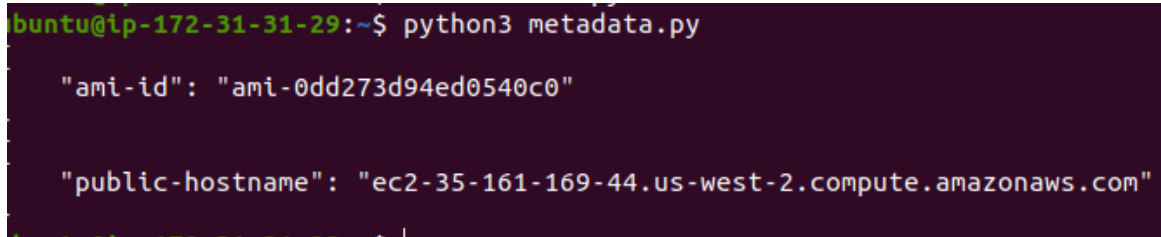Q2:   METADATA FOR A EC2 INSTAVE IN JSON

The instance metadata needs to be fetched from the instance and a the metadataservice is running ('http://169.254.169.254/latest/meta-data/') which provides the all metadata and we use it in json format . The code provided just use the above uri and gets the instance metadata .

The code is run
> python3 metadata.py

```
buntu@ip-172-31-31-29:~$ python3 metadata.py

    "ami-id": "ami-0dd273d94ed0540c0"


    "public-hostname": "ec2-35-161-169-44.us-west-2.compute.amazonaws.com"
```

Here we have shown the meta data for ex in code
> ami-id
> public-hostname

We can get the metadata for all the values below
1. ami-id
2. ami-launch-index
3. ami-manifest-path
4. ancestor-ami-ids
5. autoscaling/target-lifecycle-state
6. block-device-mapping/ami
7. block-device-mapping/ebsN
8. block-device-mapping/ephemeralN
9. block-device-mapping/root
10. block-device-mapping/swap
11. elastic-gpus/associations/elastic-gpu-id
12. elastic-inference/associations/eia-id
13. events/maintenance/history
14. events/maintenance/scheduled
15. events/recommendations/rebalance
16. hostname
17. iam/info
18. iam/security-credentials/role-name
19. identity-credentials/ec2/info
20. identity-credentials/ec2/security-credentials/ec2-instance
21. instance-action
22. instance-id

23. instance-life-cycle
24. instance-type
25. ipv6
26. kernel-id
27. local-hostname
28. local-ipv4
29. mac
30. metrics/vhostmd
31. network/interfaces/macs/mac/device-number
32. network/interfaces/macs/mac/interface-id
33. network/interfaces/macs/mac/ipv4-associations/public-ip
34. network/interfaces/macs/mac/ipv6s
35. network/interfaces/macs/mac/local-hostname
36. network/interfaces/macs/mac/local-ipv4s
37. network/interfaces/macs/mac/mac
38. network/interfaces/macs/mac/network-card-index
39. network/interfaces/macs/mac/owner-id
40. network/interfaces/macs/mac/public-hostname
41. network/interfaces/macs/mac/public-ipv4s
42. network/interfaces/macs/mac/security-groups
43. network/interfaces/macs/mac/security-group-ids
44. network/interfaces/macs/mac/subnet-id
45. network/interfaces/macs/mac/subnet-ipv4-cidr-block
46. network/interfaces/macs/mac/subnet-ipv6-cidr-blocks
47. network/interfaces/macs/mac/vpc-id
48. network/interfaces/macs/mac/vpc-ipv4-cidr-block
49. network/interfaces/macs/mac/vpc-ipv4-cidr-blocks
50. network/interfaces/macs/mac/vpc-ipv6-cidr-blocks
51. placement/availability-zone
52. placement/availability-zone-id
53. placement/group-name
54. placement/host-id
55. placement/partition-number
56. placement/region
57. product-codes
58. public-hostname
59. public-ipv4
60. public-keys/0/openssh-key
61. ramdisk-id
62. reservation-id
63. security-groups
64. services/domain
65. services/partition
66. spot/instance-action

67. spot/termination-time
68. tags/instance
69. Dynamic data categories
70. The following table lists the categories of dynamic data.
71. Category
72. fws/instance-monitoring
73. instance-identity/document
74. instance-identity/pkcs7
75. instance-identity/signature