BackNET Boys

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Implementación de la solución

- Tenemos siete clases:
  - Node
  - ServerNode
  - ServerNodeUDP
  - ServerNodeTCP
  - ClientNode
  - ClientNodeUDP
  - ClientNodeTCP

Estructuras de Datos Utilizadas

Tabla de alcanzabilidad

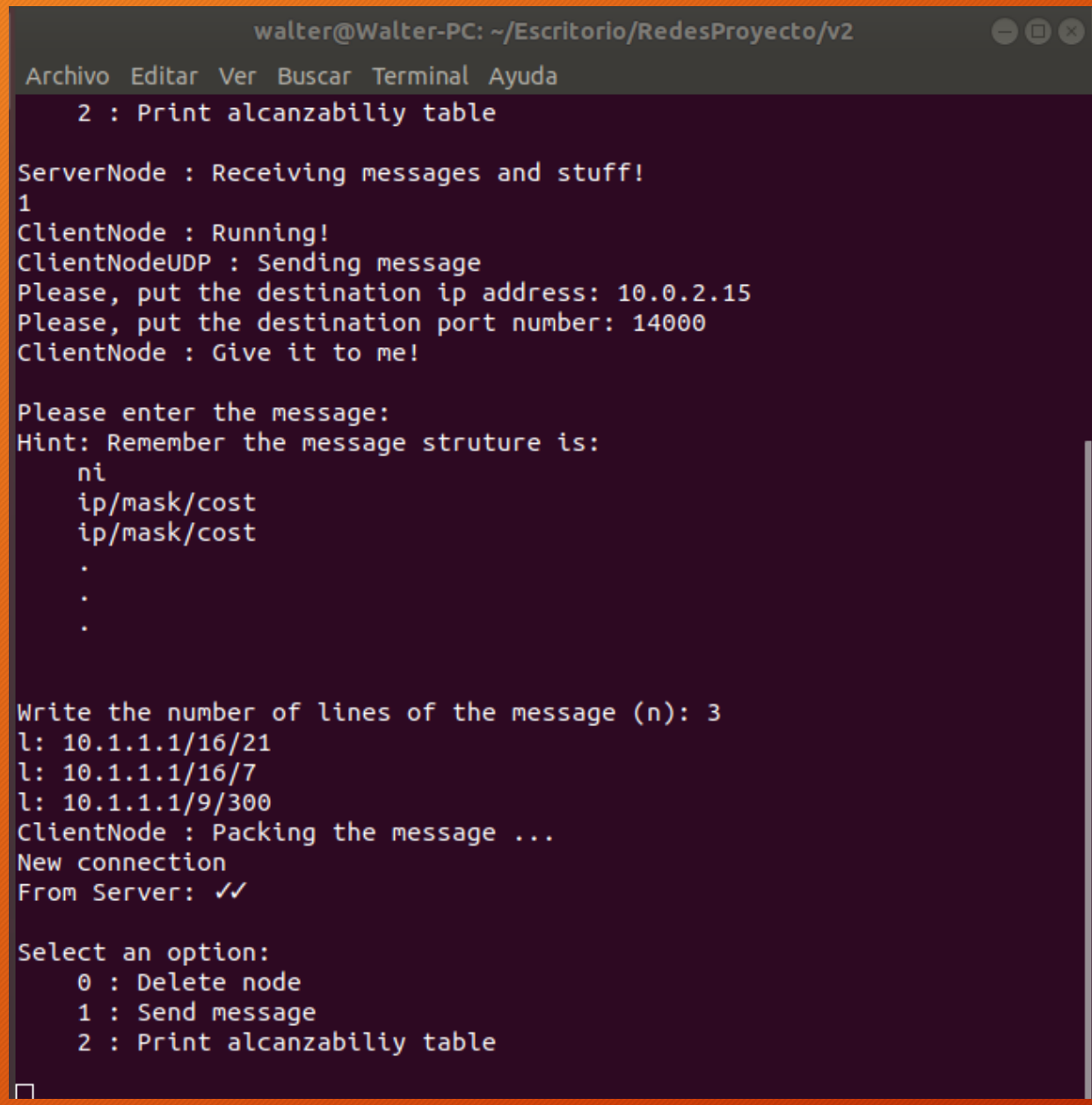
- Para la tabla de alcanzabilidad utilizamos una lista de listas

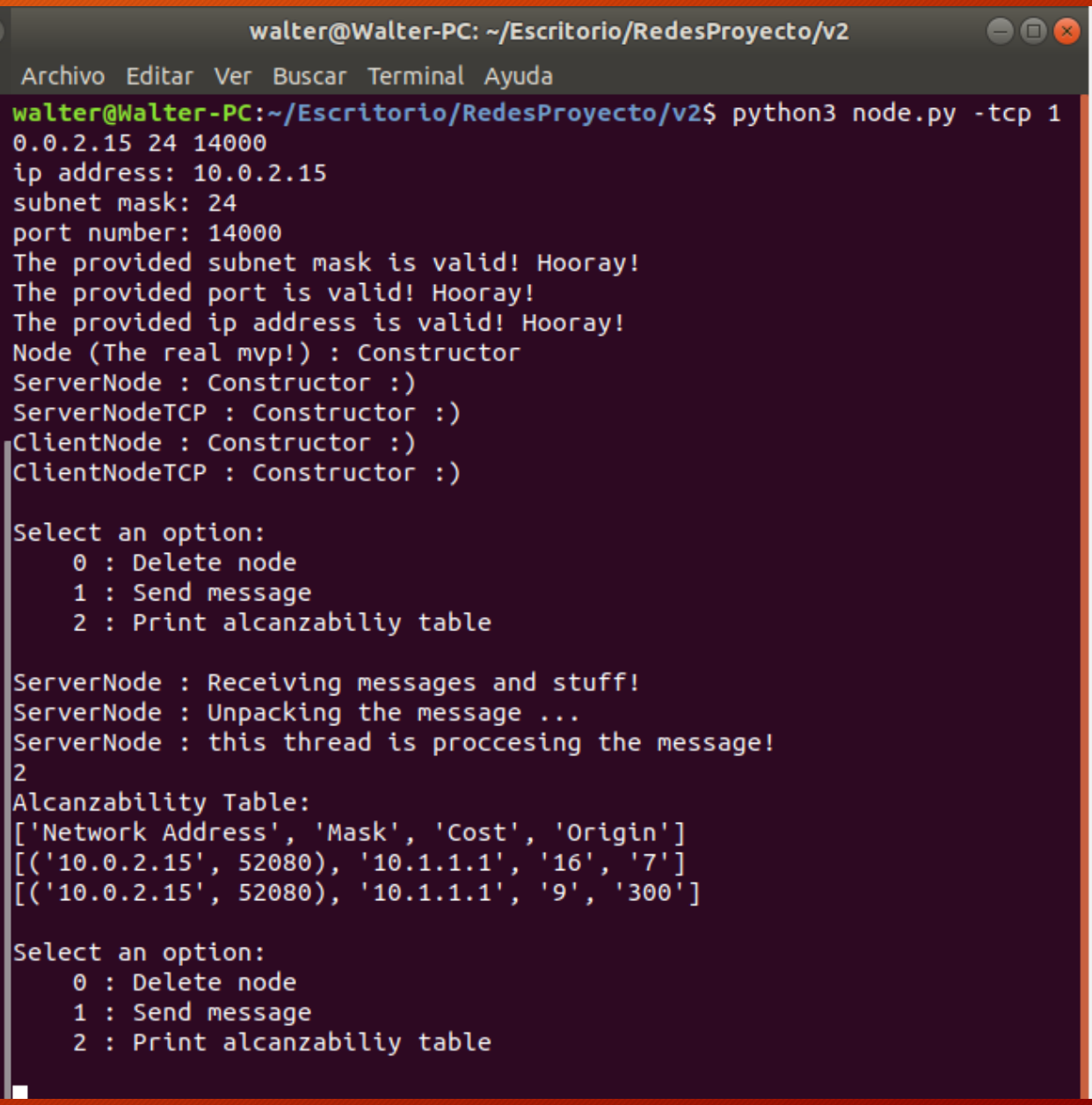
```
def proccessMessage(self, clientAddr, msj):
    aTLock.acquire()
    print("ServerNode : this thread is proccesing the message!")
    if(msj == "0"):
        # Delete clientAddr to the alcanzabilityTable
        for itr in self.alcanzabilityTable:
            if(itr[0] == clientAddr):
                del itr
    else:
        msg = msj.split('/')
        maximo = int(msg[0]) * 3
        i = 1
        while(i < maximo):
            tupla = []
            tupla.append(clientAddr)
            tupla.append(str(msg[i]))
            tupla.append(str(msg[i+1]))
            tupla.append(str(msg[i+2]))
            if(len(self.alcanzabilityTable) == 0):
                self.alcanzabilityTable.append(tupla)
            else:
                found = False
                for it in self.alcanzabilityTable:
                    if(it[1] == tupla[1] and it[2] == tupla[2]):
                        if(int(it[3]) > int(tupla[3])):
                            it[3] = tupla[3]
                        found = True
                        break
                if(not found):
                    self.alcanzabilityTable.append(tupla)
            i += 3
    aTLock.release()
```

Lista de Conexiones

- Para la Lista de Conexiones utilizamos un Diccionario

Casos de Prueba


walter@Walter-PC: ~/Escritorio/RedesProyecto/v2
Archivo Editar Ver Buscar Terminal Ayuda
2 : Print alcanzabiliy table
ServerNode : Receiving messages and stuff!
1
ClientNode : Running!
ClientNodeUDP : Sending message
Please, put the destination ip address: 10.0.2.15
Please, put the destination port number: 14000
ClientNode : Give it to me!
Please enter the message:
Hint: Remember the message struture is:
ni
ip/mask/cost
ip/mask/cost
.
.
.
Write the number of lines of the message (n): 3
l: 10.1.1.1/16/21
l: 10.1.1.1/16/7
l: 10.1.1.1/9/300
ClientNode : Packing the message ...
New connection
From Server: ✓✓
Select an option:
0 : Delete node
1 : Send message
2 : Print alcanzabiliy table


walter@Walter-PC: ~/Escritorio/RedesProyecto/v2
Archivo Editar Ver Buscar Terminal Ayuda
walter@Walter-PC:~/Escritorio/RedesProyecto/v2$ python3 node.py -tcp 1
0.0.2.15 24 14000
ip address: 10.0.2.15
subnet mask: 24
port number: 14000
The provided subnet mask is valid! Hooray!
The provided port is valid! Hooray!
The provided ip address is valid! Hooray!
Node (The real mvp!) : Constructor
ServerNode : Constructor :)
ServerNodeTCP : Constructor :)
ClientNode : Constructor :)
ClientNodeTCP : Constructor :)
Select an option:
0 : Delete node
1 : Send message
2 : Print alcanzabiliy table
ServerNode : Receiving messages and stuff!
ServerNode : Unpacking the message ...
ServerNode : this thread is proccesing the message!
2
Alcanzability Table:
['Network Address', 'Mask', 'Cost', 'Origin']
[('10.0.2.15', 52080), '10.1.1.1', '16', '7']
[('10.0.2.15', 52080), '10.1.1.1', '9', '300']
Select an option:
0 : Delete node
1 : Send message
2 : Print alcanzabiliy table

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```
    .
    .
    .


Write the number of lines of the message (n): 3
l: 10.1.1.1/16/21
l: 10.1.1.1/16/7
l: 10.1.1.1/9/300
ClientNode : Packing the message ...
New connection
From Server: ✓✓

Select an option:
    0 : Delete node
    1 : Send message
    2 : Print alcanzabiliy table

ServerNode : Unpacking the message ...
ServerNode : this thread is proccesing the message!
2
Alcanzability Table:
['Network Address', 'Mask', 'Cost', 'Origin']
[('10.0.2.15', 57180), '10.1.1.1', '12', '90']
[('10.0.2.15', 57180), '10.1.1.1', '15', '45']
[('10.0.2.15', 57180), '10.2.2.2', '9', '7']
[('10.0.2.15', 57180), '10.3.3.3', '10', '71']

Select an option:
    0 : Delete node
    1 : Send message
    2 : Print alcanzabiliy table
```

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Archivo Editar Ver Buscar Terminal Ayuda

```
1
ClientNode : Running!
ClientNodeUDP : Sending message
Please, put the destination ip address: 10.0.2.15
Please, put the destination port number: 12000
ClientNode : Give it to me!

Please enter the message:
Hint: Remember the message struture is:
    ni
    ip/mask/cost
    ip/mask/cost
    .
    .
    .


Write the number of lines of the message (n): 5
l: 10.1.1.1/12/90
l: 10.1.1.1/15/45
l: 10.1.1.1/12/170
l: 10.2.2.2/9/7
l: 10.3.3.3/10/71
ClientNode : Packing the message ...
New connection
From Server: ✓✓

Select an option:
    0 : Delete node
    1 : Send message
    2 : Print alcanzabiliy table
```