

Experiment : 5

Title : Automation and Optimization with Amazon S3

Date: 22/09/2022

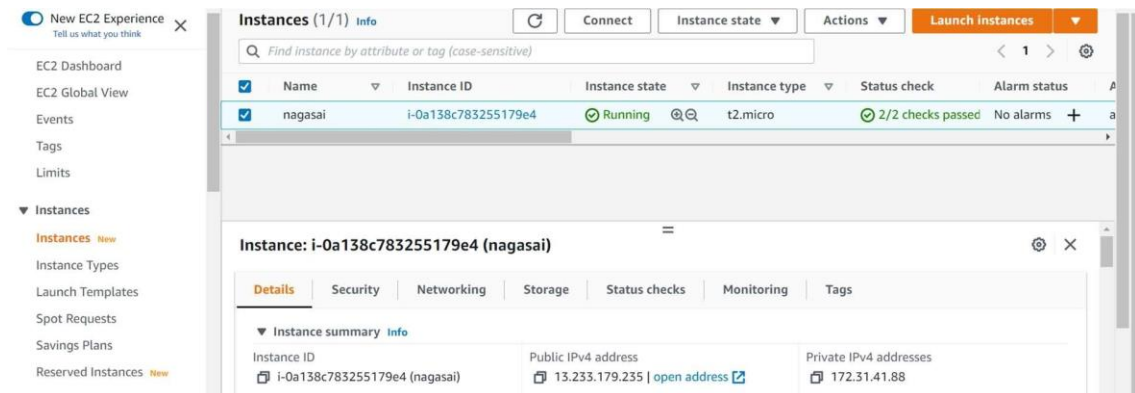
Aim : Automate Files backup to aws S3 bucket on Linux machine.

Pre-requisites : AWS Console, Amazon S3, crontab, aws cli

Procedure :

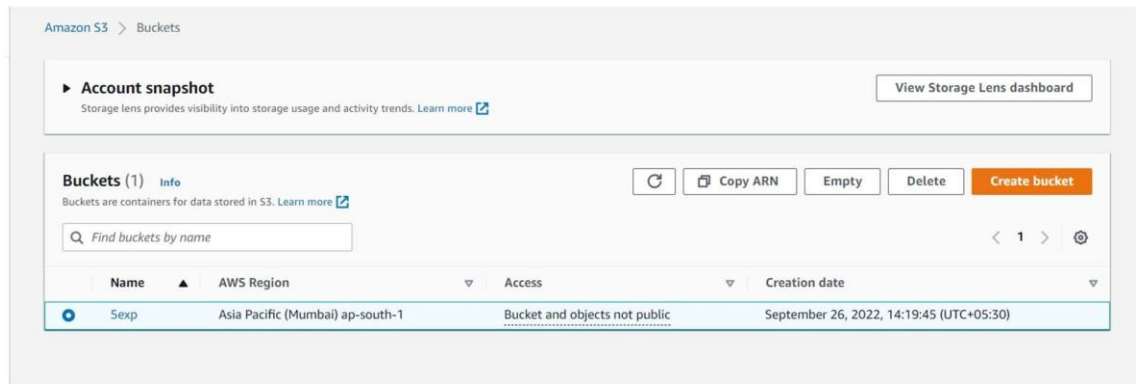
Steps:

1. Create a S3 bucket.
2. Create a EC2 instance.
3. Give EC2 instance Role to access S3.



(or you may also grant access to your local linux machine using aws configure cmd and entering your IAM user credentials over there)

4. Connect to your EC2 instance CLI.
5. Type "sudo su" to give access root directory.



6. Create a directory “backup”. Type: `mkdir backup`
7. Go inside the “backup” directory.
8. Make some test files. Type: `touch a`

```
2022-09-19 08:27:17 paint-ad1543
[root@ip-172-31-32-239 ec2-user]# aws s3 ls automate-upload
[root@ip-172-31-32-239 ec2-user]# pwd backupdata/
[root@ip-172-31-32-239 ec2-user]# mkdir backup
[root@ip-172-31-32-239 ec2-user]# cd backup
[root@ip-172-31-32-239 backup]# touch a
[root@ip-172-31-32-239 backup]# touch b
[root@ip-172-31-32-239 backup]# touch c
[root@ip-172-31-32-239 backup]# ls
a b c
[root@ip-172-31-32-239 backup]# aws s3 sync /root/backup s3://automate-upload

The user-provided path /root/backup does not exist.
[root@ip-172-31-32-239 backup]# aws s3 /backup s3://automate-upload
Note: AWS CLI version 2, the latest major version of the AWS CLI, is now stable and recommended for general use. For more information, see the AWS CLI version 2 installation instructions at
: https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2.html

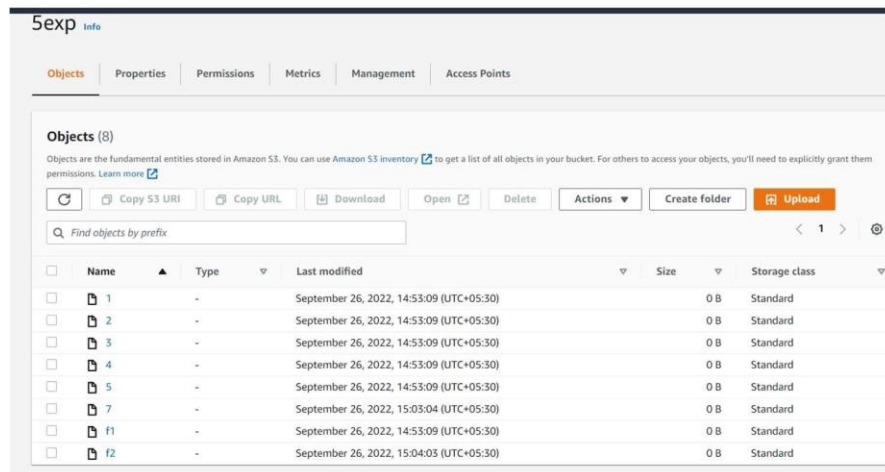
usage: aws [options] <command> [<subcommand> ...] [<parameters>]
To see help text, you can run:

    aws help
    aws <command> help
    aws <command> <subcommand> help
aws: error: argument subcommand: Invalid choice, valid choices are:

ls                | website
cp                | mv
rm                | sync
mb                | rb

presign
[root@ip-172-31-32-239 backup]# pwd
/home/ec2-user/backup
[root@ip-172-31-32-239 backup]# aws s3 sync /home/ec2-user/backup s3://automate-upload
upload: ./c to s3://automate-upload/c
upload: ./b to s3://automate-upload/b
upload: ./a to s3://automate-upload/a
[root@ip-172-31-32-239 backup]#
```

9. List them by cmd – `ls`



10. Now to sync these files of backup directory on the S3 bucket.

Cmd : `aws s3 sync localfilepath s3://bucketname`

11. Now, we are going to create a cron job in order to automate this process.

Cmd : `crontab -e`

Enter the cmd : cron code `aws s3 sync /directory s3://bucketname`

For e.g. : cron code for 1 min is `* * * * *`

(you may use crontab.guru to create your own job expression)

URL : <https://crontab.guru/>

```
* * * * * aws s3 sync /home/ec2-user/backup s3://automate-upload
```

```
[root@ip-172-31-32-239 backup]# touch a
[root@ip-172-31-32-239 backup]# touch b
[root@ip-172-31-32-239 backup]# touch c
[root@ip-172-31-32-239 backup]# ls
a b c
[root@ip-172-31-32-239 backup]# aws s3 sync /root/backup s3://automate-upload
The user-provided path /root/backup does not exist.
[root@ip-172-31-32-239 backup]# aws s3 /backup s3://automate-upload
Note: AWS CLI version 2, the latest major version of the AWS CLI, is now stable and recommended for general use. For more information, see the AWS CLI version 2 installation instructions at
: https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2.html

usage: aws [options] <command> [<subcommand>] [<subcommand> ...] [parameters]
To see help text, you can run:

    aws help
    aws <command> help
    aws <command> <subcommand> help
aws: error: argument subcommand: Invalid choice, valid choices are:

ls                               | website
cp                               | mv
rm                               | sync
mb                               | rb
presign

[root@ip-172-31-32-239 backup]# pwd
/home/ec2-user/backup
[root@ip-172-31-32-239 backup]# aws s3 sync /home/ec2-user/backup s3://automate-upload
upload: ./c to s3://automate-upload/c
upload: ./b to s3://automate-upload/b
upload: ./a to s3://automate-upload/a
[root@ip-172-31-32-239 backup]#
[root@ip-172-31-32-239 backup]#
[root@ip-172-31-32-239 backup]# crontab -e
no crontab for root - using an empty one
crontab: installing new crontab
[root@ip-172-31-32-239 backup]#
```

12. Restart the Crond service
Run “`systemctl restart/stop/start cornd.service`” to restart/stop/start your cron jobs respectively.
13. Now, we are going to create some test files to check if they are uploaded every minute or not.
14. File d and file e have been updated.

5expInfo

Objects

Properties

Permissions

Metrics

Management

Access Points

Objects (8)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Copy S3 URI

Copy URL

Download

Open

Delete

Actions

Create folder

Upload

Find objects by prefix

< 1 >

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	1	-	September 26, 2022, 14:53:09 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	2	-	September 26, 2022, 14:53:09 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	3	-	September 26, 2022, 14:53:09 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	4	-	September 26, 2022, 14:53:09 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	5	-	September 26, 2022, 14:53:09 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	7	-	September 26, 2022, 15:03:04 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	f1	-	September 26, 2022, 14:53:09 (UTC+05:30)	0 B	Standard
<input type="checkbox"/>	f2	-	September 26, 2022, 15:04:03 (UTC+05:30)	0 B	Standard

Result:

We have successfully automated our local files/directory backup on Amazon S3 buckets using crontab.