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In click, I'm defining this command:

@click.command('time', short\_help='Timesheet Generator')

@click.argument('time\_command', type=click.Choice(['this', 'last']))

@click.argument('data\_mode', type=click.Choice(['excel', 'exchange']), default='exchange')

@click.option('--password', prompt=True, hide\_input=True, confirmation\_prompt=False)

@pass\_context

def cli(ctx, time\_command, data\_mode, password):

The issue I have is that I only want the password to prompt if the data\_mode argument equals exchange. How can I pull this off?

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asked Mar 1 '16 at 15:57

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2 Answers

[Active](https://stackoverflow.com/questions/35727520/click-password-option-only-if-argument-equals-something?answertab=active#tab-top)[Oldest](https://stackoverflow.com/questions/35727520/click-password-option-only-if-argument-equals-something?answertab=oldest#tab-top)[Votes](https://stackoverflow.com/questions/35727520/click-password-option-only-if-argument-equals-something?answertab=votes#tab-top)

2

We can remove the need for a prompt if another parameter does not match a specific value by building a custom class derived from click.Option, and in that class over riding the click.Option.handle\_parse\_result() method like:

Custom Class:

import click

def PromptIf(arg\_name, arg\_value):

class Cls(click.Option):

def \_\_init\_\_(self, \*args, \*\*kwargs):

kwargs['prompt'] = kwargs.get('prompt', True)

super(Cls, self).\_\_init\_\_(\*args, \*\*kwargs)

def handle\_parse\_result(self, ctx, opts, args):

assert any(c.name == arg\_name for c in ctx.command.params), \

"Param '{}' not found for option '{}'".format(

arg\_name, self.name)

if arg\_name not in opts:

raise click.UsageError(

"Illegal usage: `%s` is a required parameter with" % (

arg\_name))

# remove prompt from

if opts[arg\_name] != arg\_value:

self.prompt = None

return super(Cls, self).handle\_parse\_result(ctx, opts, args)

return Cls

Using Custom Class:

To use the custom class, pass the cls parameter to click.option decorator like:

@click.option('--an\_option', cls=PromptIf('an\_argument', 'an\_arg\_value'))

pass in the name of the parameter to examine for the desired value, and the value to check for.

How does this work?

This works because click is a well designed OO framework. The @click.option() decorator usually instantiates a click.Option object but allows this behavior to be overridden with the cls parameter. So it is a relatively easy matter to inherit from click.Option in our own class and over ride the desired methods.

In this case we over ride click.Option.handle\_parse\_result() and disable the need to prompt if the other specified parameter does not match the desired.

Note: This answer was inspired by [this answer](https://stackoverflow.com/a/44349292/7311767).

Test Code:

@click.command()

@click.argument('an\_argument', type=click.Choice(['excel', 'exchange']),

default='exchange')

@click.option('--password', hide\_input=True, confirmation\_prompt=False,

cls=PromptIf('an\_argument', 'exchange'))

def cli(an\_argument, password):

click.echo(an\_argument)

click.echo(password)

cli('exchange'.split())

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answered Apr 1 '18 at 23:04

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You can try splitting this up to multiple commands. For example, time would be the entry point command. Either time\_excel or time\_exchange would then be invoked by time based on the value of data\_mode. One could have a password prompt while the other wouldn't.

See [Invoking Other Commands](http://click.pocoo.org/5/advanced/#invoking-other-commands) in Click's documentation.

# [**Click Command Line Interfaces: Make options required if other optional option is unset**](https://stackoverflow.com/questions/44247099/click-command-line-interfaces-make-options-required-if-other-optional-option-is)

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11

When writing a command-line interface (CLI) with the Python [click library](http://click.pocoo.org/6/), is it possible to define e.g. three options where the second and third one are only required if the first (optional) one was left unset?

My use case is a log-in system which allows me to authenticate either via an authentication token (option 1), or, alternatively, via username (option 2) and password (option 3).

If the token was given, there is no need to check for username and password being defined or prompting them. Otherwise, if the token was omitted then username and password become required and must be given.

Can this be done somehow using callbacks?

My code to get started which of course does not reflect the intended pattern:

@click.command()

@click.option('--authentication-token', prompt=True, required=True)

@click.option('--username', prompt=True, required=True)

@click.option('--password', hide\_input=True, prompt=True, required=True)

def login(authentication\_token, username, password):

print(authentication\_token, username, password)

if \_\_name\_\_ == '\_\_main\_\_':

login()

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asked May 29 '17 at 16:39

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## 3 Answers

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31

This can be done by building a custom class derived from click.Option, and in that class over riding the click.Option.handle\_parse\_result() method like:

### Custom Class:

import click

class NotRequiredIf(click.Option):

def \_\_init\_\_(self, \*args, \*\*kwargs):

self.not\_required\_if = kwargs.pop('not\_required\_if')

assert self.not\_required\_if, "'not\_required\_if' parameter required"

kwargs['help'] = (kwargs.get('help', '') +

' NOTE: This argument is mutually exclusive with %s' %

self.not\_required\_if

).strip()

super(NotRequiredIf, self).\_\_init\_\_(\*args, \*\*kwargs)

def handle\_parse\_result(self, ctx, opts, args):

we\_are\_present = self.name in opts

other\_present = self.not\_required\_if in opts

if other\_present:

if we\_are\_present:

raise click.UsageError(

"Illegal usage: `%s` is mutually exclusive with `%s`" % (

self.name, self.not\_required\_if))

else:

self.prompt = None

return super(NotRequiredIf, self).handle\_parse\_result(

ctx, opts, args)

### Using Custom Class:

To use the custom class, pass the cls parameter to click.option decorator like:

@click.option('--username', prompt=True, cls=NotRequiredIf,

not\_required\_if='authentication\_token')

### How does this work?

This works because click is a well designed OO framework. The @click.option() decorator usually instantiates a click.Option object but allows this behavior to be overridden with the cls parameter. So it is a relatively easy matter to inherit from click.Option in our own class and over ride the desired methods.

In this case we over ride click.Option.handle\_parse\_result() and disable the need to user/password if authentication-token token is present, and complain if both user/password are authentication-token are present.

Note: This answer was inspired by [this answer](https://stackoverflow.com/a/37491504/7311767)

### Test Code:

@click.command()

@click.option('--authentication-token')

@click.option('--username', prompt=True, cls=NotRequiredIf,

not\_required\_if='authentication\_token')

@click.option('--password', prompt=True, hide\_input=True, cls=NotRequiredIf,

not\_required\_if='authentication\_token')

def login(authentication\_token, username, password):

click.echo('t:%s u:%s p:%s' % (

authentication\_token, username, password))

if \_\_name\_\_ == '\_\_main\_\_':

login('--username name --password pword'.split())

login('--help'.split())

login(''.split())

login('--username name'.split())

login('--authentication-token token'.split())

### Results:

from login('--username name --password pword'.split()):

t:None u:name p:pword

from login('--help'.split()):

Usage: test.py [OPTIONS]

Options:

--authentication-token TEXT

--username TEXT NOTE: This argument is mutually exclusive with

authentication\_token

--password TEXT NOTE: This argument is mutually exclusive with

authentication\_token

--help Show this message and exit.

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answered Jun 3 '17 at 23:02

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8

Slightly improved [Stephen Rauch's answer](https://stackoverflow.com/a/44349292/7311767) to have multiple mutex parameters.

import click

class Mutex(click.Option):

def \_\_init\_\_(self, \*args, \*\*kwargs):

self.not\_required\_if:list = kwargs.pop("not\_required\_if")

assert self.not\_required\_if, "'not\_required\_if' parameter required"

kwargs["help"] = (kwargs.get("help", "") + "Option is mutually exclusive with " + ", ".join(self.not\_required\_if) + ".").strip()

super(Mutex, self).\_\_init\_\_(\*args, \*\*kwargs)

def handle\_parse\_result(self, ctx, opts, args):

current\_opt:bool = self.name in opts

for mutex\_opt in self.not\_required\_if:

if mutex\_opt in opts:

if current\_opt:

raise click.UsageError("Illegal usage: '" + str(self.name) + "' is mutually exclusive with " + str(mutex\_opt) + ".")

else:

self.prompt = None

return super(Mutex, self).handle\_parse\_result(ctx, opts, args)

use like this:

@click.group()

@click.option("--username", prompt=True, cls=Mutex, not\_required\_if=["token"])

@click.option("--password", prompt=True, hide\_input=True, cls=Mutex, not\_required\_if=["token"])

@click.option("--token", cls=Mutex, not\_required\_if=["username","password"])

def login(ctx=None, username:str=None, password:str=None, token:str=None) -> None:

print("...do what you like with the params you got...")

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answered Jul 8 '18 at 20:03

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0

Here's another variant, in which has not\_required\_if must be specified with the snake\_case variant, required is used rather than prompt, and importantly, it works if the other arguments are passed through environment variables rather than on the command line by using ctx.command.get\_params(...) and param.consume\_value(...):

import click

class Mutex(click.Option):

def \_\_init\_\_(self, \*args, \*\*kwargs):

self.not\_required\_if: list = kwargs.pop("not\_required\_if")

assert self.not\_required\_if, "'not\_required\_if' parameter required"

kwargs["help"] = (kwargs.get("help", "") + "Option is mutually exclusive with " + ", ".join(self.not\_required\_if) + ".").strip()

super(Mutex, self).\_\_init\_\_(\*args, \*\*kwargs)

def handle\_parse\_result(self, ctx, opts, args):

current\_opt: bool = self.consume\_value(ctx, opts)

for other\_param in ctx.command.get\_params(ctx):

if other\_param is self:

continue

if other\_param.human\_readable\_name in self.not\_required\_if:

other\_opt: bool = other\_param.consume\_value(ctx, opts)

if other\_opt:

if current\_opt:

raise click.UsageError(

"Illegal usage: '" + str(self.name)

+ "' is mutually exclusive with "

+ str(other\_param.human\_readable\_name) + "."

)

else:

self.required = None

return super(Mutex, self).handle\_parse\_result(ctx, opts, args)

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