MongoDB Sharded Cluster Migration from RHEL 7 to RHEL 8

# Pre-Migration Preparation

* Ensure you have a full backup of your MongoDB data using mongodump or any other backup strategy.
* Verify the backups to ensure they are complete and can be restored if necessary.
* Verify the MongoDB version compatibility with RHEL 8.
* Ensure all MongoDB drivers and applications are compatible with the new environment.
* Schedule downtime for the migration. Inform users and stakeholders about the planned maintenance window.
* Set up new RHEL 8 servers for all MongoDB components: mongod (shard, config servers) and mongos instances.
* Install the required MongoDB version on these new nodes.
* Configure network and security settings (firewall rules, SELinux policies, etc.).

# Migration Steps

## Migrate Config Servers Using Initial Sync

* Set Up New Config Servers on RHEL 8: Install MongoDB on the new RHEL 8 config server nodes. Configure the new config servers with the same replica set name as the existing config servers.
* Add New Config Server to Replica Set: Connect to the current primary config server and add the new config server nodes to the replica set.
* Initial Sync: MongoDB will automatically perform an initial sync of the data from the existing config servers to the new config servers.
* Remove Old Config Servers: Once the initial sync is complete, remove the old config server nodes from the replica set.
* Update Mongos Configuration: Update the mongos configuration to point to the new config server nodes.

## Migrate Shard Servers Using Initial Sync

* Set Up New Shard Servers on RHEL 8: Install MongoDB on the new RHEL 8 shard server nodes. Configure the new shard servers with the same replica set name as the existing shard servers.
* Add New Shard Servers to Replica Set: Connect to the current primary shard server and add the new shard server nodes to the replica set.
* Initial Sync: MongoDB will automatically perform an initial sync of the data from the existing shard servers to the new shard servers.
* Remove Old Shard Servers: Once the initial sync is complete, remove the old shard server nodes from the replica set.

## Migrate Mongos Instances

* Set Up New Mongos Instances on RHEL 8: Install and configure mongos on the new RHEL 8 nodes with the updated config server details.
* Update Load Balancer: Update the load balancer configuration to route traffic to the new mongos instances on RHEL 8.
* Test New Mongos Instances: Verify that the new mongos instances are working correctly by connecting to them and performing some queries.
* Remove Old Mongos Instances: Once you have confirmed that the new mongos instances are working correctly, decommission the old mongos instances.

# Post-Migration

* Ensure all MongoDB instances are running and can communicate with each other.
* Verify that the applications can connect to the MongoDB cluster via the new mongos instances.
* Run data integrity checks to ensure no data was lost or corrupted during the migration.
* Monitor the performance and logs of the new RHEL 8 nodes to ensure they are functioning correctly.
* Decommission Old RHEL 7 Nodes: Once everything is verified, decommission the old RHEL 7 nodes.
* Update Documentation: Update any relevant documentation to reflect the changes in the infrastructure.
* Inform Stakeholders: Inform users and stakeholders that the migration is complete and normal operations have resumed.