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Thread: [Traceroute program](#)

Dr. Ciphers - April 19, 2015, 9:18 am

I have the following python code which implements a traceroute program. The python that i'm using is the 2.7.8

Code `#!/usr/bin/python`

```
import sys
import socket
```

```
def main():
    if len(sys.argv) > 1:
        dest_name = sys.argv[1]
    else:
        print("traceroute.py hostname")
        sys.exit(0)

    #define destination address from hostname
    dest_addr = socket.gethostbyname(dest_name)

    #Return the protocol number for the icmp protocol.
    icmp = socket.getprotobyname('icmp')

    #Return the protocol number for the udp protocol.
    udp = socket.getprotobyname('udp')

    #define ttl as 1 since we want to increment it gradually
    ttl = 1

    port = 33434

    while True:
        #we need two sockets for our connection. One for sending packets and one for receiving
        #we are going to receive the routers and servers responses in icmp.
        #we are going to send packets by using the udp

        #create socket for the icmp packets
        recv_socket = socket.socket(socket.AF_INET, socket.SOCK_RAW, icmp)

        #create a socket for the udp packets
        send_socket = socket.socket(socket.AF_INET, socket.SOCK_DGRAM, udp)

        #create a send socket object for sending udp packets
        a= send_socket.setsockopt(socket.SOL_IP, socket.IP_TTL, ttl)

        recv_socket.bind(("", port))
        send_socket.sendto("", (dest_name, port))
```

```
ttl +=1
```

```
# ... open connections ...  
# ... print data ...  
# ... break if useful ...  
pass
```

```
if __name__ == '__main__':  
    main()
```

Although when executed i get the following error.

Traceback (most recent call last):

```
File "./traceroute.py", line 56, in <module>  
    main()  
File "./traceroute.py", line 39, in main  
    a= send_socket.setsockopt(socket.SOL_IP, socket.IP_TTL, ttl)  
File "/usr/lib/python2.7/socket.py", line 224, in meth  
    return getattr(self._sock,name)(*args)  
socket.error: [Errno 22] Invalid argument
```

Any ideas would be appreciated!
Thank you.

MR.FREE - April 19, 2015, 9:12 pm

Errno 22 is because your trying to connect to a none existent server/port

<http://pastebin.com/BEgFdbfS>

Spoiler ([Click to View](#))

Also remember you receive and send packets on a loop, not bind and create sockets in a loop.(Normally!)

```
socket.send()  
socket.recv()  
socket.send()  
socket.recv()  
socket.send()
```

or

```
while True:  
    writeBuffer = socket.send()  
    readBuffer = socket.recv(1024)  
    if not readBuffer:  
        print 'Client/Server disconnected'  
    else:  
        print readBuffer
```

That is pseudo code ^^, lol don't try to run it

Below works for me.

Spoiler ([Click to View](#))

PHP Code

```
<?php
```

```
#!/usr/bin/python
```

```
import socket,sys
def main(dest):
    ttl = 1
    max = 30
    dest = socket.gethostbyname(dest)
    icmp = socket.getprotobyname('icmp')
    port = 12345
    while True:
        incoming = socket.socket(socket.AF_INET, socket.SOCK_RAW, icmp)
        outgoing = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
        outgoing.setsockopt(socket.SOL_IP, socket.IP_TTL, ttl)
        incoming.bind(('', port))
        outgoing.sendto('', (dest, port))
        NULL, address = incoming.recvfrom(1024)
        address = address[0]
        fuckery = socket.gethostbyaddr(address)[0]
        if address is not None:
            current = '{0} {1}'.format(fuckery,address)
        else:
            current = '*'
        print '{0} {1}'.format(ttl,current)
        ttl += 1
        if address == dest or ttl > max:
            break

if __name__ == '__main__':
    main(sys.argv[1])
```

Dr_Ciphers - April 21, 2015, 10:19 am

Thank you MR. FREE. I'm doing modifications on my code and will check it again.