

# NEWBIE: Script help needed

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*Source:* <http://coding.derkeiler.com/Archive/Python/comp.lang.python/2006-11/msg00590.html>

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  - *Date:* Sat, 04 Nov 2006 14:58:29 -0600
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I have this script that I want to use weekly to send me email with information regarding disk space and available upgrades for my system. This script is actually a learning tool for me as I learn Python. The problem I've run into has me stumped and I need some help. What happens is when the script runs it does these things, parses the result and appends that to an html string:

- 1) checks disk space by using `df -t reiserfs`
- 2) runs `time emerge --sync`
- 3) runs `emerge -uvp world`
- 4) runs `emerge -uv --fetchonly world`

The 'emerge' command is a Gentoo specific one. If I remove step 3), everything else runs just fine, the email is sent and I receive what I expect. But when step 3) is allowed to run, even if its the only command that runs, it hangs somewhere in the function `getCommandOutput`. If I try and debug the command, it appears to hang on this line:  
`err = child.wait()`

I suspect a race condition, but I'm not sure how to proceed, can someone lend me a hand. Here is the script I wrote, I got the command `getCommandOutput` from this site:  
<http://aspn.activestate.com/ASPN/Cookbook/Python/Recipe/52296>  
TIA

[code]

```
#!/usr/bin/python

#####
### NEED TO RUN THIS AS ROOT ###
### EMERGE SYNC REQUIRES THIS ###
#####
import os, re, smtplib, MimeWriter, mimetools, cStringIO, popen2, fcntl,
select, pdb

cmd = 'df -t reiserfs'
finalList = []
theOutput = []
```

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```
text = "This really should be in HTML"
```

```
html = "<html>\n<head>\n<meta http-equiv=\"Content-Type\" content=\"text/html;\ncharset=iso-8859-1\">\n</head>\n<BODY><BR><font color='green'><em>Disk Utilization on\nHedley:</em></font><BR>"
```

```
out = cStringIO.StringIO()\nwriter = MimeWriter.MimeWriter(out)\ntxin = cStringIO.StringIO(text)
```

```
def createhtmlmail (html, text, subject):\n    """Create a mime-message that will render HTML in popular\n    MUAs, text in better ones"""\n    import MimeWriter\n    import mimetools\n    import cStringIO
```

```
    out = cStringIO.StringIO() # output buffer for our message\n    htmlin = cStringIO.StringIO(html)\n    txtin = cStringIO.StringIO(text)
```

```
    writer = MimeWriter.MimeWriter(out)\n    #\n    # set up some basic headers... we put subject here\n    # because smtpplib.sendmail expects it to be in the\n    # message body\n    #\n    writer.addheader("Subject", subject)\n    writer.addheader("MIME-Version", "1.0")
```

```
    writer.addheader("From", "Hedley@xxxxxxxxxxxxx")\n    writer.addheader("To", "lorenzo@xxxxxxxxxxxxx")\n    #\n    # start the multipart section of the message\n    # multipart/alternative seems to work better\n    # on some MUAs than multipart/mixed\n    #\n    writer.startmultipartbody("alternative")\n    writer.flushheaders()\n    #\n    # the plain text section\n    #\n    subpart = writer.nextpart()\n    subpart.addheader("Content-Transfer-Encoding", "quoted-printable")\n    pout = subpart.startbody("text/plain", [("charset", 'us-ascii')])
```

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```
mimetools.encode(txtin, pout, 'quoted-printable')
txtin.close()
#
# start the html subpart of the message
#
subpart = writer.nextpart()
subpart.addheader("Content-Transfer-Encoding", "quoted-printable")
#
# returns us a file-ish object we can write to
#
pout = subpart.startbody("text/html", [("charset", 'us-ascii')])
mimetools.encode(htmlin, pout, 'quoted-printable')
htmlin.close()
#
# Now that we're done, close our writer and
# return the message body
#
writer.lastpart()
msg = out.getvalue()
out.close()
print msg
return msg
```

```
def makeNonBlocking(fd):
    fl = fcntl.fcntl(fd, fcntl.F_GETFL)
    try:
        fcntl.fcntl(fd, fcntl.F_SETFL, fl | os.O_NDELAY)
    except AttributeError:
        fcntl.fcntl(fd, fcntl.F_SETFL, fl | fcntl.FNDELAY)
```

```
def getCommandOutput(command):
    theOutput = []
    child = popen2.Popen3(command, 1) # capture stdout and stderr from
    command
    child.tochild.close() # don't need to talk to child
    outfile = child.fromchild
    outfd = outfile.fileno()
    errfile = child.childerr
    errfd = errfile.fileno()
    makeNonBlocking(outfd) # don't deadlock!
    makeNonBlocking(errfd)
    outdata = errdata = ""
    outeof = erreof = 0
    while 1:
        ready = select.select([outfd,errfd],[],[]) # wait for input
        if outfd in ready[0]:
            outchunk = outfile.read()
            if outchunk == "": outeof = 1
            outdata = outdata + outchunk
        if errfd in ready[0]:
```

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```
errchunk = errfile.read()
if errchunk == "": erreof = 1
errdata = errdata + errchunk
if outeof and erreof: break
select.select([],[],[],1) # give a little time for buffers to fill
err = child.wait()
if err != 0:
raise RuntimeError, '%s failed w/ exit code %d\n%s' % (command, err,
errdata)
theOutput.append(outdata)
theOutput.append(errdata)
return theOutput

#Run df and get the disk info
output = os.popen(cmd)

# match two or more spaces, the header line has a single
# space between the 'Mounted on' field
# We need to keep those together
# The other spaces are the separation in the field headers
# To get the output from df down to just the field headers
# and the data, we need to match 2 or more spaces
# -1 eliminates the \n at the end of output.
# We'll get it back when we write each line to the
# mail message, I suspect

html += "<font color='blue'>"

for lines in output.readlines():

p = re.compile('\ +')
formattedText = p.subn(' ', lines[:-1], 5)
html += formattedText[0] + '<BR>'

html += "</font>"

mydata = getCommandOutput("time emerge --sync")

p = re.compile('\ +')
p.subn(' ', mydata[1])[0]
p = re.compile('\n')
string = (p.subn('<BR>', mydata[1]))[0]

html += "<BR><BR><em><font color='green'>Sync Time: " + "<BR>" +
"</font></em>" + "<font color='blue'>" + string + "</font>"

mydata = ""
mydata = getCommandOutput("emerge -uvp world")
```

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```
p = re.compile('\ +')
(p.subn(' ', mydata[0]))[0]
p = re.compile('\n')
html += "<font color='blue'>" + (p.subn('<BR>', mydata[0]))[0] +
"</font>"
```

```
try:
getCommandOutput('emerge -uv --fetchonly world')
html += "<font color='Green'><em><BR>Fetch completed
successfully!</em></font>"
except RuntimeError:
html += "< font color='Red'><BR>*****Fetch did not complete
successfully!*****</font>"
```

```
html+= '</BODY> </HTML>'
```

```
out = cStringIO.StringIO()
writer = MimeWriter.MimeWriter(out)
txtin = cStringIO.StringIO("This should be in HTML")
subject = "Emergent info and disk utilization on Hedley"
message = createhtmlmail(html, text, subject)
server = smtplib.SMTP("hedley")
server.sendmail('Hedley@xxxxxxxxxxxx', 'lorenzo@xxxxxxxxxxxx', message)
server.quit()
[/code]
```

```
--
"My Break-Dancing days are over, but there's always the Funky Chicken"
--The Full Monty
```

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