AWS Resource Usage Tracker

Overview:

This mini project demonstrates the use of AWS services and the AWS CLI to manage and monitor AWS resources effectively.

Features:

- **EC2 Management: Create, manage, and terminate EC2 instances.**
- **Resource Monitoring: Track usage and performance of AWS resources.**
- **Automation: Use Bash scripts to automate common tasks.**

Prerequisites:

- **AWS CLI installed and configured with the necessary permissions.**
- **AWS account with access to EC2 services.**
- **Bash shell environment**

Sign/ Login to Your AWS Account

1. **Visit the AWS Management Console**: [AWS Management Console] (https://aws.amazon.com/console/).

2. **Enter your credentials**: Provide your AWS account email/ID and password.

3. **Click "Sign In"**: to access your AWS account.

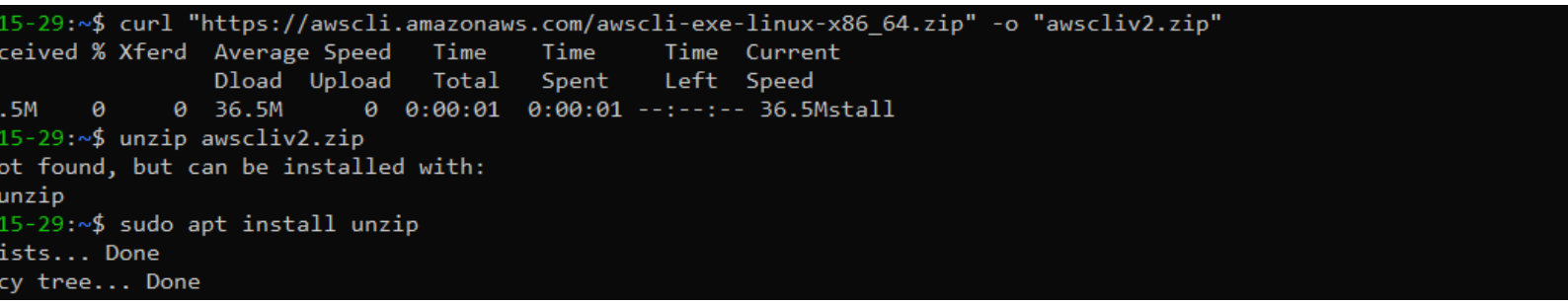
Create & Launch an EC2 Instance

1. Log in to the AWS Management Console: Go to [AWS Management Console](https://aws.amazon.com/console/) and sign in with your credentials.

2. Navigate to EC2: In the console, find and click on the EC2 service under "Compute".

3. Launch Instance: Click the Launch Instance button, configure the necessary settings (such as instance type, AMI, key pair, security group), and click Launch to start your EC2 instance.

Configure AWS CLI on EC2 Instance



Commands to install and configure aws cli on Linux Instance :

curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"

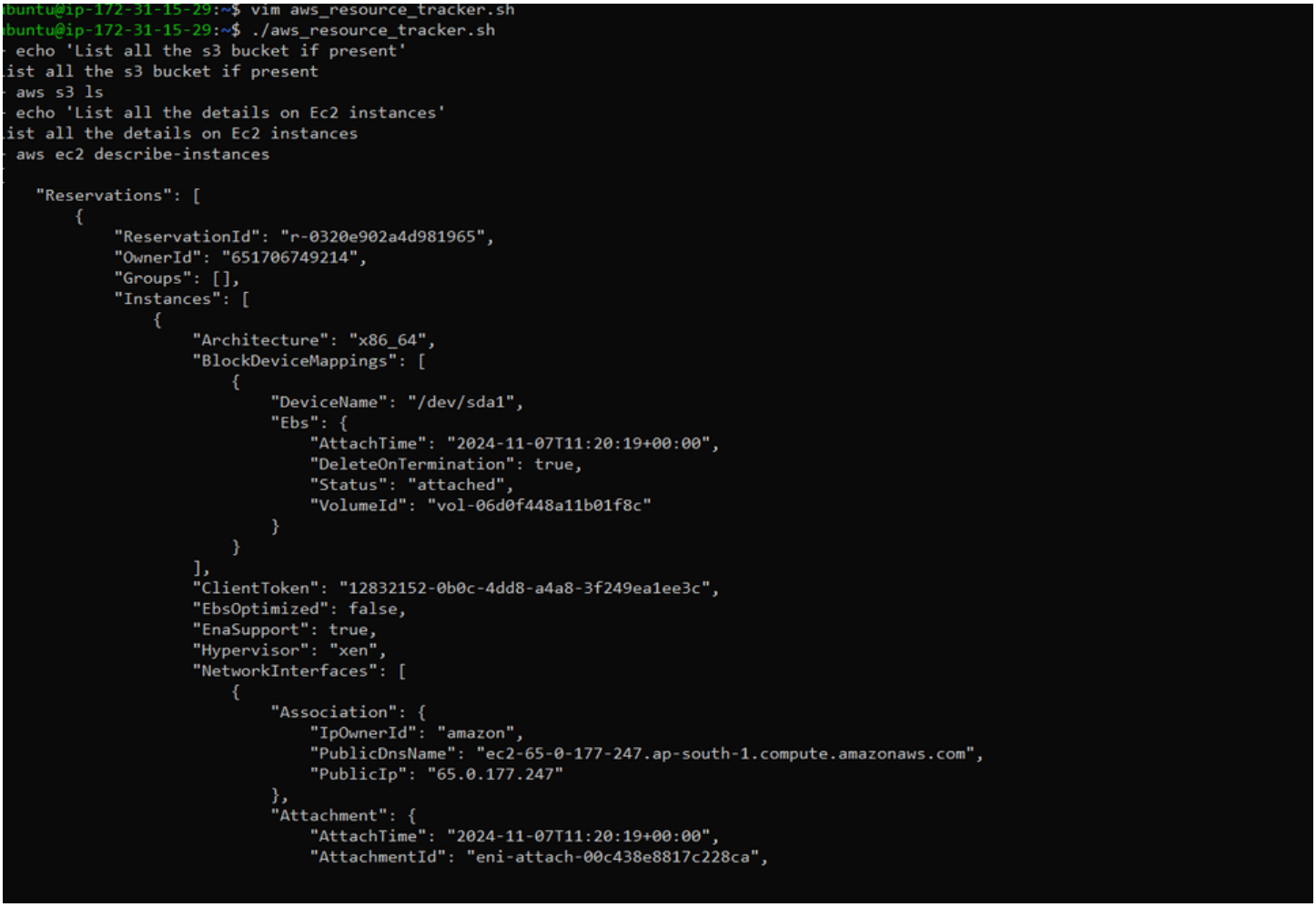
unzip awscliv2.zip

sudo ./aws/install

Write a Bash Script to Track the AWS Resource & their Usage

```
#!/bin/bash


#-------------------------------------------------------------------------
#Author: Kkrish Singh
#Date: 7-Nov
#Version: V1
#
#This Script is to check the resource usage and track it using shell script
#-------------------------------------------------------------------------

set -x

#AWS S3
#AWS Ec2
#AWS IAM
#AWS Lambda


#List all the S3 bucket
echo "List all the s3 bucket if present"
aws s3 ls

#List all the Ec2 instances
echo "List all the details on Ec2 instances"
aws ec2 describe-instances

#list IAM Users
echo"List all the IAM Users"
aws iam list-users

#list Lambda
echo"List Lambda "
aws lambda list-functions
```

Output & Outcome of The Project



```
buntu@ip-172-31-15-29:~$ vim aws_resource_tracker.sh
buntu@ip-172-31-15-29:~$ ./aws_resource_tracker.sh
 echo 'List all the s3 bucket if present'
ist all the s3 bucket if present
 aws s3 ls
 echo 'List all the details on Ec2 instances'
ist all the details on Ec2 instances
 aws ec2 describe-instances
{
    "Reservations": [
        {
            "ReservationId": "r-0320e902a4d981965",
            "OwnerId": "651706749214",
            "Groups": [],
            "Instances": [
                {
                    "Architecture": "x86_64",
                    "BlockDeviceMappings": [
                        {
                            "DeviceName": "/dev/sda1",
                            "Ebs": {
                                "AttachTime": "2024-11-07T11:20:19+00:00",
                                "DeleteOnTermination": true,
                                "Status": "attached",
                                "VolumeId": "vol-06d0f448a11b01f8c"
                            }
                        }
                    ],
                    "ClientToken": "12832152-0b0c-4dd8-a4a8-3f249ea1ee3c",
                    "EbsOptimized": false,
                    "EnaSupport": true,
                    "Hypervisor": "xen",
                    "NetworkInterfaces": [
                        {
                            "Association": {
                                "IpOwnerId": "amazon",
                                "PublicDnsName": "ec2-65-0-177-247.ap-south-1.compute.amazonaws.com",
                                "PublicIp": "65.0.177.247"
                            },
                            "Attachment": {
                                "AttachTime": "2024-11-07T11:20:19+00:00",
                                "AttachmentId": "eni-attach-00c438e8817c228ca",
```

Outcome :

The outcome of the AWS Resource Usage Tracker project is improved accountability and cost management.

By tracking AWS resources like EC2 instances, S3 buckets, and Lambda functions, the project helps identify unused or underutilized resources, ensuring they are either optimized or decommissioned.

This leads to cost savings and more efficient resource usage.