Configuring Auto-Eviction

Auto-Eviction enhances cluster stability by automatically removing non-responsive or "unhealthy" nodes in MariaDB Galera Cluster. This prevents a single problematic node from degrading the entire cluster's performance. In a Galera Cluster, each node monitors the network response times of other nodes. If a node becomes unresponsive due to reasons like memory swapping, network congestion, or a hung process, it can delay and potentially disrupt cluster operations. Auto-Eviction provides a deterministic method to isolate these misbehaving nodes effectively.

Auto-Eviction Process

The Auto-Eviction process is based on a consensus mechanism among the healthy cluster members.

1. Monitoring and Delay List: Each node in the cluster monitors the group communication response times from all its peers. If a given node fails to respond within the expected timeframes, the other nodes will add an entry for it to their internal "delayed list."
2. Eviction Trigger: If a majority of the cluster nodes independently add the same peer to their delayed lists, it triggers the Auto-Eviction protocol.
3. Eviction: The cluster evicts the unresponsive node, removing it from the cluster membership. The evicted node will enter a non-primary state and must be restarted to rejoin the cluster.

The sensitivity of this process is determined by the `evs.auto_evict` parameter.

Configuration

Auto-Eviction is configured by passing the `evs.auto_evict` parameter within the `wsrep_provider_options` system variable in your MariaDB configuration file (`my.cnf`).

The value of `evs.auto_evict` determines the threshold for eviction. It defines how many times a peer can be placed on the delayed list before the node votes to evict it.

```
[mariadb]
...
wsrep_provider_options = "evs.auto_evict=5"
```

In the above example example, if a node registers that a peer has been delayed 5 times, it will vote to have that peer evicted from the cluster.

To disable Auto-Eviction, you can set the value to `0`:

```
wsrep_provider_options = "evs.auto_evict=0"
```

Even when disabled, the node will continue to monitor response times and log information about delayed peers; it just won't vote to evict them.

Related Parameters for Failure Detection

The Auto-Eviction feature is directly related to the EVS (Extended Virtual Synchrony) protocol parameters that control how the cluster detects unresponsive nodes in the first place. These parameters define what it means for a node to be "delayed."

Parameter	Description
evs.inactive_check_period	Frequency of node checking for inactive peers.
evs.suspect_timeout	Time duration after which a non-responsive node is marked as "suspect."
evs.inactive_timeout	Time duration after which a non-responsive node is marked as "inactive" and removed.

Tuning these values in conjunction with `evs.auto_evict` allows you to define how aggressively the cluster will fence off struggling nodes.

Previous
Galera Cluster Address

Next
Using the Notification Command (wsrep_notify_cmd)

Last updated 5 months ago

Was this helpful?