's time to take a break!")
```

And register it:

```
>>> context = IrcBot()
>>> context.include('mycrons')      # register your crons
```

## 3.13 irc3.plugins.ctcp CTCP replies

Usage:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.ctcp
... [ctcp]
... foo = bar
... """)
>>> bot = IrcBot(**config)
```

Try to send a CTCP FOO:

```
>>> bot.test(':gawel!user@host PRIVMSG irc3 :{FOO{', show=False)
>>> # remove escape char for testing..
>>> print(bot.sent[0].replace('{', '01'))
NOTICE gawel :01FOO bar01
```

## 3.14 irc3.plugins.dcc DCC Chat plugin

This module provide a command to start a DCC CHAT with the bot and extend it with CHAT commands.

### 3.14.1 CHAT Commands

Adding new commands:

```
>>> @dcc_command
... def echo(bot, mask, client, args):
...     '''echo command
...         %%echo <words>...
...     '''
...     yield ' '.join(args['words'])
```

bot is the bot instance. mask is the irc mask of the user connected via dcc. client is an instance of *DCCChat*

### 3.14.2 API

`irc3.plugins.dcc.dcc_command(*func, **predicates)`

DCC CHAT command decorator

**class** `irc3.plugins.dcc.Commands(context)`

DCC CHAT commands plugin

**chat** (*mask, \*args*)

DCC CHAT

%%chat

**help** (*\*args*)

Show help

%%help [<cmd>]

## 3.15 `irc3.plugins.feeds` Feeds plugin

Send a notification on channel on new feed entry.

Your config must looks like this:

```
[bot]
includes =
    irc3.plugins.feeds

[irc3.plugins.feeds]
channels = #irc3                # global channel to notify
delay = 5                       # delay to check feeds
directory = ~/.irc3/feeds       # directory to store feeds
hook = irc3.plugins.feeds.default_hook # dotted name to a callable
fmt = [{name}] {entry.title} - {entry.link} # formatter

# some feeds: name = url
github/irc3 = https://github.com/gawel/irc3/commits/master.atom#irc3
# custom formatter for the feed
github/irc3.fmt = [{feed.name}] New commit: {entry.title} - {entry.link}
# custom channels
github/irc3.channels = #irc3dev #irc3
# custom delay
github/irc3.delay = 10
```

Hook is a dotted name refering to a callable (function or class) wich take a list of entries as argument. It should yield the entries you want really show:

```
>>> def hook(entries):
...     for entry in entries:
...         if 'something bad' not in entry.title:
...             yield entry

>>> class Hook:
...     def __init__(self, bot):
```

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```

...         self.bot = bot
...     def __call__(self, entries):
...         for entry in entries:
...             if 'something bad' not in entry.title:
...                 yield entry

```

Here is a more complete hook used on freenode#irc3:

```

class FeedsHook(object):
    """Custom hook for irc3.plugins.feeds"""

    def __init__(self, bot):
        self.bot = bot
        self.packages = [
            'asyncio', 'irc3', 'panoramisk',
            'requests', 'trollius', 'webtest',
            'pyramid',
        ]

    def filter_travis(self, entry):
        """Only show the latest entry iif this entry is in a new state"""
        fstate = entry.filename + '.state'
        if os.path.isfile(fstate):
            with open(fstate) as fd:
                state = fd.read().strip()
        else:
            state = None
        if 'failed' in entry.summary:
            nstate = 'failed'
        else:
            nstate = 'success'
        with open(fstate, 'w') as fd:
            fd.write(nstate)
        if state != nstate:
            build = entry.title.split('#')[1]
            entry['title'] = 'Build #{0} {1}'.format(build, nstate)
            return True

    def filter_pypi(self, entry):
        """Show only usefull packages"""
        for package in self.packages:
            if entry.title.lower().startswith(package):
                return entry

    def __call__(self, entries):
        travis = {}
        for entry in entries:
            if entry.feed.name.startswith('travis/'):
                travis[entry.feed.name] = entry
            elif entry.feed.name.startswith('pypi/'):
                yield self.filter_pypi(entry)
            else:
                yield entry
        for entry in travis.values():
            if self.filter_travis(entry):
                yield entry

```

## 3.16 `irc3.plugins.fifo` Fifo plugin

Allow to cat something to a channel using Unix's fifo

Usage:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.fifo
... [irc3.plugins.fifo]
... runpath = /tmp/run/irc3
... """)
>>> bot = IrcBot(**config)
```

When your bot will join a channel it will create a fifo:

```
>>> bot.test(':irc3!user@host JOIN #channel')
>>> print(sorted(os.listdir('/tmp/run/irc3')))
[':raw', 'channel']
```

You'll be able to print stuff to a channel from a shell:

```
$ cat /etc/passwd > /tmp/run/irc3/channel
```

You can also send raw irc commands using the `:raw` file:

```
$ echo JOIN \#achannel > /tmp/run/irc3/:raw
```

## 3.17 `irc3.plugins.human` Human plugin

Store public message addressed to the bot in a file and reply a random message extracted from this file.

Register the plugin:

```
>>> bot = IrcBot(human='/tmp/human.db', nick='nono')
>>> bot.include('irc3.plugins.human')
```

And it should work:

```
>>> bot.test(':foo!m@h PRIVMSG nono :nono: Yo!')
PRIVMSG foo :Yo!

>>> bot.test(':foo!m@h PRIVMSG #chan :nono: Yo!')
PRIVMSG #chan :foo: Yo!
```

## 3.18 `irc3.plugins.log` Log plugin

Logging / debugging plugin

Usage:

```
>>> bot = IrcBot()
>>> bot.include('irc3.plugins.log')
```

## 3.19 irc3.plugins.logger Channel logger plugin

Log channels

Usage:

```
>>> bot = IrcBot(**{
...     'irc3.plugins.logger': {
...         'handler': 'irc3.plugins.logger.file_handler',
...     },
... })
>>> bot.include('irc3.plugins.logger')
```

Available handlers:

**class** irc3.plugins.logger.**file\_handler**(bot)  
Write logs to file in ~/.irc3/logs

## 3.20 irc3.plugins.pager Paginate large output

### 3.20.1 Usage

```
# -*- coding: utf-8 -*-
import irc3
import requests
from irc3.plugins.command import command

@irc3.plugin
class SendFile(object):

    requires = [
        'irc3.plugins.command',
        'irc3.plugins.pager',
    ]

    def __init__(self, bot):
        self.bot = bot

    @command
    def cat(self, mask, target, args):
        """Cat a file with pagination

        %%cat
        """
        fd = open(__file__)
        for msg in self.bot.paginate(mask, fd, lines_per_page=10):
            yield msg
```

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```

@command
def url(self, mask, target, args):
    """Cat an url with pagination

    %%url <url>
    """
    def iterator(url):
        resp = requests.get(url)
        for chunk in resp.iter_content(255):
            yield chunk.decode('utf8')
    for msg in self.bot.paginate(mask, iterator(args['<url>'])):
        yield msg

```

### 3.20.2 API

```

class irc3.plugins.pager.Paginate(context)
    Pagination plugin

```

## 3.21 irc3.plugins.quakenet QuakeNet authorization

Plugin supports both simple and [challenge based](#) authorization. Challenge based auth is used by default, since it is more secure than simple. Also, plugin can hide your IP after authorization by applying +x mode.

Usage:

```

>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.quakenet
... [quakenet]
... user = login
... password = passw
... # optional, false by default
... hidehost = true
... # optional, true by default
... challenge_auth = true
... """)
>>> bot = IrcBot(**config)

```

## 3.22 irc3.plugins.sasl SASL authentication

Allow to use sasl authentication

Usage:

```

>>> config = ini2config("""
... [bot]
... sasl_username = irc3
... sasl_password = passwd
... """)
>>> bot = IrcBot(**config)

```

## 3.23 `irc3.plugins.search` Search plugin

```
class irc3.plugins.search.Search(bot)
```

## 3.24 `irc3.plugins.shell_command` Shell commands

Allow to quickly add commands map to a shell command. The bot will print stdout/stderr

Usage:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.shell_command
... [irc3.plugins.shell_command]
... myscript = /tmp/myscript
... # optional command configuration
... myscript.permission = runmyscript
... myscript.public = false
... # register a directory
... myscripts = /tmp/myscripts
... # optional commands configuration for the directory
... myscripts.permission = runmyscripts
... """)
>>> bot = IrcBot(**config)
```

Then the `uname` command will be available:

```
>>> bot.test(':gawel!user@host PRIVMSG irc3 :!help myscript')
PRIVMSG gawel :Run $ /tmp/myscript
PRIVMSG gawel :!myscript [<args>...]

>>> bot.test(':gawel!user@host PRIVMSG #chan :!myscript')
PRIVMSG gawel :You can only use the 'myscript' command in private.

>>> bot.test(':gawel!user@host PRIVMSG irc3 :!myscript')
```

If the user provides some arguments then those will be available as an environment var (to avoid shell injection) names `IRC3_COMMAND_ARGS`

...

```
>>> bot.get_plugin(Commands) ['demo'] [0]
{'permission': 'runmyscripts'}
```

## 3.25 `irc3.plugins.slack` Slack plugin

Introduce a slack/irc interface to bridge messages between slack and irc.

Install aiohttp:

```
$ pip install aiohttp
```



### 3.25.1 Usage

Create a bridge between slack and irc

---

**Note:** Be sure to invite the bot in slack to the channels it should be bridging

---

### 3.25.2 Config Options

#### irc3.plugins.slack

token

slack api token (user or bot integration)

notify

The slack user ids to notify, this needs to be the unique user ids.

#### irc3.plugins.slack.channels

This section is a list of channels that should be bridge. The first is the slack channel that the bot needs to be joined to to bridge slack to irc.

Then assigned to that is the list of irc channels that slack channel should forward to.

## 3.26 irc3.plugins.social Social networking

Add tweet and retweet commands.

Extend the bot with `.get_social_connection()` and `.search_tweets()`.

Usage:

```
>>> bot = IrcBot(
...     includes=['irc3.plugins.social'],
...     twitter=dict(key='yourkey', secret='yoursecret',
...                  token='yourtoken', token_secret='yoursecret')
... )
>>> bot.get_social_connection()
<TwitterAdapter for <twitter.api.Twitter object at ...>>
```

Api:

**class** irc3.plugins.social.**Social**(bot)

The social plugin

**get\_social\_connection**(id=None)

return a connection object for the network:

- A Twitter instance from <https://github.com/sixohsix/twitter/tree/master>

**retweet**(mask, target, args)

Retweet

%retweet [-id=<id>] <url\_or\_id>

**search\_tweets** (*q=None, \*\*kwargs*)

Search for tweets on twitter

**send\_tweet** (*message, id=None*)

Send a tweet to networks

**tweet** (*mask, target, args*)

Post to social networks

%%tweet [-id=<id>] <message>...

## 3.27 irc3.plugins.storage Storage plugin

Add a db attribute to the bot

Usage:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.storage
... storage = json://%s
... """ % json_file)
>>> bot = IrcBot(**config)
```

Then use it:

```
>>> bot.db['mykey'] = dict(key='value')
>>> 'mykey' in bot.db
True
>>> bot.db['mykey']
{'key': 'value'}
>>> bot.db.setdefault('mykey', key='default')
{'key': 'value'}
>>> bot.db.setdefault('mykey', item='default')
{'item': 'default'}
>>> bot.db.set('mykey', item='value')
>>> bot.db.setdefault('mykey', item='default')
{'item': 'value'}
>>> del bot.db['mykey']
>>> bot.db.get('mykey')
>>> bot.db.get('mykey', 'default')
'default'
>>> bot.db['mykey']
Traceback (most recent call last):
...
KeyError: 'mykey'
>>> 'mykey' in bot.db
False
>>> bot.db.setlist('mylist', ['foo', 'bar'])
>>> bot.db.getlist('mylist')
['foo', 'bar']
>>> del bot.db['mylist']
```

You can use an instance as key:

```
>>> class MyPlugin:
...     pass
>>> plugin = MyPlugin()
>>> bot.db[plugin] = dict(key='value')
>>> bot.db[plugin]
{'key': 'value'}
>>> del bot.db[plugin]
>>> bot.db.get(plugin)
```

You can also use shelve:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.storage
... storage = shelve://%s
... """ % db_file)
>>> bot = IrcBot(**config)
>>> bot.db['mykey'] = dict(key='value')
>>> bot.db['mykey']
{'key': 'value'}
>>> del bot.db['mykey']
>>> bot.db.get('mykey')
>>> bot.db.setlist('mylist', ['foo', 'bar'])
>>> bot.db.getlist('mylist')
['foo', 'bar']
>>> del bot.db['mylist']
```

Or redis:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.storage
... storage = redis://localhost:6379/10
... """)
>>> bot = IrcBot(**config)
```

Then use it:

```
>>> bot.db['mykey'] = dict(key='value')
>>> bot.db['mykey']
{'key': 'value'}
>>> del bot.db['mykey']
>>> bot.db.get('mykey')
>>> bot.db['mykey']
Traceback (most recent call last):
...
KeyError: 'mykey'
>>> bot.db.setlist('mylist', ['foo', 'bar'])
>>> bot.db.getlist('mylist')
['foo', 'bar']
>>> del bot.db['mylist']
```

### 3.27.1 Api

**class** `irc3.plugins.storage.Storage` (*context*)

```
__contains__ (key)  
    Return True if storage contains key  
__delitem__ (key)  
    Delete key in storage  
__getitem__ (key)  
    Get storage value for key  
__setitem__ (key, value)  
    Set storage value for key  
get (key_, default=None)  
    Get storage value for key or return default  
set (key_, **kwargs)  
    Update storage value for key with kwargs  
setdefault (key_, **kwargs)  
    Update storage value for key with kwargs iif the keys doesn't exist. Return stored values
```

## 3.28 `irc3.plugins.uptime` Uptime plugin

Add an uptime command.

**class** `irc3.plugins.uptime.Uptime` (*bot*)

```
uptime (mask, target, args)  
    Show uptimes  
  
    %%uptime
```

## 3.29 `irc3.plugins.userlist` User list plugin

This plugin maintain a known user list and a channel list.

Usage:

```
>>> bot = IrcBot()  
>>> bot.include('irc3.plugins.userlist')  
>>> bot.test(':gawel!user@host JOIN #chan')  
  
>>> print(list(bot.channels['#chan'])[0])  
gawel  
>>> print(list(bot.nicks.keys())[0])  
gawel  
  
>>> bot.test(':gawel!user@host MODE #chan +o gawel')  
  
>>> print(list(bot.channels['#chan'].modes['@'])[0])  
gawel
```

### 3.29.1 Api

**class** `irc3.plugins.userlist.Channel`

A set like object which contains nicknames that are on the channel and user modes:

```
>>> channel = Channel()
>>> channel.add('gawel', modes='@')
>>> 'gawel' in channel
True
>>> 'gawel' in channel.modes['@']
True
>>> channel.remove('gawel')
>>> 'gawel' in channel
False
>>> 'gawel' in channel.modes['@']
False
```

## 3.30 `irc3.plugins.web` Web plugin

Introduce a web interface to post messages

Install aiohttp:

```
$ pip install aiohttp
```

Usage:

This example show how to define the web server config:

```
>>> config = ini2config("""
... [bot]
... includes =
...     irc3.plugins.web
...
... [irc3.plugins.web]
... host = 127.0.0.1
... port = 8080
... api_key = toomanysecrets
... """)
>>> bot = IrcBot(**config)
```

Then you'll be able to post a message to a channel using curl:

```
$ curl -H "X-API-Key: toomanysecrets" --data Hello http://127.0.0.1:8080/
↪channels/irc3
```

## 3.31 Contribute

First, if you want to add a cool plugin, consider submit a pull request to the `irc3_plugins` instead of `irc3` itself.

Feel free to clone the project on [GitHub](#).

Once you made a change, try to add a test for your feature/fix. At least assume that you have'nt broke anything by running tox:

```
$ tox
...
py27: commands succeeded
py32: commands succeeded
py33: commands succeeded
py34: commands succeeded
flake8: commands succeeded
docs: commands succeeded
congratulations :)
```

You can run tests for a specific version::

```
$ tox -e py34
```

The *irc3.rfc* module is auto generated from *irc3/rfc1459.txt*. If you want to hack this file, you need to hack the parser in *irc3/\_parse\_rfc.py* (warning, it's ugly)

You can regenerate the module and docs by running:

```
$ tox -e build
```

You can also build the docs with:

```
$ tox -e docs
```

And check the result:

```
$ firefox .tox/docs/tmp/html/index.html
```

The project is [buildout](#) ready. You can generate binaries using it instead of virtualenv:

```
$ python bootstrap.py
$ bin/buildout
$ bin/irc3 -h
```

## CHAPTER 4

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### Indices and tables

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- `genindex`
- `modindex`
- `search`





### i

- `irc3.dcc`, 44
- `irc3.dec`, 9
- `irc3.plugins.asynchronous`, 46
- `irc3.plugins.autocommand`, 48
- `irc3.plugins.autojoins`, 49
- `irc3.plugins.casefold`, 49
- `irc3.plugins.command`, 49
- `irc3.plugins.core`, 53
- `irc3.plugins.cron`, 53
- `irc3.plugins.ctcp`, 54
- `irc3.plugins.dcc`, 54
- `irc3.plugins.feeds`, 55
- `irc3.plugins.fifo`, 56
- `irc3.plugins.human`, 57
- `irc3.plugins.log`, 57
- `irc3.plugins.logger`, 58
- `irc3.plugins.pager`, 58
- `irc3.plugins.quakenet`, 59
- `irc3.plugins.sasl`, 59
- `irc3.plugins.search`, 59
- `irc3.plugins.shell_command`, 60
- `irc3.plugins.slack`, 60
- `irc3.plugins.social`, 61
- `irc3.plugins.storage`, 62
- `irc3.plugins.uptime`, 64
- `irc3.plugins.userlist`, 64
- `irc3.plugins.web`, 65
- `irc3.utils`, 10



## Symbols

`__call__()` (*irc3.asynchronous.AsyncEvents method*), 47

`__contains__()` (*irc3.plugins.storage.Storage method*), 64

`__delitem__()` (*irc3.plugins.storage.Storage method*), 64

`__getitem__()` (*irc3.plugins.storage.Storage method*), 64

`__setitem__()` (*irc3.plugins.storage.Storage method*), 64

## A

`as_channel()` (*in module irc3.utils*), 12

`as_list()` (*in module irc3.utils*), 11

`Async` (*class in irc3.plugins.asynchronous*), 47

`async_who_channel_flags()` (*irc3.plugins.asynchronous.Async method*), 47

`AsyncEvents` (*class in irc3.asynchronous*), 47

## B

`badnick()` (*irc3.plugins.core.Core method*), 53

## C

`Channel` (*class in irc3.plugins.userlist*), 65

`channel_bans()` (*irc3.plugins.asynchronous.Async method*), 47

`chat()` (*irc3.plugins.dcc.Commands method*), 55

`Commands` (*class in irc3.plugins.dcc*), 55

`Config` (*class in irc3.utils*), 12

`connected()` (*irc3.plugins.core.Core method*), 53

`connection_made()` (*irc3.dcc.DCCChat method*), 44

`connection_made()` (*irc3.dcc.DCCGet method*), 45

`connection_made()` (*irc3.dcc.DCCSend method*), 45

`Core` (*class in irc3.plugins.core*), 53

`create()` (*irc3.dcc.DCCManager method*), 44

`ctcp_async()` (*irc3.plugins.asynchronous.Async method*), 47

## D

`data_received()` (*irc3.dcc.DCCChat method*), 44

`data_received()` (*irc3.dcc.DCCGet method*), 45

`data_received()` (*irc3.dcc.DCCSend method*), 45

`dcc_command()` (*in module irc3.plugins.dcc*), 55

`DCCChat` (*class in irc3.dcc*), 44

`DCCGet` (*class in irc3.dcc*), 45

`DCCManager` (*class in irc3.dcc*), 44

`DCCSend` (*class in irc3.dcc*), 45

`decode()` (*irc3.dcc.DCCChat method*), 45

## E

`event` (*class in irc3.dec*), 9

`extend()` (*in module irc3.dec*), 10

`extract_config()` (*in module irc3.utils*), 12

## F

`file_handler` (*class in irc3.plugins.logger*), 58

`free_policy` (*class in irc3.plugins.command*), 51

## G

`get()` (*irc3.plugins.storage.Storage method*), 64

`get_social_connection()` (*irc3.plugins.social.Social method*), 61

## H

`help()` (*irc3.plugins.dcc.Commands method*), 55

`hostname` (*irc3.utils.IrcString attribute*), 10

## I

`irc3.dcc` (*module*), 44

`irc3.dec` (*module*), 9

`irc3.plugins.asynchronous` (*module*), 46

`irc3.plugins.autocommand` (*module*), 48

`irc3.plugins.autojoins` (*module*), 49

`irc3.plugins.casefold` (*module*), 49

`irc3.plugins.command` (*module*), 49  
`irc3.plugins.core` (*module*), 53  
`irc3.plugins.cron` (*module*), 53  
`irc3.plugins.ctcp` (*module*), 54  
`irc3.plugins.dcc` (*module*), 54  
`irc3.plugins.feeds` (*module*), 55  
`irc3.plugins.fifo` (*module*), 56  
`irc3.plugins.human` (*module*), 57  
`irc3.plugins.log` (*module*), 57  
`irc3.plugins.logger` (*module*), 58  
`irc3.plugins.pager` (*module*), 58  
`irc3.plugins.quakenet` (*module*), 59  
`irc3.plugins.sasl` (*module*), 59  
`irc3.plugins.search` (*module*), 59  
`irc3.plugins.shell_command` (*module*), 60  
`irc3.plugins.slack` (*module*), 60  
`irc3.plugins.social` (*module*), 61  
`irc3.plugins.storage` (*module*), 62  
`irc3.plugins.uptime` (*module*), 64  
`irc3.plugins.userlist` (*module*), 64  
`irc3.plugins.web` (*module*), 65  
`irc3.utils` (*module*), 10  
`IrcString` (*class in irc3.utils*), 10  
`is_allowed()` (*irc3.dcc.DCCManager method*), 44  
`is_channel` (*irc3.utils.IrcString attribute*), 10  
`is_nick` (*irc3.utils.IrcString attribute*), 11  
`is_server` (*irc3.utils.IrcString attribute*), 11  
`ison()` (*irc3.plugins.asynchronous.Async method*), 48

## L

`lnick` (*irc3.utils.IrcString attribute*), 11  
`Logger` (*class in irc3.utils*), 12

## M

`mask_based_policy` (*class in irc3.plugins.command*), 51  
`maybedotted()` (*in module irc3.utils*), 12

## N

`names()` (*irc3.plugins.asynchronous.Async method*), 48  
`nick` (*irc3.utils.IrcString attribute*), 11

## P

`Paginate` (*class in irc3.plugins.pager*), 59  
`parse_config()` (*in module irc3.utils*), 12  
`ping()` (*irc3.plugins.core.Core method*), 53  
`plugin()` (*in module irc3.dec*), 9  
`pong()` (*irc3.plugins.core.Core method*), 53  
`process_results()` (*irc3.asynchronous.AsyncEvents method*), 47

## R

`recompile()` (*irc3.plugins.core.Core method*), 53  
`resume()` (*irc3.dcc.DCCManager method*), 44  
`retweet()` (*irc3.plugins.social.Social method*), 61

## S

`Search` (*class in irc3.plugins.search*), 60  
`search_tweets()` (*irc3.plugins.social.Social method*), 61  
`send_tweet()` (*irc3.plugins.social.Social method*), 62  
`set()` (*irc3.plugins.storage.Storage method*), 64  
`set_config()` (*irc3.plugins.core.Core method*), 53  
`set_irc_targets()` (*irc3.utils.Logger method*), 12  
`setdefault()` (*irc3.plugins.storage.Storage method*), 64  
`Social` (*class in irc3.plugins.social*), 61  
`split_message()` (*in module irc3.utils*), 12  
`Storage` (*class in irc3.plugins.storage*), 64

## T

`tagdict` (*irc3.utils.IrcString attribute*), 11  
`tweet()` (*irc3.plugins.social.Social method*), 62

## U

`Uptime` (*class in irc3.plugins.uptime*), 64  
`uptime()` (*irc3.plugins.uptime.Uptime method*), 64  
`username` (*irc3.utils.IrcString attribute*), 11

## W

`who()` (*irc3.plugins.asynchronous.Async method*), 48  
`whois()` (*irc3.plugins.asynchronous.Async method*), 48