

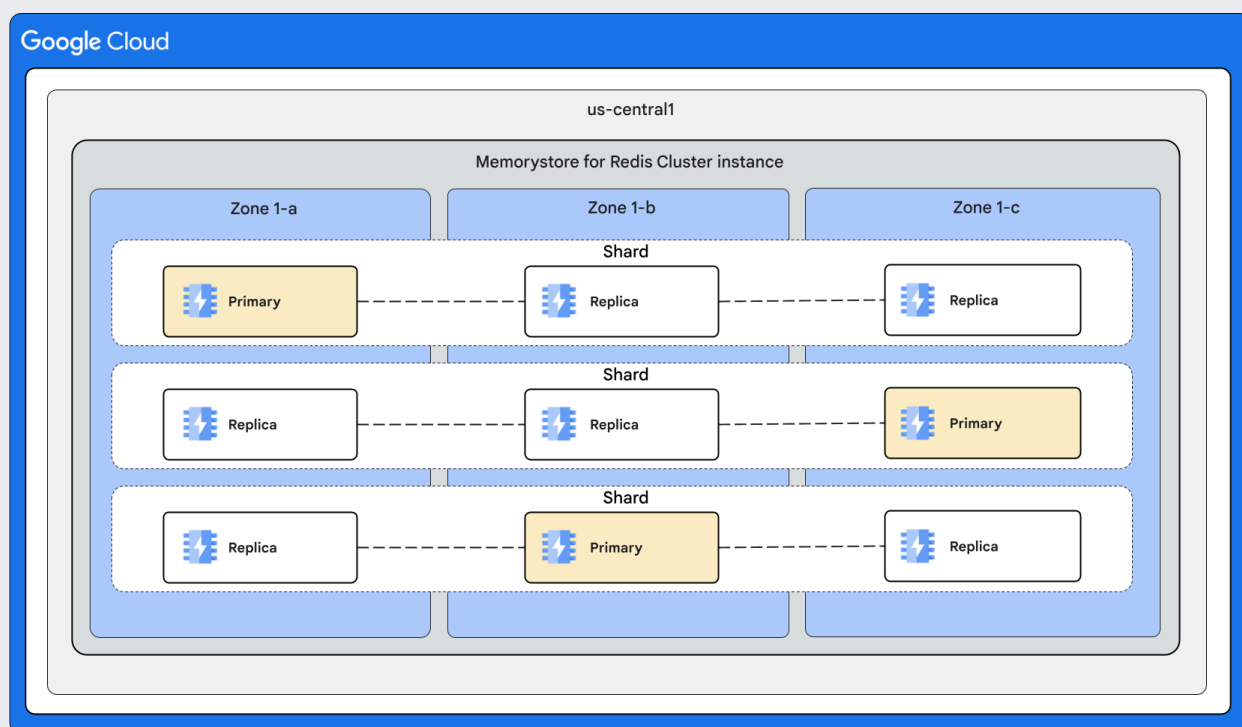
Memorystore for Redis Cluster overview

Memorystore for Redis Cluster is a fully managed Redis service for Google Cloud. Applications running on Google Cloud can achieve extreme performance by leveraging the highly scalable, available, secure Redis service without the burden of managing complex Redis deployments.

Key concepts and terms

Hierarchical resource structure

Memorystore for Redis Cluster gathers the various resources used in a Redis deployment into a hierarchical structure that simplifies administration and management. Here is a diagram that illustrates this structure:



Memorystore for Redis Cluster instances are composed of a set of shards, each containing a subset of your key space. Each shard in a Memorystore cluster is composed of one primary node, and optionally up to two replica nodes. When replica nodes are added, Memorystore automatically distributes the nodes of a shard across zones to provide higher availability and throughput.

Instances

A Memorystore for Redis Cluster instance is a container for your data. The terms *instance* and *cluster* can be used interchangeably when referring to a single Memorystore for Redis Cluster unit of deployment. When provisioning a Memorystore instance, you must provision enough shards to serve the keyspace of your entire application.

For details about Memorystore cluster specification, see [Cluster and shard specification](/memorystore/docs/cluster/cluster-shard-specification) (/memorystore/docs/cluster/cluster-shard-specification).

Shards

Your cluster is composed of multiple equally sized shards. For details about Memorystore shard specification, see [Cluster and shard specification](/memorystore/docs/cluster/cluster-shard-specification) (/memorystore/docs/cluster/cluster-shard-specification).

Primary and replica nodes

There is one primary node per shard. Each shard can have 0, 1, or 2 replica nodes. Replicas provide high availability and additional read throughput, and are evenly distributed across zones.

For more details see [High availability and replicas](/memorystore/docs/cluster/ha-read-replicas) (/memorystore/docs/cluster/ha-read-replicas).

Redis version

Memorystore for Redis Cluster is based on open-source [Redis version 7.x](https://github.com/redis/redis/blob/7.0/00-RELEASENOTES) (https://github.com/redis/redis/blob/7.0/00-RELEASENOTES) and supports a [subset of the total Redis command library](/memorystore/docs/cluster/supported-commands) (/memorystore/docs/cluster/supported-commands).

Discovery endpoint

A Memorystore for Redis Cluster discovery endpoint is a combination of an IP address and port number. Every instance has a discovery endpoint that you use to connect to your instance. Your instance's discovery endpoint remains unchanged throughout the lifecycle of the cluster instance. For details on retrieving your cluster's discovery endpoint, see [View your cluster's discovery endpoint](/memorystore/docs/cluster/connect-cluster-instance#view-your-clusters-discovery-endpoint) (/memorystore/docs/cluster/connect-cluster-instance#view-your-clusters-discovery-endpoint).

The discovery endpoint is highly available because it is backed by multiple Redis nodes across the fault-domains (zones) to serve the cluster topology. Serving topology through the endpoint is robust even when faced with backend node failures or node updates.

When you connect to a Memorystore for Redis Cluster instance, you configure your OSS Redis cluster client with a discovery endpoint. OSS Redis cluster clients use the discovery endpoint to refresh their cluster topology view as needed, and take care of the updates and redirections automatically with no other application change required. For information on client discovery behavior and best practices, see [Client discovery](#).
(/memorystore/docs/cluster/general-best-practices#client_discovery).

Networking prerequisites

Before you can create a Memorystore for Redis Cluster instance, you must set up [Networking](#) (/memorystore/docs/cluster/networking) for your project.

Billing

See the [Pricing](#) (/memorystore/docs/cluster/pricing) page for information on pricing for available regions.

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