

Task 1: Amazon S3 - Setup and Data Management

* Create an Amazon S3 bucket in your AWS account that hosts your static website. Ensure that S3 is public access.

The image shows a screenshot of the AWS S3 console and a terminal window. The top part of the image displays the AWS S3 console interface, indicating that a bucket named "react-simple-app-lab5" has been successfully created in the us-east-1 region. The console shows the bucket's details, including its name, region, and creation date. Below the console, a terminal window shows the commands used to set up a React application. The terminal output includes the installation of React and the creation of a new React app named "simple-react".

AWS S3 Console:

- Successfully created bucket "react-simple-app-lab5"
- Account snapshot - updated every 24 hours
- General purpose buckets (1)
- Bucket name: react-simple-app-lab5
- AWS Region: US East (N. Virginia) us-east-1
- Creation date: October 5, 2024, 19:57:14 (UTC-05:00)

Terminal Output:

```
npm install react react-dom react-scripts cra-template
10/02/2024 08:33 PM 17 README.md
1 File(s) 17 bytes
10 Dir(s) 933,584,326,656 bytes free

F:\cloud computing\labs\Cloud-Computing>cd lab6
F:\cloud computing\labs\Cloud-Computing\lab6>react --version
'react' is not recognized as an internal or external command,
operable program or batch file.

F:\cloud computing\labs\Cloud-Computing\lab6>node --version
v20.12.2

F:\cloud computing\labs\Cloud-Computing\lab6>npx create-react-app simple-react
Creating a new React app in F:\cloud computing\labs\Cloud-Computing\lab6\simple-react.
Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...
[ ] - idealTree:css-minimizer-webpack-plugin: 5.11.1 placeDep ROOT source-map@0.7.4 OK for: @pmmmwh/react-refresh-webpack-plugin@0.5.15 want: ^0.7.3
```

us-east-1.console.aws.amazon.com/s3/upload/react-simple-app-lab5?region=us-east-1&bucketType=general

Upload succeeded
View details below.

The information below will no longer be available after you navigate away from this page.

Summary

Destination s3://react-simple-app-lab5	Succeeded 15 files, 543.1 KB (100.00%)	Failed 0 files, 0 B (0%)
---	---	-----------------------------

Files and folders

Files and folders (15 Total, 543.1 KB)

Find by name

Name	Folder	Type	Size	Status	Error
asset-manifest...	-	application/js...	605.0 B	Succeeded	-
favicon.ico	-	image/x-icon	3.8 KB	Succeeded	-
index.html	-	text/html	644.0 B	Succeeded	-
logo192.png	-	image/png	5.2 KB	Succeeded	-
logo512.png	-	image/png	9.4 KB	Succeeded	-
manifest.json	-	application/js...	492.0 B	Succeeded	-
robots.txt	-	text/plain	67.0 B	Succeeded	-
main.1f95de...	static/css/	text/css	779.0 B	Succeeded	-
main.1f95de...	static/css/	-	1.4 KB	Succeeded	-
453.e688caf...	static/js/	text/javascript	4.4 KB	Succeeded	-

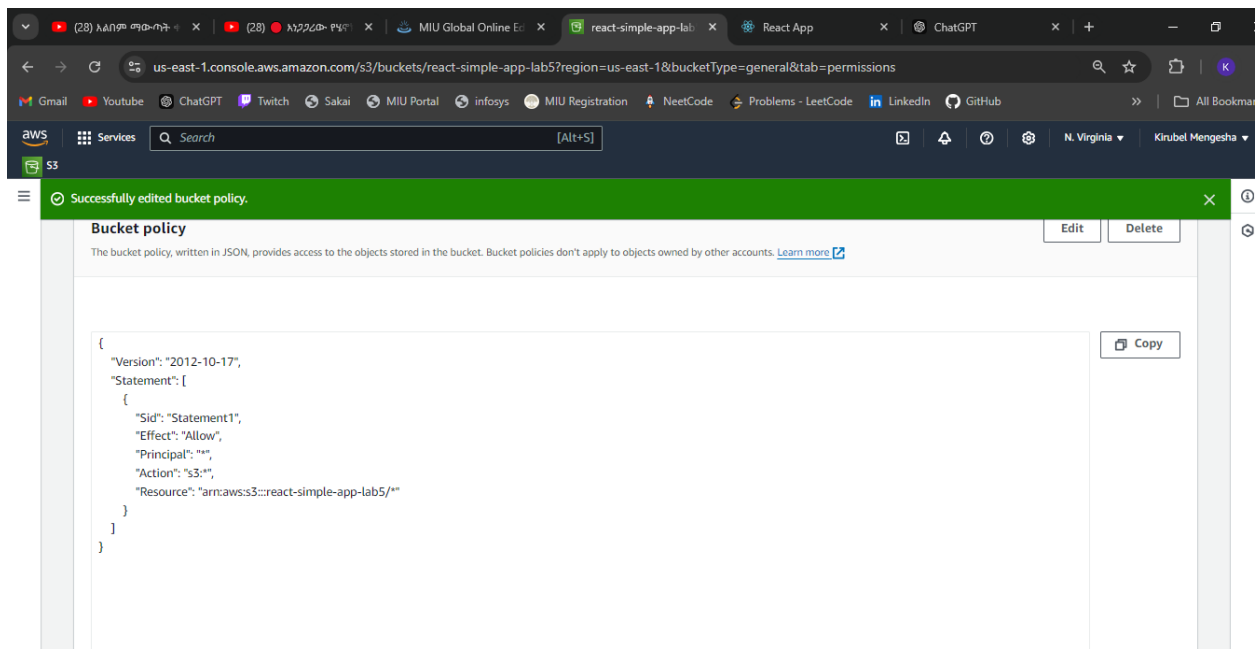
CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

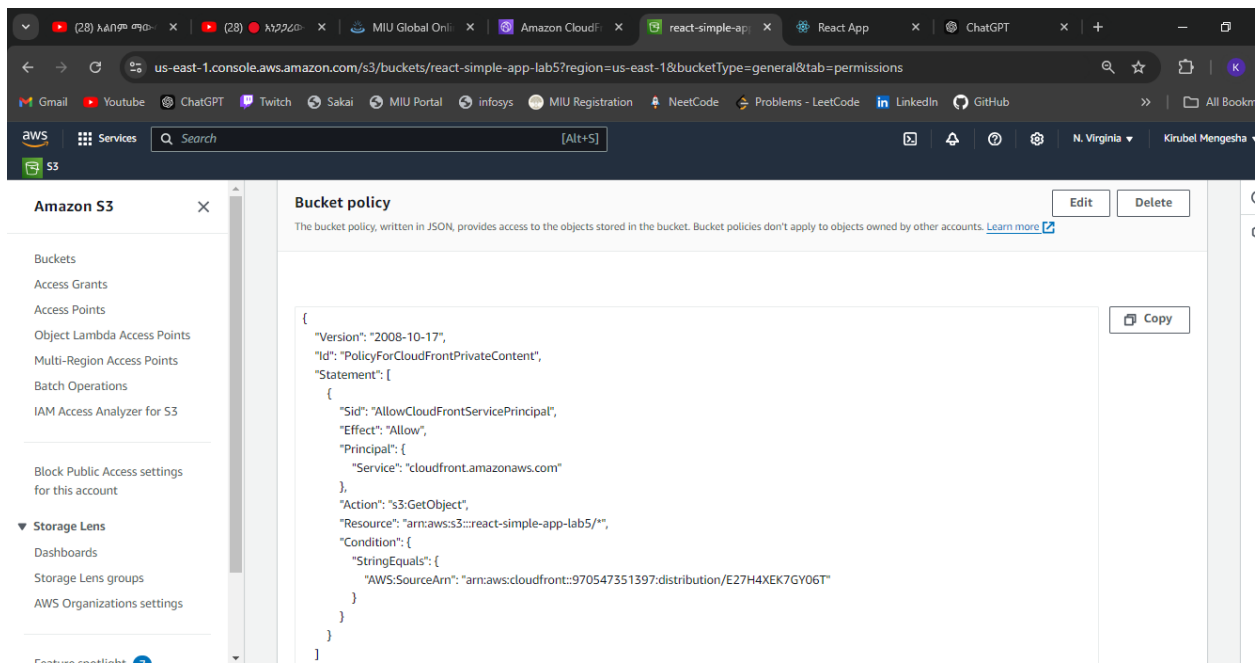
5:13 PM 10/5/2024

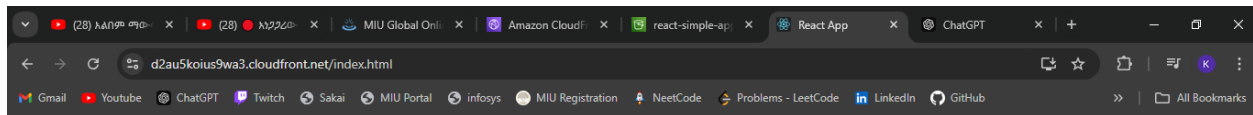
react-simple-app-lab5.s3-website-us-east-1.amazonaws.com

Hello World!



* Create a CloudFront to connect with S3. Ensure that S3 is not public access





Hello World!

Task 2: Amazon EBS - Volume Creation and Snapshot

Successfully created volume vol-092835d1840910eaa.

Volumes (2) Info

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
-	vol-02814458978acf02b	gp3	8 GiB	3000	125	snap-005a326...	2024/10/05 22:30 GMT-5
-	vol-092835d1840910eaa	gp3	8 GiB	3000	125	-	2024/10/05 22:35 GMT-5

Fault tolerance for all volumes in this Region

Snapshot summary

Recently backed up volumes / Total # volumes

0 / 1

Data Lifecycle Manager default policy for EBS Snapshots status

No default policy set up | [Create policy](#)

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Volumes:

Successfully attached volume vol-092835d1840910eaa to instance i-0eab61fda01d4f072.

Volumes (2)

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
<input type="checkbox"/>	-	vol-02814458978acf02b	gp3	8 GiB	3000	125	snap-005a326...	2024/10/05 22:30 GMT-5
<input type="checkbox"/>	-	vol-092835d1840910eaa	gp3	8 GiB	3000	125	-	2024/10/05 22:35 GMT-5

Fault tolerance for all volumes in this Region

Snapshot summary

Recently backed up volumes / Total # volumes

0 / 1

Last updated on Sat, Oct 05, 2024, 10:33:02 PM (GMT-05:00)

Data Lifecycle Manager default policy for EBS Snapshots status

No default policy set up | [Create policy](#)

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3;\$case=tag:true%\$SC.client:false;\$regex=tags:false%\$SC.client:false

Instances (1/1)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input checked="" type="checkbox"/>	lab5-ebs-server-1	i-0eab61fda01d4f072	Running	t2.micro	Initializing	View alarms	us-east-1d

i-0eab61fda01d4f072 (lab5-ebs-server-1)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary

Instance ID	i-0eab61fda01d4f072 (lab5-ebs-server-1)	Public IPv4 address	34.207.171.147 open address	Private IPv4 addresses	172.31.45.117
IPv6 address	-	Instance state	Running	Public IPv4 DNS	ec2-34-207-171-147.compute-1.amazonaws.com open address


```
ec2-user@ip-172-31-45-117:~$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
xvda        202:0    0   8G  0 disk
└─xvda1     202:1    0   8G  0 part /
└─xvda127   259:0    0   1M  0 part
└─xvda128   259:1    0  10M  0 part /boot/efi
xvdb        202:16   0   8G  0 disk

[ec2-user@ip-172-31-45-117 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M    0  4.0M   0% /dev
tmpfs           475M    0  475M   0% /dev/shm
tmpfs           190M  452K  190M   1% /run
/dev/xvda1       8.0G  1.6G   6.4G  20% /
tmpfs           475M    0  475M   0% /tmp
/dev/xvda128     10M  1.3M   8.7M  13% /boot/efi
tmpfs           95M    0   95M   0% /run/user/1000

[ec2-user@ip-172-31-45-117 ~]$ sudo mkfs -t xfs /dev/sdb
meta-data=/dev/sdb          isize=512    agcount=4, agsize=524288 blks
                     =                  sectsz=512   attr=2, proj1d32bit=1
                     =                  crce=1    finobt=1, sparse=1, rmapbt=0
                     =                  reflink=1  bigtime=1 inobtcount=1
data        =                  bsize=4096   blocks=2097152, imaxpct=25
                     =                  sunit=0    swidth=0 blks
naming       =version 2          bsize=4096   ascii-ci=0, ftype=1
log          =internal log      bsize=4096   blocks=16384, version=2
                     =                  sectsz=512   sunit=0 blks, lazy-count=1
realtime     =none              extsz=4096   blocks=0, rtextents=0

[ec2-user@ip-172-31-45-117 ~]$ sudo mkdir /mnt/myvolume
[ec2-user@ip-172-31-45-117 ~]$ sudo mount /dev/sdb /mnt/myvolume
[ec2-user@ip-172-31-45-117 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M    0  4.0M   0% /dev
tmpfs           475M    0  475M   0% /dev/shm
tmpfs           190M  452K  190M   1% /run
/dev/xvda1       8.0G  1.6G   6.4G  20% /
tmpfs           475M    0  475M   0% /tmp
/dev/xvda128     10M  1.3M   8.7M  13% /boot/efi
tmpfs           95M    0   95M   0% /run/user/1000
/dev/xvdb        8.0G   89M   7.9G   2% /mnt/myvolume

[ec2-user@ip-172-31-45-117 ~]$ echo "/dev/sdb /mnt/myvolume xfs defaults,nofail 0 2" | sudo tee -a /etc/fstab
[ec2-user@ip-172-31-45-117 ~]$
```

Task 3: Amazon EFS - Setup and Connectivity

The screenshot displays the AWS Management Console interface. The top navigation bar shows the user is logged in as 'ec2-user' in the 'us-east-1' region. The left sidebar contains navigation links for various AWS services, including EC2, S3, IAM, and CloudWatch. The main content area shows the 'Instances' page, which lists two EC2 instances. The instance 'lab5-efs-server-1' (ID: i-055556f8be6d7b0d7) is selected, and its details are shown in the right pane. The instance is a t2.micro type, located in the us-east-1d availability zone, and is currently in the 'Initializing' state. The console also displays the instance's public and private IP addresses and DNS information.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
lab5-efs-server-1	i-0eab61fda01d4f072	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1d
lab5-efs-server-1	i-055556f8be6d7b0d7	Initializing	t2.micro	Initializing	View alarms +	us-east-1d

i-055556f8be6d7b0d7 (lab5-efs-server-1)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary

Instance ID: i-055556f8be6d7b0d7 (lab5-efs-server-1)

Public IPv4 address: 3.93.12.22 | [open address](#)

Private IPv4 addresses: 172.31.46.228

Public IPv4 DNS: ec2-3-93-12-22.compute-1.amazonaws.com | [open address](#)

Instance state: **Running**

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstanceDetails:instanceId=i-055556f8be6d7b0d7

Instance summary for i-055556f8be6d7b0d7 (lab5-efs-server-1) info

Updated less than a minute ago

Instance ID: i-055556f8be6d7b0d7 (lab5-efs-server-1)

Public IPv4 address: 3.93.12.22 | open address

Private IPv4 addresses: 172.31.46.228

Instance state: Running

Public IPv4 DNS: ec2-3-93-12-22.compute-1.amazonaws.com | open address

IPv6 address: -

Instance type: t2.micro

Private IP DNS name (IPv4 only): ip-172-31-46-228.ec2.internal

Subnet ID: subnet-014947e8de29ff6e3

Hostnames type: IP name: ip-172-31-46-228.ec2.internal

VPC ID: vpc-050fa616b485555a3

Answer private resource DNS name: IPv4 (A)

Elastic IP addresses: -

Auto-assigned IP address: 3.93.12.22 [Public IP]

AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. | Learn more

IAM Role: -

Auto Scaling Group name: -

us-east-1.console.aws.amazon.com/efs/home?region=us-east-1#/file-systems

Success! File system (fs-04d9263dd8cd552ec) is available.

View file system

Amazon EFS > File systems

File systems (1)

Filter by property values

Name	File system ID	Encryption	Total size	Size in Standard	Size in IA	Size in Archive	Provisioned Throughput (MiB/s)
	fs-04d9263dd8cd552ec	Encrypt	6.00 KiB	6.00 KiB	0 Bytes	0 Bytes	-

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroup:group-id=sg-0dcf9ea50abe2040a

Security group name: default, Security group ID: sg-0dcf9ea50abe2040a, Description: default VPC security group, VPC ID: vpc-050fa616b485555a3

Owner: 970547351397, Inbound rules count: 2 Permission entries, Outbound rules count: 1 Permission entry

Inbound rules (2)

Name	Security group rule...	IP version	Type	Protocol	Port range
-	sgr-0e2e86b2a1076f599	-	All traffic	All	All
-	sgr-0fe30adf1ff3b7c5	IPv4	NFS	TCP	2049

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroup:group-id=sg-0dcf9ea50abe2040a

Security group name: default, Security group ID: sg-0dcf9ea50abe2040a, Description: default VPC security group, VPC ID: vpc-050fa616b485555a3

Owner: 970547351397, Inbound rules count: 2 Permission entries, Outbound rules count: 2 Permission entries

Outbound rules (2)

Name	Security group rule...	IP version	Type	Protocol	Port range
-	sgr-08eb62934385f9b...	IPv4	All traffic	All	All
-	sgr-0ad9b9eef8ed1e44b	IPv4	NFS	TCP	2049

```
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?addressFamily=ipv4&connType=standard&instanceId=i-055556f8be6d7b0d7&osUser=ec2-user...

AWS S3 Services Search [Alt+S]

Keyboard shortcut
To tab out of the terminal window and select the next button element, press the left and right Shift keys together. Close permanently

Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-172-31-46-228 ~]$ sudo yum install -y amazon-efs-utils
Last metadata expiration check: 0:56:19 ago on Sun Oct 6 04:20:29 2024.
Dependencies resolved.

Package Architecture Version Repository Size
Installing:
amazon-efs-utils x86_64 2.0.4-1.amzn2023 amazonlinux 1.4
Installing dependencies:
stunnel x86_64 5.58-1.amzn2023.0.2 amazonlinux 156

Transaction Summary
Install 2 Packages
```

```
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?addressFamily=ipv4&connType=standard&instanceId=i-055556f8be6d7b0d7&osUser=ec2-user...

AWS S3 Services Search [Alt+S]

Keyboard shortcut
To tab out of the terminal window and select the next button element, press the left and right Shift keys together. Close permanently

(2/2): stunnel-5.58-1.amzn2023.0.2.x86_64.rpm 1.4 MB/s | 156 kB 00:00
Total 9.9 MB/s | 1.5 MB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing :
Installing : stunnel-5.58-1.amzn2023.0.2.x86_64 1/
Running scriptlet: stunnel-5.58-1.amzn2023.0.2.x86_64 1/
Installing : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/
Running scriptlet: amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/
Verifying : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 1/
Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64 2/

Installed:
amazon-efs-utils-2.0.4-1.amzn2023.x86_64 stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-46-228 ~]$ sudo mkdir /mnt/efs
[ec2-user@ip-172-31-46-228 ~]$ sudo mount -t efs fs-04d9263dd8cd552ec /mnt/efs
```

```
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?addressFamily=ipv4&connType=standard&instanceId=i-055556f8be6d7b0d7&osUser=ec2-user...

Keyboard shortcut
To tab out of the terminal window and select the next button element, press the left and right Shift keys together.

GNU nano 5.8 /etc/fstab
#
UUID=693ee79-11af-44b1-9c1e-01aced209966 / xfs defaults,noatime 1 1
UUID=A418-D0D1 /boot/efi vfat defaults,noatime,uid=0,gid=0,umask=0077,shortname=winnt,x-systemd.automount 0 2
fs-04d9263dd8cd552ec:/mnt/efs efs defaults,_netdev 0 0

-bash: fs-04d9263dd8cd552ec:/: No such file or directory
[ec2-user@ip-172-31-46-228 ~]$ sudo nano /etc/fstab
[ec2-user@ip-172-31-46-228 ~]$ sudo nano /etc/fstab
[ec2-user@ip-172-31-46-228 ~]$ sudo touch /mnt/efs/testfile.txt
[ec2-user@ip-172-31-46-228 ~]$
```

```
[ec2-user@ip-172-31-45-117 ~]$ sudo mkdir /mnt/efs
[ec2-user@ip-172-31-45-117 ~]$ sudo mkdir -p /mnt/efs
[ec2-user@ip-172-31-45-117 ~]$ sudo mount -t efs fs-04d9263dd8cd552ec /mnt/efs
[ec2-user@ip-172-31-45-117 ~]$ sudo nano /etc/fstab
[ec2-user@ip-172-31-45-117 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M   0  4.0M   0% /dev
tmpfs           475M   0  475M   0% /dev/shm
tmpfs           190M  476K  190M   1% /run
/dev/xvda1      8.0G  1.6G   6.4G  20% /
tmpfs           475M   0  475M   0% /tmp
/dev/xvda128    10M   1.3M   8.7M  13% /boot/efi
tmpfs           95M   0   95M   0% /run/user/1000
/dev/xvdb       8.0G   89M   7.9G   2% /mnt/myvolume
127.0.0.1:/     8.0E   0   8.0E   0% /mnt/efs
[ec2-user@ip-172-31-45-117 ~]$ ls /mnt/efs
testfile.txt
[ec2-user@ip-172-31-45-117 ~]$
```