Cluster Maintenance

This section has all you need to know to maintain a Redis Enterprise Software (RS) cluster.

**Cluster Name, Email Service, Time Zone, and License**

You can view and set various cluster settings in the Settings > General page. Entering a cluster key After purchasing a cluster key and if your account has the "Admin" role, you can enter the key in the Cluster Key field, either during initial cluster creation or at any time afterward. The key defines various cluster settings, such as the maximum number of shards you can have in the cluster. For more detailed information see Cluster License Keys.

**Cluster License Keys**

The cluster key (or license) enables features and capacity within Redis Enterprise Software (RS). You can add or update a cluster key at any time in a cluster lifecycle. When the cluster does not have a cluster key, the cluster is in trial mode. Trial mode Trial mode is limited to thirty days and a total of four shards, including master and slave shards. Any new installation starts its thirty-day clock from the day the cluster setup was done (with the first cluster node provisioned).

**Distributed Synchronization for Replicated Databases**

Replicated databases, including those that use Active-Passive and Active-Active replication, use proxy endpoints to synchronize database changes with the databases on the other participating clusters. To improve the throughput and lower the latency for synchronization traffic, you can configure a replicated database to use distributed synchronization where any available proxy endpoint can manage synchronization traffic. Every database by default has one proxy endpoint that manages client and synchronization communication with the database shards, and that proxy endpoint is used for database synchronization.

**Maintenance mode for cluster nodes**

Prepare a node for maintenance

**Removing a Cluster Node**

There are various reasons why you may want to remove a node in Redis Enterprise Software (RS): You no longer need the extra capacity, meaning you want to permanently remove the node. You would like to replace a faulty node with a healthy node. You would like to replace a healthy node with a different node. The following section explains how each of these actions can be achieved, as well as their impact and considerations.

**Replacing a Faulty Cluster Node**

If a node in your Redis Enterprise Software (RS) cluster is faulty, its status appears as Down in the Status column of the Nodes page, and in the Cluster > Configuration page. To replace a faulty node: Acquire a new node that is identical to the old node, install and configure Redis Enterprise Software on it per the install instructions. Note: If you are using Redis on Flash, you must make sure the required flash storage is set up on this new node.

**Updating SSL/TLS Certificates**

Redis Enterprise Software uses self-signed certificates out-of-the-box to make sure that the product is secure by default. The self-signed certificates are used to establish encryption-in-transit for the following traffic: Management admin console (CM) - The certificate for connections to the management admin console REST API - The certificate for REST API calls...
Proxy - The certificate for connections between clients and database endpoints
Syncer - The certificate for Active-Active and Replica Of synchronization between clusters
Metrics exporter - The certificate to export metrics to Prometheus

These self-signed certificates are generated on the first node of each Redis Enterprise Software installation and are copied to all other nodes added to the cluster.

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