

Step-by-Step Guide

Task 1: Verify connectivity to the remote hosts and "reply all" with confirmation

- 1. Open a terminal on your local machine.
- 2. Ping each remote host using the command:

```
ping <remote_host_ip>
```

- 3. If the ping is successful, you will see replies from the remote host. Note the response time.
- 4. If the ping is unsuccessful, check your network connection, firewall settings, and the remote host's availability.
- 5. "Reply all" to the email with confirmation of connectivity or details of any issues faced.

Task 2: Install standalone Open Source Redis server version 3.0.7 on Server A

- 1. SSH into Server A:

```
ssh user@serverA_ip
```

- 2. Download the Redis 3.0.7 tarball:

```
wget http://download.redis.io/releases/redis-3.0.7.tar.gz
```

- 3. Extract the tarball:

```
tar xzf redis-3.0.7.tar.gz
```

- 4. Change to the Redis directory:

```
cd redis-3.0.7
```

- 5. Compile Redis:

```
make
```

- 6. Install Redis:

```
sudo make install
```

- 7. Start the Redis server:

```
redis-server
```

Task 3: Use memtier-benchmark tool to load data into the standalone Redis

- 1. Install the memtier-benchmark tool:

```
sudo apt-get install git build-essential autoconf automake libpcr3-dev libevent-dev pkg-config zlib1g-dev
git clone https://github.com/RedisLabs/memtier_benchmark.git
cd memtier_benchmark
autoconf --ivf
./configure
make
sudo make install
```

- 2. Load data into Redis using memtier-benchmark:

```
memtier_benchmark -s <ServerA_ip> -p 6379 -t 4 -c 10
```

Task 4: Install Redis Enterprise Software GA version on Server B

- 1. SSH into Server B:

```
ssh user@serverB_ip
```

- 2. Download the Redis Enterprise Software package (replace the URL with the actual download link):

```
wget <redis_enterprise_software_ga_version_url>
```

- 3. Extract the package:

```
tar xzf <redis_enterprise_software_package>.tar.gz
```

- 4. Change to the package directory and run the installer:

```
cd <redis_enterprise_software_package>
sudo ./install.sh
```

Task 5: Setup Redis Enterprise Software

- 1. Access the Redis Enterprise Software web console by navigating to [http://<ServerB\\_ip>:8443](http://<ServerB_ip>:8443) in your web browser.
- 2. Follow the on-screen instructions to complete the setup, including setting up the cluster and adding the necessary nodes.

Task 6: Create Redis DB on Redis Enterprise Software

- 1. In the Redis Enterprise Software web console, go to the Databases tab.
- 2. Click on "Add Database".
- 3. Configure the database settings as per your requirements and click "Save".

Task 7: Send an email (Reply All) with a few details about how it is going so far

- 1. Open your email client.
- 2. "Reply all" to the previous email thread.
- 3. Provide an update on the progress of the tasks, mentioning any issues faced and steps completed.

Task 8: Enable Unidirectional Replica Of between Redis Enterprise Software and Open Source Redis

- 1. In the Redis Enterprise Software web console, go to the Databases tab.
- 2. Select the database you created in Task 6.
- 3. Go to the "Replica Of" tab and click "Enable".
- 4. Enter the details of the source Redis server (Open Source Redis):
  - Source IP: <ServerA\_ip>
  - Source Port: 6379
- 5. Click "Save" to enable the replication.

Task 9: Insert and retrieve random values using the most efficient Redis Data Type

- 1. SSH into Server A (Open Source Redis):

```
ssh user@serverA_ip
```

- 2. Open the Redis CLI:

```
redis-cli
```

- 3. Insert 100 random values using a list data type:

```
for i in {1..100}; do redis-cli lpush mylist "value_$i"; done
```

- 4. SSH into Server B (Redis Enterprise Software):

```
ssh user@serverB_ip
```

- 5. Open the Redis CLI:

```
redis-cli -h <ServerB_ip> -p 12000
```

- 6. Retrieve and print the values in reverse order:

```
for i in {0..99}; do redis-cli -h <ServerB_ip> -p 12000 lindex mylist $i; done
```

Explanation:

Using the list data type is efficient for this task because lists in Redis are implemented as linked lists, which allow for efficient insertion at the head or tail and retrieval by index. This makes it easy to insert values and retrieve them in reverse order without additional computational overhead.

This completes the guide for the given tasks. Please follow the steps carefully and ensure all commands are executed correctly.