# HBCK2测试

## 概要

从源码角度分析，hbck2 调用的是org.apache.hadoop.hbase.client.HBaseHbck 类。

该类有几个主要的方法：

setTableStateInMeta // 修改table的状态 DISABLED/ENABLED

assigns //submit assign procedure

unassigns //submit unassign procedure

bypassProcedure //set procedure bypass=true current.bypass(getEnvironment()); walstore.update(procedure);

abort //server abort

## demo

### 异常问题：普通region状态异常

#### 解决方案

分配多个region 中间用空格分开：

bin/hbase org.apache.hbase.HBCK2 assigns de00010733901a05f5a2a3a382e27dd4 –o

close一个region：

bin/hbase org.apache.hbase.HBCK2 unassign de00010733901a05f5a2a3a382e27dd4 –o

### 异常问题：meta状态异常无法online导致master无法完成init

2018-10-01 22:07:42,792 WARN org.apache.hadoop.hbase.master.HMaster: hbase:meta,,1.1588230740 is NOT online; state={1588230740 state=CLOSING, ts=1538456302300, server=ve1017.example.org,22101,1538449648131}; ServerCrashProcedures=true. Master startup cannot progress, in holding-pattern until region onlined.

Hbase:namespace以及其他系统表也有可能出现这种问题，同样的方法可以解决这种问题。

#### 解决方案

重新assign meta。

bin/hbase org.apache.hbase.HBCK2 assigns 1588230740 –o

### 异常问题：procedure stuck

STUCK Procedures look like this:

2018-09-12 15:29:06,558 WARN org.apache.hadoop.hbase.master.assignment.AssignmentManager: STUCK Region-In-Transition rit=OPENING, location=va1001.example.org,22101,1536173230599, table=IntegrationTestBigLinkedList\_20180626110336, region=dbdb56242f17610c46ea044f7a42895b

针对procedure在执行过程中stuck的问题可以通过bypass来fixup。

#### 解决方案

跳过一个procedure任务：

bin/hbase org.apache.hbase.HBCK2 -d bypass -r [pid]

### 异常问题：table状态异常

#### 解决方案

针对table异常的状态可以通过修改table的meta状态进行fixup。

修改表的状态：

bin/hbase org.apache.hbase.HBCK2 setTableState petest01 DISABLED

bin/hbase org.apache.hbase.HBCK2 setTableState petest01 ENABLED

## 详细使用方法

Useage:

/bin/hbase org.apache.hbase.HBCK2 –h

usage: HBCK2 [OPTIONS] COMMAND <ARGS>

Options:

-d,--debug <arg> run with debug output

-h,--help usage: HBCK2 ：output

this help message

-p,--hbase.zookeeper.property.clientPort <arg> port of target hbase

ensemble

-q,--hbase.zookeeper.quorum <arg> hbase.zookeeper.quorum

-s,--skip <arg> skip hbase version check

-v,--version <arg> this hbck2 version

-z,--zookeeper.znode.parent <arg> parent znode of target

Hbase

Commands:

assigns [OPTIONS] <ENCODED\_REGIONNAME>...

Options:

-o,--override override ownership by another procedure

**demo**:

bin/hbase org.apache.hbase.HBCK2 assigns 1588230740 de00010733901a05f5a2a3a382e27dd4 -o

unassigns <ENCODED\_REGIONNAME>...

Options:

-o,--override override ownership by another procedure

**demo**:

bin/hbase org.apache.hbase.HBCK2 unassign de00010733901a05f5a2a3a382e27dd4 –o

bypass [OPTIONS] <PID>...

Options:

-o,--override override if procedure is running/stuck

-r,--recursive bypass parent and its children. SLOW! EXPENSIVE!

-w,--lockWait milliseconds to wait on lock before giving up; default=1

**demo:**

bin/hbase org.apache.hbase.HBCK2 -d bypass -r 7

setTableState <TABLENAME> <STATE>

**demo** :

bin/hbase org.apache.hbase.HBCK2 setTableState petest01 DISABLED

bin/hbase org.apache.hbase.HBCK2 setTableState petest01 ENABLED

## 测试过程

### assigns

第一种 meta表offline。

测试普通region：

Command : bin/hbase org.apache.hbase.HBCK2 assigns 51de4a015578a726460d0e16585bd102

result： master日志中显示master.MasterRpcServices: No RegionInfo found to match type: ENCODED\_REGION\_NAME value: "51de4a015578a726460d0e16585bd102"

返回值 -1。

meta region：

command : bin/hbase org.apache.hbase.HBCK2 assigns 1588230740

result : master日志中显示 [PEWorker-9] procedure.MasterProcedureScheduler: Waiting on xlock for pid=4, state=RUNNABLE:REGION\_TRANSITION\_QUEUE; AssignProcedure table=hbase:meta, region=1588230740 held by pid=2

返回4 (这个是procedure id )

加 –o 参数使用之前的piduser 2

bin/hbase org.apache.hbase.HBCK2 assigns 1588230740 -o

[PEWorker-10] procedure.MasterProcedureScheduler: Waiting on xlock for pid=5, state=RUNNABLE:REGION\_TRANSITION\_QUEUE; AssignProcedure table=hbase:meta, region=1588230740, override=true held by pid=2 返回pid 5

第二种情况Meta表正常工作、master服务正常运行。

bin/hbase org.apache.hbase.HBCK2 assigns 51de4a015578a726460d0e16585bd102

hbase master日志：[PEWorker-1] procedure.MasterProcedureScheduler: Took xlock for pid=573, state=RUNNABLE:REGION\_TRANSITION\_QUEUE; AssignProcedure table=petest01, region=51de4a015578a726460d0e16585bd102

2018-12-29 15:02:24,629 INFO [PEWorker-1] assignment.AssignProcedure: Assigned, not reassigning rit=OPEN, location=tempt22.ops.lycc.qihoo.net,16020,1546066802220

2018-12-29 15:02:24,740 INFO [PEWorker-1] procedure2.ProcedureExecutor: Finished pid=573, state=SUCCESS; AssignProcedure table=petest01, region=51de4a015578a726460d0e16585bd102 in 306mse

返回值 : 573

### Unassign

第一种 meta表offline。

同assigns 结果。

第二种情况 meta表online。

Command : bin/hbase org.apache.hbase.HBCK2 unassigns 1588230740 -o

Master 日志：procedure.MasterProcedureScheduler: Waiting on xlock for pid=8, state=RUNNABLE:REGION\_TRANSITION\_DISPATCH; UnassignProcedure table=hbase:meta, region=1588230740, override=true, server=tempt22.ops.lycc.qihoo.net,16020,1546064132884 held by pid=2

返回值：8

### SetTableState

这个只能在meta表online情况下执行：

Command：bin/hbase org.apache.hbase.HBCK2 setTableState petest01 DISABLED

Master日志：[RpcServer.default.FPBQ.Fifo.handler=29,queue=2,port=16000] hbase.MetaTableAccessor: Updated tableName=petest01, state=DISABLED in hbase:meta

返回值 petest01 ENABLED(Table 当前的状态)。

### Bypass

Command : bin/hbase org.apache.hbase.HBCK2 -d bypass -r 7

Master日志：[RpcServer.default.FPBQ.Fifo.handler=29,queue=2,port=16000] procedure2.ProcedureExecutor: Begin bypass pid=7, state=RUNNABLE:REGION\_TRANSITION\_DISPATCH, bypass=true; UnassignProcedure table=hbase:meta, region=1588230740, server=tempt22.ops.lycc.qihoo.net,16020,1546064132884 with lockWait=1, override=false, recursive=false

2018-12-29 14:53:29,158 INFO [RpcServer.default.FPBQ.Fifo.handler=29,queue=2,port=16000] procedure2.ProcedureExecutor: Bypassing pid=7, state=RUNNABLE:REGION\_TRANSITION\_DISPATCH, bypass=true; UnassignProcedure table=hbase:meta, region=1588230740, server=tempt22.ops.lycc.qihoo.net,16020,1546064132884

2018-12-29 14:53:29,308 INFO [RpcServer.default.FPBQ.Fifo.handler=29,queue=2,port=16000] procedure2.ProcedureExecutor: Bypassing pid=7, state=RUNNABLE:REGION\_TRANSITION\_DISPATCH, bypass=true; UnassignProcedure table=hbase:meta, region=1588230740, server=tempt22.ops.lycc.qihoo.net,16020,1546064132884 and its ancestors successfully, adding to queue

返回值：true。

## 总结

HBCK2 目前主要针对的是procdureV2,可以通过HBaseHbck类完成异常procedure的操作或者是创建新的procedure。同时通过master在重启之后需要对procedureWAL日志replay的过程，对procedure进行修改可以实现在meta表分配出现问题的同时进行assign meta的操作。