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HBase / HBASE-250

[hbase] Documentation and improved logging so fact that hbase now requires migration comes as less of a surprise

Details

Type: Bug Status: CLOSED

Priority: Blocker Resolution: Fixed

Affects Version/s: None Fix Version/s: None

Component/s: None Labels: None

Description

Hbase now checks for a version file. If none, it reports a version mismatch. There will be no version file if the hbase was made by a version older than r613469

Attachments

migrate.patch	4 kB	19/Jan/08 23:16
migration.patch	12 kB	20/Jan/08 18:57
patch.txt	27 kB	22/Jan/08 19:24
■ patch.txt	25 kB	21/Jan/08 06:47

Activity

Michael Stack created issue - 19/Jan/08 23:13

1

Michael Stack added a comment - 19/Jan/08 23:16

Changed the checkVersion to throw an FNFE if version file is not present. Up in the master, catch any FNFE and create the version file (logging fact at WARN level). Also changed version from 0.1 to 1. 1 will sit better as prefix for migration scripts and integers are how RPC and classes are versioned.

Michael Stack made changes - 19/Jan/08 23:16

Field Original Value New Value
Attachment migrate.patch [12373612]

▼ ○ Jim Kellerman added a comment - 19/Jan/08 23:46

If you run the migrate tool as the exception suggested, it will write the version file and then the system will start.

▼ O Michael Stack added a comment - 20/Jan/08 00:09

It didn't occur to me that migration was the way to fix the missing version file. I also figured we should just auto-migrate this one case of a missing version file (If in future, version file goes missing, I'd think it the job of hbsfck recreating it, rather than migration?).

But I'm fine w/ forcing users to run the migration. It needs to be better documented and added to the bin/hbase script with verb 'migrate' I'd say.

I tried to run the migration but it wants to connect to a HMaster. That ain't going to work (Cluster won't start because no version file... can't migrate because cluster ain't up...).

Michael Stack made changes - 20/Jan/08 00:09

Assignee stack [stack]

- Jim Kellerman added a comment 20/Jan/08 01:03 edited
 - > It didn't occur to me that migration was the way to fix the missing version file.

From HMaster.java(894, 5):

```
throw new IOException(
   "file system not correct version. Run hbase.util.Migrate");
```

- > I also figured we should just auto-migrate this one case of a missing version file (If in future,
- > version file goes missing, I'd think it the job of hbsfck recreating it, rather than migration?).

Suppose you have a file system that has not been migrated? (i.e. regions are stored in

```
/hbase/hregion_nnnnnnn
```

) The master would start up write the version file and then proceed to recreate the root and meta regions because they aren't under

```
/hbase/-ROOT-
```

and

```
/hbase/.META.
```

respectively.

Additionally the first thing the migrate tool does is look for the version file. If it finds it and the version number matches, it figures that the file system has been upgraded already and does nothing.

- > But I'm fine w/ forcing users to run the migration. It needs to be better documented and added
- > to the bin/hbase script with verb 'migrate' I'd say.

Agreed. How about this changing this patch to update bin/hbase and add documentation (where ?)?

- > I tried to run the migration but it wants to connect to a HMaster. That ain't going to work (Cluster
- > won't start because no version file... can't migrate because cluster ain't up...).

It tries to connect to the master to ensure it isn't running (uses HBaseAdmin.isMasterRunning()) We wouldn't want to do a upgrade with the cluster running.

Michael Stack added a comment - 20/Jan/08 01:48

I should have said, in spite of the exception, I did not get that I was supposed to run the migration. The thing just looks broke. My guess is that users will think the same.

Agreed, to move past r613469, running migration is needed and yes, lets make this issue be about making the migration easier to find and run – add to bin/hbase – and about documentation ('Getting Started' doc., incompatible changes in the release notes, IRC, etc.).

Would help if there was a prefatory message that script is verifying the cluster is down.

Michael Stack made changes - 20/Jan/08 01:48

Summary [hbase] After 2643, cluster won't start if FS was created by an older hbase version

[hbase] Documentation and improved logging so fact that hbase now requires migration comes as less of a surprise

Michael Stack added a comment - 20/Jan/08 07:14

I tried to do a migrate and it looks like the below:

```
durruti:-/Documents/checkouts/hadoop-commit/src/contrib/hbase stack$ ./bin/hbase org.apache.hadoop.hbase.util.Migrate 08/01/19 23:05:21 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 1 time(s). 08/01/19 23:05:22 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 2 time(s). 08/01/19 23:05:23 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 3 time(s). 08/01/19 23:05:24 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 4 time(s). 08/01/19 23:05:25 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 5 time(s). 08/01/19 23:05:26 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 6 time(s).
```

```
08/01/19 23:05:27 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 7 time(s).
08/01/19 23:05:28 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 8 time(s).
08/01/19 23:05:29 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 9 time(s).
08/01/19 23:05:30 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 10 time(s).
08/01/19 23:05:31 INFO util.Migrate: unrecognized file -ROOT- ignoring
08/01/19 23:05:31 INFO util.Migrate: unrecognized file .hbase.version.crc ignoring
08/01/19 23:05:31 INFO util.Migrate: unrecognized file .META. ignoring
08/01/19 23:05:31 ERROR util.Migrate: exiting due to error
java.io.IOException: unrecovered region server log file log_192.168.0.100_1200373881646_51251 aborting
at org.apache.hadoop.hbase.util.Migrate.extraFile(Migrate.java:206)
at org.apache.hadoop.hbase.util.Migrate.extraFiles(Migrate.java:184)
at org.apache.hadoop.hbase.util.Migrate.run(Migrate.java:148)
at org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:65)
at org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:79)
at org.apache.hadoop.hbase.util.Migrate.main(Migrate.iava:450)
```

The 'unrecognized' ROOT and .META. and *.crc do not inspire confidence. Can we make the message better?

Looking at the FS, I see the version file and figure that rerunning the start, it'd probably work for me (running the logs).. but it just fails again telling me to migrate.

▼ O Michael Stack added a comment - 20/Jan/08 07:23

I removed the hbase dir completely. Restarted. Came up nice. Shut it down. Remove the hbase.version and .hbase.version.crc. Tried to start it. It complained no version file. Run migration. I did and it made following emissions:

```
08/01/19 23:17:56 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 1
time(s).08/01/19 23:17:57 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 2
time(s).08/01/19 23:17:58 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 3
time(s).08/01/19 23:17:59 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 4
time(s).08/01/19 23:18:00 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 5
time(s).08/01/19 23:18:01 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 6
time(s).08/01/19 23:18:02 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 7
time(s).08/01/19 23:18:03 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 8
time(s).08/01/19 23:18:04 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 9
time(s).08/01/19 23:18:05 INFO ipc.Client: Retrying connect to server: localhost/127.0.0.1:60000. Already tried 10
time(s).08/01/19 23:18:06 INFO util.Migrate: unrecognized file -ROOT- ignoring08/01/19 23:18:06 INFO util.Migrate:
unrecognized file .META. ignoring08/01/19 23:18:06 ERROR util.Migrate: exiting due to errorjava.io.IOException: cannot
find root region file:/tmp/hadoop-stack/hbase/hregion_70236052
                                                                      at
org.apache.hadoop.hbase.util.Migrate.run(Migrate.java:156)
                                                                 at
org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:65)
                                                                 at
org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:79)
                                                                 at
org.apache.hadoop.hbase.util.Migrate.main(Migrate.java:450)
```

Odd is that there is not hregion_70236052 file:

```
$ ls -la /tmp/hadoop-stack/hbase/
total 0
drwxr-xr-x   3 stack wheel  102 Jan 19 23:16 -ROOT-
drwxr-xr-x   4 stack wheel  136 Jan 19 23:17 .
drwxr-xr-x   3 stack wheel  102 Jan 19 23:16 ..
drwxr-xr-x   3 stack wheel  102 Jan 19 23:16 .META.
```

Michael Stack added a comment - 20/Jan/08 18:57

This patch is imcomplete. Adds migrate to ./bin/hbase. Adds doc. about necessary migration to 'getting started' under javadoc. I started in adding to the migration script extra info-level logging talking users through the process so they have a better sense of whats happening but didn't finish the job because need to study more what this script is up to (How about adding description of migration steps to the class comment – we can fill it out as we add new steps).

The script doesn't have usage/help (h/-help do nought). If I supply them, it goes ahead and starts up the migration regardless. Do you think it should do this? Should it not first emit flashing neon warnings about how this script rewrites hbase.rootdir and of how it might make sense making a backup first, etc. (Perhaps point at the MR CopyFiles or ./bin/hadoop distcp).

One idea would be that this script first checks to see if any migratory actions are required; if so, user needs to rerun the migration script with an option that says actually go ahead and rearrange hbase.rootdir.

Michael Stack made changes - 20/Jan/08 18:57
Attachment

migration.patch [12373629]

Jim Kellerman made changes - 20/Jan/08 22:47

stack [stack]

Jim Kellerman [jimk]

💌 🔘 Jim Kellerman added a comment - 20/Jan/08 22:48

Ok, there is definitely some work to do here. I'll work on fixing Migrate.

Jim Kellerman added a comment - 21/Jan/08 06:47

Lots more checking, clean up several bugs, new read-only mode, usage, etc.

O Jim Kellerman made changes - 21/Jan/08 06:47

Attachment patch.txt [12373663]

▼ ○ Jim Kellerman added a comment - 21/Jan/08 06:48

Works locally, try hudson. - Stack, please review patch.

Jim Kellerman made changes - 21/Jan/08 06:48

Affects Version/s 0.16.0 [12312740]

Status Open [1] Patch Available [10002]

✓ ○ Jim Kellerman added a comment - 21/Jan/08 18:07

It appears that hudson lost this patch when it went down. Resubmitting.

O Jim Kellerman made changes - 21/Jan/08 18:07

Status Patch Available [10002] Open [1]

O Jim Kellerman made changes - 21/Jan/08 18:07

Status Open [1] Patch Available [10002]

Michael Stack added a comment - 22/Jan/08 02:23

This patch looks great.

Shouldn't the 'check' emit a result? That is, shouldn't check say "hbase.rootdir is up to date" or "hbase.rootdir needs to be migrated"? Same for actual migration. Should say "migration successful" or "migration failed" or "up to date"?

Regards the check for a running cluster, what we've seen internally is that often a newer version of hbase will just timeout trying to connect to a running instance without an exception being thrown or complaint about mismatched RPC version numbers. There ain't much that the migration script can do in this case. Add to the info log a more forceful note that hbase cluster must be down when this script runs?

If the HDFS to upgrade is not running, it doesn't recognize it. See below:

```
[stack@aa0-000-12 hbase]$ ./bin/hbase migrate check

08/01/22 02:11:35 INFO util.Migrate: Verifying that HBase is not running...

08/01/22 02:11:35 INFO ipc.Client: Retrying connect to server: XX.XX.XX.139:60000. Already tried 1 time(s).

08/01/22 02:11:36 INFO ipc.Client: Retrying connect to server: XX.XX.XX.139:60000. Already tried 2 time(s).

...

08/01/22 02:11:45 INFO util.Migrate: Starting migration check

08/01/22 02:11:45 INFO ipc.Client: Retrying connect to server: XX.XX.XX.139:9123. Already tried 1 time(s).

....
```

I don't think this too important.

▼ O Jim Kellerman added a comment - 22/Jan/08 07:57

Hudson lost this patch. Resubmitting.

Jim Kellerman made changes - 22/Jan/08 07:57

Status Patch Available [10002] Open [1]

Jim Kellerman made changes - 22/Jan/08 07:57

Open [1] Patch Available [10002]

O Hadoop QA added a comment - 22/Jan/08 17:48

-1 overall. Here are the results of testing the latest attachment http://issues.apache.org/jira/secure/attachment/12373663/patch.txt against trunk revision r614192.

@author +1. The patch does not contain any @author tags.

javadoc +1. The javadoc tool did not generate any warning messages.

javac +1. The applied patch does not generate any new compiler warnings.

findbugs +1. The patch does not introduce any new Findbugs warnings.

core tests -1. The patch failed core unit tests.

contrib tests -1. The patch failed contrib unit tests.

Test results: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1674/testReport/

Findbugs warnings: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1674/artifact/trunk/build/test/findbugs/newPatchFindbugsWarnings.html

Checkstyle results: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1674/artifact/trunk/build/test/checkstyle-

errors.html

Console output: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1674/console

This message is automatically generated.

Jim Kellerman made changes - 22/Jan/08 19:23

Status Patch Available [10002] Open [1]

Jim Kellerman added a comment - 22/Jan/08 19:24

Improve messages

O Jim Kellerman made changes - 22/Jan/08 19:24

Attachment patch.txt [12373775]

Jim Kellerman made changes - 22/Jan/08 19:24

Status Open [1] Patch Available [10002]

▼ ○ Hadoop QA added a comment - 23/Jan/08 02:27

-1 overall. Here are the results of testing the latest attachment http://issues.apache.org/jira/secure/attachment/12373775/patch.txt against trunk revision r614301.

@author +1. The patch does not contain any @author tags.

javadoc +1. The javadoc tool did not generate any warning messages.

javac +1. The applied patch does not generate any new compiler warnings.

findbugs +1. The patch does not introduce any new Findbugs warnings.

core tests -1. The patch failed core unit tests.

contrib tests +1. The patch passed contrib unit tests.

Test results: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1679/testReport/

Findbugs warnings: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1679/artifact/trunk/build/test/findbugs/newPatchFindbugsWarnings.html

Checkstyle results: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1679/artifact/trunk/build/test/checkstyle-

errors.html

Console output: http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Patch/1679/console

This message is automatically generated.

Jim Kellerman	made changes - 23/Jan/08 03:26	
Resolution		Fixed [1]
Status	Patch Available [10002]	Resolved [5]

O Hudson added a comment - 23/Jan/08 12:23

Integrated in Hadoop-trunk #374 (See http://hudson.zones.apache.org/hudson/job/Hadoop-trunk/374/)

Hudson added a comment - 23/Jan/08 15:36

Integrated in Hadoop-Nightly #374 (See http://lucene.zones.apache.org:8080/hudson/job/Hadoop-Nightly/374/)

Owen O'Malley made changes - 04/Feb/08 18:25 contrib/hbase [12311752] Component/s

Owen O'Malley made changes - 04/Feb/08 18:41

0.16.0 [12312740] Fix Version/s

HADOOP-2668 Key HBASE-250

Project Hadoop Core [12310240] Hadoop HBase [12310753]

0.16.0 [12312740] Affects Version/s Jim Kellerman [jimk] Assignee

Jim Kellerman made changes - 22/Aug/08 21:34

Status Resolved [5] Closed [6]

Gavin McDonald made changes - 10/Jan/21 16:54

Workflow no-reopen-closed, patch-avail [12421606] patch-available, re-open possible [13756854]

Gavin McDonald made changes - 10/Jan/21 19:05

patch-available, re-open possible [13756854] Workflow no-reopen-closed, patch-avail [13796288]

Transition	Time In Source Status	Execution Times
◯ Jim Kellerman made transition - 22/Jan/08 19:23		
PATCH AVAILABLE OPEN	1d 12h 35m	3
◯ Jim Kellerman made transition - 22/Jan/08 19:24		
OPEN PATCH AVAILABLE	1d 7h 35m	4
◯ Jim Kellerman made transition - 23/Jan/08 03:26		
PATCH AVAILABLE → RESOLVED	8h 1m	1
◯ Jim Kellerman made transition - 22/Aug/08 21:34		
RESOLVED CLOSED	212d 18h 8m	1

People

Assignee:

Unassigned

Reporter:

Michael Stack

Votes:

• Vote for this issue

2/13/23, 9:36 PM [HBASE-250] [hbase] Documentation and improved logging so fact that hbase now requires migration comes as less of a surprise - ASF JIRA

Watchers:

o Start watching this issue

Dates

Created:

19/Jan/08 23:13

Updated:

22/Aug/08 21:34

Resolved:

23/Jan/08 03:26