

Міністерство освіти і науки України
НТУУ «Київський політехнічний інститут»
Фізико-технічний інститут

Проектування високонавантажених систем

Лабораторна робота №2
MassiveCounterIncrement

Виконав:

Студент 4-го курсу
групи ФІ-21

Климент'єв Максим

Перевірив:

Зміст

1	Код реалізації	3
2	Результати	9
3	Лог, який видають ноди Hazelcast	11

1 Код реалізації

BaseCounter.py

```
from abc import ABC, abstractmethod
import hazelcast
# import time
# from tqdm import tqdm

class BaseCounter(ABC):
    def __init__(self, client: hazelcast.HazelcastClient, name: str,
key: str = "counter"):
        self.client = client
        self.name = name
        self.key = key

    @abstractmethod
    def increment(self):
        pass

    def bulk_increment(self, n: int): # , log_every: int = 1

        # for _ in tqdm(range(n), desc=f"{self.name}: "):
        for iteration in range(n):
            # t0 = time.time()
            self.increment()
            # dt = time.time() - t0
            # avg = dt if avg is None else avg * 0.95 + dt * 0.05

            # if iteration % log_every == 0:
            #     eta = avg * (n - iteration)
            #     print(f"[{iteration}/{n}] [{self.name}] ETA: {eta:.2f}s",
flush=True)
```

AtomicLongCounter.py

```
from Counters.BaseCounter import BaseCounter

class AtomicLongCounter(BaseCounter):
    def __init__(self, client, name="atomic_counter", key="counter"):
        super().__init__(client, name, key) # HazelcastInstance
hazelcastInstance = Hazelcast.newHazelcastInstance();
        self.atomic = client.cp_subsystem.get_atomic_long(name).
blocking() # IAtomicLong counter = hazelcastInstance.getCPSubsystem().
        .getAtomicLong("counter");

    def increment(self):
```

```
    self.atomic.add_and_get(1) # counter.incrementAndGet();
```

MapNoLockCounter.py

```
# import time
from Counters.BaseCounter import BaseCounter

class MapNoLockCounter(BaseCounter):
    def __init__(self, client, name="map_no_lock", key="counter"):
        super().__init__(client, name, key) # HazelcastInstance hz =
Hazelcast.newHazelcastInstance();
        self.map = client.get_map(name).blocking() # IMap<String, Value
> map = hz.getMap( "map" );
        if self.map.get(key) is None: # String key = "1";
            self.map.put(key, 0) # map.put( key, new Value() );

    def increment(self):
        v = self.map.get(self.key) or 0 # Value value = map.get( key )
;
        # time.sleep(1e-2) # Thread.sleep( 10 );
        v += 1 # value.amount++;
        self.map.put(self.key, v) # map.put( key, value );
```

MapOptimisticCounter.py

```
# import time
from Counters.BaseCounter import BaseCounter

class MapOptimisticCounter(BaseCounter):
    def __init__(self, client, name="map_optimistic", key="counter"):
        super().__init__(client, name, key) # HazelcastInstance hz =
Hazelcast.newHazelcastInstance();
        self.map = client.get_map(name).blocking() # IMap<String,
Value> map = hz.getMap( "map" );
        if self.map.get(key) is None: # String key = "1";
            self.map.put(key, 0) # map.put( key, new Value() );

    def increment(self):
        while True: # for ( ; ; ) {
            old = self.map.get(self.key) or 0 # Value oldValue = map.
get( key );
            new = old + 1 # Value newValue = new Value( oldValue );
newValue.amount++;
            # time.sleep(1e-2) # Thread.sleep( 10 );

            if self.map.replace_if_same(self.key, old, new): # if (
map.replace( key, oldValue, newValue ) )
                break # break;
```

MapPessimisticCounter.py

```
# import time
from Counters.BaseCounter import BaseCounter

class MapPessimisticCounter(BaseCounter):
    def __init__(self, client, name="map_pessimistic", key="counter"):
        super().__init__(client, name, key) # HazelcastInstance hz =
Hazelcast.newHazelcastInstance();
        self.map = client.getMap(name).blocking() # IMap<String,
Value> map = hz.getMap( "map" );
        if self.map.get(key) is None: # String key = "1";
            self.map.put(key, 0) # map.put( key, new Value() );

    def increment(self):
        self.map.lock(self.key) # map.lock( key );
        try: # try {
            v = self.map.get(self.key) or 0 # Value value = map.get(
key );
            # time.sleep(1e-2) # Thread.sleep( 10 );
            v += 1 # value.amount++;
            self.map.put(self.key, v) # map.put( key, value );
        finally: # } finally {
            self.map.unlock(self.key) # map.unlock( key );
```

HazelcastCounters.py

```
import threading
import time
# from tqdm import tqdm
# import tqdm

import hazelcast

from Counters import AtomicLongCounter, MapNoLockCounter,
MapOptimisticCounter, MapPessimisticCounter

def run_benchmark(counter_cls, client, threads: int = 10,
increments_per_thread: int = 10_000): # , log_every: int = 1000
    total = threads * increments_per_thread
    counter = counter_cls(client)
    if isinstance(counter, AtomicLongCounter):
        counter.atomic.set(0)
    else:
        m = client.getMap(counter.name).blocking()
        m.put(counter.key, 0)

    threads_list = []
    start = time.perf_counter()
```

```

for t in range(threads):
    th = threading.Thread(target=counter.bulk_increment, args=(increments_per_thread, ))
    th.start()
    threads_list.append(th)

for th in threads_list:
    th.join()

elapsed = time.perf_counter() - start
throughput = total / elapsed

if isinstance(counter, AtomicLongCounter):
    final = counter.atomic.get()
else:
    final = client.get_map(counter.name).blocking().get(counter.key)

return final, total, elapsed, throughput

if __name__ == "__main__":
    print("[PRE] Connecting to Hazelcast...")
    client = hazelcast.HazelcastClient(
        cluster_name="dev",
        cluster_members=["hazelcast1:5701", "hazelcast2:5702", "hazelcast3:5703"]
    )

    print("[MAIN] Starting different Counters...")
    variants = {
        "Map no-lock": MapNoLockCounter,
        "Map pessimistic": MapPessimisticCounter,
        "Map optimistic": MapOptimisticCounter,
        "AtomicLong (CP)": AtomicLongCounter,
    }
    threads = 10
    increments_per_thread = 10_000
    # log_every = 100
    try:
        # for _ in range(5):
        for name, cls in variants.items():
            print("[MAIN] Running:", name)
            val, expected, elapsed, throughput = run_benchmark(cls,
client, threads=threads, increments_per_thread=increments_per_thread
) # , log_every=log_every
            print(f"[Results] Received: {val}\n[Results] Expected: {expected}\n[Results] Time: {elapsed:.2f} sec\n[Results] Throughput:

```

```

{throughput:.2f} requests/sec\n", "-"*60)
finally:
    client.shutdown()

```

Dockerfile

```

FROM python:3.11-slim

WORKDIR /app

COPY req.txt .
RUN pip install --no-cache-dir -r req.txt

COPY ./Counters ./Counters
COPY HazelcastCounters.py .

CMD ["python", "HazelcastCounters.py"]

```

docker-compose.yml

```

services:
  hazelcast1:
    image: hazelcast/hazelcast:5.4
    container_name: hz1
    ports:
      - "5701:5701"
    volumes:
      - ./hazelcast.yaml:/opt/hazelcast/hazelcast.yaml
    environment:
      HAZELCAST_CONFIG: /opt/hazelcast/hazelcast.yaml

  hazelcast2:
    image: hazelcast/hazelcast:5.4
    container_name: hz2
    ports:
      - "5702:5701"
    volumes:
      - ./hazelcast.yaml:/opt/hazelcast/hazelcast.yaml
    environment:
      HAZELCAST_CONFIG: /opt/hazelcast/hazelcast.yaml

  hazelcast3:
    image: hazelcast/hazelcast:5.4
    container_name: hz3
    ports:
      - "5703:5701"
    volumes:
      - ./hazelcast.yaml:/opt/hazelcast/hazelcast.yaml
    environment:
      HAZELCAST_CONFIG: /opt/hazelcast/hazelcast.yaml

```

```
python-client:  
  build: .  
  container_name: hz-client  
  depends_on:  
    - hazelcast1  
    - hazelcast2  
    - hazelcast3  
  environment:  
    - PYTHONUNBUFFERED=1
```

hazelcast.yaml

```
hazelcast:  
  cluster-name: dev  
  
  network:  
    join:  
      multicast:  
        enabled: false  
      tcp-ip:  
        enabled: true  
        member-list:  
          - hazelcast1  
          - hazelcast2  
          - hazelcast3  
  
  cp-subsystem:  
    cp-member-count: 3  
    group-size: 3
```

2 Результати

Результат:

```
[PRE] Connecting to Hazelcast...
[MAIN] Starting different Counters...
[MAIN] Running: Map no-lock
[Results] Received: 15414
[Results] Expected: 100000
[Results] Time: 22.10 sec
```

```
[MAIN] Running: Map pessimistic
[Results] Received: 100000
[Results] Expected: 100000
[Results] Time: 123.39 sec
```

```
[MAIN] Running: Map optimistic
[Results] Received: 100000
[Results] Expected: 100000
[Results] Time: 117.23 sec
```

```
[MAIN] Running: AtomicLong (CP)
[Results] Received: 100000
[Results] Expected: 100000
[Results] Time: 11.59 sec
```

Не розумію у чому проблема, але на наступний день і далі воно більше не показувало такі хороші результати, навіть коли відкатувався до версії того дня.

```
[PRE] Connecting to Hazelcast...
[MAIN] Starting different Counters...
[MAIN] Running: Map no-lock
[Results] Received: 14923
[Results] Expected: 100000
[Results] Time: 60.42 sec
[Results] Throughput: 1654.96 requests/sec
```

```
[MAIN] Running: Map pessimistic
[Results] Received: 100000
[Results] Expected: 100000
[Results] Time: 3232.21 sec
[Results] Throughput: 30.94 requests/sec
```

[MAIN] Running: Map optimistic
[Results] Received: 100000
[Results] Expected: 100000
[Results] Time: 162.34 sec
[Results] Throughput: 616.00 requests/sec

[MAIN] Running: AtomicLong (CP)
[Results] Received: 100000
[Results] Expected: 100000
[Results] Time: 17.34 sec
[Results] Throughput: 5766.02 requests/sec

3 Лог, який видають ноди Hazelcast

33 Стока

```
1 #####  
2 # JAVA=/usr/bin/java  
3 # JAVA_OPTS=--add-modules java.se --add-exports java.base/jdk.internal.ref=ALL-UNNAMED --add-opens java.base/java.  
4   lang=ALL-UNNAMED --add-opens java.base/sun.nio.ch=ALL-UNNAMED --add-opens java.management/sun.management=ALL-  
5   UNNAMED --add-opens jdk.management/com.sun.management.internal=ALL-UNNAMED -Dlog4j.shutdownHookEnabled=false -  
6   Hazelcast.logging.shutdown=true -Dhazelcast.logging.type=log4j2 -Dlog4j.configurationFile=file:/opt/hazelcast/  
7   config/log4j2.properties -Dhazelcast.config=/opt/hazelcast/hazelcast.yaml -Djet.custom.lib.dir=/opt/hazelcast/  
8   custom-lib -Djava.net.preferIPv4Stack=true -XX:MaxRAMPercentage=80.0  
9  # CLASSPATH=/opt/hazelcast/*:/opt/hazelcast/lib:/opt/hazelcast/lib/*:/opt/hazelcast/bin/user-lib:/opt/hazelcast/bin/  
10 user-lib/*  
11 #####  
12 2025-11-22 15:15:58,553 [ INFO] [main] [c.h.i.c.AbstractConfigLocator]: Loading configuration '/opt/hazelcast/  
13 hazelcast.yaml' from System property 'hazelcast.config'  
14 2025-11-22 15:15:58,556 [ INFO] [main] [c.h.i.c.AbstractConfigLocator]: Using configuration file at /opt/hazelcast/  
15 hazelcast.yaml  
16 2025-11-22 15:15:59,496 [ WARN] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] You configured your member  
17 address as host name. Please be aware of that your dns can be spoofed. Make sure that your dns configurations  
18 are correct.  
19 2025-11-22 15:15:59,497 [ INFO] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] Resolving domain name '  
20 hazelcast3' to address(es): [172.18.0.4]  
21 2025-11-22 15:15:59,498 [ WARN] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] You configured your member  
22 address as host name. Please be aware of that your dns can be spoofed. Make sure that your dns configurations  
23 are correct.  
24 2025-11-22 15:15:59,499 [ INFO] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] Resolving domain name '  
25 hazelcast2' to address(es): [172.18.0.3]  
26 2025-11-22 15:15:59,500 [ WARN] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] You configured your member  
27 address as host name. Please be aware of that your dns can be spoofed. Make sure that your dns configurations  
28 are correct.  
29 2025-11-22 15:15:59,500 [ INFO] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] Resolving domain name '  
30 hazelcast1' to address(es): [172.18.0.2]  
31 2025-11-22 15:15:59,501 [ INFO] [main] [c.h.i.AddressPicker]: [LOCAL] [dev] [5.4.0] Interfaces is disabled, trying  
32 to pick one address from TCP-IP config addresses: [hazelcast3/172.18.0.4, hazelcast2/172.18.0.3, hazelcast1  
33 /172.18.0.2]  
34 2025-11-22 15:15:59,563 [ INFO] [main] [c.h.s.logo]: [hazelcast1]:5701 [dev] [5.4.0]  
35   o   o   o---o   o---o   o   o---o   o---o o---o---o  
36   |   |   / \   /   |   /   / \   |   |  
37   o---o   o   o   o---o   |   o   o   o---o   |  
38   |   | *   \ /   |   \   *   \   |   |  
39   o   o *   o---o   o---o   o---o   o   o---o   o  
40 2025-11-22 15:15:59,563 [ INFO] [main] [c.h.system]: [hazelcast1]:5701 [dev] [5.4.0] Copyright (c) 2008-2024,  
41 Hazelcast, Inc. All Rights Reserved.  
42 2025-11-22 15:15:59,568 [ INFO] [main] [c.h.system]: [hazelcast1]:5701 [dev] [5.4.0] Hazelcast Platform 5.4.0  
43 (20240415) starting at [hazelcast1]:5701  
44 2025-11-22 15:15:59,568 [ INFO] [main] [c.h.system]: [hazelcast1]:5701 [dev] [5.4.0] Cluster name: dev  
45 2025-11-22 15:15:59,569 [ INFO] [main] [c.h.system]: [hazelcast1]:5701 [dev] [5.4.0] Integrity Checker is disabled.  
46 Fail-fast on corrupted executables will not be performed. For more information, see the documentation for  
47 Integrity Checker.  
48 2025-11-22 15:15:59,571 [ INFO] [main] [c.h.system]: [hazelcast1]:5701 [dev] [5.4.0] The Jet engine is disabled.  
49 To enable the Jet engine on the members, do one of the following:  
50 - Change member config using Java API: config.getJetConfig().setEnabled(true)  
51 - Change XML/YAML configuration property: Set hazelcast.jet.enabled to true  
52 - Add system property: -Dhz.jet.enabled=true (for Hazelcast embedded, works only when loading config via Config.  
53 load)  
54 - Add environment variable: HZ_JET_ENABLED=true (recommended when running container image. For Hazelcast embedded,  
55 works only when loading config via Config.load)  
56 2025-11-22 15:16:00,577 [ INFO] [main] [c.h.s.security]: [hazelcast1]:5701 [dev] [5.4.0] Enable DEBUG/FINE log level  
57 for log category com.hazelcast.system.security or use -Dhazelcast.security.recommendations system property to  
58 see föE security recommendations and the status of current config.  
59 2025-11-22 15:16:00,695 [ INFO] [main] [c.h.i.i.Node]: [hazelcast1]:5701 [dev] [5.4.0] Using TCP/IP discovery  
60 2025-11-22 15:16:00,698 [ INFO] [main] [c.h.c.CPSubsystem]: [hazelcast1]:5701 [dev] [5.4.0] CP Subsystem is enabled  
61 with 3 members.  
62 2025-11-22 15:16:00,996 [ INFO] [main] [c.h.i.d.Diagnostics]: [hazelcast1]:5701 [dev] [5.4.0] Diagnostics disabled.  
63 To enable add -Dhazelcast.diagnostics.enabled=true to the JVM arguments.  
64 2025-11-22 15:16:01,006 [ INFO] [main] [c.h.c.LifecycleService]: [hazelcast1]:5701 [dev] [5.4.0] [hazelcast1]:5701  
65 is STARTING  
66 2025-11-22 15:16:01,051 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.i.c.i.TcpIpJoiner]: [hazelcast1]:5701 [dev]  
67 [5.4.0] [hazelcast3]:5702 is added to the blacklist.  
68 2025-11-22 15:16:01,053 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.i.c.i.TcpIpJoiner]: [hazelcast1]:5701 [dev]  
69 [5.4.0] [hazelcast2]:5702 is added to the blacklist.  
70 2025-11-22 15:16:01,053 [ INFO] [hz.fervent_brown.cached.thread-4] [c.h.i.c.i.TcpIpJoiner]: [hazelcast1]:5701 [dev]  
71 [5.4.0] [hazelcast3]:5703 is added to the blacklist.  
72 2025-11-22 15:16:01,054 [ INFO] [hz.fervent_brown.cached.thread-5] [c.h.i.c.i.TcpIpJoiner]: [hazelcast1]:5701 [dev]  
73 [5.4.0] [hazelcast2]:5703 is added to the blacklist.  
74 2025-11-22 15:16:01,055 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.i.c.i.TcpIpJoiner]: [hazelcast1]:5701 [dev]  
75 [5.4.0] [hazelcast1]:5702 is added to the blacklist.
```

```

41 | 2025-11-22 15:16:01,055 [ INFO] [hz.fervent_brown.cached.thread-6] [c.h.i.c.i.TcpIpJoiner]: [hazelcast1]:5701 [dev]
42 | [5.4.0] [hazelcast1]:5703 is added to the blacklist.
43 | 2025-11-22 15:16:01,075 [ INFO] [hz.fervent_brown.IO.thread-in-0] [c.h.i.s.t.TcpServerConnection]: [hazelcast1]:5701
44 | [dev] [5.4.0] Initialized new cluster connection between /172.18.0.2:53723 and hazelcast2/172.18.0.3:5701
45 | 2025-11-22 15:16:01,088 [ INFO] [hz.fervent_brown.IO.thread-in-1] [c.h.i.s.t.TcpServerConnection]: [hazelcast1]:5701
46 | [dev] [5.4.0] Initialized new cluster connection between /172.18.0.2:53724 and hazelcast3/172.18.0.4:5701
47 | 2025-11-22 15:16:01,090 [ INFO] [hz.fervent_brown.IO.thread-in-1] [c.h.i.s.t.TcpServerConnection]: [hazelcast1]:5701
48 | [dev] [5.4.0] Initialized new cluster connection between /172.18.0.2:59433 and hazelcast3/172.18.0.4:5701
49 | 2025-11-22 15:16:01,109 [ INFO] [hz.fervent_brown.IO.thread-in-0] [c.h.i.s.t.TcpServerConnection]: [hazelcast1]:5701
50 | [dev] [5.4.0] Initialized new cluster connection between /172.18.0.2:5701 and /172.18.0.3:44381
51 | 2025-11-22 15:16:06,067 [ INFO] [main] [c.h.i.c.ClusterService]: [hazelcast1]:5701 [dev] [5.4.0]
52 Members {size:1, ver:1} [
53   Member [hazelcast1]:5701 - 32344188-d3ed-4efd-a15a-5237ace5c754 this
54 ]
55 2025-11-22 15:16:06,085 [ INFO] [main] [c.h.c.LifecycleService]: [hazelcast1]:5701 [dev] [5.4.0] [hazelcast1]:5701
56 is STARTED
57 2025-11-22 15:16:06,097 [ INFO] [hz.fervent_brown.priority-generic-operation.thread-0] [c.h.i.c.ClusterService]: [hazelcast1]:5701 [dev] [5.4.0]
58 Members {size:2, ver:2} [
59   Member [hazelcast1]:5701 - 32344188-d3ed-4efd-a15a-5237ace5c754 this
60   Member [hazelcast3]:5701 - c69b03ec-86d5-4f1b-bcf8-cbcefa29946e
61 ]
62 2025-11-22 15:16:06,112 [ INFO] [hz.fervent_brown.priority-generic-operation.thread-0] [c.h.i.c.ClusterService]: [hazelcast1]:5701 [dev] [5.4.0]
63 Members {size:3, ver:3} [
64   Member [hazelcast1]:5701 - 32344188-d3ed-4efd-a15a-5237ace5c754 this
65   Member [hazelcast3]:5701 - c69b03ec-86d5-4f1b-bcf8-cbcefa29946e
66   Member [hazelcast2]:5701 - c287e3ce-0ba4-41c1-be6d-4657cb36f62e
67 ]
68 2025-11-22 15:16:06,127 [ INFO] [hz.fervent_brown.priority-generic-operation.thread-0] [c.h.c.i.p.t.AuthenticationMessageTask]: [hazelcast1]:5701 [dev] [5.4.0] Received auth from Connection[id=1, /172.18.0.2:5701->/172.18.0.5:56210, qualifier=null, endpoint=[172.18.0.5]:56210, remoteUuid=ee4861ba-4dc1-4e64-89bb-affff916135d, alive=true, connectionType=PYH, planeIndex=-1], successfully authenticated, clientUuid: ee4861ba-4dc1-4e64-89bb-affff916135d, client name: hz.client_0, client version: 5.5.0
69 2025-11-22 15:16:06,235 [ INFO] [hz.fervent_brown.generic-operation.thread-3] [c.h.i.p.i.PartitionStateManager]: [hazelcast1]:5701 [dev] [5.4.0] Initializing cluster partition table arrangement...
70 2025-11-22 15:16:06,991 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftInvocationManager]: [hazelcast1]:5701 [dev] [5.4.0] Replaced CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=-1}, members=[]} with CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=0}, members=[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701}]}
71 2025-11-22 15:16:07,010 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftService]: [hazelcast1]:5701 [dev] [5.4.0] RaftNode[CPGroupId{name='METADATA', seed=0, groupId=0}] is created with [RaftEndpoint{uuid='c287e3ce-0ba4-41c1-be6d-4657cb36f62e'}, RaftEndpoint{uuid='32344188-d3ed-4efd-a15a-5237ace5c754'}]
72 2025-11-22 15:16:07,011 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.RaftNode(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Status is set to: ACTIVE
73 2025-11-22 15:16:09,522 [ WARN] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.RaftNodeImpl$LeaderFailureDetectionTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] We are FOLLOWER and there is no current leader. Will start new election round...
74 2025-11-22 15:16:09,527 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.t.PreVoteTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Pre-vote started for next term: 1, last log index: 0, last log term: 0
75 2025-11-22 15:16:09,527 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.RaftNode(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0]
76 CP Group Members {groupId: METADATA(0), size:3, term:0, logIndex:0} [
77   CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}
78   CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}
79   CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} - FOLLOWER this
80 ]
81
82 2025-11-22 15:16:09,539 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.PreVoteResponseHandlerTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Pre-vote granted from RaftEndpoint{uuid='c287e3ce-0ba4-41c1-be6d-4657cb36f62e'} for term: 1, number of votes: 2, majority: 2
83 2025-11-22 15:16:09,539 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.PreVoteResponseHandlerTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] We have the majority during pre-vote phase. Let's start real election!
84 2025-11-22 15:16:09,540 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.t.LeaderElectionTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Leader election started for term: 1, last log index: 0, last log term: 0
85 2025-11-22 15:16:09,541 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.RaftNode(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0]
86 CP Group Members {groupId: METADATA(0), size:3, term:1, logIndex:0} [
87   CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}

```

```

90 |     CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}
91 |     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} - CANDIDATE this
92 |
93 |
94 | 2025-11-22 15:16:09,545 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.h.
|     PreVoteResponseHandlerTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Ignored PreVoteResponse{voter=
|     RaftEndpoint{uuid='c69b03ec-86d5-4f1b-bcf8-cbcefa29946e'}, term=1, granted=true}. We are not FOLLOWER anymore.
95 | 2025-11-22 15:16:09,548 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.h.
|     VoteResponseHandlerTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Vote granted from RaftEndpoint{uuid='
|     c69b03ec-86d5-4f1b-bcf8-cbcefa29946e'} for term: 1, number of votes: 2, majority: 2
96 | 2025-11-22 15:16:09,548 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.h.
|     VoteResponseHandlerTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] We are the LEADER!
97 | 2025-11-22 15:16:09,550 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.RaftNode(METADATA)]: [
|     hazelcast1]:5701 [dev] [5.4.0]
98 |
99 | CP Group Members {groupId: METADATA(0), size:3, term:1, logIndex:0} [
100 |     CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}
101 |     CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}
102 |     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} - LEADER this
103 |
104 |
105 | 2025-11-22 15:16:09,552 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.r.i.h.
|     VoteResponseHandlerTask(METADATA)]: [hazelcast1]:5701 [dev] [5.4.0] Ignored VoteResponse{voter=RaftEndpoint{uuid
|     ='c287e3ce-0ba4-41c1-be6d-4657cb36f62e'}, term=1, granted=true}. We are not CANDIDATE anymore.
106 | 2025-11-22 15:16:09,708 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.RaftInvocationManager]: [
|     hazelcast1]:5701 [dev] [5.4.0] Replaced CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=0},
|     members=[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec
|     -86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754,
|     address=[hazelcast1]:5701]} with CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=2}, members
|     =[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec-86d5-4
|     f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[
|     hazelcast1]:5701]}}
107 | 2025-11-22 15:16:09,712 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.RaftInvocationManager]: [
|     hazelcast1]:5701 [dev] [5.4.0] Replaced CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=2},
|     members=[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec
|     -86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754,
|     address=[hazelcast1]:5701}]} with CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=3}, members
|     =[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec-86d5-4
|     f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[
|     hazelcast1]:5701}]}
108 | 2025-11-22 15:16:09,721 [ INFO] [hz.fervent_brown.partition-operation.thread-0] [c.h.c.i.RaftInvocationManager]: [
|     hazelcast1]:5701 [dev] [5.4.0] Replaced CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=3},
|     members=[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec
|     -86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754,
|     address=[hazelcast1]:5701}]} with CPMembersContainer{version=CPMembersVersion{groupIdSeed=0, version=4}, members
|     =[CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec-86d5-4
|     f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701}, CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[
|     hazelcast1]:5701}]}
109 | 2025-11-22 15:16:09,722 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.MetadataRaftGroupManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] CP Subsystem is initialized with: [CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e,
|     address=[hazelcast2]:5701}, CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701},
|     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701}]
110 | 2025-11-22 15:17:09,732 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] Current leadership claims:
111 |     CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
112 |     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
113 |     CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
114 | 2025-11-22 15:17:09,738 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] Current leadership claims:
115 |     CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
116 |     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
117 |     CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
118 | 2025-11-22 15:17:09,739 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] Searching a candidate transfer leadership from CPMember{uuid=32344188-d3ed-4efd-a15a-5237
|     ace5c754, address=[hazelcast1]:5701} with 1 leaderships.
119 | 2025-11-22 15:17:09,739 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] No candidate could be found to get leadership from CPMember{uuid=32344188-d3ed-4efd-a15a
|     -5237ace5c754, address=[hazelcast1]:5701}. Skipping to next...
120 | 2025-11-22 15:17:09,741 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] Current leadership claims:
121 |     CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
122 |     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
123 |     CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
124 | 2025-11-22 15:17:09,741 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] CPGroup leadership balance is fine, cannot rebalance further...
125 | 2025-11-22 15:18:09,728 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:5701 [dev] [5.4.0] Current leadership claims:
126 |     CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
127 |     CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
128 |     CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
129 | 2025-11-22 15:18:09,730 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
|     ]:
```

```

130      ]:5701 [dev] [5.4.0] Current leadership claims:
131      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
132      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
133      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
134 2025-11-22 15:18:09,730 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
135      ]:5701 [dev] [5.4.0] Searching a candidate transfer leadership from CPMember{uuid=32344188-d3ed-4efd-a15a-5237
136      ace5c754, address=[hazelcast1]:5701} with 1 leaderships.
137 2025-11-22 15:18:09,730 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
138      ]:5701 [dev] [5.4.0] No candidate could be found to get leadership from CPMember{uuid=32344188-d3ed-4efd-a15a
139      -5237ace5c754, address=[hazelcast1]:5701}. Skipping to next...
140 2025-11-22 15:18:09,731 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
141      ]:5701 [dev] [5.4.0] Current leadership claims:
142      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
143      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
144      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
145 2025-11-22 15:18:09,731 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
146      ]:5701 [dev] [5.4.0] Current leadership claims:
147      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
148      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
149      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
150 2025-11-22 15:19:09,727 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
151      ]:5701 [dev] [5.4.0] Current leadership claims:
152      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
153      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
154      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
155 2025-11-22 15:19:09,727 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
156      ]:5701 [dev] [5.4.0] Current leadership claims:
157      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
158      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
159      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
160 2025-11-22 15:19:09,727 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
161      ]:5701 [dev] [5.4.0] Current leadership claims:
162      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
163      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
164      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
165 2025-11-22 15:20:09,724 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
166      ]:5701 [dev] [5.4.0] Current leadership claims:
167      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
168      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
169      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
170 2025-11-22 15:20:09,724 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
171      ]:5701 [dev] [5.4.0] Current leadership claims:
172      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
173      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
174      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
175 2025-11-22 15:20:09,724 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
176      ]:5701 [dev] [5.4.0] Current leadership claims:
177      CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
178      CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
179      CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
180 2025-11-22 15:20:09,724 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
181      ]:5701 [dev] [5.4.0] Current leadership claims:

```

```

181 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
182 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
183 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
184 2025-11-22 15:21:09,725 [ INFO] [hz.fervent_brown.cached.thread-2] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
185 ]:5701 [dev] [5.4.0] CPGroup leadership balance is fine, cannot rebalance further...
186 2025-11-22 15:22:09,718 [ INFO] [hz.fervent_brown.cached.thread-1] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
187 ]:5701 [dev] [5.4.0] Current leadership claims:
188 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
189 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
190 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
191 2025-11-22 15:22:09,720 [ INFO] [hz.fervent_brown.cached.thread-1] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
192 ]:5701 [dev] [5.4.0] Current leadership claims:
193 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
194 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
195 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 0, leaderships.
196 ..... .
197 2025-11-22 17:07:09,461 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
198 ]:5701 [dev] [5.4.0] Searching a candidate transfer leadership from CPMember{uuid=32344188-d3ed-4efd-a15a
199 -5237ace5c754, address=[hazelcast1]:5701} with 1 leaderships.
200 2025-11-22 17:07:09,462 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
201 ]:5701 [dev] [5.4.0] No candidate could be found to get leadership from CPMember{uuid=32344188-d3ed-4efd-a15a
202 -5237ace5c754, address=[hazelcast1]:5701}. Skipping to next...
203 2025-11-22 17:07:09,462 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
204 ]:5701 [dev] [5.4.0] Current leadership claims:
205 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
206 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
207 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 1, leaderships.
208 2025-11-22 17:07:09,462 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
209 ]:5701 [dev] [5.4.0] CPGroup leadership balance is fine, cannot rebalance further...
210 2025-11-22 17:08:09,456 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
211 ]:5701 [dev] [5.4.0] Current leadership claims:
212 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
213 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
214 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 1, leaderships.
215 2025-11-22 17:08:09,458 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
216 ]:5701 [dev] [5.4.0] Searching a candidate transfer leadership from CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657
217 cb36f62e, address=[hazelcast2]:5701} with 1 leaderships.
218 2025-11-22 17:08:09,458 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
219 ]:5701 [dev] [5.4.0] No candidate could be found to get leadership from CPMember{uuid=c287e3ce-0ba4-41c1-be6d
220 -4657cb36f62e, address=[hazelcast2]:5701}. Skipping to next...
221 2025-11-22 17:08:09,459 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
222 ]:5701 [dev] [5.4.0] Current leadership claims:
223 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
224 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
225 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 1, leaderships.
226 2025-11-22 17:08:09,459 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
227 ]:5701 [dev] [5.4.0] Searching a candidate transfer leadership from CPMember{uuid=32344188-d3ed-4efd-a15a
228 -5237ace5c754, address=[hazelcast1]:5701} with 1 leaderships.
229 2025-11-22 17:08:09,459 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
230 ]:5701 [dev] [5.4.0] No candidate could be found to get leadership from CPMember{uuid=32344188-d3ed-4efd-a15a
231 -5237ace5c754, address=[hazelcast1]:5701}. Skipping to next...
232 2025-11-22 17:08:09,459 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
233 ]:5701 [dev] [5.4.0] Current leadership claims:
234 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
235 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
236 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 1, leaderships.
237 2025-11-22 17:08:09,459 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
238 ]:5701 [dev] [5.4.0] Current leadership claims:
239 CPMember{uuid=c69b03ec-86d5-4f1b-bcf8-cbcefa29946e, address=[hazelcast3]:5701} priority 0 has 0,
240 CPMember{uuid=32344188-d3ed-4efd-a15a-5237ace5c754, address=[hazelcast1]:5701} priority 0 has 1,
241 CPMember{uuid=c287e3ce-0ba4-41c1-be6d-4657cb36f62e, address=[hazelcast2]:5701} priority 0 has 1, leaderships.
242 2025-11-22 17:08:09,459 [ INFO] [hz.fervent_brown.cached.thread-3] [c.h.c.i.RaftGroupMembershipManager]: [hazelcast1
243 ]:5701 [dev] [5.4.0] CPGroup leadership balance is fine, cannot rebalance further...

```