

AMITY UNIVERSITY
UTTAR PRADESH
AMITY SCHOOL OF ENGINEERING & TECHNOLOGY
Department of CSE
B. Tech (CSE) / (Sem-V)
Cloud Computing Practitioner Lab Test, Oct-2023
CSE314

Date: 03-10-23

Answer to any 2 Questions

Q1. Use AWS console to perform the following activity:

- Launch a free tier EC2 instance in a specific availability zone.
- After launching EC2 instance add extra storage of 2GB to same instance.
- Add Load Balancing feature to it.
- To prevent over usage or to generate alerts add Cloud Watch and ensure that running instance should be stopped at a particular threshold value.
- Create a snapshot of the above one.

Q2. Create a classical Load Balancer and manage the load on two different instances by demonstrating it.

Q3. Create a bucket and perform:

- Transferring Object to the Bucket.
- Enabling retention period for the object transferred.
- Testing the object lock feature by removing the file

	Marks Allotted	Marks Obtained
Aim of Program	5	
Source Code	20	
O/p and Result Verification	5	
Total	30	

Instructions:

1. Perform the Experiment on your machine and write down the steps along with the screenshots
2. The steps should be proper and written in your own words justifying your work.
3. Once Completed, convert the doc file to pdf and upload over the given link.

Program	: B. Tech (CSE)
Course Title / Code	: Cloud Computing Practitioner (CSE314)
Semester / Section	: V / CSE6-X
Academic Session	: 2023-2024
Name of Student	: Siddharth Johri
Enroll. No.	: A2305221155
Date	: 03-Oct-2023

Q2:

Pre configurations:

- Two EC2 instances were made and a web server was hosted on both of them using the following advanced settings:

Metadata accessible [Info](#)

Enabled ▼

Metadata transport

Select ▼

Metadata version [Info](#)

V1 and V2 (token optional) ▼

Metadata response hop limit [Info](#)


1 ▼

Allow tags in metadata [Info](#)

Enable ▼

User data - optional [Info](#)

Upload a file with your user data or enter it in the field.

 Choose file

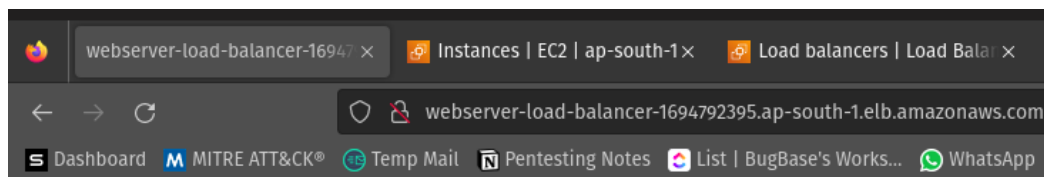
```
#!/bin/bash
yum update -y
yum install httpd -y
service httpd start
chkconfig httpd on
cd /var/www/html
echo "<html><h1>This Webserver-01</h1></html>" > index.html
```

-
- For the instances, one of them will have Webserver-01 and the other will have Webserver-02 for demonstration purposes.
- Other than this, the configuration of the Instance will be having the usual settings for Name, Key-pair, Security group, AML, architecture and instance type.

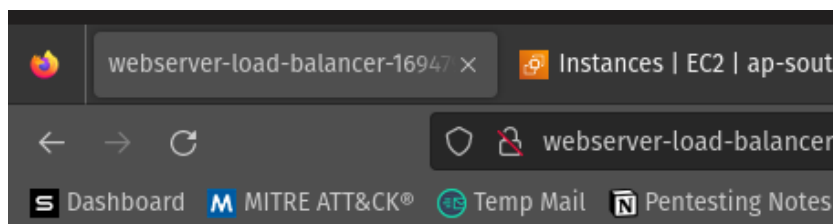
Creating a classic load balancer on the two instances.

1. Create two instances with a web page hosted on their port 80
2. Create a load balancer by visiting the load balancers tab from the EC2 menu
3. Choose Classical Load Balancer.
4. Set the Load balancer to be Internet Facing
5. Select the particular VPC and availability zones in which the instances are present.
6. Set the security groups. Preferably the same one used for the instances and setup the port forwarding. (eg. port 80 to port 80)
7. Add instances to the load balancer
8. Deploy/Create the Load balancer

Deployed Load Balancer works Properly and web traffic is divided between the two instances.



This Webserver-01

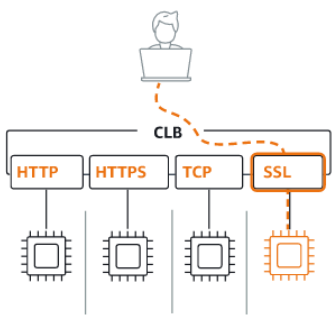


This Webserver-02

Screenshots for load balancer settings:

▼ Classic Load Balancer - previous generation

Classic Load Balancer [Info](#)



Choose a Classic Load Balancer when you have an existing application running in the EC2-Classic network.

Create

Close

Basic configuration

Load balancer name

Name must be unique within your AWS account and can't be changed after the load balancer is created.

WebServer_Load_Balancer

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme [Info](#)

Scheme can't be changed after the load balancer is created.

☒ Internet-facing

An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. [Learn more](#)

☐ Internal

An internal load balancer routes requests from clients to targets using private IP addresses.

Network mapping [Info](#)

The load balancer routes traffic to targets in the selected subnets, and in accordance with your network settings.

VPC [Info](#)

Select the virtual private cloud (VPC) for your targets or you can [create a new VPC](#). Only VPCs with an internet gateway are available for selection. The selection after the load balancer is created. When selecting a VPC for your load balancer, ensure each subnet has a CIDR block with at least a /27 bitmask and at least 8 free IP addresses.

-
vpc-003b0eae18a021b44
IPv4: 172.31.0.0/16

▼

Mappings

Select at least one Availability Zone and one subnet for each zone. We recommend selecting at least two Availability Zones. The load balancer will route traffic to the targets in the selected Availability Zones. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

☒ **ap-south-1a (aps1-az1)**

Subnet

subnet-0f8b4a41d89b1b7f9

▼

IPv4 address

Assigned by AWS

☐ **ap-south-1b (aps1-az3)**

☐ **ap-south-1c (aps1-az2)**

Security groups [Info](#)

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

Security groups

Select up to 5 security groups

▼

launch-wizard-5

✕

sg-0dd56d600569fdc29

VPC: vpc-003b0eae18a021b44

Listeners and routing [Info](#)

A listener is a process that checks for connection requests using the protocol and port you configure. The settings you define for a listener determine how the load balancer routes traffic to its registered targets.

▼ Listener HTTP:80

Instance HTTP:80

Listener protocol

HTTP

▼

:

Listener port

80

▼

1-65535

Instance protocol

HTTP

▼

:

Instance port

80

▼

1-65535

Add listener

Add instances

Select EC2 instances to register to your load balancer. Requests will be routed to registered instances that meet the health check requirements. For maximum fault tolerance demand on your instances changes, you can register or deregister instances without disrupting the flow of requests to your application. [Learn more](#)

VPC
vpc-003b0eae18a021b44

Available instances (2/4)

Filter available instances by property or value

	Instance ID	Name	State	Security groups
<input type="checkbox"/>	i-019e6eae001b47f2f	Test_EC2_1	Stopped	launch-wizard-1
<input type="checkbox"/>	i-0a0348e924346d174	Test_EC2_Linux	Stopped	launch-wizard-2
<input checked="" type="checkbox"/>	i-008ccc449d2403de2	EC2_WS1	Running	launch-wizard-3
<input checked="" type="checkbox"/>	i-00b9e61ad96bf2e7b	EC2_WS2	Running	launch-wizard-4

Timeout (draining interval)

This timeout is the time that the load balancer waits for connections to complete before terminating the connection. If the timeout is reached, the load balancer terminates the connection. The timeout is in minutes. The default value is 3 minutes.

Load balancer: WebServer-Load-Balancer

Description

Instances

Health check

Listeners

Monitoring

Tags

Migration

Basic Configuration

Name	WebServer-Load-Balancer	Creation time	October 3, 2023 at 2:00:35 PM UTC+5:30
* DNS name	WebServer-Load-Balancer-1694792395.ap-south-1.elb.amazonaws.com (A Record)	Hosted zone	ZP97RAFLXTNZK
Type	Classic (Migrate Now)	Status	2 of 2 instances in service
Scheme	internet-facing	VPC	vpc-003b0eae18a021b44
Availability Zones	subnet-0f8b4a41d89b1b7f9 - ap-south-1a		

Port Configuration

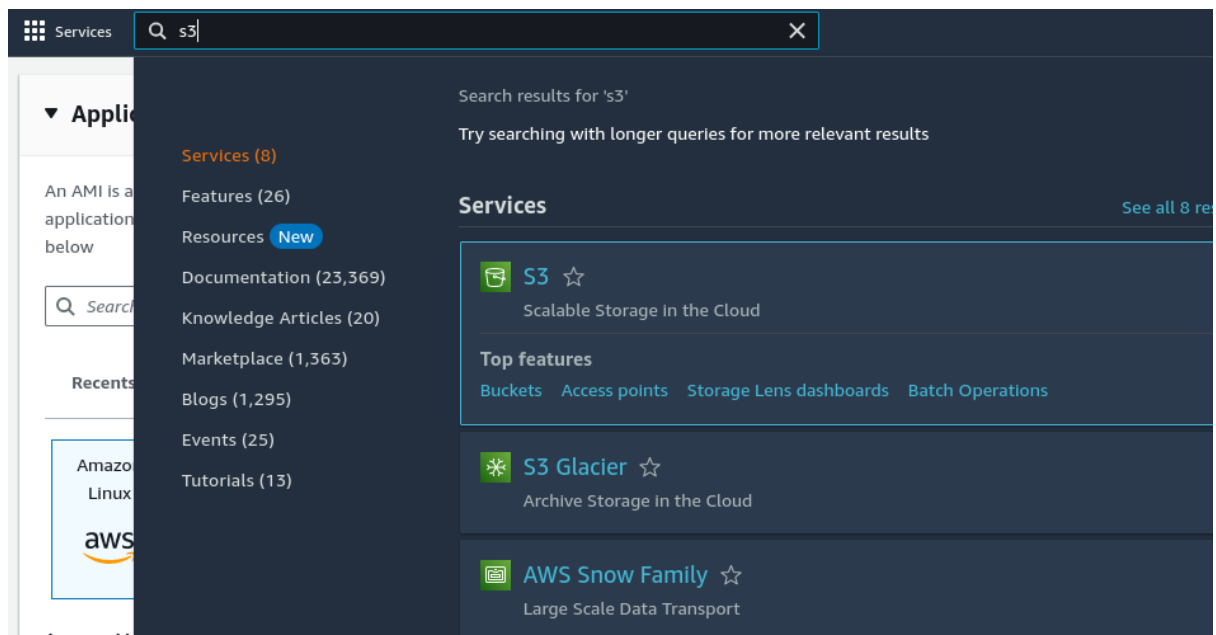
Port Configuration	80 (HTTP) forwarding to 80 (HTTP)
Stickiness	Disabled
	<div>Edit stickiness</div>

Security

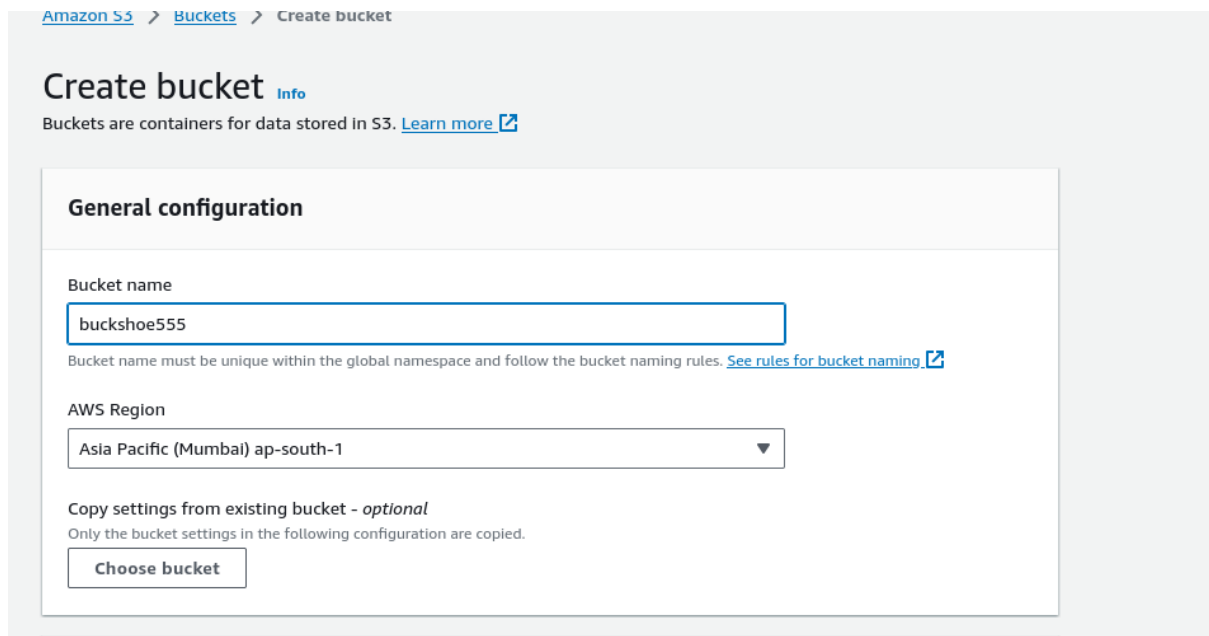
Source Security Group	sg-0dd56d600569fdc29, launch-wizard-5
	• launch-wizard-5 created 2023-09-02T04:45:56.041Z

Q3.

Traverse to the S3 dashboard



Click on Create Bucket and give the bucket a name.



Object Lock can be enabled from the Advanced Settings

▼ Advanced settings

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

☐ Disable

☒ Enable

Permanently allows objects in this bucket to be locked. Additional Object Lock configuration is required in bucket details after bucket creation to protect objects in this bucket from being deleted or overwritten.

 Object Lock works only in versioned buckets. Enabling Object Lock automatically enables Bucket Versioning.



Enabling Object Lock will permanently allow objects in this bucket to be locked

Enable Object Lock only if you need to prevent objects from being deleted to have data integrity and regulatory compliance. After you enable this feature, anyone with the appropriate permissions can put immutable objects in the bucket. You might be blocked from deleting the objects and the bucket. Additional Object Lock configuration is required in bucket details after bucket creation to protect objects in this bucket from being deleted or overwritten. [Learn more](#)


☒ I acknowledge that enabling Object Lock will permanently allow objects in this bucket to be locked.

Retention Policy for the Object Lock can be set using the Bucket's Properties Tab

Edit Object Lock [info](#)

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

 Once Amazon S3 Object Lock is enabled, you can't disable Object Lock or suspend Versioning for the bucket.

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

☐ Disable

☒ Enable

Default retention mode

☒ Governance

Users with specific IAM permissions can overwrite or delete protected object versions during the retention period.

☐ Compliance

No users can overwrite or delete protected object versions during the retention period.

Default retention period

60

Days

Must be a positive whole number.

Cancel

Save changes

Visit the bucket and upload an item

buckshoe555

Info

Objects

Properties

Permissions

Metrics

Management

Access Points

Objects (0)

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 per

Copy S3 URI

Copy URL

Download

Open

Delete

Actions

Create folder

Upload

Find objects by prefix

Name

Type

Last modified

Size

No objects

You don't have any objects in this bucket.

Upload

Upload

Info

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

Files and folders (1 Total, 26.6 KB)

Remove

Add files

Add folder

All files and folders in this table will be uploaded.

Find by name

< 1 >

Name

Folder

Type

Size

SiddharthJohriResu...

-

application/pdf

26.6 KB

Destination

Destination

s3://buckshoe555

Destination details

Bucket settings that impact new objects stored in the specified destination.

Permissions

Grant public access and access to other AWS accounts.

Properties


Specify storage class, encryption settings, tags, and more.

Cancel


Upload


Deleting the added object.

Delete objects [Info](#)




If a folder is selected for deletion, all objects in the folder will be deleted, and any new objects added while the delete action is in progress might also be deleted. If an object is selected for deletion, any new objects with the same name that are uploaded before the delete action is completed will also be deleted.


[Learn more](#) 



Deleting the specified objects adds delete markers to them

If you need to undo the delete action, you can delete the delete markers. [Learn more](#) 


Specified objects

 Find objects by name

<

1

>

Name ▲	Type ▼	Last modified ▼	Size ▼
 SiddharthJohriResume.pdf	pdf	October 3, 2023, 14:22:50 (UTC+05:30)	26.6 KB

Delete objects?

To confirm deletion, type *delete* in the text input field.

delete

Cancel

Delete objects

Enable the show versions option on the bucket and see the file there.

Objects (2)

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. [L](#)

Copy S3 URI

Copy URL

Download

Open

Delete

Actions

Create folder

Upload

Find objects by prefix

Show versions

<input type="checkbox"/>	Name	Type	Version ID	Last modified	Size
<input type="checkbox"/>	SiddharthJohriResume.pdf	Delete marker	ymKw6EJIsY vjfHAN688 OK4JrJHqW 6VLq	October 3, 2023, 14:23:27 (UTC+05:30)	
<input type="checkbox"/>	SiddharthJohriResume.pdf	pdf	lx1AsDXcq2 7.mH.U8Og Zk_4zqz70u LFx	October 3, 2023, 14:22:50 (UTC+05:30)	

Can still be successfully accessed since object lock was enabled.