

# NAME: KSHITIJ GUPTA

## Enrolment Number: 21162101007

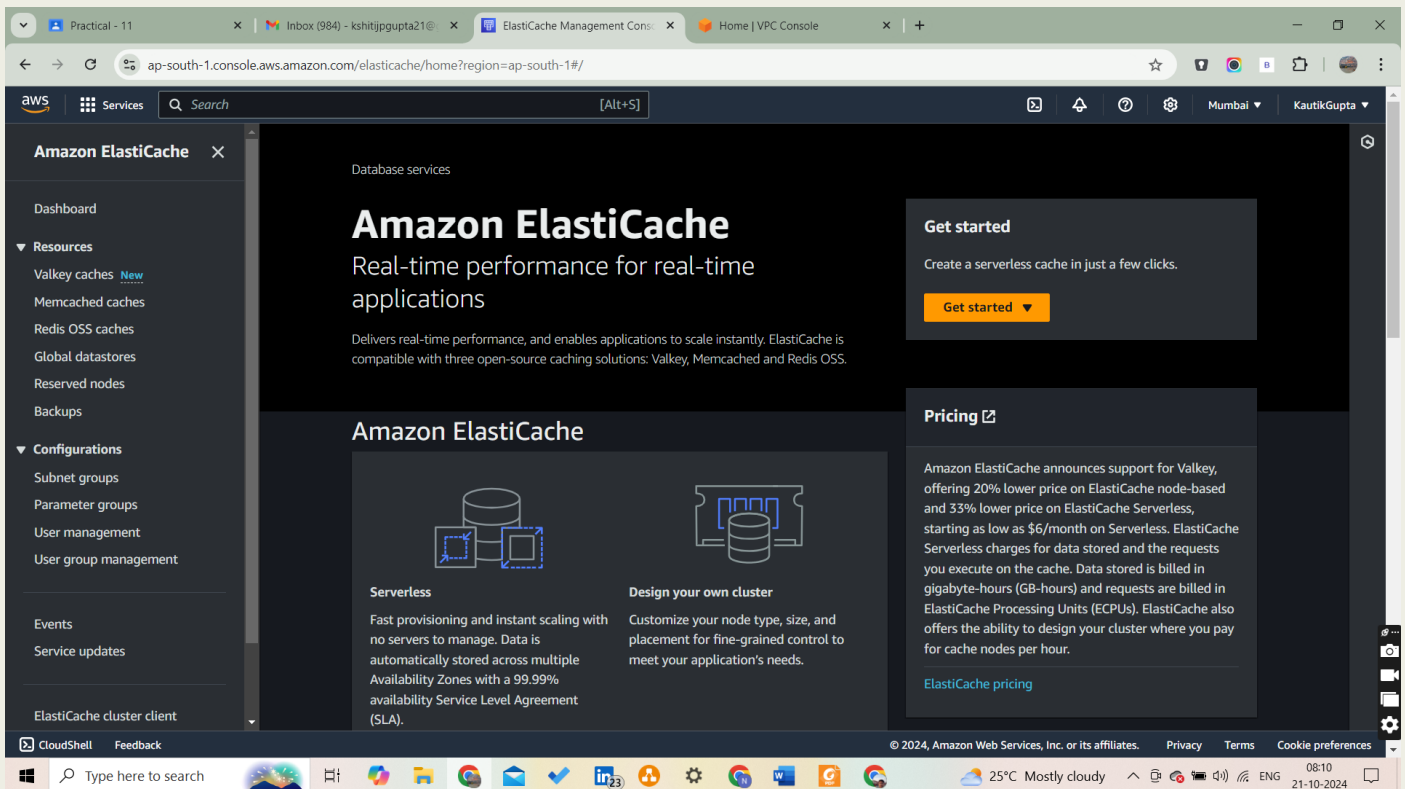
### Sub: CCE

## Practical – 12[Batch-71]

**Aim: Create Redis OSS Cache on AWS ElastiCache.**

**Steps and screenshots:**

### 1. Create Elastic cache service



Practical - 11

Inbox (984) - kshitijgupta21@

ElastiCache Management Cons

Home | VPC Console

ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#

Services

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Amazon ElastiCache

Dashboard

Resources

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Memcached caches

Redis OSS caches

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ElastiCache cluster client

Database services

Amazon ElastiCache

Real-time performance for real-time applications

Delivers real-time performance, and enables applications to scale instantly. ElastiCache is compatible with three open-source caching solutions: Valkey, Memcached and Redis OSS.

Serverless

Fast provisioning and instant scaling with no servers to manage. Data is automatically stored across multiple Availability Zones with a 99.99% availability Service Level Agreement (SLA).

Design your own cluster

Customize your node type, size, and placement for fine-grained control to meet your application's needs.

Get started

Create a serverless cache in just a few clicks.

Get started

Valkey

Memcached

Redis OSS

Pricing

Amazon ElastiCache announces support for Valkey, offering 20% lower price on ElastiCache node-based and 33% lower price on ElastiCache Serverless, starting as low as \$6/month on Serverless. ElastiCache Serverless charges for data stored and the requests you execute on the cache. Data stored is billed in gigabyte-hours (GB-hours) and requests are billed in ElastiCache Processing Units (ECPUs). ElastiCache also offers the ability to design your cluster where you pay for cache nodes per hour.

ElastiCache pricing

https://ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/cr...

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Services

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ElastiCache

Redis OSS caches

Create Redis OSS cache

Step 1

Cluster settings

Step 2

Advanced settings

Step 3

Review and create

Cluster settings

Amazon ElastiCache announces Valkey starting as low as \$6/month

Introducing Valkey, an open source project that is a drop in replacement of Redis OSS, now available on ElastiCache, with up to 33% lower price than other engines. [Learn more](#)

Try ElastiCache (Valkey)

Configuration

Choose one of the following options to create a Redis cache.

Deployment option

Serverless - new

Use to quickly create a cache that automatically scales to meet application traffic demands, with no servers to manage.

Design your own cache

Use to create a cache by selecting node type, size, and count.

Creation method

Easy create

Use recommended best practice configurations. You can also modify options after you create the cluster.

Cluster cache

Set all of the configuration options for your new cluster.

Restore from backup

Use an existing backup or .rdb file to restore a cluster.

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

Services Search [Alt+S]

**NAME**

kshitijgupta505

The name can have up to 40 characters, and must not contain spaces.

Description - optional

505

**Location**

Choose whether to host the cluster in the AWS Cloud or on premises.

**Location**

☒ **AWS Cloud**  
Use the AWS Cloud for your ElastiCache instances.

☐ **On premises**  
Create your ElastiCache instances on an Outpost (through AWS Outposts). You need to create a subnet ID on an Outpost first.

**Multi-AZ**

☐ **Enable**  
Multi-AZ provides enhanced high availability through automatic failover to a read replica, cross AZs, in case of a primary node failover.

**Auto-failover**

☐ **Enable**  
ElastiCache Auto Failover provides enhanced high availability through automatic failover to a read replica in case of a primary node failover.

Disabling ElastiCache Multi-AZ on your cluster reduces your fault tolerance. In the unlikely event of an

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

Services Search [Alt+S]

Use the following options to configure the cluster.

**Engine version**

Version compatibility of the engine that will run on your nodes.

7.1

**Port**

The port number that nodes accept connections on.

6379

**Parameter groups**

Parameter groups control the runtime properties of your nodes and clusters.

default.redis7

**Node type**

The type of node to be deployed and its associated memory size.

cache.t2.micro  
0.5 GiB memory Low to moderate network performance

**Number of replicas**

Enter the number of replicas between 0 and 5. Zero replicas will not enable an enhanced cluster with primary/replica roles.

0

Multi-AZ can not be enabled when the number of replicas is set to 0. Select one or more replicas to enable Multi-AZ.

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Services

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Subnet group settings

A subnet group is a collection of subnets (typically private). Designate a subnet group for your clusters running in an Amazon Virtual Private Cloud (VPC) environment.

Subnet groups

Choose existing subnet group

Create a new subnet group

Name

kshitijgupta505

The name can have up to 255 characters, and must not contain spaces.

Description - optional

Description

VPC ID

The identifier for the VPC environment where your cluster is to run.

vpc-075f109655381d042

Create VPC

For Multi-AZ high availability mode, choose IDs for at least two subnets from two Availability Zones in the table below.

Selected subnets (2)

Manage

Availability Zone	Subnet ID	Subnet name	CIDR block (IPv4)
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ElastiCache Management Cons

Instances | EC2 | ap-south-1

ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

Services

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For Multi-AZ high availability mode, choose IDs for at least two subnets from two Availability Zones in the table below.

Selected subnets (2)

Manage

Availability Zone	Subnet ID	Subnet name	CIDR block (IPv4)
ap-south-1a	subnet-0a20821a66ffe45f3	testing	172.31.0.0/20
ap-south-1b	subnet-07251df511ee1689c	testing-2	172.31.16.0/20

Tags for subnet group

Availability Zone placements

Use the following fields to configure placements for Availability Zones.

Availability Zone placements

By locating nodes in different Availability Zones, you reduce the chance that a failure in one Availability Zone, such as a power outage, will cause your entire system to fail. Choose Specify Availability Zones if you want to specify Availability Zones for cluster nodes.

No preference

Cancel

Next

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Instances | EC2 | ap-south-1

ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

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ElastiCache

Redis OSS caches

Create Redis OSS cache

Step 1

Cluster settings

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Review and create

Advanced settings

Info

Security

Use the following section to configure network security and data security for your cluster.

Encryption at rest

☐ Enable

Enables encryption of data stored on disk.

Encryption in transit

☐ Enable

Enables encryption of data that moves between the service and client.

Selected security groups (0)

Manage

A security group acts like a firewall that controls network access to your clusters.

Group ID

Name

No selected security groups

Add security groups by choosing the Manage button.

Manage

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Services

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Backup

You can use backups to restore a cluster or seed a new cluster. The backup consists of the cluster's metadata, along with all of the data in the cluster.

Enable automatic backups

ElastiCache will automatically create a daily backup of a set of replicas.

Maintenance

Configure maintenance settings for the cluster.

Maintenance window

Specify the time range (UTC) for updates such as patching an operating system, updating drivers, and installing software or patches.

☒ No preference

☐ Specify maintenance window

Auto upgrade minor versions

☐ Enable

Automatically schedule cluster upgrade to the latest minor version, once it becomes available. Cluster upgrade will only be scheduled during the maintenance window.

Topic for Amazon SNS notification

Choose an SNS topic from the list, or enter the Amazon Resource Name (ARN) for an existing topic. If no topic is chosen, no notifications are sent.

Disable notifications

Logs

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Elastic-cache | Topics | Simple N

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aws

Services

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Topic for Amazon SNS notification

Choose an SNS topic from the list, or enter the Amazon Resource Name (ARN) for an existing topic. If no topic is chosen, no notifications are sent.

arn:aws:sns:ap-south-1:008971634001:Elastic-cache

Logs

Specify whether to provide the Redis OSS slow logs or engine logs.

Slow logs

☐ Enable

Provide the slow log for queries that exceed a specified runtime.

Engine logs

☐ Enable

Provide the engine log for queries that exceed a specified runtime.

Tags

You can use tags to search and filter your clusters, or track your AWS costs.

No tags associated with the cluster.

Add new tag

You can add 50 more tags.

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Elastic-cache | Topics | Simple N

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aws

Services

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Step 2

Advanced settings

Step 3

Review and create

Step 1: Cluster settings

Edit

Cluster info

Use the following options to configure the cluster.

Name	Description
kshitijgupta505	505

Location

Choose whether to host the cluster in the AWS Cloud or on premises.

Location	Cluster mode
aws-cloud	Disabled

Cluster settings

Use the following options to configure the cluster.

Engine	Engine version	Port
Redis	7.1	6379
Parameter groups	Node type	Number of replicas
default.redis7	cache.t2.micro	0

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

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Cluster settings

Use the following options to configure the cluster.

Engine	Engine version	Port
Redis	7.1	6379
Parameter groups	Node type	Number of replicas
default.redis7	cache.t2.micro	0

Subnet group

A subnet group is a collection of subnets (typically private). Designate a subnet group for your clusters running in an Amazon Virtual Private Cloud (VPC) environment.

Subnet group	Availability Zones
kshitijgupta505	ap-south-1a, ap-south-1b

Step 2: Advanced settings

Edit

Security

Use the following section to configure network security and data security for your cluster.

Security groups	Encryption at rest	Encryption in transit
None	Disabled	Disabled

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

ServicesSearch[Alt+S]

Backup

You can use backups to restore a cluster or seed a new cluster. The backup consists of the cluster's metadata, along with all of the data in the cluster.

Automatic backups
Disabled

Maintenance

Specify the time range (UTC) for updates such as patching an operating system, updating drivers, and installing software or patches.

Maintenance window	Auto upgrade minor versions	Topic for Amazon SNS notification
No preference	Disabled	arn:aws:sns:ap-south-1:008971634001:Elastic-cache

Logs

Specify whether to provide the Redis OSS slow logs or engine logs.

Slow logs	Engine logs
Disabled	Disabled

Tags

You can use tags to search and filter your clusters, or track your AWS costs.

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/create?wizardOption=serverless

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Maintenance

Specify the time range (UTC) for updates such as patching an operating system, updating drivers, and installing software or patches.

Maintenance window

No preference

Auto upgrade minor versions

Disabled

Topic for Amazon SNS notification

arn:aws:sns:ap-south-1:008971634001:Elastic-cache

Logs

Specify whether to provide the Redis OSS slow logs or engine logs.

Slow logs

Disabled

Engine logs

Disabled

Tags

You can use tags to search and filter your clusters, or track your AWS costs.

Key

Value

No tags found.  
Tags that you create will appear here.

CancelPreviousCreate

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/kshitijgupta505

ServicesSearch[Alt+S]

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Amazon ElasticCache

Dashboard

Resources

- Valkey caches New
- Memcached caches
- Redis OSS caches
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- Reserved nodes
- Backups

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- User group management

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ElasticCache cluster client

Update status

Up to date

Data tiering

Disabled

Encryption at rest

Disabled

Primary endpoint

-

Cluster mode

Disabled

Multi-AZ

Disabled

Parameter group

default.redis7

Reader endpoint

-

Shards

0

Auto-failover

Disabled

Outpost ARN

-

ARN

arn:aws:elasticache:ap-south-1:008971634001:replicationgroup:kshitijgupta505

Number of nodes

1

Encryption in transit

Disabled

Configuration endpoint

-

Data migration

No active migrations

NodesMetricsLogsNetwork and securityMaintenance and backupsService updatesTags

Nodes (1)

Find nodes

Manage tagsFailover primaryPromoteReboot nodeDelete nodeAdd node

Node name

Status

Current role

Endpoint

ARN

○

kshitijgupta505-001

Creating

-

-

arn:aws:elasticache:ap-south-1:008971634001:cluster:ksh

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ap-south-1.console.aws.amazon.com/elasticache/home?region=ap-south-1#/redis/kshitijgupta505

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Amazon ElasticCache

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ElasticCache

Redis OSS caches

kshitijgupta505

Cluster details

Cluster name

kshitijgupta505

Engine

Redis

Update status

Up to date

Data tiering

Disabled

Encryption at rest

Disabled

Primary endpoint

-

Delete kshitijgupta505?

Are you sure you want to delete this cluster?

kshitijgupta505

If you delete a cluster, ElasticCache also deletes the primary node and any read-replica nodes in the group. After you begin this operation, all of the data in the cluster is lost. There is no way to undo this operation.

Create backup

You can create a final backup of your cache before it's deleted so you can restore it later.

Yes

No

We strongly recommend creating a final backup before deleting the cache. When your cache is deleted, data is lost and automatic backups are no longer available.

To confirm deletion, type `kshitijgupta505` in the text input field.

kshitijgupta505

Cancel

Delete

Migration

Modify

Backup

Delete

Status

Creating

Global datastore role

-

Number of nodes

1

Encryption in transit

Disabled

Configuration endpoint

-

Data migration

South-1-008

No active migrations

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## Also create SNS topic to get notifications

ap-south-1.console.aws.amazon.com/sns/v3/home?region=ap-south-1#/create-topic

**Type** [Info](#)  
Topic type cannot be modified after topic is created

☐ FIFO (first-in, first-out)

- Strictly-preserved message ordering
- Exactly-once message delivery
- High throughput, up to 300 publishes/second
- Subscription protocols: SQS

☒ **Standard**

- Best-effort message ordering
- At-least once message delivery
- Highest throughput in publishes/second
- Subscription protocols: SQS, Lambda, HTTP, SMS, email, mobile application endpoints

**Name**

Elastic-cache

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (\_).

**Display name - optional** [Info](#)  
To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message.

My Topic

Maximum 100 characters.

► **Encryption - optional**  
Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

► **Access policy - optional** [Info](#)  
This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.

ap-south-1.console.aws.amazon.com/sns/v3/home?region=ap-south-1#/topics

**Amazon SNS**

Dashboard  
Topics  
Subscriptions  
▼ Mobile  
Push notifications  
Text messaging (SMS)

**New Feature**  
Amazon SNS now supports in-place message archiving and replay for FIFO topics. [Learn more](#)

Amazon SNS > Topics

Topics (1) [Edit](#) [Delete](#) [Publish message](#) [Create topic](#)

Search

Name	Type	ARN
<input type="radio"/> Elastic-cache	Standard	arn:aws:sns:ap-south-1:008971634001:Elastic-c...