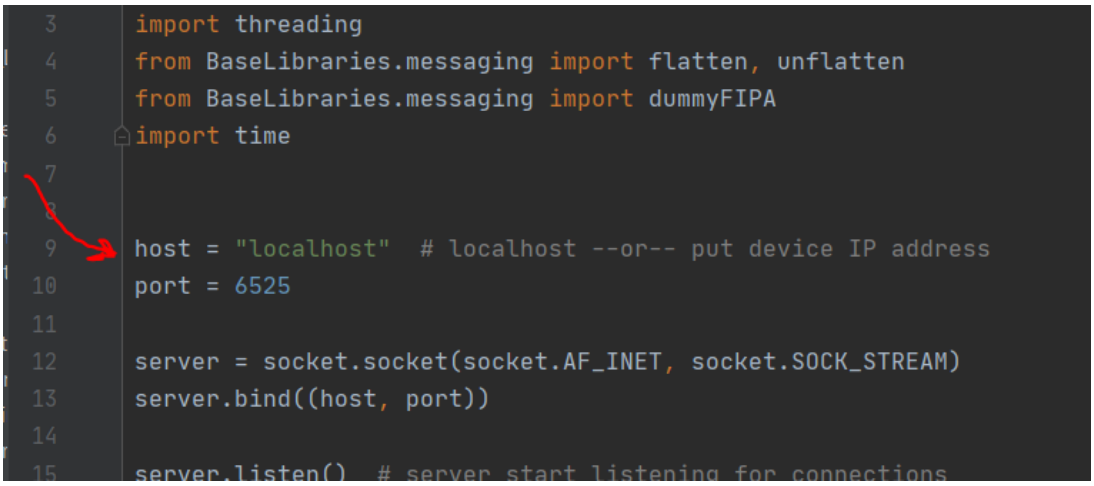
Running the agents and server

For initiating the agent-based system, you need to know the IP address of the PC on which the server will be hosted on.

On the PC, that you choose to initiate server on (assuming you have already gone through the installation procedure),

1. Go into the server folder, open the server.py script. (Right click + edit with IDLE)
2. In the initial section, you will see two variables named host and port, as shown below.



3. If you wish to initiate all agents on the same PC then let the host variable be “localhost”, and set a port number. A port number between 1 to 7500 can be put, but most of the initial port numbers are fixed for certain tasks so it is better to choose a port number somewhere between 3500 to 7500.
4. Else, if you wish to have agents on different PCS then you just need to change the host variable to IP address which has to be written in string format. See the “Knowing your IP address of your PC” section below.
5. Now save the file and close it. If you can run the python script server.py and you see the message displayed in command prompt “server is listening”; this would mean that server is working properly.
6. Now to run agent on a different PC; based on whether you want to initiate a machine agent or a Job manager agent, you need to open the machine-agent.py script in the machine agent folder, or the job-manager.py script in the job_manager folder.
7. Find client.connect() line and you have to put in the server IP address and the port number that we had earlier put in the server script. So, if the IPaddress and port of server are 192.168.0.193 and port is 6525; the line should be→

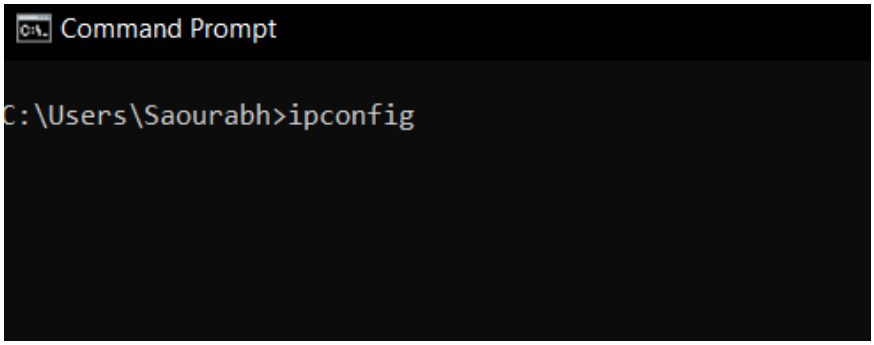
client.connect(“192.168.0.193”, 6525)

```
111
112  global client
113  client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
114  client.connect(("localhost", 6525))
115
116
117  # ----------------------------------------------------------------------
118  #                GUI and "functions to put something on GUI" start from
119  # ----------------------------------------------------------------------
120  root = Tk()
```

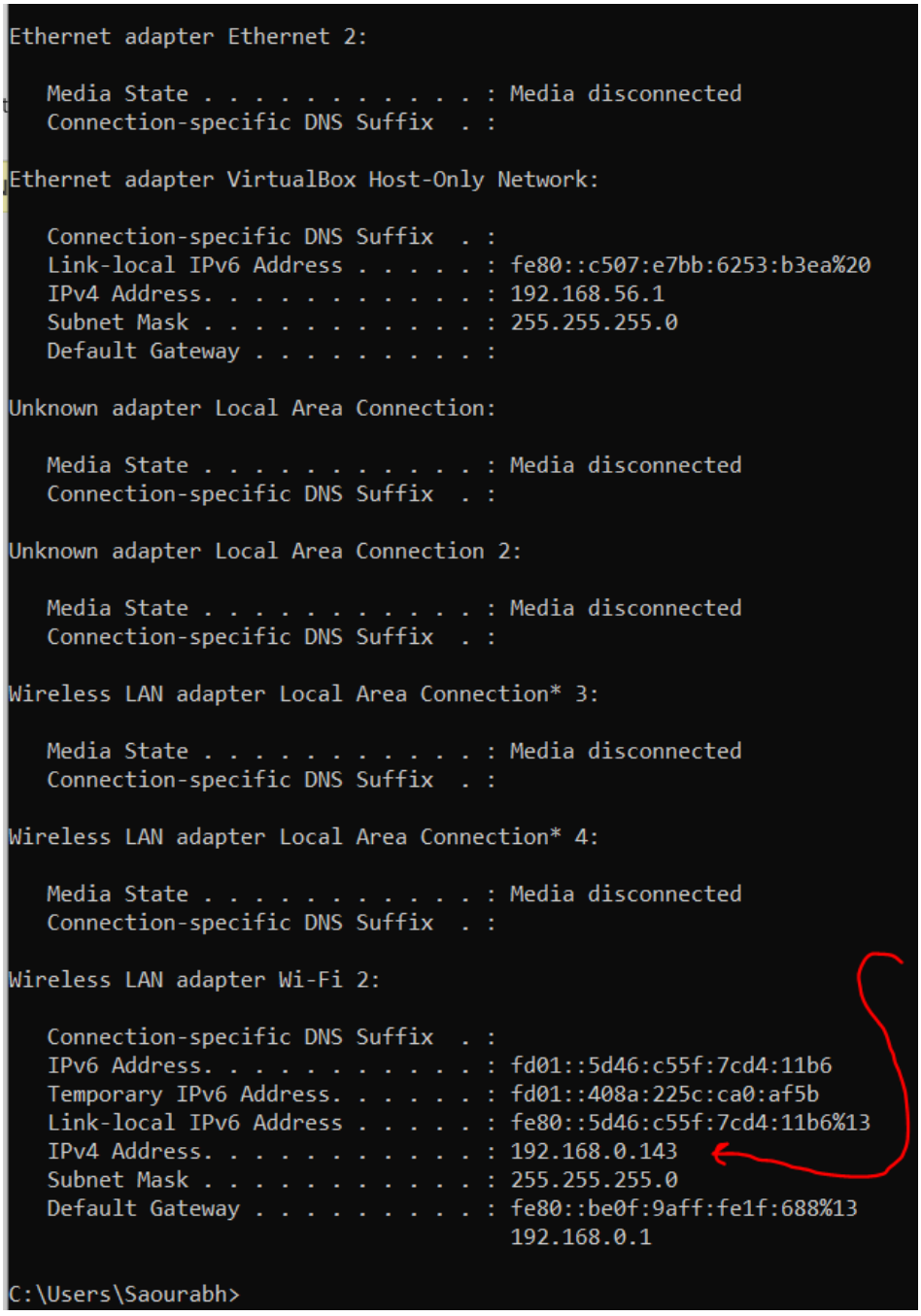
8. After this, just save the script and try running this script. The above process should be enough for the agent or role agent to connect to the server.
9. Repeat the process to initiate different agents on different machines.

Knowing the IP address of your PC

1. Open command prompt



2. type “ipconfig” and press enter.
   This will show you the IP connections of all the network adapters on your PC, from where you can fetch the IP addresses. For instance, in the following example the computers are connected to same Wi-Fi network, so the Ip address is 192.168.0.143


Ethernet adapter Ethernet 2:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Ethernet adapter VirtualBox Host-Only Network:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::c507:e7bb:6253:b3ea%20
IPv4 Address. . . . . : 192.168.56.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
Unknown adapter Local Area Connection:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Unknown adapter Local Area Connection 2:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Wireless LAN adapter Local Area Connection* 3:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Wireless LAN adapter Local Area Connection* 4:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
Wireless LAN adapter Wi-Fi 2:
Connection-specific DNS Suffix . :
IPv6 Address. . . . . : fd01::5d46:c55f:7cd4:11b6
Temporary IPv6 Address. . . . . : fd01::408a:225c:ca0:af5b
Link-local IPv6 Address . . . . . : fe80::5d46:c55f:7cd4:11b6%13
IPv4 Address. . . . . : 192.168.0.143
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : fe80::be0f:9aff:fe1f:688%13
192.168.0.1
C:\Users\Saourabh>