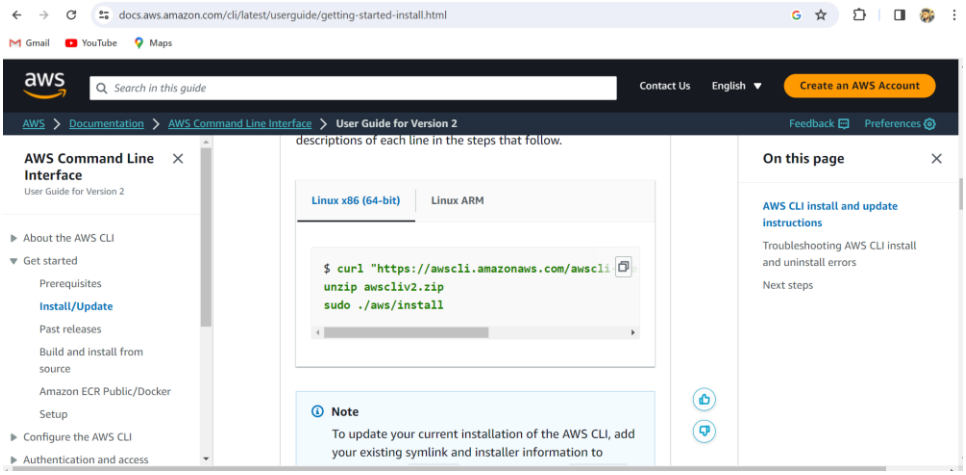
Calculating Aws Daily Cost Using Python Script

Prerequisite:

AWS Account
AWS Cli
AWS Credentials (ACCESS KEY, SECRET ACCESS KEY)
pip
Python3
Boto3

STEP 1:- Installing AWS cli
Open browser and type this url https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html



Go to terminal and type this command
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"

```
azureuser@master:~$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 56.3M  100 56.3M    0     0   214M      0 --:--:-- --:--:-- --:--:--  215M
azureuser@master:~$
```

It will download aws cli version2 package on your local

ls

```
azureuser@master:~$ ls
awscliv2.zip
azureuser@master:~$
```

Need to extract the zip file

Install unzip package to unzip the awscliv2 package
Sudo apt install unzip

```
azureuser@master:~$ sudo apt install unzip -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 168 kB of archives.
After this operation, 593 kB of additional disk space will be used.
Get:1 http://azure.archive.ubuntu.com/ubuntu focal-updates/main amd64 unzip amd64 6.0-25ubuntu1.1 [168 kB]
Fetched 168 kB in 0s (3811 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 58907 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-25ubuntu1.1_amd64.deb ...
Unpacking unzip (6.0-25ubuntu1.1) ...
Setting up unzip (6.0-25ubuntu1.1) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
azureuser@master:~$
```

Then unzip the awscliv2.zip using following command
unzip awscliv2.zip

```
azureuser@master:~$ unzip awscliv2.zip
Archive:  awscliv2.zip
   creating: aws/
   creating: aws/dist/
  inflating: aws/install
  inflating: aws/THIRD_PARTY_LICENSES
  inflating: aws/README.md
   creating: aws/dist/awscli/
   creating: aws/dist/cryptography/
```

ls
You will find aws directory

```
azureuser@master:~$ ls
aws  awscliv2.zip
```

After installing we need to go inside the aws directory and run the install script

```
azureuser@master:~$ cd aws
azureuser@master:~/aws$ ls
README.md  THIRD_PARTY_LICENSES  dist  install
azureuser@master:~/aws$
```

sudo ./install
It will install awscli into your system

```
azureuser@master:~/aws$ sudo ./install
You can now run: /usr/local/bin/aws --version
azureuser@master:~/aws$
```

After that you can check your aws version by running
aws --version

```
azureuser@master:~/aws$ aws --version
aws-cli/2.13.30 Python/3.11.6 Linux/5.15.0-1050-azure exe/x86_64.ubuntu.20 prompt/off
```

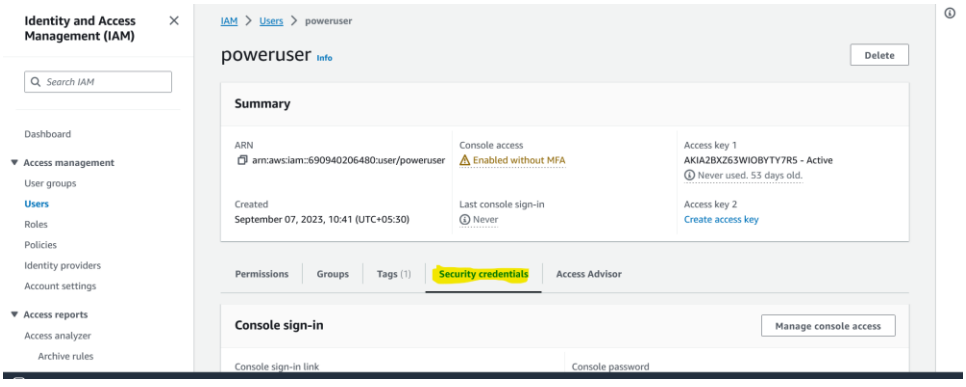
Alternate way
sudo apt update
sudo apt install awscli
aws –version

You are successfully installed awscli

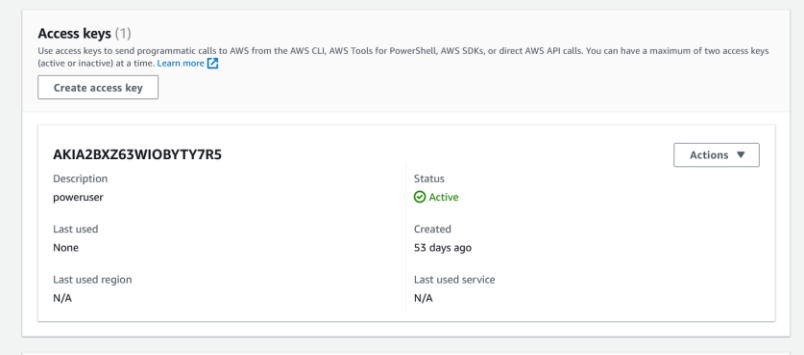
Step2 configure aws using access key and secret access key

Configure AWS CLI: After CLI installation, we have to download the AWS Console access key.

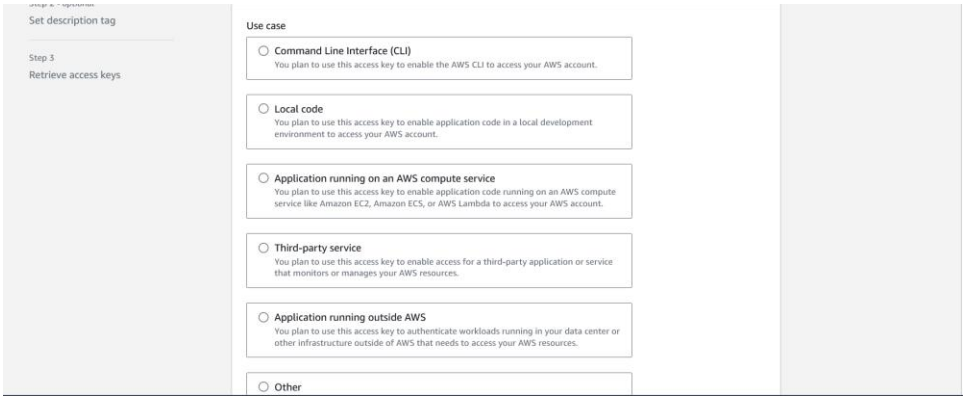
For that, go to **IAM >Users >select user >Security Credentials**



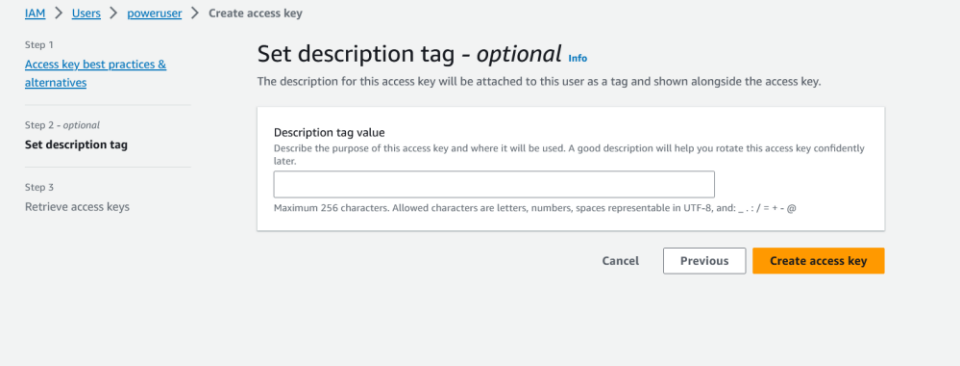
> **choose Access keys** > **Create New Access Key,**



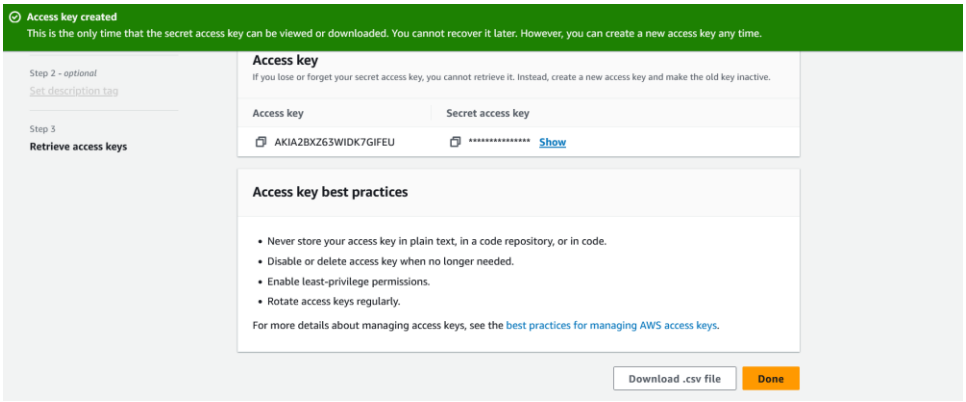
then select interface as command line



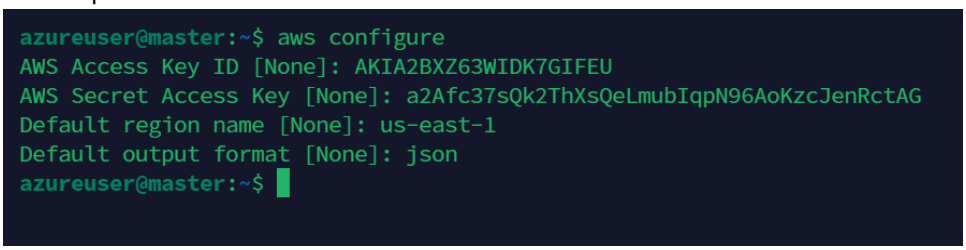
Give the tag if you want and click on create access key



download that key to the local machine.



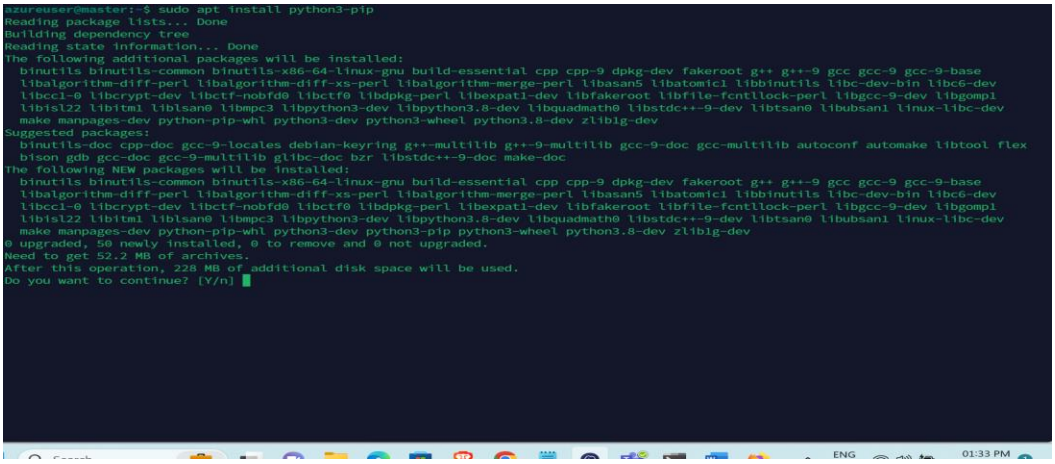
Now we can configure AWS CLI using the command: aws configure and fill in details like AWS keys, region, and output format.



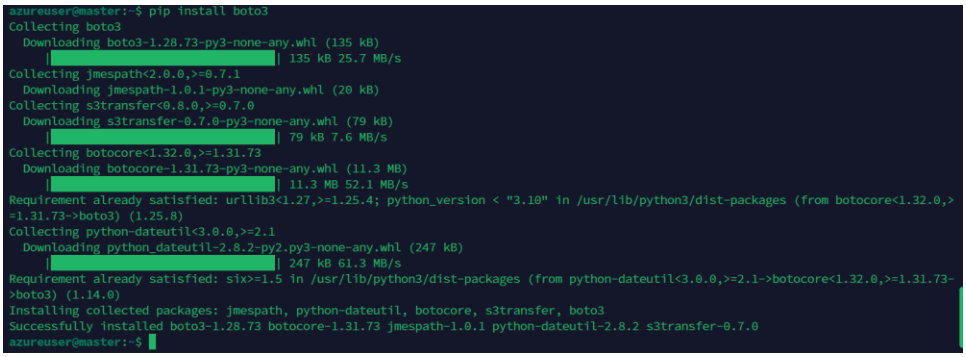
We can check by running any aws cli command like aws s3 ls

Step3 install pip

Sudo apt install python3-pip

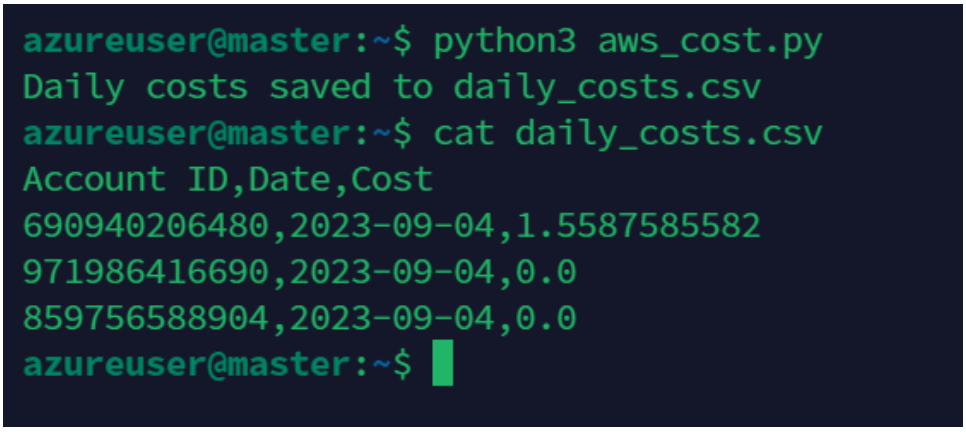


Pip install boto3



Now we need to create and run the script
Create file
Vim aws_cost.py
Write code in this file

Run the file
Python3 aws_cost.py



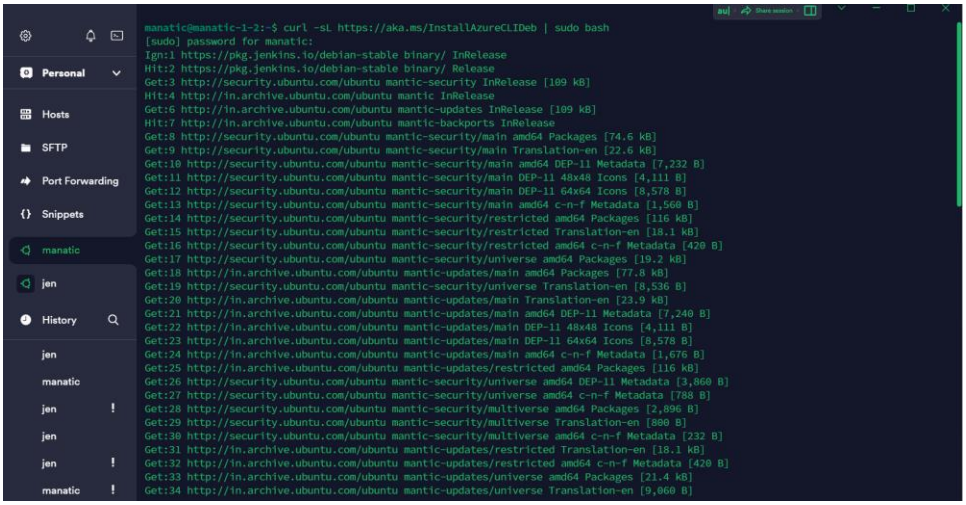
After running this script, you will have a CSV file that contains the daily cost data for the specified AWS accounts within the specified date range.

Calculating Azure Daily Cost Using Python Script

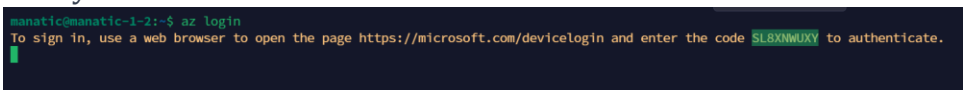
Prerequisite:

Azure Account
Azure Cli
Azure Subscription Id
pip
Python3

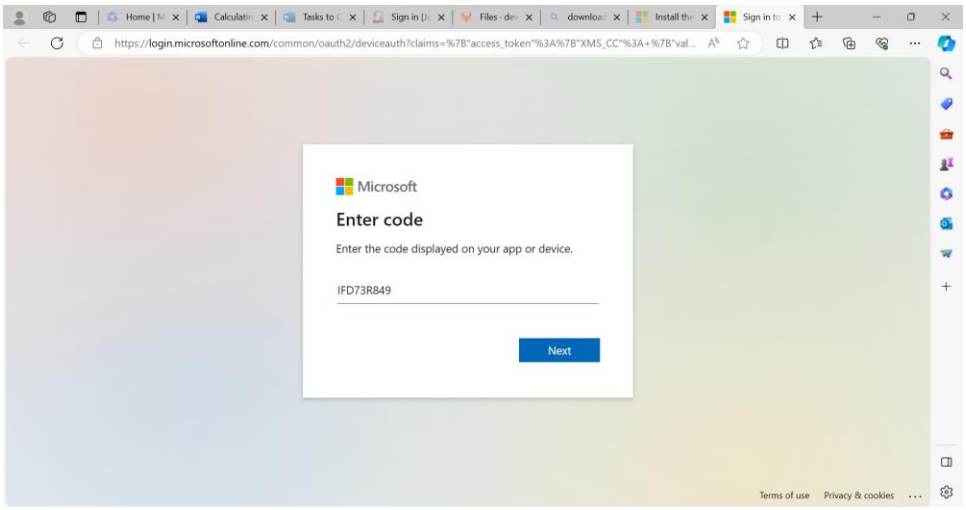
Step 1
First we need to download azure cli for ubuntu
curl -sL https://aka.ms/InstallAzureCLIDeb | sudo bash



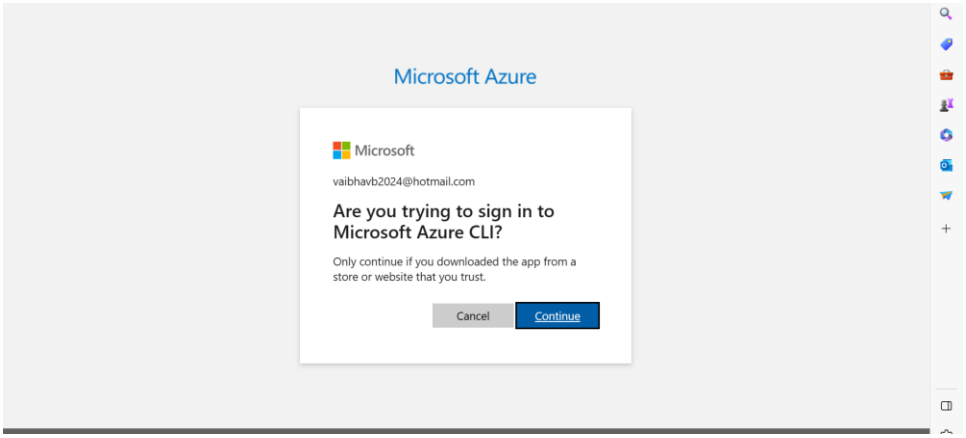
Now we need to login our azure account with azure cli just type az login to authenticate with your azure account



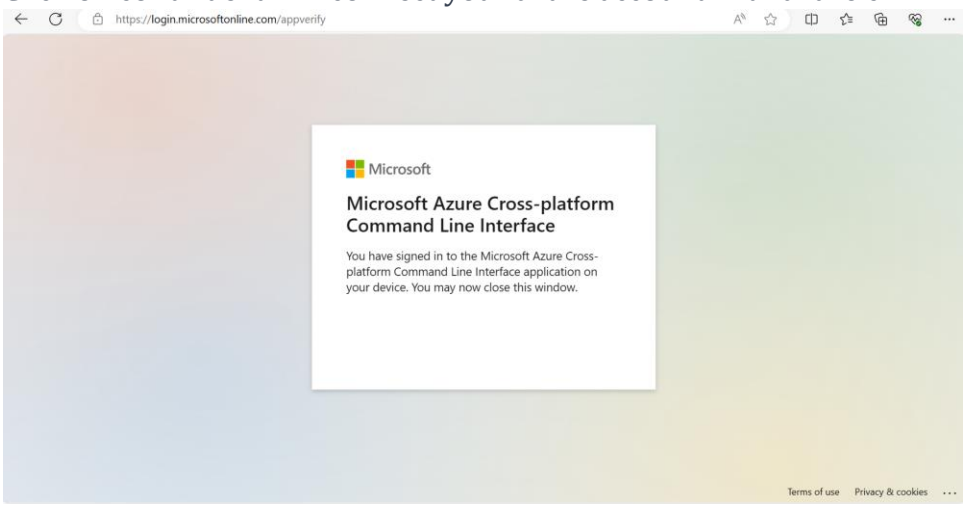
Just we need to click on this link and type the code given in cli to authenticate



Click next



Click on continue it will connect your azure account with azure cli



You can check your connection is successful in cli

```
manatic@manatic-1-2:~$ az login
To sign in, use a web browser to open the page https://microsoft.com/devicelogin and enter the code SL8XNWUXY to authenticate.
^Cmanatic@manatic-1-2:~$ az login
To sign in, use a web browser to open the page https://microsoft.com/devicelogin and enter the code IFD73R849 to authenticate.
IFD73R849The following tenants don't contain accessible subscriptions. Use 'az login --allow-no-subscriptions' to have tenant level acc
ess.
3655ea99-680b-4eca-8054-fe144dae1099 'vaibhav'
[
  {
    "cloudName": "AzureCloud",
    "homeTenantId": "3d11881a-6069-44b7-84b1-c6f31bef7cd0",
    "id": "199676de-c837-4aa5-b8cc-59ab0c011309",
    "isDefault": true,
    "managedByTenants": [],
    "name": "Azure subscription",
    "state": "Enabled",
    "tenantId": "3d11881a-6069-44b7-84b1-c6f31bef7cd0",
    "user": {
      "name": "vaibhavb2024@hotmail.com",
      "type": "user"
    }
  }
]
manatic@manatic-1-2:~$ IFD73R849
```

Step 2:
Install python3 and pip for python lib files
Sudo apt install python3

```
manatic@manatic-1-2:~$ sudo apt install python3
[sudo] password for manatic:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python3 is already the newest version (3.11.4-5).
python3 set to manually installed.
The following package was automatically installed and is no longer required:
  lynx-common
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 17 not upgraded.
manatic@manatic-1-2:~$
```

Install pip package manager for python

```
manatic@manatic-1-2:~$ sudo apt install pip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'python3-pip' instead of 'pip'
The following package was automatically installed and is no longer required:
  lynx-common
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential dpkg-dev fakeroot g++ g++-13 gcc gcc-13 javascript-common
  libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan8 libbinutils libc-dev-bin libc-devtools libc6-dev
  libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libdpkg-perl libexpat1-dev libfakeroot libfile-fcntllock-perl libgcc-13-dev libgprofng0
  libhwasan0 libitm1 libjs-jquery libjs-sphinxdoc libjs-underscore liblsan0 libnsl-dev libpython3-dev libpython3.11-dev libquadmath0
  libsframe1 libstdc++-13-dev libtirpc-dev libtsan2 libubsan1 linux-libc-dev lto-disabled-list make manpages-dev python3-dev
  python3-distutils python3-lib2to3 python3-setuptools python3-wheel python3.11-dev rpcsvc-proto zlib1g-dev
Suggested packages:
  binutils-doc gprofng-gui debian-keyring g++-multilib g++-13-multilib gcc-13-doc gcc-multilib autoconf automake libtool flex bison
  gcc-doc gcc-13-multilib gcc-13-locales apache2 | lighttpd | httpd glibc-doc bzr libstdc++-13-doc make-doc python-setuptools-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential dpkg-dev fakeroot g++ g++-13 gcc gcc-13 javascript-common
  libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan8 libbinutils libc-dev-bin libc-devtools libc6-dev
  libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libdpkg-perl libexpat1-dev libfakeroot libfile-fcntllock-perl libgcc-13-dev libgprofng0
  libhwasan0 libitm1 libjs-jquery libjs-sphinxdoc libjs-underscore liblsan0 libnsl-dev libpython3-dev libpython3.11-dev libquadmath0
  libsframe1 libstdc++-13-dev libtirpc-dev libtsan2 libubsan1 linux-libc-dev lto-disabled-list make manpages-dev python3-dev
  python3-distutils python3-lib2to3 python3-pip python3-setuptools python3-wheel python3.11-dev rpcsvc-proto zlib1g-dev
0 upgraded, 57 newly installed, 0 to remove and 17 not upgraded.
Need to get 69.6 MB of archives.
After this operation, 256 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Now we need to install python packages to calculate cost
Pip install azure-identity

```
azureuser@sonar:~$ sudo pip install azure-identity
Collecting azure-identity
  Downloading azure_identity-1.15.0-py3-none-any.whl (164 kB)
     |████████████████████████████████| 164 kB 22.5 MB/s
Requirement already satisfied: cryptography>=2.5 in /usr/lib/python3/dist-packages (from azure-identity) (2.8)
Collecting msal-extensions<2.0.0,>=0.3.0
  Downloading msal_extensions-1.0.0-py2.py3-none-any.whl (19 kB)
Collecting msal<2.0.0,>=1.24.0
  Downloading msal-1.25.0-py2.py3-none-any.whl (97 kB)
     |████████████████████████████████| 97 kB 7.5 MB/s
Collecting azure-core<2.0.0,>=1.23.0
  Downloading azure_core-1.29.5-py3-none-any.whl (192 kB)
     |████████████████████████████████| 192 kB 68.1 MB/s
Collecting portalocker<3,>=1.0; python_version >= "3.5" and platform_system != "Windows"
  Downloading portalocker-2.8.2-py3-none-any.whl (17 kB)
Requirement already satisfied: PyJWT[crypto]<3,>=1.0.0 in /usr/lib/python3/dist-packages (from msal<2.0.0,>=1.24.0->azure-identity) (1.
7.1)
Requirement already satisfied: requests<3,>=2.0.0 in /usr/lib/python3/dist-packages (from msal<2.0.0,>=1.24.0->azure-identity) (2.22.0)
Collecting typing-extensions>=4.6.0
  Downloading typing_extensions-4.8.0-py3-none-any.whl (31 kB)
Requirement already satisfied: six>=1.11.0 in /usr/lib/python3/dist-packages (from azure-core<2.0.0,>=1.23.0->azure-identity) (1.14.0)
Installing collected packages: portalocker, msal, msal-extensions, typing-extensions, azure-core, azure-identity
Successfully installed azure-core-1.29.5 azure-identity-1.15.0 msal-1.25.0 msal-extensions-1.0.0 portalocker-2.8.2 typing-extensions-4.
8.0
```

Pip install azure-mgmt-consumption

```
azureuser@sonar:~$ sudo pip install azure-mgmt-consumption
Collecting azure-mgmt-consumption
  Downloading azure_mgmt_consumption-10.0.0-py3-none-any.whl (138 kB)
     |████████████████████████████████| 138 kB 27.1 MB/s
Collecting azure-mgmt-core<2.0.0,>=1.3.1
  Downloading azure_mgmt_core-1.4.0-py3-none-any.whl (27 kB)
Collecting azure-common~=1.1
  Downloading azure_common-1.1.28-py2.py3-none-any.whl (14 kB)
Collecting msrest>=0.6.21
  Downloading msrest-0.7.1-py3-none-any.whl (85 kB)
     |████████████████████████████████| 85 kB 4.4 MB/s
Requirement already satisfied: azure-core<2.0.0,>=1.26.2 in /usr/local/lib/python3.8/dist-packages (from azure-mgmt-core<2.0.0,>=1.3.1-
>azure-mgmt-consumption) (1.29.5)
Collecting isodate>=0.6.0
  Downloading isodate-0.6.1-py2.py3-none-any.whl (41 kB)
     |████████████████████████████████| 41 kB 677 kB/s
Requirement already satisfied: requests~=2.16 in /usr/lib/python3/dist-packages (from msrest>=0.6.21->azure-mgmt-consumption) (2.22.0)
Requirement already satisfied: certifi>=2017.4.17 in /usr/lib/python3/dist-packages (from msrest>=0.6.21->azure-mgmt-consumption) (2019
.11.28)
Collecting requests-oauthlib>=0.5.0
  Downloading requests_oauthlib-1.3.1-py2.py3-none-any.whl (23 kB)
Requirement already satisfied: six>=1.11.0 in /usr/lib/python3/dist-packages (from azure-core<2.0.0,>=1.26.2->azure-mgmt-core<2.0.0,>=1
.3.1->azure-mgmt-consumption) (1.14.0)
Requirement already satisfied: typing-extensions>=4.6.0 in /usr/local/lib/python3.8/dist-packages (from azure-core<2.0.0,>=1.26.2->azur
e-mgmt-core<2.0.0,>=1.3.1->azure-mgmt-consumption) (4.8.0)
Requirement already satisfied: oauthlib>=3.0.0 in /usr/lib/python3/dist-packages (from requests-oauthlib>=0.5.0->msrest>=0.6.21->azure-
mgmt-consumption) (3.1.0)
Installing collected packages: azure-mgmt-core, azure-common, isodate, requests-oauthlib, msrest, azure-mgmt-consumption
Successfully installed azure-common-1.1.28 azure-mgmt-consumption-10.0.0 azure-mgmt-core-1.4.0 isodate-0.6.1 msrest-0.7.1 requests-oaut
hlib-1.3.1
```

You can check the pip list for versions

```
azureuser@sonar:~$ pip list
Package                 Version
----------------------- --------------------
attrs                   19.3.0
Automat                 0.8.0
azure-common            1.1.28
azure-core              1.29.5
azure-identity          1.15.0
azure-mgmt-consumption  10.0.0
azure-mgmt-core         1.4.0
```

Now create file vim azcost.py <code will be provided seperately>

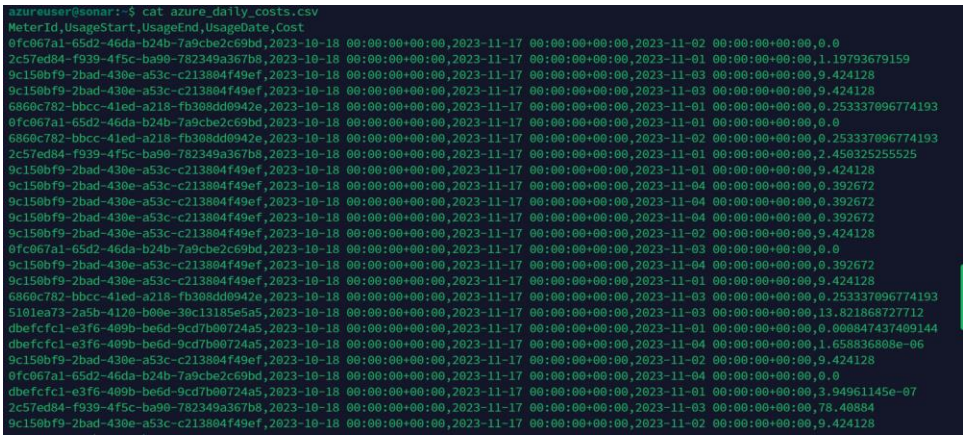
And run this file python3 azcost.py

```
azureuser@sonar:~$ python3 azcost.py
Daily costs saved to azure_daily_costs.csv
azureuser@sonar:~$
```

Azure costs will be saved in .csv file

You can browse this file for cost

Cat azure_daily_costs.csv



```
azureuser@sonar:~$ cat azure_daily_costs.csv
MeterId,UsageStart,UsageEnd,UsageDate,Cost
0fc067a1-65d2-46da-b24b-7a9cbe2c69bd,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-02 00:00:00+00:00,0.0
2c57ed84-f939-4f5c-ba90-782349a367b8,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-01 00:00:00+00:00,1.19793679159
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-03 00:00:00+00:00,9.424128
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-03 00:00:00+00:00,9.424128
6860c782-bbcc-41ed-a218-fb308dd0942e,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-01 00:00:00+00:00,0.253337096774193
0fc067a1-65d2-46da-b24b-7a9cbe2c69bd,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-01 00:00:00+00:00,0.0
6860c782-bbcc-41ed-a218-fb308dd0942e,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-02 00:00:00+00:00,0.253337096774193
2c57ed84-f939-4f5c-ba90-782349a367b8,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-01 00:00:00+00:00,2.450325255525
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-01 00:00:00+00:00,9.424128
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-04 00:00:00+00:00,0.392672
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-04 00:00:00+00:00,0.392672
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-04 00:00:00+00:00,0.392672
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-02 00:00:00+00:00,9.424128
0fc067a1-65d2-46da-b24b-7a9cbe2c69bd,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-03 00:00:00+00:00,0.0
9c150bf9-2bad-430e-a53c-c213804f49ef,2023-10-18 00:00:00+00:00,2023-11-17 00:00:00+00:00,2023-11-04 00:00:00+00:00,0.392672
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Done this is raw need to do some detailing and corrections