

Hortonworks Data Platform

Release Notes

(June 1, 2017)

Hortonworks Data Platform: Release Notes

Copyright © 2012-2017 Hortonworks, Inc. Some rights reserved.

The Hortonworks Data Platform, powered by Apache Hadoop, is a massively scalable and 100% open source platform for storing, processing and analyzing large volumes of data. It is designed to deal with data from many sources and formats in a very quick, easy and cost-effective manner.

The Hortonworks Data Platform consists of the essential set of Apache Software Foundation projects that focus on the storage and processing of Big Data, along with operations, security, and governance for the resulting system. This includes Apache Hadoop – which includes MapReduce, Hadoop Distributed File System (HDFS), and Yet Another Resource Negotiator (YARN) – along with Ambari, Falcon, Flume, HBase, Hive, Kafka, Knox, Oozie, Phoenix, Pig, Ranger, Slider, Spark, Sqoop, Storm, Tez, and ZooKeeper. Hortonworks is the major contributor of code and patches to many of these projects. These projects have been integrated and tested as part of the Hortonworks Data Platform release process and installation and configuration tools have also been included.

Unlike other providers of platforms built using Apache Hadoop, Hortonworks contributes 100% of our code back to the Apache Software Foundation. The Hortonworks Data Platform is Apache-licensed and completely open source. We sell only expert technical support, [training](#) and partner-enablement services. All of our technology is, and will remain, free and open source.

Please visit the [Hortonworks Data Platform](#) page for more information on Hortonworks technology. For more information on Hortonworks services, please visit either the [Support](#) or [Training](#) page. Feel free to [contact us](#) directly to discuss your specific needs.



Except where otherwise noted, this document is licensed under
Creative Commons Attribution ShareAlike 4.0 License.
<http://creativecommons.org/licenses/by-sa/4.0/legalcode>

Table of Contents

1. HDP 2.6.1 Release Notes	1
1.1. Component Versions	1
1.2. New Features	2
1.3. Deprecation Notices	2
1.3.1. Terminology	2
1.3.2. Deprecated Components and Product Capabilities	3
1.4. Unsupported Features	3
1.4.1. Technical Preview Features	4
1.4.2. Community Features	5
1.5. Upgrading to HDP 2.6.1	6
1.6. Behavioral Changes	7
1.7. Apache Patch Information	9
1.7.1. Hadoop	9
1.7.2. Accumulo	67
1.7.3. Atlas	67
1.7.4. DataFu	70
1.7.5. Falcon	70
1.7.6. Flume	71
1.7.7. HBase	73
1.7.8. Hive	78
1.7.9. Kafka	96
1.7.10. Knox	96
1.7.11. Mahout	97
1.7.12. Oozie	97
1.7.13. Phoenix	103
1.7.14. Pig	108
1.7.15. Ranger	108
1.7.16. Slider	109
1.7.17. Spark	110
1.7.18. Sqoop	111
1.7.19. Storm	112
1.7.20. Tez	112
1.7.21. Zeppelin	115
1.7.22. ZooKeeper	116
1.8. Fixed Common Vulnerabilities and Exposures	116
1.8.1. CVE-2017-3150	116
1.8.2. CVE-2017-3151	117
1.8.3. CVE-2017-3152	117
1.8.4. CVE-2017-3153	117
1.8.5. CVE-2017-3154	117
1.8.6. CVE-2017-3155	118
1.8.7. CVE-2017-5646	118
1.8.8. CVE-2017-7676	118
1.8.9. CVE-2017-7677	118
1.8.10. CVE-2016-8746	119
1.8.11. CVE-2016-8751	119
1.8.12. CVE-2016-8752	119
1.9. Fixed Issues	120

- 1.10. Known Issues 134
- 1.11. Documentation Errata 140
 - 1.11.1. RangerUI: Escape of policy condition text entered in the policy form 140
 - 1.11.2. Workaround for Ranger service check failure 142

List of Tables

- 1.1. Technical Previews 4
- 1.2. Community Features 5
- 1.3. HDP Upgrade Options 6
- 1.4. Behavioral Changes 7

1. HDP 2.6.1 Release Notes

This document provides you with the latest information about the HDP 2.6.1 release and its product documentation.

1.1. Component Versions

The official Apache versions of all HDP 2.6.1 components are listed below. All components listed here are official Apache releases of the most recent stable versions available.

The Hortonworks approach is to provide patches only when necessary, to ensure the interoperability of components. Unless you are explicitly directed by Hortonworks Support to take a patch update, each of the HDP components should remain at the following package version levels, to ensure a certified and supported copy of HDP 2.6.1.

Official Apache versions for HDP 2.6.1:

- Apache Accumulo 1.7.0¹
- Apache Atlas 0.8.0
- Apache DataFu 1.3.0
- Apache Falcon 0.10.0¹
- Apache Flume 1.5.2¹
- Apache Hadoop 2.7.3
- Apache HBase 1.1.2
- Apache Hive 1.2.1
- Apache Hive 2.1.0
- Apache Kafka 0.10.1.2¹
- Apache Knox 0.12.0
- Apache Mahout 0.9.0+¹
- Apache Oozie 4.2.0
- Apache Phoenix 4.7.0
- Apache Pig 0.16.0
- Apache Ranger 0.7.0
- Apache Slider 0.92.0¹
- Apache Spark 1.6.3
- Apache Spark 2.1.1

¹Refer to [Deprecation Notices](#) for more information on deprecation plans for these components.

- Apache Sqoop 1.4.6
- Apache Storm 1.1.0 ¹
- Apache TEZ 0.7.0
- Apache Zeppelin 0.7.0
- Apache ZooKeeper 3.4.6

Later versions of a few Apache components are sometimes bundled in the HDP distribution in addition to the versions listed above. In this case, these later versions are listed in the [Technical Previews](#) table and should not substitute for the Apache component versions of the above list in a production environment.

Additional component versions:

- Cascading 3.0.0 ¹
- Hue 2.6.1 ^{1 2}



Note

For information on open source software licensing and notices, please refer to the Licenses and Notices files included with the software install package.

1.2. New Features

This section highlights new features in HDP 2.6.1.

Apache Components	Feature
Cloud Data Access	Added support for Cloud Data Access connectors for Amazon S3, Azure Data Lake Store (ADLS) and Windows Azure Storage Blob (WASB). Refer to the Cloud Data Access Guide for more information.
Ranger	Added feature for differentiating the audit events generated by multiple ephemeral clusters (see Differentiate Events from Multiple Clusters).

1.3. Deprecation Notices

This section points out any technology from previous releases that has been deprecated, moved, or removed from this release. Use this section as a guide for your implementation plans.

1.3.1. Terminology

Items in this section are designated in the following way:

- Deprecated** Technology that Hortonworks is removing in a future HDP release. Marking an item as deprecated gives you time to plan for removal in a future HDP release.
- Moving** Technology that Hortonworks is moving from a future HDP release and is making available via an alternative Hortonworks offering or subscription.

²Hue is not supported on IBM PPC.

Marking an item as moving gives you time to plan for removal in a future HDP release and plan for the alternative Hortonworks offering or subscription for the technology.

Removed Technology that Hortonworks has removed from HDP and is no longer available or supported as of this release. Take note of technology marked as Removed since it can potentially affect your upgrade plans.

1.3.2. Deprecated Components and Product Capabilities

The following components are **marked deprecated** from HDP and will be **removed** in a future HDP release:

Component or Capability	Status	Marked Deprecated as of	Target Release for Removal	Comments
Apache Falcon	Deprecated	HDP 2.6.0	HDP 3.0.0	Contact your Hortonworks account team for the replacement options.
Apache Flume	Deprecated	HDP 2.6.0	HDP 3.0.0	Consider Hortonworks DataFlow as an alternative for Flume use cases.
Apache Mahout	Deprecated	HDP 2.6.0	HDP 3.0.0	Consider Apache Spark as an alternative depending on the workload.
Apache Slider	Deprecated	HDP 2.6.0	HDP 3.0.0	Apache Slider functionality will be absorbed by Apache YARN.
Cascading	Deprecated	HDP 2.6.0	HDP 3.0.0	
Hue	Deprecated	HDP 2.6.0	HDP 3.0.0	Consider Ambari Views as the alternative.

The following components are **marked moving** from HDP and will be **moved** in a future HDP release to an alternative Hortonworks Subscription and Offering:

Component or Capability	Status	Marked Moving as of	Target Release for Move
Apache Accumulo	Moving	HDP 2.6.0	HDP 3.0.0
Apache Kafka	Moving	HDP 2.6.0	HDP 3.0.0
Apache Storm	Moving	HDP 2.6.0	HDP 3.0.0
Cloudbreak	Moving	HDP 2.6.0	HDP 3.0.0

Please contact Hortonworks Support or your Hortonworks Account Team if you have any questions.

1.4. Unsupported Features

Although the following features exist within HDP 2.6.1, Hortonworks does not currently support these specific capabilities:

- [Technical Preview Features \[4\]](#)

- [Community Features \[5\]](#)

1.4.1. Technical Preview Features

The following features are available within HDP 2.6.1 but are not ready for production deployment. Hortonworks encourages you to explore these technical preview features in non-production environments and provide feedback on your experiences through the [Hortonworks Community Forums](#).

Table 1.1. Technical Previews

Component	Feature
Druid	Introduced in a previous release: <ul style="list-style-type: none"> • Druid 0.9.2
HBase and Phoenix	Introduced in a previous release: <ul style="list-style-type: none"> • HBase storage quota on HDFS • HBase backup/restore supports bulk loaded data • Phoenix repair tool - A repair tool for corrupted system tables (PHOENIX-3165) • Backup and restore • Phoenix operability with Microsoft .NET Driver • Phoenix Storage Handler for Hive integration • Cell-Level ACLs • Column Family Encryption • Phoenix-Spark Integration • RPC Throttling • Support for <code>init.d</code> scripts
HDFS	Introduced in a previous release: <ul style="list-style-type: none"> • G1 GC support for HDFS
Hive	Introduced in a previous release: <ul style="list-style-type: none"> • Stored Procedures Client-Side • LLAP / Spark security interface • Phoenix Storage Handler for Hive integration
Ranger	New in this release: <ul style="list-style-type: none"> • Support for S3 authorization in Ranger Hive Plugin
Slider	Introduced in a previous release: <ul style="list-style-type: none"> • Support for Docker-based application packaging (SLIDER-780)
Spark	Introduced in a previous release: <ul style="list-style-type: none"> • Spark SQL Ranger integration for row and column security, for Spark 2.1 • DataSet API • GraphX

Component	Feature
Storm	Introduced in a previous release: <ul style="list-style-type: none"> • Storm SQL: run SQL queries over streaming data in Storm • Automatic back pressure • Pacemaker daemon • Resource-aware scheduling
YARN	Introduced in a previous release: <ul style="list-style-type: none"> • Add support for network I/O isolation/scheduling for containers (YARN-2140) • NodeManager: add cgroup support for disk I/O isolation (YARN-2619)

1.4.2. Community Features

The following features are developed and tested by the Hortonworks community but are not officially supported by Hortonworks. These features are excluded for a variety of reasons, including insufficient reliability or incomplete test case coverage, declaration of non-production readiness by the community at large, and feature deviation from Hortonworks best practices. Do not use these features in your production environments.

Table 1.2. Community Features







Component	Feature
Falcon	Introduced in a previous release: <ul style="list-style-type: none"> • Prism Server • User Recipes
HBase	Introduced in a previous release: <ul style="list-style-type: none"> • HBase Column Family Encryption: use HDFS data at rest encryption instead • Use of memcached as block cache is unsupported (HBASE-13170) • ZooKeeper-less region assignment • Region size balancing (HBASE-13103) • HBase Bulk Loads now replicate cross-cluster (HBASE-13153)
HDFS	Introduced in a previous release: <ul style="list-style-type: none"> • HTTPFS (HDFS-2179) <p>HTTPFS is used with Hue, in combination with Knox, and standalone as an API gateway. We highly recommend that you replace HTTPFS with Knox where possible.</p> <ul style="list-style-type: none"> • NameNode Federation (HDFS-1052) • Disk Hot Swap (HDFS-1362) • Block-volume device choosing (HDFS-1804) • viewFS (HADOOP-7257)









Component	Feature
Knox	Introduced in a previous release: <ul style="list-style-type: none"> Storm REST APIs
Slider	Introduced in a previous release: <ul style="list-style-type: none"> Simplified Application Packaging
Spark	Introduced in a previous release: <ul style="list-style-type: none"> Spark Standalone Spark on Mesos Jupyter/iPython Notebook
YARN	Introduced in a previous release: <ul style="list-style-type: none"> Fair Scheduler MapReduce Eclipse Plug-in MapReduce Uber AM
Zeppelin	For R interpreter support (ZEPPELIN-156), only the following subset of the interpreters are enabled by default: <ul style="list-style-type: none"> Spark Hive Shell MarkDown R Livy Angular The following interpreters are not enabled by default: <ul style="list-style-type: none"> Phoenix Introduced in a previous release: <ul style="list-style-type: none"> The ability to share a note by sharing its URL. This is due to a lack of proper access control over with whom and how a note can be shared.

1.5. Upgrading to HDP 2.6.1

The following table summarizes HDP 2.6.0-to-2.6.1 upgrade options:

Table 1.3. HDP Upgrade Options

Upgrade Path	Current HDP ^a	Target HDP ^a	Rolling Upgrade	Express Upgrade
Minor ^b	HDP 2.5	HDP 2.6		
Minor ^b	HDP 2.4	HDP 2.5 or 2.6		
Minor ^b	HDP 2.3	HDP 2.4, 2.5 or 2.6		

Upgrade Path	Current HDP ^a	Target HDP ^a	Rolling Upgrade	Express Upgrade
Maintenance	HDP 2.6.x.y	HDP 2.6.x.y		
Maintenance	HDP 2.5.x.y	HDP 2.5.x.y		
Maintenance	HDP 2.4.x.y	HDP 2.4.x.y		
Maintenance	HDP 2.3.x.y	HDP 2.3.x.y		

^aThe instructions in this document sometimes refer to an HDP “version” using the HDP #.#.x.y convention. For example, you will see the HDP 2.3.x.y convention to refer to any HDP 2.3 “maintenance” release. Therefore, to use a specific HDP 2.3 maintenance release, be sure to replace 2.3.x.y in the following instructions with the appropriate maintenance version, such as 2.3.0.0 for the HDP 2.3 GA release, or 2.3.2.0 for an HDP 2.3 maintenance release.

^bA Minor upgrade can be performed from any current maintenance release to any target maintenance release in that minor release. For example, you can go from HDP 2.3.x.y to HDP 2.4.x.y as part of a Minor upgrade.

For instructions on upgrading all or part of your currently installed HDP components, see the [Apache Ambari Upgrade Guide](#).

1.6. Behavioral Changes

Behavioral changes denote a marked change in behavior from the previously released version to this version of software. In HDP 2.6.1, behavioral changes affect the following Hadoop components.

Table 1.4. Behavioral Changes

Hortonworks Bug ID	Apache Component	Apache JIRA	Summary	Details
BUG-66121	Hive	HIVE-14251	Union All of different types resolves to incorrect data	<p>Scenario: UNION result handling</p> <p>Previous Behavior: queries in which union operator was used may have created an invalid output type.for example, the column type is ambiguous in the following query:</p> <pre>select cast(1 as int) union select cast(1 as string)</pre> <p>Selecting the inappropriate type may cause the value to be changed to NULL.</p> <p>New Behavior: The types are checked prior to execution; and the ambiguous cases are rejected;</p> <pre>FAILED: SemanticException Schema of both sides of union should match: Column _c0 is of type int on first table and type string on second table. Cannot tell the position of null AST. (state=42000,code=40000)</pre> <p>The query should be clarified with explicit casts.</p>
BUG-76637	Ranger	RANGER-1436	Turn Ranger Deny Policy & Except Conditions block to Off by default	<p>Component Affected: Ranger resource based policies</p> <p>Previous Behavior: Previously, you could not enable deny/exception conditions through a configuration change. This was only possible through a Ranger REST API call.</p>

Hortonworks Bug ID	Apache Component	Apache JIRA	Summary	Details
				<p>New Behavior: You can now turn this feature on by setting the <code>ranger.servicedef.enableDenyAndExceptionsInPolicies</code> config parameter to a value of <code>true</code>. The default value for this is <code>false</code> (disabled).</p>
BUG-81924	Falcon, Hve	N/A	Use the <code>hive.metastore.transactional.event.listeners</code> configuration parameter instead of <code>hive.metastore.event.listeners</code>	<p>Component Affected: HiveDR replication on Falcon</p> <p>Scenario: Although both parameters perform similar functions, <code>hive.metastore.transactional.event.listeners</code> provides better handling of failures for Falcon-Hive integration.</p> <p>Previous Behavior: If HiveDR was enabled on a cluster, then the setting <code>hive.metastore.event.listeners</code> had to be set with the value <code>org.apache.hive.hcatalog.listener.DbNotificationList</code></p> <p>New Behavior: If HiveDR is enabled, <code>DbNotificationListener</code> should belong to <code>hive.metastore.transactional.event.listeners</code>.</p> <p>Do the following in <code>hive-site.xml</code>:</p> <ol style="list-style-type: none"> Set <code>hive.metastore.transactional.event.listeners="org.</code> If set, remove <code>hive.metastore.event.listeners="org.apache.hive.hc</code>
BUG-91290	Hive, Ranger	N/A	Additional ranger hive policies required for INSERT OVERWRITE	<p>Scenario: Additional ranger hive policies required for INSERT OVERWRITE</p> <p>Previous behavior: Hive INSERT OVERWRITE queries succeed as usual.</p> <p>New behavior: Hive INSERT OVERWRITE queries are unexpectedly failing after upgrading to HDP-2.6.x with the error:</p> <p>Error while compiling statement: FAILED: HiveAccessControlException Permission denied: user jdoe does not have WRITE privilege on /tmp/*(state=42000,code=40000)</p> <p>As of HDP-2.6.0, Hive INSERT OVERWRITE queries require a Ranger URI policy to allow write operations, even if the user has write privilege granted through HDFS policy.</p> <p>Workaround/Expected Customer Action:</p> <ol style="list-style-type: none"> Create a new policy under the Hive repository. In the dropdown where you see Database, select URI. Update the path (Example: /tmp/*) Add the users and group and save. Retry the insert query.

1.7. Apache Patch Information

The following sections list patches in each HDP 2.6.1 component beyond what was fixed in the base version of the Apache component.

- [Hadoop \[9\]](#)
- [Accumulo \[67\]](#)
- [Atlas \[67\]](#)
- [DataFu \[70\]](#)
- [Falcon \[70\]](#)
- [Flume \[71\]](#)
- [HBase \[73\]](#)
- [Hive \[78\]](#)
- [Kafka \[96\]](#)
- [Knox \[96\]](#)
- [Mahout \[97\]](#)
- [Oozie \[97\]](#)
- [Phoenix \[103\]](#)
- [Pig \[108\]](#)
- [Ranger \[108\]](#)
- [Slider \[109\]](#)
- [Spark \[110\]](#)
- [Sqoop \[111\]](#)
- [Storm \[112\]](#)
- [Tez \[112\]](#)
- [Zeppelin \[115\]](#)
- [ZooKeeper \[116\]](#)

1.7.1. Hadoop

This release provides Hadoop Common 2.7.3 and the following Apache patches:

- [HADOOP-12173](#): NetworkTopology::add calls toString always.
- [HDFS-11499](#): Decommissioning stuck because of failing recovery.
- [HDFS-11545](#): Propagate DataNode's slow disks info to the NameNode via Heartbeat.
- [HDFS-11547](#): Add logs for slow BlockReceiver while writing data to disk.
- [HDFS-11551](#): Handle SlowDiskReport from DataNode at the NameNode. .
- [HDFS-11560](#): Expose slow disks via NameNode JMX.
- [HDFS-11570](#): Unit test for NameNodeStatusMXBean.
- [HDFS-11603](#): Improve slow mirror/disk warnings in BlockReceiver.
- [HDFS-11722](#): Change Datanode file IO profiling sampling to percentage.
- [HDFS-11842](#): TestDataNodeOutlierDetectionViaMetrics UT fails intermittently.
- [MAPREDUCE-6702](#): Fixed failures in TestMiniMRChildTask.testTaskEnv and TestMiniMRChildTask.testTaskOldEnv.
- [YARN-5368](#): Fixed a memory leak in Timeline server.

HDP 2.6.0 provided Hadoop Common 2.7.3 the following Apache patches:

- [HADOOP-1023](#): Add more logging in WASB page blob read function.
- [HADOOP-1026](#): Logging bug in WASB causing out of index exception.
- [HADOOP-1540](#): breaks backward compatibility.
- [HADOOP-1540](#): Support file exclusion list in distcp.
- [HADOOP-3733](#): "s3x:" URLs break when Secret Key contains a slash, even if encoded.
- [HADOOP-5323](#): Trash documentation should describe its directory structure and configurations.
- [HADOOP-5470](#): RunJar.unJar() should write the last modified time found in the jar entry to the uncompressed file.
- [HADOOP-7139](#): Allow appending to existing SequenceFiles
- [HADOOP-7256](#): Resource leak during failure scenario of closing of resources.
- [HADOOP-7713](#): dfs -count -q should label output column
- [HADOOP-7713](#): dfs -count -q should label output column .
- [HADOOP-7817](#): RawLocalFileSystem.append() should give FSDataOutputStream with accurate .getPos()

- [HADOOP-7930](#): Kerberos relogin interval in UserGroupInformation should be configurable
- [HADOOP-8151](#): Error handling in snappy decompressor throws invalid exceptions.
- [HADOOP-8436](#): NPE In getLocalPathForWrite
- [HADOOP-8437](#): getLocalPathForWrite should throw IOException for invalid paths.
- [HADOOP-8751](#): NPE in Token.toString() when Token is constructed using null identifier.
- [HADOOP-8818](#): Use equals instead == in MD5MD5CRC32FileChecksum and TFileDumper.
- [HADOOP-8934](#): Shell command ls should include sort options
- [HADOOP-9121](#): InodeTree.java has redundant check for vName while throwing exception.
- [HADOOP-9242](#): Duplicate surefire plugin config in hadoop-common.
- [HADOOP-9477](#): Add posixGroups support for LDAP groups mapping service.
- [HADOOP-10035](#): Cleanup TestFilterFileSystem.
- [HADOOP-10048](#): LocalDirAllocator should avoid holding locks while accessing the filesystem.
- [HADOOP-10300](#): Allowed deferred sending of call responses.
- [HADOOP-10365](#): BufferedOutputStream in FileUtil#unpackEntries() should be closed in finally block.
- [HADOOP-10406](#): TestIPC.testIpcWithReaderQueuing may fail.
- [HADOOP-10597](#): RPC Server signals backoff to clients when all request queues are full.
- [HADOOP-10597](#): RPC Server signals backoff to clients when all request queues are full.
- [HADOOP-1062](#): added hadoop-azure-datalake and azure-data-lake-store-sdk to all the wasb locations.
- [HADOOP-10775](#): Shell operations to fail with meaningful errors on windows if winutils.exe not found.
- [HADOOP-10823](#): TestReloadingX509TrustManager is flaky.
- [HADOOP-10965](#): Print fully qualified path in CommandWithDestination error messages.
- [HADOOP-10971](#): Add -C flag to make `hadoop fs -ls` print filenames only.
- [HADOOP-11031](#): Design Document for Credential Provider API.
- [HADOOP-11098](#): [JDK8] Max Non Heap Memory default changed between JDK7 and 8.

- [HADOOP-11212](#): NetUtils.wrapException to handle SocketException explicitly.
- [HADOOP-11218](#): Add TLSv1.1,TLSv1.2 to KMS, HttpFS, SSLFactory.
- [HADOOP-11252](#): RPC client does not time out by default
- [HADOOP-11262](#): Enable YARN to use S3A.
- [HADOOP-11361](#): Fix a race condition in MetricsSourceAdapter.updateJmxCache.
- [HADOOP-11404](#): Clarify the "expected client Kerberos principal is null" authorization message.
- [HADOOP-11491](#): HarFs incorrectly declared as requiring an authority.
- [HADOOP-11581](#): Multithreaded correctness Warnings #org.apache.hadoop.fs.shell.Ls
- [HADOOP-11613](#): Remove commons-httpclient dependency from hadoop-azure.
- [HADOOP-11628](#): SPNEGO auth does not work with CNAMEs in JDK8.
- [HADOOP-11685](#): StorageException complaining "no lease ID" during HBase distributed log splitting.
- [HADOOP-11687](#): Ignore x-* and response headers when copying an Amazon S3 object.
- [HADOOP-11692](#): Improve authentication failure WARN message to avoid user confusion.
- [HADOOP-11713](#): ViewFileSystem should support snapshot methods.
- [HADOOP-11717](#): Add Redirecting WebSSO behavior with JWT Token in Hadoop Auth
- [HADOOP-11772](#): RPC Invoker relies on static ClientCache which has synchronized(this) blocks.
- [HADOOP-11780](#): Prevent IPC reader thread death.
- [HADOOP-11785](#): Reduce the number of listStatus operation in distcp buildListing
- [HADOOP-11802](#): DomainSocketWatcher thread terminates sometimes after there is an I/O error during requestShortCircuitShm
- [HADOOP-11812](#): Implement listLocatedStatus for ViewFileSystem to speed up split calculation
- [HADOOP-11827](#): Speed-up distcp buildListing() using threadpool
- [HADOOP-11859](#): PseudoAuthenticationHandler fails with httpcomponents v4.4.
- [HADOOP-11864](#): JWTRedirectAuthenticationHandler breaks java8 javadocs.
- [HADOOP-11876](#): Refactor code to make it more readable, minor maybePrintStats bug
- [HADOOP-11901](#): BytesWritable fails to support 2G chunks due to integer overflow.

- [HADOOP-11918](#): Listing an empty s3a root directory throws FileNotFoundException.
- [HADOOP-11924](#): Tolerate JDK-8047340-related exceptions in Shell#isSetSidAvailable preventing class init.
- [HADOOP-11932](#): MetricsSinkAdapter may hang when being stopped.
- [HADOOP-11960](#): Enable Azure-Storage Client Side logging.
- [HADOOP-12001](#): Fixed LdapGroupsMapping to include configurable Posix UID and GID attributes during the search.
- [HADOOP-12006](#): Remove unimplemented option for from document in branch-2.7.
- [HADOOP-12009](#): Clarify FileSystem.listStatus() sorting order & fix FileSystemContractBaseTest:testListStatus. backport to 2.8.
- [HADOOP-12017](#): Hadoop archives command should use configurable replication factor when closing
- [HADOOP-12043](#): Display warning if defaultFs is not set when running fs commands.
- [HADOOP-12045](#): Enable LocalFileSystem#setTimes to change atime.
- [HADOOP-12049](#): Control http authentication cookie persistence via configuration.
- [HADOOP-12052](#): IPC client downgrades all exception types to IOE, breaks callers trying to use them.
- [HADOOP-12054](#): RPC client should not retry for InvalidToken exceptions.
- [HADOOP-12056](#): Use DirectoryStream in DiskChecker#checkDirs to detect errors when listing a directory.
- [HADOOP-12058](#): Fix dead links to DistCp and Hadoop Archives pages.
- [HADOOP-12059](#): S3Credentials should support use of CredentialProvider.
- [HADOOP-12061](#): Incorrect command in single cluster setup document.
- [HADOOP-12073](#): Azure FileSystem PageBlobInputStream does not return -1 on EOF.
- [HADOOP-12074](#): in Shell.java#runCommand() rethrow InterruptedException as InterruptedIOException
- [HADOOP-12076](#): Incomplete Cache Mechanism in CredentialProvider API.
- [HADOOP-12089](#): StorageException complaining " no lease ID" when updating FolderLastModifiedTime in WASB.
- [HADOOP-12095](#): org.apache.hadoop.fs.shell.TestCount fails.
- [HADOOP-12097](#): Allow port range to be specified while starting webapp.

- [HADOOP-12100](#): ImmutableFsPermission should not override applyUmask since that method doesn't modify the FsPermission.
- [HADOOP-12103](#): Small refactoring of DelegationTokenAuthenticationFilter to allow code sharing.
- [HADOOP-12107](#): long running apps may have a huge number of StatisticsData instances under FileSystem
- [HADOOP-12119](#): hadoop fs -expunge does not work for federated namespace
- [HADOOP-12158](#): Improve error message in TestCryptoStreamsWithOpensslAesCtrCryptoCodec when OpenSSL is not installed.
- [HADOOP-12159](#): Move DistCpUtils#compareFs() to org.apache.hadoop.fs.FileUtil and fix for HA namespaces
- [HADOOP-12161](#): Add getStoragePolicy API to the FileSystem interface
- [HADOOP-12169](#): ListStatus on empty dir in S3A lists itself instead of returning an empty list. author: Pieter Reuse.
- [HADOOP-12185](#): NetworkTopology is not efficient adding/getting/removing nodes.
- [HADOOP-12186](#): ActiveStandbyElector shouldn't call monitorLockNodeAsync multiple times
- [HADOOP-12189](#): Improve CallQueueManager#swapQueue to make queue elements drop nearly impossible.
- [HADOOP-12191](#): Bzip2Factory is not thread safe.
- [HADOOP-12213](#): Interrupted exception can occur when Client#stop is called.
- [HADOOP-12229](#): Fix inconsistent subsection titles in filesystem.md.
- [HADOOP-12230](#): hadoop-project declares duplicate, conflicting curator dependencies.
- [HADOOP-12232](#): Upgrade Tomcat dependency to 6.0.44.
- [HADOOP-12239](#): StorageException complaining " no lease ID" when updating FolderLastModifiedTime in WASB.
- [HADOOP-12242](#): Add in-page TOC to filesystem specification pages.
- [HADOOP-12252](#): LocalDirAllocator should not throw NPE with empty string configuration.
- [HADOOP-12258](#): Need translate java.nio.file.NoSuchFileException to FileNotFoundException to avoid regression.
- [HADOOP-12259](#): Utility to Dynamic port allocation

- [HADOOP-12269](#): Update aws-sdk dependency to 1.10.6
- [HADOOP-12280](#): Skip unit tests based on maven profile rather than NativeCodeLoader.isNativeCodeLoaded
- [HADOOP-12284](#): UserGroupInformation doAs can throw misleading exception
- [HADOOP-12291](#): Add support for nested groups in LdapGroupsMapping.
- [HADOOP-12292](#): Make use of DeleteObjects optional.
- [HADOOP-12296](#): when setnetgrent returns 0 in linux, exception should be thrown.
- [HADOOP-12304](#): Applications using FileContext fail with the default file system configured to be wasb/s3/etc.
- [HADOOP-12317](#): Applications fail on NM restart on some linux distro because NM container recovery declares AM container as LOST
- [HADOOP-12324](#): Better exception reporting in SaslPlainServer.
- [HADOOP-12325](#): RPC Metrics : Add the ability track and log slow RPCs.
- [HADOOP-12334](#): Change Mode Of Copy Operation of HBase WAL Archiving to bypass Azure Storage Throttling after retries.
- [HADOOP-12345](#): Pad hostname correctly in CredentialsSys.java.
- [HADOOP-12346](#): Increase some default timeouts / retries for S3a connector.
- [HADOOP-12348](#): MetricsSystemImpl creates MetricsSourceAdapter with wrong time unit parameter.
- [HADOOP-12350](#): WASB Logging: Improve WASB Logging around deletes, reads and writes.
- [HADOOP-12358](#): Add -safely flag to rm to prompt when deleting many files.
- [HADOOP-12359](#): hadoop fs -getmerge doc is wrong.
- [HADOOP-12366](#): expose calculated paths.
- [HADOOP-12374](#): Description of hdfs expunge command is confusing.
- [HADOOP-12386](#): RetryPolicies.RETRY_FOREVER should be able to specify a retry interval.
- [HADOOP-12404](#): Disable caching for JarURLConnection to avoid sharing JarFile with other users when loading resource from URL in Configuration class.
- [HADOOP-12406](#): Fixed AbstractMapWritable.readFields to use the thread's ClassLoader to load class instead of System ClassLoader.
- [HADOOP-12407](#): Test failing: hadoop.ipc.TestSaslRPC.

- [HADOOP-12413](#): AccessControlList should avoid calling getGroupNames in isUserInList with empty groups.
- [HADOOP-12415](#): Add io.netty dependency to hadoop-nfs and to hadoop-hdfs, needed to build Bigtop successfully, see BIGTOP-2049.
- [HADOOP-12416](#): Trash messages should be handled by Logger instead of being delivered on System.out.
- [HADOOP-12416](#): Trash messages should be handled by Logger instead of being delivered on System.out.
- [HADOOP-12423](#): Handle failure of registering shutdownhook by ShutdownHookManager in static block
- [HADOOP-12426](#): Add Entry point for Kerberos health check.
- [HADOOP-12437](#): Allow SecurityUtil to lookup alternate hostnames.
- [HADOOP-12438](#): TestLocalFileSystem tests can fail on Windows after HDFS-8767 fix for handling pipe.
- [HADOOP-12440](#): TestRPC#testRPCServerShutdown did not produce the desired thread states before shutting down.
- [HADOOP-12441](#): Fixed kill-command behavior to work correctly across OSES by using bash shell built-in.
- [HADOOP-12442](#): Display help if the command option to 'hdfs dfs' is not valid
- [HADOOP-12444](#): Support lazy seek in S3AInputStream. Rajesh Balamohan via stevel.
- [HADOOP-12449](#): TestDNS and TestNetUtils failing if no network.
- [HADOOP-12453](#): Support decoding KMS Delegation Token with its own Identifier.
- [HADOOP-12457](#): [JDK8] Fix a failure of compiling common by javadoc.
- [HADOOP-12463](#): Fix TestShell.testGetSignalKillCommand failure on windows.
- [HADOOP-12464](#): Interrupted client may try to fail-over and retry.
- [HADOOP-12465](#): Incorrect javadoc in WritableUtils.java.
- [HADOOP-12469](#): distcp should not ignore the ignoreFailures option.
- [HADOOP-12472](#): Make GenericTestUtils.assertExceptionContains robust.
- [HADOOP-12478](#): Shell.getWinUtilsPath() has been renamed Shell.getWinutilsPath().
- [HADOOP-12481](#): JWTRedirectAuthenticationHandler doesn't Retain Original Query String.

- [HADOOP-12482](#): Race condition in JMX cache update.
- [HADOOP-12483](#): Maintain wrapped SASL ordering for postponed IPC responses.
- [HADOOP-12484](#): Single File Rename Throws Incorrectly In Potential Race Condition Scenarios.
- [HADOOP-12508](#): delete fails with exception when lease is held on blob.
- [HADOOP-12520](#): Use XInclude in hadoop-azure test configuration to isolate Azure Storage account keys for service integration tests.
- [HADOOP-12526](#): there are duplicate dependency definitions in pom's
- [HADOOP-12533](#): Introduce FileNotFoundException in WASB for read and seek API.
- [HADOOP-12535](#): Run FileSystem contract tests with hadoop-azure.
- [HADOOP-12537](#): S3A to support Amazon STS temporary credentials.
- [HADOOP-12540](#): TestAzureFileSystemInstrumentation#testClientErrorMetrics fails intermittently due to assumption that a lease error will be thrown.
- [HADOOP-12542](#): TestDNS fails on Windows after HADOOP-12437.
- [HADOOP-12545](#): Hadoop javadoc has broken links for AccessControllist, ImpersonationProvider, DefaultImpersonationProvider, and DistCp.
- [HADOOP-12548](#): Read s3a creds from a Credential Provider.
- [HADOOP-12551](#): Introduce FileNotFoundException for WASB FileSystem API
- [HADOOP-12555](#): WASB to read credentials from a credential provider.
- [HADOOP-12559](#): KMS connection failures should trigger TGT renewal.
- [HADOOP-12564](#): Upgrade JUnit3 TestCase to JUnit 4 in org.apache.hadoop.io package.
- [HADOOP-12565](#): Replace DSA with RSA for SSH key type in SingleCluster.md.
- [HADOOP-12568](#): Update core-default.xml to describe posixGroups support.
- [HADOOP-12570](#): HDFS Secure Mode Documentation updates.
- [HADOOP-12573](#): TestRPC.testClientBackOff failing.
- [HADOOP-12577](#): Bump up commons-collections version to 3.2.2 to address a security flaw.
- [HADOOP-12588](#): Fix intermittent test failure of TestGangliaMetrics.
- [HADOOP-12589](#): Fix intermittent test failure of TestCopyPreserveFlag

- [HADOOP-12590](#): TestCompressorDecompressor failing without stack traces
- [HADOOP-12602](#): TestMetricsSystemImpl#testQSize occasionally fails.
- [HADOOP-12603](#): TestSymlinkLocalFSFileContext#testSetTimesSymlinkToDir occasionally fail.
- [HADOOP-12604](#): Exception may be swallowed in KMSClientProvider.
- [HADOOP-12605](#): Fix intermittent failure of TestIPC.testIpcWithReaderQueuingi.
- [HADOOP-12608](#): Fix exception message in WASB when connecting with anonymous credential.
- [HADOOP-12609](#): Fix intermittent failure of TestDecayRpcScheduler.
- [HADOOP-12613](#): TestFind.processArguments occasionally fails.
- [HADOOP-12622](#): Improve the loggings in RetryPolicies and RetryInvocationHandler.
- [HADOOP-12634](#): Change Lazy Rename Pending Operation Completion of WASB to address case of potential data loss due to partial copy.
- [HADOOP-12635](#): Adding Append API support for WASB.
- [HADOOP-12636](#): Prevent ServiceLoader failure init for unused FileSystems.
- [HADOOP-12653](#): Use SO_REUSEADDR to avoid getting "Address already in use" when using kerberos and attempting to bind to any port on the local IP address.
- [HADOOP-12659](#): Incorrect usage of config parameters in token manager of KMS.
- [HADOOP-12663](#): Remove Hard-Coded Values From FileSystem.java.
- [HADOOP-12666](#): Support Microsoft Azure Data Lake - as a file system in Hadoop.
- [HADOOP-12667](#):s3a to support createNonRecursive API.
- [HADOOP-12668](#): Support excluding weak Ciphers in HttpServer2 through ssl- server.conf.
- [HADOOP-12672](#): RPC timeout should not override IPC ping interval
- [HADOOP-12675](#): Fix description about retention period in usage of expunge command.
- [HADOOP-12678](#): Handle empty rename pending metadata file during atomic rename in redo path.
- [HADOOP-12682](#): Fix TestKMS#testKMSRestart* failure.
- [HADOOP-12688](#): Fix deadlinks in Compatibility.md.
- [HADOOP-12689](#): S3 filesystem operations stopped working correctly

- [HADOOP-12691](#): Add CSRF Filter for REST APIs to Hadoop Common.
- [HADOOP-12691](#): Move files to correct location.
- [HADOOP-12696](#): Add tests for S3Filesystem Contract
- [HADOOP-12699](#): TestKMS#testKMSProvider intermittently fails during 'test rollover draining'.
- [HADOOP-12700](#): Remove unused import in TestCompressorDecompressor.java.
- [HADOOP-12706](#): TestLocalFsFCStatistics#testStatisticsThreadLocalDataCleanUp times out occasionally.
- [HADOOP-12711](#): Remove dependency on commons-httpclient for ServletUtil
- [HADOOP-12715](#): TestValueQueue#testgetAtMostPolicyALL fails intermittently.
- [HADOOP-12716](#): KerberosAuthenticator#doSpnegoSequence use incorrect class to determine isKeyTab in JDK8.
- [HADOOP-12717](#): NPE when trying to rename a directory in Windows Azure Storage FileSystem.
- [HADOOP-12723](#):S3A: Add ability to plug in any AWSCredentialsProvider.
- [HADOOP-12731](#): Remove useless boxing/unboxing code.
- [HADOOP-12736](#): TestTimedOutTestsListener#testThreadDumpAndDeadlocks sometimes times out.
- [HADOOP-12738](#): Create unit test to automatically compare Common related classes and core-default.xml.
- [HADOOP-12751](#): While using kerberos Hadoop incorrectly assumes names with '@' to be non-simple.
- [HADOOP-12752](#): Improve diagnostics/use of envvar/sysprop credential propagation.
- [HADOOP-12758](#): Extend CSRF Filter with UserAgent Checks.
- [HADOOP-12761](#): incremental maven build is not really incremental
- [HADOOP-12765](#): HttpServer2 should switch to using the non-blocking SslSelectChannelConnector to prevent performance degradation when handling SSL connections.
- [HADOOP-12767](#): Update apache httpclient version to 4.5.2; httpcore to 4.4.4.
- [HADOOP-12772](#): NetworkTopologyWithNodeGroup.getNodeGroup() can loop infinitely for invalid 'loc' values.
- [HADOOP-12773](#): HBase classes fail to load with client/job classloader enabled

- [HADOOP-12774](#): s3a should use `UGI.getCurrentUser.getShortname()` for username.
- [HADOOP-12776](#): Remove `getaclstatus` call for non-acl commands in `getfacl`.
- [HADOOP-12780](#): During WASB atomic rename handle crash when one directory has been renamed but not file under it.
- [HADOOP-12782](#): Faster LDAP group name resolution with ActiveDirectory.
- [HADOOP-12786](#): "hadoop key" command usage is not documented.
- [HADOOP-12787](#): KMS SPNEGO sequence does not work with WEBHDFS.
- [HADOOP-12788](#): `OpensslAesCtrCryptoCodec` should log which random number generator is used.
- [HADOOP-12789](#): log classpath of `ApplicationClassLoader` at INFO level.
- [HADOOP-12792](#): `TestUserGroupInformation#testGetServerSideGroups` fails in chroot.
- [HADOOP-12793](#): Write a new group mapping service guide
- [HADOOP-12794](#): Support additional compression levels for `GzipCodec`.
- [HADOOP-12795](#): KMS does not log detailed stack trace for unexpected errors.
- [HADOOP-12800](#): Copy docker directory from 2.8 to 2.7/2.6 repos to enable pre-commit Jenkins runs.
- [HADOOP-12801](#): Suppress obsolete `S3FileSystem` tests.
- [HADOOP-12804](#): Read Proxy Password from Credential Providers in `S3 FileSystem`.
- [HADOOP-12805](#): Annotate `CanUnbuffer` with `@InterfaceAudience.Public`
- [HADOOP-12807](#): `S3AFileSystem` should read AWS credentials from environment variables.
- [HADOOP-12810](#): `FileSystem#listLocatedStatus` causes unnecessary RPC calls
- [HADOOP-12817](#): Enable TLS v1.1 and 1.2
- [HADOOP-12825](#): Log slow name resolutions.
- [HADOOP-12828](#): Print user when services are started.
- [HADOOP-12829](#): `StatisticsDataReferenceCleaner` swallows interrupt exceptions
- [HADOOP-12831](#): `LocalFS/FSOutputSummer` NPEs in constructor if bytes per checksum set to 0
- [HADOOP-12844](#): Recover when S3A fails on `IOException` in `read()`.
- [HADOOP-12846](#): Credential Provider Recursive Dependencies.

- [HADOOP-12847](#): hadoop daemonlog should support https and SPNEGO for Kerberized cluster.
- [HADOOP-12849](#): TestSymlinkLocalFileSystem fails intermittently.
- [HADOOP-12851](#): S3FileSystem Uptake of ProviderUtils.excludeIncompatibleCredentialProviders.
- [HADOOP-12853](#): Change WASB documentation regarding page blob support.
- [HADOOP-12870](#): Fix typo administration in CommandsManual.md.
- [HADOOP-12871](#): Fix dead link to NativeLibraries.html in CommandsManual.md.
- [HADOOP-12872](#): Fix formatting in ServiceLevelAuth.md.
- [HADOOP-12875](#): [Azure Data Lake] Support for contract test and unit test cases.
- [HADOOP-12878](#): KMS SPNEGO sequence does not work with WEBHDFS.
- [HADOOP-12886](#): Exclude weak ciphers in SSLFactory through ssl-server.xml.
- [HADOOP-12891](#): S3FileSystem should configure Multipart Copy threshold and chunk size.
- [HADOOP-12893](#): Update LICENSE.txt and NOTICE.txt.
- [HADOOP-12893](#): Update LICENSE.txt and NOTICE.txt.
- [HADOOP-12893](#): Update LICENSE.txt and NOTICE.txt".
- [HADOOP-12895](#): SSLFactory#createSSLSocketFactory exception message is wrong.
- [HADOOP-12901](#): Add warning log when KMSClientProvider cannot create a connection to the KMS server.
- [HADOOP-12902](#): JavaDocs for SignerSecretProvider are out-of-date in AuthenticationFilter.
- [HADOOP-12903](#): IPC Server should allow suppressing exception logging by type,.
- [HADOOP-12903](#): IPC Server should allow suppressing exception logging by type, not log 'server too busy' messages.
- [HADOOP-12906](#): AuthenticatedURL should convert a 404/Not Found into an FileNotFoundException.
- [HADOOP-12916](#): Allow RPC scheduler/callqueue backoff using response times.
- [HADOOP-12926](#): lz4.c does not detect 64-bit mode properly.
- [HADOOP-12929](#): JWTRedirectAuthenticationHandler must accommodate null expiration time.

- [HADOOP-12943](#): Add -w -r options in dfs -test command.
- [HADOOP-12947](#): Update documentation Hadoop Groups Mapping to add static group mapping, negative cache.
- [HADOOP-12950](#): ShutdownHookManager should have a timeout for each of the Registered shutdown hook.
- [HADOOP-12954](#): Add a way to change hadoop.security.token.service.use_ip
- [HADOOP-12958](#): PhantomReference for filesystem statistics can trigger OOM.
- [HADOOP-12962](#): KMS key names are incorrectly encoded when creating key.
- [HADOOP-12963](#): Allow using path style addressing for accessing the s3 endpoint.
- [HADOOP-12964](#): Http server vulnerable to clickjacking.
- [HADOOP-12973](#): Make DU pluggable.
- [HADOOP-12975](#): Add jitter to CachingGetSpaceUsed's thread
- [HADOOP-12977](#): s3a to handle delete("/", true) robustly.
- [HADOOP-12982](#): Document missing S3A and S3 properties.
- [HADOOP-12984](#): Add GenericTestUtils.getTestDir method and use it for temporary directory in tests.
- [HADOOP-12985](#): Support MetricsSource interface for DecayRpcScheduler Metrics.
- [HADOOP-12989](#): Some tests in org.apache.hadoop.fs.shell.find occasionally time out.
- [HADOOP-12993](#): Change ShutdownHookManger complete shutdown log from INFO to DEBUG.
- [HADOOP-12994](#): Specify PositionedReadable, add contract tests, fix problems.
- [HADOOP-13008](#): Add XFS Filter for UIs to Hadoop Common.
- [HADOOP-13011](#): Clearly Document the Password Details for Keystore-based Credential Providers
- [HADOOP-13018](#): Make Kdiag check whether hadoop.token.files points to existent and valid files.
- [HADOOP-13024](#): Distcp with -delete feature on raw data not implemented.
- [HADOOP-13026](#): Should not wrap IOExceptions into a AuthenticationException in KerberosAuthenticator.
- [HADOOP-13028](#): add low level counter metrics for S3A; use in read performance tests.

- [HADOOP-13030](#): Handle special characters in passwords in KMS startup script.
- [HADOOP-13037](#): Refactor Azure Data Lake Store as an independent FileSystem.
- [HADOOP-13039](#): Add documentation for configuration property `ipc.maximum.data.length`
- [HADOOP-13042](#): Restore lost leveldbjni LICENSE and NOTICE changes.
- [HADOOP-13047](#):S3a Forward seek in stream length to be configurable.
- [HADOOP-13052](#): ChecksumFileSystem mishandles crc file permissions.
- [HADOOP-13058](#):S3A FS fails during init against a read-only FS if multipart purge.
- [HADOOP-13065](#): Add a new interface for retrieving FS and FC Statistics
- [HADOOP-13072](#): WindowsGetSpaceUsed constructor should be public
- [HADOOP-13079](#): Add -q option to Ls to print ? instead of non-printable characters.
- [HADOOP-13084](#): Fix ASF License warnings in branch-2.7.
- [HADOOP-13098](#): Dynamic LogLevel setting page should accept case-insensitive log level string.
- [HADOOP-13103](#): Group resolution from LDAP may fail on `javax.naming.ServiceUnavailableException`.
- [HADOOP-13105](#): Support timeouts in LDAP queries in `LdapGroupsMapping`.
- [HADOOP-13113](#):Enable parallel test execution for `hadoop-aws`. Chris Nauroth via stevel.
- [HADOOP-13116](#):`Jets3tNativeS3FileSystemContractTest` does not run.
- [HADOOP-13122](#):Customize User-Agent header sent in HTTP requests by S3A. Chris Nauroth via stevel.
- [HADOOP-13130](#): s3a failures can surface as RTEs, not IOEs.
- [HADOOP-13131](#): Add tests to verify that S3A supports SSE-S3 encryption.
- [HADOOP-13138](#): Unable to append to a `SequenceFile` with `Compression.NONE`.
- [HADOOP-13139:Branch-2](#): S3a to use thread pool that blocks clients.
- [HADOOP-13140](#): `FileSystem#initialize` must not attempt to create `StorageStatistics` objects with null or empty schemes.
- [HADOOP-13145](#):In `DistCp`, prevent unnecessary `getFileStatus` call when not preserving metadata.
- [HADOOP-13146](#): Refactor `RetryInvocationHandler`.

- [HADOOP-13155](#): Implement TokenRenewer to renew and cancel delegation tokens in KMS.
- [HADOOP-13158](#):S3AFileSystem#toString might throw NullPointerException due to null cannedACL.
- [HADOOP-13159](#): Fix potential NPE in Metrics2 source for DecayRpcScheduler.
- [HADOOP-13162](#): Consider reducing number of getFileStatus calls in S3AFileSystem.mkdirs.
- [HADOOP-13163](#):Reuse pre-computed filestatus in Distcp-CopyMapper
- [HADOOP-13164](#):Optimize S3AFileSystem::deleteUnnecessaryFakeDirectories.
- [HADOOP-13168](#): Support Future.get with timeout in ipc async calls
- [HADOOP-13169](#): Randomize file list in SimpleCopyListing.
- [HADOOP-13171](#): Add StorageStatistics to S3A; instrument some more operations.
- [HADOOP-13179](#): GenericOptionsParser is not thread-safe because commons-cli OptionBuilder is not thread-safe.
- [HADOOP-13183](#): S3A proxy tests fail after httpclient/httpcore upgrade.
- [HADOOP-13188](#):S3A file-create should throw error rather than overwrite directories.
- [HADOOP-13192](#): org.apache.hadoop.util.LineReader cannot handle multibyte delimiters correctly.
- [HADOOP-13197](#): Add non-decayed call metrics for DecayRpcScheduler.
- [HADOOP-13202](#): Avoid possible overflow in org.apache.hadoop.util.bloom.BloomFilter#getNBytes.
- [HADOOP-13203](#): S3a: Consider reducing the number of connection aborts by setting correct length in s3 request.
- [HADOOP-13207](#): Specify FileSystem listStatus, listFiles and RemoteIterator.
- [HADOOP-13208](#): S3A listFiles(recursive=true) to do a bulk listObjects instead of walking the pseudo-tree of directories.
- [HADOOP-13212](#):Provide an option to set the socket buffers in S3AFileSystem
- [HADOOP-13213](#): Small Documentation bug with AuthenticatedURL in hadoop-auth.
- [HADOOP-13237](#): s3a initialization against public bucket fails if caller lacks any credentials.
- [HADOOP-13239](#):Deprecate s3:// in branch-2.
- [HADOOP-13241](#): document s3a better.

- [HADOOP-13242](#): Authenticate to Azure Data Lake using client ID and keys.
- [HADOOP-13244](#): `o.a.h.ipc.Server#Server` should honor `handlerCount` when `queueSizePerHandler` is specified in constructor.
- [HADOOP-13249](#): `RetryInvocationHandler` need wrap `InterruptedException` in `IOException` when call `Thread.sleep`.
- [HADOOP-13251](#): Authenticate with Kerberos credentials when renewing KMS delegation token.
- [HADOOP-13252](#): Tune S3A provider plugin mechanism.
- [HADOOP-13254](#): Create framework for configurable disk checkers
- [HADOOP-13255](#): `KMSClientProvider` should check and renew `tgt` when doing delegation token operations.
- [HADOOP-13257](#): Improve Azure Data Lake contract tests.
- [HADOOP-13263](#): Reload cached groups in background after expiry.
- [HADOOP-13270](#): `BZip2CompressionInputStream` finds the same compression marker twice in corner case, causing duplicate data blocks.
- [HADOOP-13280](#): `FileSystemStorageStatistics#getLong("readOps")` should return `readOps + largeReadOps`
- [HADOOP-13283](#): Support reset operation for new global storage statistics and per FS storage stats.
- [HADOOP-13285](#): `DecayRpcScheduler` `MXBean` should only report decayed `CallVolumeSummary`.
- [HADOOP-13287](#): `TestS3ACredentials#testInstantiateFromURL` fails if AWS secret key contains `+`.
- [HADOOP-13288](#): Guard null stats key in `FileSystemStorageStatistics`
- [HADOOP-13290](#): Appropriate use of generics in `FairCallQueue`.
- [HADOOP-13291](#): Probing stats in `DFSOpsCountStatistics/S3AStorageStatistics` should be correctly implemented.
- [HADOOP-13299](#): `JMXJsonServlet` is vulnerable to TRACE.
- [HADOOP-13305](#): Define common statistics names across schemes.
- [HADOOP-13309](#): Document S3A known limitations in file ownership and permission model.
- [HADOOP-13315](#): `FileContext#umask` is not initialized properly.

- [HADOOP-13316](#): Enforce Kerberos authentication for required ops in DelegationTokenAuthenticator.
- [HADOOP-13320](#): Fix arguments check in documentation for WordCount v2.0.
- [HADOOP-13323](#): Downgrade stack trace on FS load from Warn to debug.
- [HADOOP-13324](#): s3a tests don't authenticate with S3 frankfurt
- [HADOOP-13336](#):S3A to support per-bucket configuration.
- [HADOOP-13350](#): Additional fix to LICENSE and NOTICE.
- [HADOOP-13351](#): TestDFSClientSocketSize buffer size tests are flaky
- [HADOOP-13352](#): Make X-FRAME-OPTIONS configurable in HttpServer2.
- [HADOOP-13353](#): LdapGroupsMapping getPassword shouldn't return null when IOException throws.
- [HADOOP-13354](#): Update WASB driver to use the latest version
- [HADOOP-13368](#): DFSOpsCountStatistics\$OpType#fromSymbol and s3a.Statistic#fromSymbol should be O(1) operation.
- [HADOOP-13381](#): KMS clients should use KMS Delegation Tokens from current UGI.
- [HADOOP-13382](#): Remove unneeded commons-httpclient dependencies from POM files in Hadoop and sub-projects, while adding it in to the only place it is still needed, HADOOP-openstack.
- [HADOOP-13387](#):users always get told off for using S3 —even when not using it.
- [HADOOP-13389](#):TestS3ATemporaryCredentials.testSTS error when using IAM credentials.
- [HADOOP-13392](#): [Azure Data Lake] OAuth2 configuration should be default set to true when AdlFileSystem is configured.
- [HADOOP-13393](#): Omit unsupported fs.defaultFS setting in ADLS documentation.
- [HADOOP-13403](#): AzureNativeFileSystem rename/delete performance improvements.
- [HADOOP-13405](#):doc for fs.s3a.acl.default indicates incorrect values.
- [HADOOP-13406](#):S3AFileSystem: Consider reusing filestatus in delete() and mkdirs().
- [HADOOP-13422](#): ZKDelegationTokenSecretManager JaasConfig does not work well with other ZK users in process.
- [HADOOP-13433](#):Race in UGI.reloginFromKeytab.
- [HADOOP-13434](#): Add quoting to Shell class.

- [HADOOP-13443](#): KMS should check the type of underlying keyprovider of KeyProviderExtension before falling back to default.
- [HADOOP-13446](#): Support running isolated unit tests separate from AWS integration tests.
- [HADOOP-13447](#): Refactor S3AFileSystem to support introduction of separate metadata repository and tests.
- [HADOOP-13458](#): LoadBalancingKMSClientProvider#doOp should log IOException stacktrace.
- [HADOOP-13459](#): hadoop-azure runs several test cases repeatedly, causing unnecessarily long running time.
- [HADOOP-13461](#): NPE in KeyProvider.rollNewVersion.
- [HADOOP-13466](#): Add an AutoCloseableLock class.
- [HADOOP-13467](#): Shell#getSignalKillCommand should use the bash builtin on Linux.
- [HADOOP-13470](#): GenericTestUtils\$LogCapturer is flaky.
- [HADOOP-13494](#): ReconfigurableBase can log sensitive information.
- [HADOOP-13502](#): Split fs.contract.is-blobstore flag into more descriptive flags for use by contract tests.
- [HADOOP-13512](#): ReloadingX509TrustManager should keep reloading in case of exception.
- [HADOOP-13513](#): Java 1.7 support for org.apache.hadoop.fs.azure testcases.
- [HADOOP-13535](#): Add jetty6 acceptor startup issue workaround to branch-2.
- [HADOOP-13540](#):improve section on troubleshooting s3a auth problems.
- [HADOOP-13541](#):explicitly declare the Joda time version S3A depends on.
- [HADOOP-13546](#): Override equals and hashCode to avoid connection leakage
- [HADOOP-13552](#): RetryInvocationHandler logs all remote exceptions.
- [HADOOP-13552](#): RetryInvocationHandler logs all remote exceptions.
- [HADOOP-13558](#): UserGroupInformation created from a Subject incorrectly tries to renew the Kerberos ticket.
- [HADOOP-13560](#): S3ABlockOutputStream to support huge
- [HADOOP-13565](#): KerberosAuthenticationHandler#authenticate should not rebuild SPN based on client request.

- [HADOOP-13590](#): Retry until TGT expires even if the UGI renewal thread encountered exception.
- [HADOOP-13599](#): s3a close() to be non-synchronized, so avoid risk of deadlock on shutdown.
- [HADOOP-13614](#): Purge some superfluous/obsolete S3 FS tests that are slowing test runs down.
- [HADOOP-13638](#): KMS should set UGI's Configuration object properly.
- [HADOOP-13674](#): S3A can provide a more detailed error message when accessing a bucket through an incorrect S3 endpoint.
- [HADOOP-13675](#): Bug in return value for delete() calls in WASB.
- [HADOOP-13680](#): fs.s3a.readahead.range to use getLongBytes.
- [HADOOP-13686](#): Adding additional unit test for Trash
- [HADOOP-13692](#): hadoop-aws should declare explicit dependency on Jackson 2 jars to prevent classpath conflicts.
- [HADOOP-13707](#): If kerberos is enabled while HTTP SPNEGO is not configured, some links cannot be accessed.
- [HADOOP-13710](#): Suppress CachingGetSpaceUsed from logging interrupted exception stacktrace.
- [HADOOP-13716](#): Add LambdaTestUtils class for tests; fix eventual consistency problem in contract test setup.
- [HADOOP-13727](#): S3A: Reduce high number of connections to EC2 Instance Metadata Service caused by InstanceProfileCredentialsProvider.
- [HADOOP-13735](#): ITestS3AFileContextStatistics.testStatistics() failing.
- [HADOOP-13737](#): Cleanup DiskChecker interface.
- [HADOOP-13738](#): DiskChecker should perform some disk IO.
- [HADOOP-13742](#): Expose NumOpenConnectionsPerUser as a metric. Brahma Reddy Battula.
- [HADOOP-13749](#): KMSSClientProvider combined with KeyProviderCache can result in wrong UGI being used.
- [HADOOP-13782](#): Make MutableRates metrics thread-local write, aggregate-on-read.
- [HADOOP-13792](#): Stackoverflow for schemeless defaultFS with trailing slash.
- [HADOOP-13801](#): regression: ITestS3AMiniYarnCluster failing.

- [HADOOP-13804](#): MutableStat mean loses accuracy if add(long, long) is used.
- [HADOOP-13822](#): Use GlobalStorageStatistics.INSTANCE.reset() at FileSystem#clearStatistics(). Contribute by Brahma Reddy Battula .
- [HADOOP-13823](#): s3a rename: fail if dest file exists.
- [HADOOP-13824](#): FsShell can suppress the real error if no error message is present.
- [HADOOP-13826](#): S3A Deadlock in multipart copy due to thread pool limits.
- [HADOOP-13830](#):Intermittent failure of ITestS3NContractRootDir.testRecursiveRootListing "Can not create a Path from an empty string".
- [HADOOP-13831](#): Correct check for error code to detect Azure Storage Throttling and provide retries.
- [HADOOP-13838](#): KMSTokenRenewer should close providers
- [HADOOP-13847](#): KMSWebApp should close KeyProviderCryptoExtension.
- [HADOOP-13855](#): Fix a couple of the s3a statistic names to be consistent with the rest.
- [HADOOP-13857](#): S3AUtils.translateException to map
- [HADOOP-13863](#): Azure: Add a new SAS key mode for WASB.
- [HADOOP-13871](#): ITestS3AInputStreamPerformance.testTimeToOpenAndReadWholeFileBlocks performance awful.
- [HADOOP-13890](#): Maintain HTTP/host as SPNEGO SPN support and fix KerberosName parsing.
- [HADOOP-13930](#): Azure: Add Authorization support to WASB.
- [HADOOP-13945](#): Azure: Add Kerberos and Delegation token support to WASB client.
- [HADOOP-13956](#): Read ADLS credentials from Credential Provider.
- [HADOOP-13962](#): Update ADLS SDK to 2.1.4.
- [HADOOP-13988](#): KMSSClientProvider does not work with WebHDFS and Apache Knox w/ ProxyUser.
- [HADOOP-14017](#): User friendly name for ADLS user and group.
- [HADOOP-14019](#): Fix some typos in the s3a docs.
- [HADOOP-14028](#): S3A BlockOutputStreams doesn't delete temporary files in multipart uploads or handle part upload failures.
- [HADOOP-14029](#): Fix KMSSClientProvider for non-secure proxyuser use case.

- [HADOOP-14048](#): REDO operation of WASB#AtomicRename should create placeholder blob for destination folder.
- [HADOOP-14049](#): Honour AclBit flag associated to file/folder permission for Azure datalake account.
- [HADOOP-14055](#): SwiftRestClient includes pass length in exception if auth fails.
- [HADOOP-14081](#):S3A: Consider avoiding array copy in S3ABlockOutputStream
- [HADOOP-14091](#): AbstractFileSystem implementaion for 'wasbs' scheme. Contributed Varada Hemeswari.
- [HADOOP-14100](#): Upgrade Jsch jar to latest version to fix vulnerability in old versions.
- [HADOOP-14138](#):Remove S3A ref from META-INF service discovery, rely on existing core-default entry.
- [HADOOP-14150](#): Implement getHomeDirectory() method in NativeAzureFileSystem.
- [HADOOP-14214](#): DomainSocketWatcher::add()/delete() should not self interrupt while looping await().
- [HDFS-2043](#): TestHFlush failing intermittently.
- [HDFS-2580](#): NameNode#main(...) can make use of GenericOptionsParser.
- [HDFS-27](#): HDFS CLI with --config set to default config complains log file not found error.
- [HDFS-3677](#): dfs.namenode.edits.dir.required is missing from hdfs- default.xml.
- [HDFS-3918](#): EditLogTailer shouldn't log WARN when other node is in standby mode.
- [HDFS-4015](#): Safemode should count and report orphaned blocks.
- [HDFS-4176](#): EditLogTailer should call rollEdits with a timeout.
- [HDFS-4185](#): Add a metric for number of active leases
- [HDFS-4366](#): Block Replication Policy Implementation May Skip Higher-Priority Blocks for Lower-Priority Blocks.
- [HDFS-4396](#): Add START_MSG/SHUTDOWN_MSG for ZKFC
- [HDFS-4937](#): ReplicationMonitor can infinite-loop in BlockPlacementPolicyDefault#chooseRandom.
- [HDFS-4946](#): Allow preferLocalNode in BlockPlacementPolicyDefault to be configurable.
- [HDFS-5640](#): Add snapshot methods to FileContext.
- [HDFS-6054](#): MiniQJMHACluster should not use static port to avoid binding failure in unit test.

- [HDFS-6101](#): TestReplaceDatanodeOnFailure fails occasionally.
- [HDFS-6184](#): Capture NN's thread dump when it fails over.
- [HDFS-6407](#): Add sorting and pagination in the datanode tab of the NN Web UI.
- [HDFS-6481](#): DatanodeManager#getDatanodeStorageInfos() should check the length of storageIDs.
- [HDFS-6533](#): TestBPOfferService#testBasicFunctionalitytest fails intermittently.
- [HDFS-6581](#): Support for writing to single replica in RAM. Applied HDFS-6581.merge.15.patch to Champlain. This is a consolidated patch containing all feature changes and was applied to trunk.
- [HDFS-6666](#): Abort NameNode and DataNode startup if security is enabled but block access token is not enabled.
- [HDFS-6763](#): Initialize file system-wide quota once on transitioning to active
- [HDFS-6832](#): Fix the usage of 'hdfs namenode' command.
- [HDFS-6860](#): BlockStateChange logs are too noisy.
- [HDFS-6945](#): BlockManager should remove a block from excessReplicateMap and decrement ExcessBlocks metric when the block is removed.
- [HDFS-7163](#): WebHdfsFileSystem should retry reads according to the configured retry policy.
- [HDFS-7166](#): SbNN Web UI shows #Under replicated blocks and #pending deletion blocks.
- [HDFS-7284](#): Add more debug info to BlockInfoUnderConstruction#setGenerationStampAndVerifyReplicas.
- [HDFS-7314](#): When the DFSCient lease cannot be renewed, abort open-for- write files rather than the entire DFSCient.
- [HDFS-7390](#): Provide JMX metrics per storage type.
- [HDFS-7452](#): skip StandbyException log for getCorruptFiles()
- [HDFS-7483](#): Display information per tier on the Namenode UI.
- [HDFS-7597](#): DelegationTokenIdentifier should cache the TokenIdentifier to UGI mapping.
- [HDFS-7608](#): hdfs dfsclient newConnectedPeer has no write timeout
- [HDFS-7609](#): Avoid retry cache collision when Standby NameNode loading edits.
- [HDFS-7645](#): Rolling upgrade is restoring blocks from trash multiple times
- [HDFS-7701](#): Support reporting per storage type quota and usage with hadoop/hdfs shell.

- [HDFS-7725](#): Incorrect "nodes in service" metrics caused all writes to fail.
- [HDFS-7758](#): Retire FsDatasetSpi#getVolumes() and use FsDatasetSpi#getVolumeRefs() instead
- [HDFS-7890](#): Improve information on Top users for metrics in RollingWindowsManager and lower log level.
- [HDFS-7923](#): The DataNodes should rate-limit their full block reports by asking the NN on heartbeat messages
- [HDFS-7928](#): Scanning blocks from disk during rolling upgrade startup takes a lot of time if disks are busy.
- [HDFS-7933](#): fsck should also report decommissioning replicas.
- [HDFS-7964](#): Add support for async edit logging.
- [HDFS-7978](#): Add LOG.isDebugEnabled() guard for some LOG.debug(..).
- [HDFS-7990](#): IBR delete ack should not be delayed.
- [HDFS-8008](#): Support client-side back off when the datanodes are congested.
- [HDFS-8008](#): Support client-side back off when the datanodes are congested.
- [HDFS-8009](#): Signal congestion on the DataNode.
- [HDFS-8009](#): Signal congestion on the DataNode.
- [HDFS-8046](#): Allow better control of getContentSummary
- [HDFS-8055](#): NullPointerException when topology script is missing.
- [HDFS-8071](#): (Contributed by Tsz Wo Nicholas Sze).
- [HDFS-8099](#): Change "DFSInputStream has been closed already" message to debug log level.
- [HDFS-8101](#): DFSClient use of non-constant DFSConfigKeys pulls in WebHDFS classes at runtime.
- [HDFS-8113](#): Add check for null BlockCollection pointers in BlockInfoContiguous structures.
- [HDFS-8131](#): Implement a space balanced block placement policy.
- [HDFS-8144](#): Split TestLazyPersistFiles into multiple tests.
- [HDFS-8152](#): Refactoring of lazy persist storage cases.
- [HDFS-8155](#): Support OAuth2 in WebHDFS.

- [HDFS-8180](#): AbstractFileSystem Implementation for WebHdfs.
- [HDFS-8205](#): CommandFormat#parse() should not parse option as value of option.
- [HDFS-8209](#): Support different number of datanode directories in MiniDFSCluster.
- [HDFS-8211](#): DataNode UUID is always null in the JMX counter.
- [HDFS-8219](#): setStoragePolicy with folder behavior is different after cluster restart.
- [HDFS-8224](#): Schedule a block for scanning if its metadata file is corrupt.
- [HDFS-8229](#): LAZY_PERSIST file gets deleted after NameNode restart.
- [HDFS-8232](#): Missing datanode counters when using Metrics2 sink interface.
- [HDFS-8247](#): TestDiskSpaceQuotaUpdate#testAppendOverTypeQuota is failing.
- [HDFS-8276](#): LazyPersistFileScrubber should be disabled if scrubber interval configured zero.
- [HDFS-8278](#): When computing max-size-to-move in Balancer, count only the storage with remaining \geq default block size.
- [HDFS-8309](#): Skip unit test using DataNodeTestUtils#injectDataDirFailure() on Windows.
- [HDFS-8310](#): Fix TestCLI.testAll "help: help for find" on Windows.
- [HDFS-8311](#): DataStreamer.transfer() should timeout the socket InputStream.
- [HDFS-8337](#): Accessing httpfs via webhdfs doesn't work from a jar with kerberos.
- [HDFS-8345](#): Storage policy APIs must be exposed via the FileSystem interface.
- [HDFS-8384](#): Allow NN to startup if there are files having a lease but are not under construction.
- [HDFS-8431](#): hdfs crypto class not found in Windows.
- [HDFS-8432](#): Introduce a minimum compatible layout version to allow downgrade in more rolling upgrade use cases.
- [HDFS-8435](#): Support CreateFlag in WebHDFS.
- [HDFS-8492](#): DN should notify NN when client requests a missing block
- [HDFS-8539](#): Hdfs doesnt have class 'debug' in windows.
- [HDFS-8542](#): WebHDFS getHomeDirectory behavior does not match specification.
- [HDFS-8546](#): Use try with resources in DataStorage and Storage.
- [HDFS-8548](#): Minicluster throws NPE on shutdown.

- [HDFS-8549](#): Abort the balancer if an upgrade is in progress.
- [HDFS-8554](#): TestDatanodeLayoutUpgrade fails on Windows.
- [HDFS-8573](#): Move creation of restartMeta file logic from BlockReceiver to ReplicaInPipeline.
- [HDFS-8578](#): On upgrade, Datanode should process all storage/data dirs in parallel.
- [HDFS-8581](#): ContentSummary on / skips further counts on yielding lock
- [HDFS-8593](#): Calculation of effective layout version mishandles comparison to current layout version in storage.
- [HDFS-8615](#): Correct HTTP method in WebHDFS document.
- [HDFS-8633](#): Fix setting of dfs.datanode.readahead.bytes in hdfs-default.xml to match DFSConfigKeys.
- [HDFS-8642](#): Make TestFileTruncate more reliable.
- [HDFS-8647](#): Abstract BlockManager's rack policy into BlockPlacementPolicy.
- [HDFS-8656](#): Preserve compatibility of ClientProtocol#rollingUpgrade after finalization.
- [HDFS-8659](#): Block scanner INFO message is spamming logs.
- [HDFS-8674](#): Improve performance of postponed block scans.
- [HDFS-8676](#): Delayed rolling upgrade finalization can cause heartbeat expiration.
- [HDFS-8696](#): Make the lower and higher watermark in the DN Netty server configurable.
- [HDFS-8709](#): Clarify automatic sync in FSEditLog#logEdit.
- [HDFS-8722](#): Optimize datanode writes for small writes and flushes.
- [HDFS-8729](#): Fix TestFileTruncate#testTruncateWithDataNodesRestartImmediately which occasionally failed.
- [HDFS-8767](#): RawLocalFileSystem.listStatus() returns null for UNIX pipefile.
- [HDFS-8772](#): Fix TestStandbyIsHot#testDatanodeRestarts which occasionally fails.
- [HDFS-8778](#): TestBlockReportRateLimiting#testLeaseExpiration can deadlock.
- [HDFS-8785](#): TestDistributedFileSystem is failing in trunk.
- [HDFS-8792](#): BlockManager#postponedMisreplicatedBlocks should use a LightWeightHashSet to save memory.
- [HDFS-8797](#): WebHdfsFileSystem creates too many connections for pread.

- [HDFS-8806](#): Inconsistent metrics: number of missing blocks with replication factor 1 not properly cleared
- [HDFS-8809](#): HDFS fsck reports under construction blocks as CORRUPT.
- [HDFS-8815](#): DFS getStoragePolicy implementation using single RPC call
- [HDFS-8816](#): Improve visualization for the Datanode tab in the NN UI.
- [HDFS-8818](#): Changes the global moveExecutor to per datanode executors and changes MAX_SIZE_TO_MOVE to be configurable.
- [HDFS-8824](#): Do not use small blocks for balancing the cluster.
- [HDFS-8826](#): In Balancer, add an option to specify the source node list so that balancer only selects blocks to move from those nodes.
- [HDFS-8828](#): Utilize Snapshot diff report to build diff copy list in distcp.
- [HDFS-8829](#): Make SO_RCVBUF and SO_SNDBUF size configurable for DataTransferProtocol sockets and allow configuring auto-tuning.
- [HDFS-8831](#): Trash Support for deletion in HDFS encryption zone.
- [HDFS-8844](#): TestHDFSCLI does not cleanup the test directory
- [HDFS-8845](#): DiskChecker should not traverse the entire tree
- [HDFS-8846](#): Add a unit test for INotify functionality across a layout version upgrade
- [HDFS-8850](#): VolumeScanner thread exits with exception if there is no block pool to be scanned but there are suspicious blocks.
- [HDFS-8852](#): HDFS architecture documentation of version 2.x is outdated about append write support.
- [HDFS-8855](#): Webhdfs client leaks active NameNode connections.
- [HDFS-8856](#): Make LeaseManager#countPath O(1).
- [HDFS-8859](#): Improve DataNode ReplicaMap memory footprint to save about 45%.
- [HDFS-8860](#): Remove unused Replica copyOnWrite code
- [HDFS-8863](#): The remaining space check in BlockPlacementPolicyDefault is flawed.
- [HDFS-8867](#): Enable optimized block reports.
- [HDFS-8879](#): Quota by storage type usage incorrectly initialized upon namenode restart.
- [HDFS-8880](#): NameNode metrics logging.
- [HDFS-8883](#): NameNode Metrics : Add FSNameSystem lock Queue Length.

- [HDFS-8884](#): Fail-fast check in BlockPlacementPolicyDefault#chooseTarget.
- [HDFS-8885](#): ByteRangeInputStream used in webhdfs does not override available().
- [HDFS-8887](#): Expose storage type and storage ID in BlockLocation.
- [HDFS-8891](#): HDFS concat should keep srcs order.
- [HDFS-8896](#): DataNode object isn't GCed when shutdown, because it has GC root in ShutdownHookManager.
- [HDFS-8898](#): Create API and command-line argument to get quota and quota usage without detailed content summary.
- [HDFS-8911](#): NameNode Metric : Add Editlog counters as a JMX metric.
- [HDFS-8914](#): Document HA support in the HDFS HdfsDesign.md.
- [HDFS-8923](#): Add -source flag to balancer usage message.
- [HDFS-8930](#): Block report lease may leak if the 2nd full block report comes when NN is still in safemode
- [HDFS-8932](#): NPE thrown in NameNode when try to get TotalSyncCount metric before editLogStream initialization.
- [HDFS-8939](#): Test(S)WebHdfsFileContextMainOperations failing on branch-2.
- [HDFS-8946](#): Improve choosing datanode storage for block placement.
- [HDFS-8950](#): NameNode refresh doesn't remove DataNodes that are no longer in the allowed list.
- [HDFS-8964](#): When validating the edit log, do not read at or beyond the file offset that is being written
- [HDFS-8965](#): Harden edit log reading code against out of memory errors
- [HDFS-8969](#): Clean up findbugs warnings for HDFS-8823 and HDFS-8932.
- [HDFS-8969](#): Clean up findbugs warnings for HDFS-8823 and HDFS-8932.
- [HDFS-8983](#): NameNode support for protected directories.
- [HDFS-8983](#): NameNode support for protected directories.
- [HDFS-8995](#): Flaw in registration bookkeeping can make DN die on reconnect.
- [HDFS-9008](#): Balancer#Parameters class could use a builder pattern.
- [HDFS-9008](#):was not backported correctly.
- [HDFS-9009](#): Send metrics logs to NullAppender by default.

- [HDFS-9019](#): Adding informative message to sticky bit permission denied exception.
- [HDFS-9033](#): dfsadmin -metasave prints "NaN" for cache used%.
- [HDFS-9038](#): DFS reserved space is erroneously counted towards non-DFS used.
- [HDFS-9042](#): Update document for the Storage policy name
- [HDFS-9043](#): Doc updation for commands in HDFS Federation
- [HDFS-9047](#): Retire libwebhdfs.
- [HDFS-9048](#): DistCp documentation is out-of-dated
- [HDFS-9063](#): Correctly handle snapshot path for getContentSummary.
- [HDFS-9072](#): Fix random failures in TestJMXGet.
- [HDFS-9082](#): Change the log level in WebHdfsFileSystem.initialize() from INFO to DEBUG.
- [HDFS-9083](#): Replication violates block placement policy.
- [HDFS-9106](#): Transfer failure during pipeline recovery causes permanent write failures.
- [HDFS-9107](#): Prevent NNs unrecoverable death spiral after full GC
- [HDFS-9112](#): Improve error message for Haadmin when multiple name service IDs are configured.
- [HDFS-9128](#): TestWebHdfsFileContextMainOperations and TestSWebHdfsFileContextMainOperations fail due to invalid HDFS path on Windows.
- [HDFS-9130](#): Use GenericTestUtils#setLogLevel to the logging level.
- [HDFS-9137](#): should be backported correctly.
- [HDFS-9142](#): Separating Configuration object for namenode(s) in MiniDFSCluster.
- [HDFS-9145](#): Tracking methods that hold FSNamesystemLock for too long.
- [HDFS-9148](#): Incorrect assert message in TestWriteToReplica#testWriteToTemporary
- [HDFS-9175](#): Change scope of 'AccessTokenProvider.getAccessToken()' and 'CredentialBasedAccessTokenProvider.getCredential()' abstract methods to public.
- [HDFS-9178](#): Slow datanode I/O can cause a wrong node to be marked bad.
- [HDFS-9184](#): Logging HDFS operation's caller context into audit logs.
- [HDFS-9198](#): Coalesce IBR processing in the NN.
- [HDFS-9205](#): Do not schedule corrupt blocks for replication.
- [HDFS-9210](#): Fix some misuse of %n in VolumeScanner#printStats.

- [HDFS-9220](#): Reading small file
- [HDFS-9221](#): HdfsServerConstants#ReplicaState#getState should avoid calling values() since it creates a temporary array.
- [HDFS-9226](#): Unit Tests failing due to mockito version issue.
- [HDFS-9239](#): DataNode Lifeline Protocol: an alternative protocol for reporting DataNode liveness.
- [HDFS-9251](#): Refactor TestWriteToReplica and TestFsDatasetImpl to avoid explicitly creating Files in the tests code.
- [HDFS-9259](#): Make SO_SNDBUF size configurable at DFSCient side for hdfs write scenario.
- [HDFS-9264](#): Minor cleanup of operations on FsVolumeList#volumes.
- [HDFS-9273](#): ACLs on root directory may be lost after NN restart.
- [HDFS-9276](#): Failed to Update HDFS Delegation Token for long running application in HA mode.
- [HDFS-9289](#): Make DataStreamer#block thread safe and verify genStamp in commitBlock.
- [HDFS-9290](#): DFSCient#callAppend() is not backward compatible for slightly older NameNodes.
- [HDFS-9294](#): DFSCient deadlock when close file and failed to renew lease.
- [HDFS-9305](#): Delayed heartbeat processing causes storm of subsequent heartbeats.
- [HDFS-9311](#): Support optional offload of NameNode HA service health checks to a separate RPC server.
- [HDFS-9313](#): Possible NullPointerException in BlockManager if no excess replica can be chosen.
- [HDFS-9314](#): Improve BlockPlacementPolicyDefault's picking of excess replicas.
- [HDFS-9317](#): Document fsck -blockId and -storagepolicy options in branch-2.7.
- [HDFS-9343](#): Empty caller context considered invalid.
- [HDFS-9347](#): Invariant assumption in TestQuorumJournalManager.shutdown() is wrong
- [HDFS-9350](#): Avoid creating temporary strings in Block.toString() and getBlockName()
- [HDFS-9354](#): Fix TestBalancer#testBalancerWithZeroThreadsForMove on Windows.
- [HDFS-9358](#): TestNodeCount#testNodeCount timed out.
- [HDFS-9362](#): TestAuditLogger#testAuditLoggerWithCallContext assumes Unix line endings, fails on Windows.

- [HDFS-9364](#): Unnecessary DNS resolution attempts when creating NameNodeProxies.
- [HDFS-9383](#): TestByteArrayManager#testByteArrayManager fails.
- [HDFS-9384](#): TestWebHdfsContentLength intermittently hangs and fails due to TCP conversation mismatch between client and server.
- [HDFS-9395](#): Make HDFS audit logging consistent.
- [HDFS-9397](#): Fix typo for readChecksum() LOG.warn in BlockSender.java.
- [HDFS-9402](#): Switch DataNode.LOG to use slf4j.
- [HDFS-9406](#): FSImage may get corrupted after deleting snapshot.
- [HDFS-9412](#): getBlocks occupies FSLock and takes too long to complete.
- [HDFS-9413](#): getContentSummary() on standby should throw StandbyException.
- [HDFS-9415](#): Document dfs.cluster.administrators and dfs.permissions.superusergroup.
- [HDFS-9426](#): Rollingupgrade finalization is not backward compatible.
- [HDFS-9428](#): Fix intermittent failure of TestDNFencing.testQueueingWithAppend.
- [HDFS-9431](#): DistributedFileSystem#concat fails if the target path is relative.
- [HDFS-9434](#): Recommission a datanode with 500k blocks may pause NN for 30 seconds for printing info log messages.
- [HDFS-9445](#): Datanode may deadlock while handling a bad volume.
- [HDFS-9466](#): TestShortCircuitCache#testDataXceiverCleansUpSlotsOnFailure is flaky
- [HDFS-9467](#): Fix data race accessing writeLockHeldTimeStamp in FSNamesystem.
- [HDFS-9470](#): Encryption zone on root not loaded from fsimage after NN restart. Xiao Chen via wang.
- [HDFS-9476](#): TestDFSUpgradeFromImage#testUpgradeFromRel1BBWImage occasionally fail
- [HDFS-9478](#): Reason for failing ipc.FairCallQueue construction should be thrown.
- [HDFS-9484](#): NNThroughputBenchmark\$BlockReportStats should not send empty block reports.
- [HDFS-9493](#): Test o.a.h.hdfs.server.namenode.TestMetaSave fails in trunk.
- [HDFS-9500](#): Fix software version counts for DataNodes during rolling upgrade.
- [HDFS-9505](#): HDFS Architecture documentation needs to be refreshed.

- [HDFS-9516](#): Truncate file fails with data dirs on multiple disks.
- [HDFS-9517](#): Fix missing @Test annotation on TestDistCpUtils.testUnpackAttributes
- [HDFS-9521](#): TransferFsImage.receiveFile should account and log separate times for image download and fsync to disk.
- [HDFS-9525](#): hadoop utilities need to support provided delegation tokens.
- [HDFS-9530](#): ReservedSpace is not cleared for abandoned Blocks
- [HDFS-9533](#): seen_txid in the shared edits directory is modified during bootstrapping.
- [HDFS-9534](#): Add CLI command to clear storage policy from a path.
- [HDFS-9549](#): TestCacheDirectives#testExceedsCapacity is flaky
- [HDFS-9555](#): LazyPersistFileScrubber should still sleep if there are errors in the clear progress.
- [HDFS-9557](#): Reduce object allocation in PB conversion.
- [HDFS-9566](#): Remove expensive 'BlocksMap#getStorages(Block b, final DatanodeStorage.State state)' method
- [HDFS-9569](#): Log the name of the fsimage being loaded for better supportability.
- [HDFS-9572](#): Prevent DataNode log spam if a client connects on the data transfer port but sends no data.
- [HDFS-9574](#): Reduce client failures during datanode restart.
- [HDFS-9584](#): NPE in distcp when ssl configuration file does not exist in class path.
- [HDFS-9589](#): Block files which have been hardlinked should be duplicated before the DataNode appends to the them
- [HDFS-9600](#): Do not check replication if the block is under construction.
- [HDFS-9605](#): Add links to failed volumes to explorer.html in HDFS Web UI.
- [HDFS-9608](#): Disk IO imbalance in HDFS with heterogeneous storages.
- [HDFS-9612](#): DistCp worker threads are not terminated after jobs are done.
- [HDFS-9618](#): Fix mismatch between log level and guard in BlockManager#computeRecoveryWorkForBlocks
- [HDFS-9619](#): SimulatedFSDataset sometimes can not find blockpool for the correct namenode
- [HDFS-9623](#): Update example configuration of block state change log in log4j.properties.

- [HDFS-9624](#): DataNode start slowly due to the initial DU command operations.
- [HDFS-9625](#): set replication for empty file failed when set storage policy
- [HDFS-9626](#): TestBlockReplacement#testBlockReplacement fails occasionally.
- [HDFS-9629](#): Update the footer of Web UI to show year 2016
- [HDFS-9630](#): DistCp minor refactoring and clean up.
- [HDFS-9634](#): webhdfs client side exceptions don't provide enough details.
- [HDFS-9638](#): to branch-2.7.
- [HDFS-9644](#): Update encryption documentation to reflect nested EZs.
- [HDFS-9655](#): NN should start JVM pause monitor before loading fsimage.
- [HDFS-9661](#): Deadlock in DN.FsDatasetImpl between moveBlockAcrossStorage moveBlockAcrossStorage and createRbw.
- [HDFS-9669](#): TcpPeerServer should respect ipc.server.listen.queue.size
- [HDFS-9670](#): DistCp throws NPE when source is root.
- [HDFS-9672](#): o.a.h.hdfs.TestLeaseRecovery2 fails intermittently
- [HDFS-9688](#): Test the effect of nested encryption zones in HDFS downgrade.
- [HDFS-9696](#): Garbage snapshot records linger forever.
- [HDFS-9701](#): DN may deadlock when hot-swapping under load.
- [HDFS-9706](#): Log more details in debug logs in BlockReceiver's constructor.
- [HDFS-9710](#): DN can be configured to send block receipt IBRs in batches.
- [HDFS-9711](#): Integrate CSRF prevention filter in WebHDFS.
- [HDFS-9713](#): DataXceiver#copyBlock should return if block is pinned.
- [HDFS-9715](#): Check storage ID uniqueness on datanode startup
- [HDFS-9721](#): Allow Delimited PB OIV tool to run upon fsimage that contains INodeReference
- [HDFS-9724](#): Degraded performance in WebHDFS listing as it does not reuse ObjectMapper.
- [HDFS-9726](#): Refactor IBR code to a new class.
- [HDFS-9730](#): Storage ID update does not happen when there is a layout change.
- [HDFS-9739](#): DatanodeStorage.isValidStorageId() is broken.

- [HDFS-9740](#): Use a reasonable limit in `DFSUtil.waitForMetric()`.
- [HDFS-9743](#): Fix `TestLazyPersistFiles#testFallbackToDiskFull` in branch-2.7.
- [HDFS-9748](#): Avoid duplication in `pendingReplications` when `addExpectedReplicasToPending` is called twice.
- [HDFS-9752](#): Permanent write failures may happen to slow writers during datanode rolling upgrades
- [HDFS-9760](#): `WebHDFS AuthFilter` cannot be configured with custom `AltKerberos` auth handler
- [HDFS-9764](#): `DistCp` doesn't print value for several arguments including `-numListstatusThreads`.
- [HDFS-9765](#): `TestBlockScanner#testVolumeIteratorWithCaching` fails intermittently.
- [HDFS-9766](#): `TestDataNodeMetrics#testDataNodeTimeSpend` fails intermittently.
- [HDFS-9768](#): Reuse `ObjectMapper` instance in HDFS to improve the performance.
- [HDFS-9772](#): `TestBlockReplacement#testThrottler` doesn't work as expected.
- [HDFS-9777](#): Fix typos in `DFSAdmin` command line and documentation. (Wei-Chiu Chuang via `umamahesh`).
- [HDFS-9779](#): `TestReplicationPolicyWithNodeGroup` `NODE` variable picks wrong rack value.
- [HDFS-9781](#): `FsDatasetImpl#getBlockReports` can occasionally throw `NullPointerException`.
- [HDFS-9784](#): Example usage is not correct in Transparent Encryption document.
- [HDFS-9790](#): HDFS Balancer should exit with a proper message if upgrade is not finalized
- [HDFS-9797](#): Log Standby exceptions thrown by `RequestHedgingProxyProvider` at `DEBUG` Level
- [HDFS-9799](#): Reimplement `getCurrentTrashDir` to remove incompatibility.
- [HDFS-9812](#): Streamer threads leak if failure happens when closing `DFSOutputStream`.
- [HDFS-9839](#): Reduce verbosity of `processReport` logging.
- [HDFS-9842](#): `dfs.datanode.balance.bandwidthPerSec` should accept friendly size units.
- [HDFS-9844](#): Correct path creation in `getTrashRoot` to handle root dir.
- [HDFS-9851](#): `NameNode` throws `NPE` when `setPermission` is called on a path that does not exist.
- [HDFS-9854](#): Log cipher suite negotiation more verbosely.

- [HDFS-9864](#): Correct reference for RENEWDELEGATIONTOKEN and CANCELDELEGATIONTOKEN in webhdfs doc.
- [HDFS-9865](#): TestBlockReplacement fails intermittently in trunk
- [HDFS-9871](#): "Bytes Being Moved" -ve(-1 B) when cluster was already balanced.
- [HDFS-9874](#): Long living DataXceiver threads cause volume shutdown to block.
- [HDFS-9880](#): TestDatanodeRegistration fails occasionally.
- [HDFS-9881](#): DistributedFileSystem#getTrashRoot returns incorrect path for encryption zones.
- [HDFS-9882](#): Add heartbeatsTotal in Datanode metrics.
- [HDFS-9902](#): Support different values of dfs.datanode.du.reserved per storage type.
- [HDFS-9904](#): testCheckpointCancellationDuringUpload occasionally fails.
- [HDFS-9905](#): WebHdfsFileSystem#runWithRetry should display original stack trace on error.
- [HDFS-9906](#): Remove spammy log spew when a datanode is restarted.
- [HDFS-9917](#): IBR accumulate more objects when SNN was down for sometime.
- [HDFS-9926](#): MiniDFScluster leaks dependency Mockito via DataNodeTestUtils.
- [HDFS-9941](#): Do not log StandbyException on NN, other minor logging fixes.
- [HDFS-9947](#): Block#toString should not output information from derived classes
- [HDFS-9949](#): Add a test case to ensure that the DataNode does not regenerate its UUID when a storage directory is cleared
- [HDFS-9958](#): BlockManager#createLocatedBlocks can throw NPE for corruptBlocks on failed storages.
- [HDFS-10178](#): Permanent write failures can happen if pipeline recoveries occur for the first packet.
- [HDFS-10182](#): Hedged read might overwrite user's buf.
- [HDFS-10186](#): DirectoryScanner: Improve logs by adding full path of both actual and expected block directories.
- [HDFS-10189](#): PacketResponder#toString should include the downstreams for PacketResponderType.HAS_DOWNSTREAM_IN_PIPELINE
- [HDFS-10199](#): Unit tests TestCopyFiles, TestDistCh, TestLogalyzer under org.apache.hadoop.tools are failing.

- [HDFS-10216](#): Distcp -diff throws exception when handling relative path.
- [HDFS-10217](#): show 'blockScheduled' tooltip in datanodes table.
- [HDFS-10223](#): peerFromSocketAndKey performs SASL exchange before setting connection timeouts.
- [HDFS-10225](#): DataNode hot swap drives should disallow storage type changes.
- [HDFS-10228](#): TestHDFSCLI fails.
- [HDFS-10235](#): Last contact for Live Nodes should be relative time.
- [HDFS-10239](#): Fshell mv fails if port usage doesn't match in src and destination paths.
- [HDFS-10245](#): Fix the findbugs warnings in branch-2.7.
- [HDFS-10253](#): Fix TestRefreshCallQueue failure
- [HDFS-10261](#): TestBookKeeperHACheckpoints doesn't handle ephemeral HTTP ports.
- [HDFS-10264](#): Logging improvements in FSImageFormatProtobuf.Saver.
- [HDFS-10270](#): TestJMXGet:testNameNode() fails.
- [HDFS-10271](#): Extra bytes are getting released from reservedSpace for append
- [HDFS-10275](#): TestDataNodeMetrics failing intermittently due to TotalWriteTime counted incorrectly.
- [HDFS-10277](#): PositionedReadable test testReadFullyZeroByteFile failing in HDFS.
- [HDFS-10279](#): Improve validation of the configured number of tolerated failed volumes.
- [HDFS-10281](#): TestPendingCorruptDnMessages fails intermittently.
- [HDFS-10291](#): TestShortCircuitLocalRead failing
- [HDFS-10301](#): BlockReport retransmissions may lead to storages falsely being declared zombie if storage report processing happens out of order .
- [HDFS-10301](#): Remove FBR tracking state to fix false zombie storage detection for interleaving block reports.
- [HDFS-10309](#): Balancer doesn't honor dfs.blocksize value defined with suffix k(kilo), m(mega), g(giga).
- [HDFS-10312](#): Large block reports may fail to decode at NameNode due to 64 MB protobuf maximum length restriction.
- [HDFS-10313](#): Distcp need to enforce the order of snapshot names passed to -diff.
- [HDFS-10319](#): Balancer should not try to pair storages with different types.

- [HDFS-10320](#): Rack failures may result in NN terminate.
- [HDFS-10324](#): Trash directory in an encryption zone should be pre-created with correct permissions.
- [HDFS-10329](#): Bad initialisation of StringBuffer in RequestHedgingProxyProvider.
- [HDFS-10330](#): Add Corrupt Blocks Information in Metasave output.
- [HDFS-10335](#): Mover\$Processor#chooseTarget() always chooses the first matching target storage group.
- [HDFS-10341](#): Add a metric to expose the timeout number of pending replication blocks
- [HDFS-10342](#): BlockManager#createLocatedBlocks should not check corrupt replicas if none are corrupt.
- [HDFS-10343](#): BlockManager#createLocatedBlocks may return blocks on failed storages.
- [HDFS-10344](#): DistributedFileSystem#getTrashRoots should skip encryption zone that does not have .Trash.
- [HDFS-10347](#): Namenode report bad block method doesn't log the bad block or datanode.
- [HDFS-10360](#): DataNode may format directory and lose blocks if current/VERSION is missing.
- [HDFS-10367](#): TestDFSShell.testMoveWithTargetPortEmpty fails with Address bind exception.
- [HDFS-10372](#): Fix for failing TestFsDatasetImpl#testCleanShutdownOfVolume.
- [HDFS-10377](#): CacheReplicationMonitor shutdown log message should use INFO level
- [HDFS-10390](#): Implement asynchronous setAcl/getAclStatus for DistributedFileSystem
- [HDFS-10396](#): Using -diff option with DistCp may get "Comparison method violates its general contract" exception.
- [HDFS-10397](#): Distcp should ignore -delete option if -diff option is provided instead of exiting.
- [HDFS-10410](#): RedundantEditLogInputStream.LOG is set to wrong class.
- [HDFS-10415](#): TestDistributedFileSystem#MyDistributedFileSystem attempts to set up statistics before initialize() is called
- [HDFS-10417](#): Improve error message from checkBlockLocalPathAccess.
- [HDFS-10423](#): Increase default value of httpfs maxHTTPHeaderSize.
- [HDFS-10424](#): DatanodeLifelineProtocol not able to use under security cluster

- [HDFS-10431](#): Refactor and speedup TestAsyncDFSRename
- [HDFS-10437](#): ReconfigurationProtocol not covered by HDFSPolicyProvider.
- [HDFS-10438](#): When NameNode HA is configured to use the lifeline RPC server, it should log the address of that server.
- [HDFS-10440](#): Improve DataNode web UI
- [HDFS-10448](#): CacheManager#addInternal tracks bytesNeeded incorrectly when dealing with replication factors other than 1
- [HDFS-10455](#): Logging the username when deny the setOwner operation.
- [HDFS-10457](#): DataNode should not auto-format block pool directory if VERSION is missing.
- [HDFS-10458](#): getFileEncryptionInfo should return quickly for non-encrypted cluster.
- [HDFS-10468](#): HDFS read ends up ignoring an interrupt.
- [HDFS-10469](#): Add number of active xceivers to datanode metrics.
- [HDFS-10471](#): DFSAdmin#SetQuotaCommand's help msg is not correct.
- [HDFS-10474](#): hftp copy fails when file name with Chinese+special char in branch-2
- [HDFS-10481](#): HTTPFS server should correctly impersonate as end user to open file.
- [HDFS-10485](#): Fix findbugs warning in FSEditLog.java
- [HDFS-10488](#): Update WebHDFS documentation regarding CREATE and MKDIR default permissions.
- [HDFS-10493](#): Add links to datanode web UI in namenode datanodes page.
- [HDFS-10499](#): TestNameNodeMetadataConsistency#testGenerationStampInFuture Fails Intermittently.
- [HDFS-10508](#): DFSInputStream should set thread's interrupt status after catching InterruptedException from sleep.
- [HDFS-10512](#): VolumeScanner may terminate due to NPE in DataNode.reportBadBlocks.
- [HDFS-10525](#): Fix NPE in CacheReplicationMonitor#rescanCachedBlockMap
- [HDFS-10544](#): Balancer doesn't work with IPFailoverProxyProvider.
- [HDFS-10556](#): DistCpOptions should be validated automatically.
- [HDFS-10569](#): A bug causes OutOfIndex error in BlockListAsLongs.
- [HDFS-10579](#): HDFS web interfaces lack configs for X-FRAME-OPTIONS protection.

- [HDFS-10589](#): Javadoc for `HAState#HAState` and `HAState#setStateInternal` contains non-existent params.
- [HDFS-10609](#): Uncaught `InvalidEncryptionKeyException` during pipeline recovery may abort downstream applications.
- [HDFS-10617](#): `PendingReconstructionBlocks.size()` should be synchronized.
- [HDFS-10623](#): Remove unused import of `httpClient.HttpConnection` from `TestWebHdfsTokens`.
- [HDFS-10625](#): `VolumeScanner` to report why a block is found bad.
- [HDFS-10627](#): `Volume Scanner` marks a block as "suspect" even if the exception is network-related.
- [HDFS-10642](#): `TestLazyPersistReplicaRecovery#testDnRestartWithSavedReplicas` fails intermittently.
- [HDFS-10643](#): [Unit Test] `Namenode` should use `loginUser(hdfs)` to `generateEncryptedKey`.
- [HDFS-10643](#): `HDFS namenode` should always use service user
- [HDFS-10653](#): Optimize conversion from path string to components.
- [HDFS-10655](#): Fix path related byte array conversion bugs.
- [HDFS-10660](#): Expose storage policy apis via `HDFSAdmin` interface.
- [HDFS-10684](#): `WebHDFS DataNode` calls fail without parameter `createparent`.
- [HDFS-10688](#): `BPServiceActor` may run into a tight loop for sending block report when hitting `IOException`.
- [HDFS-10703](#): `HA NameNode Web UI` should show last checkpoint time.
- [HDFS-10710](#): In `BlockManager#rescanPostponedMisreplicatedBlocks()`, postponed misreplicated block counts should be retrieved within the NN lock protection. Contributed by GAO Rui.
- [HDFS-10713](#): Throttle `FsNameSystem` lock warnings.
- [HDFS-10715](#): NPE when applying `AvailableSpaceBlockPlacementPolicy`.
- [HDFS-10716](#): In `Balancer`, the target task should be removed when its size < 0.
- [HDFS-10735](#): `Distcp` using `webhdfs` on secure HA clusters fails with `StandbyException`.
- [HDFS-10752](#): Several log refactoring/improvement suggestion in `HDFS`.
- [HDFS-10757](#): `KMSClientProvider` combined with `KeyProviderCache` can result in wrong `UGI` being used.

- [HDFS-10763](#): Open files can leak permanently due to inconsistent lease update.
- [HDFS-10763](#): Open files can leak permanently due to inconsistent lease update
TestTrashWithSecureEncryptionZones diverged from HDFS-10906.
- [HDFS-10764](#): Fix INodeFile#getBlocks to not return null.
- [HDFS-10793](#): Fix HdfsAuditLogger binary incompatibility introduced by HDFS-9184.
HDFS-9700. DFSClient and DFSOutputStream should set TCP_NODELAY on sockets for
DataTransferProtocol.
- [HDFS-10798](#): Make the threshold of reporting FSNamesystem lock contention
configurable.
- [HDFS-10817](#): Add Logging for Long-held NN Read Locks.
- [HDFS-10822](#): Log DataNodes in the write pipeline. John Zhuge via Lei Xu.
- [HDFS-10913](#): Introduce fault injectors to simulate slow mirrors.
- [HDFS-10917](#): Collect peer performance statistics on DataNode.
- [HDFS-10922](#): Adding additional unit tests for Trash
- [HDFS-10930](#): Refactor: Wrap Datanode IO related operations.
- [HDFS-10934](#): TestDFSShell#testStat fails intermittently.
- [HDFS-10956](#): Remove rename/delete performance penalty when not using snapshots.
- [HDFS-10959](#): Update DataNode to use DatasetVolumeChecker.
- [HDFS-10962](#): TestRequestHedgingProxyProvider is flaky.
- [HDFS-10963](#): Reduce log level when network topology cannot find enough datanodes.
- [HDFS-10965](#): Add unit test for HDFS command 'dfsadmin -printTopology'.
- [HDFS-10966](#): Enhance Dispatcher logic on deciding when to give up a source DataNode.
- [HDFS-10984](#): Expose nntop output as metrics.
- [HDFS-10987](#): Make Decommission less expensive when lot of blocks present.
- [HDFS-11003](#): Expose XmitsInProgress through DataNodeMXBean.
- [HDFS-11008](#): Change unit test for testing parsing "-source" parameter in Balancer CLI.
- [HDFS-11011](#): Add unit tests for HDFS command 'dfsadmin -set/cnrSpaceQuota'.
- [HDFS-11015](#): Enforce timeout in balancer.
- [HDFS-11018](#): Incorrect check and message in FsDatasetImpl#invalidate.

- [HDFS-11031](#): Add additional unit test for DataNode startup behavior when volumes fail.
- [HDFS-11047](#): Remove deep copies of FinalizedReplica to alleviate heap consumption on DataNode.
- [HDFS-11054](#): Suppress verbose log message in BlockPlacementPolicyDefault.
- [HDFS-11056](#): Addendum fix for self-healing branch.
- [HDFS-11056](#): Concurrent append and read operations lead to checksum error.
- [HDFS-11069](#): Tighten the authorization of datanode RPC.
- [HDFS-11076](#): Add unit test for extended Acls.
- [HDFS-11083](#): Add unit test for DFSAdmin -report command.
- [HDFS-11087](#): NamenodeFsck should check if the output writer is still writable.
- [HDFS-11112](#): Journal Nodes should refuse to format non-empty directories.
- [HDFS-11114](#): Support for running async disk checks in DataNode.
- [HDFS-11119](#): Support for parallel checking of StorageLocations on DataNode startup.
- [HDFS-11122](#): TestDFSAdmin#testReportCommand fails due to timed out.
- [HDFS-11128](#): CreateEditsLog throws NullPointerException.
- [HDFS-11148](#): Update DataNode to use StorageLocationChecker at startup.
- [HDFS-11149](#): Fix build break.
- [HDFS-11149](#): Support for parallel checking of FsVolumes.
- [HDFS-11160](#): VolumeScanner reports write-in-progress replicas as corrupt incorrectly.
- [HDFS-11180](#): Intermittent deadlock in NameNode when failover happens.
- [HDFS-11182](#): Addendum fix for Fenton to fix a unit test.
- [HDFS-11182](#): Update DataNode to use DatasetVolumeChecker.
- [HDFS-11194](#): Maintain aggregated peer performance metrics on NameNode.
- [HDFS-11195](#): Return error when appending files by webhdfs rest api fails.
- [HDFS-11197](#): Listing encryption zones fails when deleting a EZ that is on a snapshotted directory.
- [HDFS-11209](#): SNN can't checkpoint when rolling upgrade is not finalized.
- [HDFS-11224](#): Lifeline message should be ignored for dead nodes

- [HDFS-11229](#): HDFS-11056 failed to close meta file.
- [HDFS-11240](#): Remove snapshot version of SDK dependency from Azure Data Lake Store File System.
- [HDFS-11251](#): ConcurrentModificationException during DataNode#refreshVolumes .
- [HDFS-11253](#): FileInputStream leak on failure path in BlockSender.
- [HDFS-11258](#): File mtime change could not save to editlog.
- [HDFS-11263](#): ClassCastException when we use Bzipcodec for Fsimage compression.
- [HDFS-11267](#): Avoid redefinition of storageDirs in NNStorage and cleanup its accessors in Storage.
- [HDFS-11274](#): Datanode should only check the failed volume upon IO errors.
- [HDFS-11279](#): Cleanup unused DataNode#checkDiskErrorAsync().
- [HDFS-11280](#): Allow WebHDFS to reuse HTTP connections to NN.
- [HDFS-11282](#): Document the missing metrics of DataNode Volume IO operations.
- [HDFS-11292](#): log lastWrittenTxId etc info in logSyncAll.
- [HDFS-11299](#): Support multiple Datanode File IO hooks.
- [HDFS-11307](#): The rpc to portmap service for NFS has hardcoded timeout.
- [HDFS-11337](#):
- [HDFS-11339](#): Support File IO sampling for Datanode IO profiling hooks.
- [HDFS-11369](#): Change exception message in StorageLocationChecker.
- [HDFS-11379](#): DFSInputStream may infinite loop requesting block locations.
- [HDFS-11387](#): Socket reuse address option is not honored in PrivilegedNfsGatewayStarter.
- [HDFS-11391](#): Numeric usernames do no work with WebHDFS FS write access.
- [HDFS-11395](#): RequestHedgingProxyProvider#RequestHedgingInvocationHandler hides the Exception thrown from NameNode.
- [HDFS-11403](#): Zookeeper ACLs on NN HA enabled clusters should be handled consistently.
- [HDFS-11461](#): DataNode Disk Outlier Detection.
- [HDFS-11462](#): Fix occasional BindException in TestNameNodeMetricsLogger.
- [HDFS-11476](#): Fix NPE in FsDatasetImpl#checkAndUpdate

- [HDFS-11477](#): Simplify file IO profiling configuration.
- [HDFS-11479](#): Socket re-use address option should be used in SimpleUdpServer.
- [HDFS-11508](#): Fix bind failure in SimpleTCPServer & Portmap where bind fails because socket is in TIME_WAIT state.
- [HDFS-11517](#): Expose slow disks via DataNode JMX.
- [HDFS-11533](#): reuseAddress option should be used for child channels in Portmap and SimpleTcpServer.
- [MAPREDUCE-5485](#): Allow repeating job commit by extending OutputCommitter API
- [MAPREDUCE-6197](#): Cache MapOutputLocations in ShuffleHandler.
- [MAPREDUCE-6213](#): NullPointerException caused by job history server addr not resolvable.
- [MAPREDUCE-6213](#): NullPointerException caused by job history server addr not resolvable.
- [MAPREDUCE-6273](#): HistoryFileManager should check whether summaryFile exists to avoid FileNotFoundException causing HistoryFileInfo into MOVE_FAILED state.
- [MAPREDUCE-6302](#):
- [MAPREDUCE-6338](#): MR AppMaster does not honor ephemeral port range.
- [MAPREDUCE-6350](#): JobHistory doesn't support fully-functional search.
- [MAPREDUCE-6404](#): Allow AM to specify a port range for starting its webapp.
- [MAPREDUCE-6436](#): JobHistory cache issue.
- [MAPREDUCE-6436](#): JobHistory cache issue.
- [MAPREDUCE-6460](#):
TestRMContainerAllocator.testAttemptNotFoundCausesRMCommunicatorException fails.
- [MAPREDUCE-6485](#): Create a new task attempt with failed map task priority if in-progress attempts are unassigned.
- [MAPREDUCE-6492](#): AsyncDispatcher exit with NPE on TaskAttemptImpl#sendJHStartEventForAssignedFailTask.
- [MAPREDUCE-6492](#): AsyncDispatcher exit with NPE on TaskAttemptImpl#sendJHStartEventForAssignedFailTask.
- [MAPREDUCE-6514](#): Job hangs as ask is not updated after ramping down of all reducers.
- [MAPREDUCE-6543](#): Migrate MR Client test cases part 2.

- [MAPREDUCE-6549](#): multibyte delimiters with LineRecordReader cause duplicate records
- [MAPREDUCE-6566](#): Add retry support to mapreduce CLI tool.
- [MAPREDUCE-6577](#): MR AM unable to load native library without MR_AM_ADMIN_USER_ENV set.
- [MAPREDUCE-6577](#): MR AM unable to load native library without MR_AM_ADMIN_USER_ENV set.
- [MAPREDUCE-6579](#): TestNetworkedJob.testNetworkedJob failed due to YARN-3946.
- [MAPREDUCE-6593](#): TestJobHistoryEventHandler.testTimelineEventHandling fails because of NPE.
- [MAPREDUCE-6616](#): Fail to create jobhistory file if there are some multibyte characters in the job name.
- [MAPREDUCE-6618](#): YarnClientProtocolProvider leaking the YarnClient thread.(xgong).
- [MAPREDUCE-6621](#): Memory Leak in JobClient#submitJobInternal().
- [MAPREDUCE-6625](#): TestCLI#testGetJob fails occasionally
- [MAPREDUCE-6635](#): Unsafe long to int conversion in UncompressedSplitLineReader and IndexOutOfBoundsException.
- [MAPREDUCE-6635](#): Unsafe long to int conversion in UncompressedSplitLineReader and IndexOutOfBoundsException.
- [MAPREDUCE-6639](#): Process hangs in LocatedFileStatusFetcher if FileSystem.get throws.
- [MAPREDUCE-6672](#): TestTeraSort fails on Windows.
- [MAPREDUCE-6684](#): High contention on scanning of user directory under immediate_done in Job History Server.
- [MAPREDUCE-6689](#): MapReduce job can infinitely increase number of reducer resource requests.
- [MAPREDUCE-6693](#): ArrayIndexOutOfBoundsException occurs when the length of the job name is equal to mapreduce.jobhistory.jobname.limit.
- [MAPREDUCE-6701](#): application master log can not be available when clicking jobhistory's am logs link.
- [MAPREDUCE-6711](#): After enabling preemption on cluster, jobs failed without making any attempts made after being preempted.
- [MAPREDUCE-6724](#): Single shuffle to memory must not exceed Integer#MAX_VALUE.
- [MAPREDUCE-6762](#): ControlledJob#toString failed with NPE when job status is not successfully updated.

- [MAPREDUCE-6789](#): Fix TestAMWebApp failure.
- [MAPREDUCE-6792](#): Allow user's full principal name as owner of MapReduce staging directory in JobSubmissionFiles#JobStagingDir().
- [MAPREDUCE-6797](#): Job history server scans can become blocked on a single, slow entry.
- [MAPREDUCE-6852](#): Job#updateStatus() failed with NPE due to race condition.
- [YARN-857](#): Localization failures should be available in container diagnostics.
- [YARN-998](#): Keep NM resource updated through dynamic resource config for RM/NM restart.
- [YARN-1376](#): NM need to notify the log aggregation status to RM through heartbeat.
- [YARN-1402](#): Update related Web UI and CLI with exposing client API to check log aggregation status.
- [YARN-1462](#): AHS API and other AHS changes to handle tags for completed MR jobs.
- [YARN-1556](#): NPE getting application report with a null appld.
- [YARN-1880](#): Cleanup TestApplicationClientProtocolOnHA
- [YARN-1993](#): Cross-site scripting vulnerability in TextView.java.
- [YARN-2019](#): Retrospect on decision of making RM crashed if any exception throw in ZKRMStateStore.
- [YARN-2046](#): Out of band heartbeats are sent only on container kill and possibly too early.
- [YARN-2046](#): Out of band heartbeats are sent only on container kill and possibly too early.
- [YARN-2194](#): Fix bug causing CGroups functionality to fail on RHEL7.
- [YARN-2392](#): Add more diags about app retry limits on AM failures.
- [YARN-2495](#): Allow admin specify labels from each NM
- [YARN-2498](#): Respect labels in preemption policy of capacity scheduler for inter-queue preemption.
- [YARN-2571](#):RM to support YARN registry.
- [YARN-2619](#): Added NodeManager support for disk io isolation through cgroups.
- [YARN-2666](#): TestFairScheduler.testContinuousScheduling fails Intermittently.
- [YARN-2696](#): Queue sorting in CapacityScheduler should consider node label.
- [YARN-2740](#): Fix NodeLabelsManager to properly handle node label modifications when distributed node label configuration enabled.

- [YARN-2821](#): Fixed a problem that DistributedShell AM may hang if restarted.
- [YARN-2821](#): Fixed a problem that DistributedShell AM may hang if restarted.
- [YARN-2868](#): FairScheduler: Metric for latency to allocate first container for an application.
- [YARN-2901](#): Add errors and warning metrics page to RM, NM web UI.
- [YARN-3021](#): YARN's delegation-token handling disallows certain trust setups to operate properly over DistCp.
- [YARN-3026](#): Move application-specific container allocation logic from LeafQueue to FiCaSchedulerApp.
- [YARN-3102](#): Decommissioned Nodes not listed in Web UI.
- [YARN-3102](#): Decommissioned Nodes not listed in Web UI.
- [YARN-3110](#): Few issues in ApplicationHistory web ui.
- [YARN-3136](#): Fixed a synchronization problem of AbstractYarnScheduler#getTransferredContainers.
- [YARN-3148](#): Allow CORS related headers to passthrough in WebAppProxyServlet.
- [YARN-3215](#): Respect labels in CapacityScheduler when computing headroom.
- [YARN-3216](#): Max-AM-Resource-Percentage should respect node labels.
- [YARN-3225](#): New parameter of CLI for decommissioning node gracefully in RMAAdmin CLI.
- [YARN-3243](#): CapacityScheduler should pass headroom from parent to children to make sure ParentQueue obey its capacity limits.
- [YARN-3248](#): Display count of nodes blacklisted by apps in the web UI.
- [YARN-3266](#): RMContext#inactiveNodes should have NodeId as map key.
- [YARN-3269](#): Yarn.nodemanager.remote-app-log-dir could not be configured to fully qualified path.
- [YARN-3293](#): Track and display capacity scheduler health metrics in web UI.
- [YARN-3294](#): Allow dumping of Capacity Scheduler debug logs via web UI for a fixed time period.
- [YARN-3305](#): Normalize AM resource request on app submission.
- [YARN-3318](#): Create Initial OrderingPolicy Framework and FifoOrderingPolicy.
- [YARN-3319](#): Implement a FairOrderingPolicy.

- [YARN-3326](#): Support RESTful API for getLabelsToNodes.
- [YARN-3343](#): Increased TestCapacitySchedulerNodeLabelUpdate#testNodeUpdate timeout.
- [YARN-3345](#): Add non-exclusive node label API.
- [YARN-3347](#): Improve YARN log command to get AMContainer logs as well as running containers logs.
- [YARN-3348](#): Add a 'yarn top' tool to help understand cluster usage.
- [YARN-3354](#): Add node label expression in ContainerTokenIdentifier to support RM recovery.
- [YARN-3356](#): Capacity Scheduler FiCaSchedulerApp should use ResourceUsage to track used-resources-by-label.
- [YARN-3357](#): Move TestFifoScheduler to FIFO package.
- [YARN-3360](#): Add JMX metrics to TimelineDataManager .
- [YARN-3361](#): CapacityScheduler side changes to support non-exclusive node labels.
- [YARN-3362](#): Add node label usage in RM CapacityScheduler web UI.
- [YARN-3365](#): Enhanced NodeManager to support using the 'tc' tool via container-executor for outbound network traffic control.
- [YARN-3366](#): Enhanced NodeManager to support classifying/shaping outgoing network bandwidth traffic originating from YARN containers.
- [YARN-3383](#): AdminService should use "warn" instead of "info" to log exception when operation fails.
- [YARN-3387](#): Previous AM's container completed status couldn't pass to current AM if AM and RM restarted during the same time.
- [YARN-3387](#): Previous AM's container completed status couldn't pass to current AM if AM and RM restarted during the same time.
- [YARN-3394](#): Enrich WebApplication proxy documentation.
- [YARN-3397](#): yarn radmin should skip -failover.
- [YARN-3404](#): Display queue name on application page.
- [YARN-3406](#): Display count of running containers in the RM's Web UI.
- [YARN-3410](#): YARN admin should be able to remove individual application records from RMStateStore.
- [YARN-3413](#): Changed Nodelabel attributes

- [YARN-3425](#): NPE from RMNodeLabelsManager.serviceStop when NodeLabelsManager.serviceInit failed.
- [YARN-3433](#): Jersey tests failing with Port in Use -again.
- [YARN-3435](#): AM container to be allocated Appattempt AM container shown as null.
- [YARN-3443](#): Create a 'ResourceHandler' subsystem to ease addition of support for new resource types on the NM.
- [YARN-3448](#): Added a rolling time-to-live LevelDB timeline store implementation.
- [YARN-3451](#): Display attempt start time and elapsed time on the web UI.
- [YARN-3453](#): Ensure preemption logic in FairScheduler uses DominantResourceCalculator in DRF queues to prevent unnecessary thrashing.
- [YARN-3459](#): Fix failiure of TestLog4jWarningErrorMetricsAppender.
- [YARN-3463](#): Integrate OrderingPolicy Framework with CapacityScheduler.
- [YARN-3467](#): Expose allocatedMB, allocatedVCores, and runningContainers metrics on running Applications in RM Web UI.
- [YARN-3480](#): Remove attempts that are beyond max-attempt limit from state store.
- [YARN-3494](#): Expose AM resource limit and usage in CS QueueMetrics.
- [YARN-3503](#): Expose disk utilization percentage and bad local and log dir counts in NM metrics.
- [YARN-3505](#): Node's Log Aggregation Report with SUCCEED should not cached in RMApps.
- [YARN-3511](#): Add errors and warnings page to ATS.
- [YARN-3517](#): RM web ui for dumping scheduler logs should be for admins only
- [YARN-3521](#): Support return structured NodeLabel objects in REST API.
- [YARN-3530](#): ATS throws exception on trying to filter results without otherinfo.
- [YARN-3541](#): Add version info on timeline service / generic history web UI and REST API.
- [YARN-3543](#): ApplicationReport should be able to tell whether the Application is AM managed or not.
- [YARN-3552](#): RM Web UI shows -1 running containers for completed apps
- [YARN-3565](#): NodeHeartbeatRequest/RegisterNodeManagerRequest should use NodeLabel object instead of String.
- [YARN-3579](#): CommonNodeLabelsManager should support NodeLabel instead of string label name when getting node-to-label/label-to-label mappings.

- [YARN-3580](#): [JDK8] TestClientRMService.testGetLabelsToNodes fails.
- [YARN-3581](#): Deprecate -directlyAccessNodeLabelStore in RMAdminCLI.
- [YARN-3583](#): Support of NodeLabel object instead of plain String in YarnClient side.
- [YARN-3589](#): RM and AH web UI display DOCTYPE wrongly.
- [YARN-3591](#): Resource localization on a bad disk causes subsequent containers failure.
- [YARN-3593](#): Add label-type and Improve "DEFAULT_PARTITION" in Node Labels Page.
- [YARN-3600](#): AM container link is broken
- [YARN-3604](#): removeApplication in ZKRMStateStore should also disable watch.
- [YARN-3632](#): Ordering policy should be allowed to reorder an application when demand changes.
- [YARN-3635](#): Refactored current queue mapping implementation in CapacityScheduler to use a generic PlacementManager framework.
- [YARN-3654](#): ContainerLogsPage web UI should not have meta-refresh.
- [YARN-3695](#): ServerProxy
- [YARN-3695](#): ServerProxy
- [YARN-3700](#): Made generic history service load a number of latest applications according to the parameter or the configuration.
- [YARN-3707](#): RM Web UI queue filter doesn't work.
- [YARN-3717](#): Expose app/am/queue's node-label-expression to RM web UI / CLI / REST-API.
- [YARN-3727](#): For better error recovery, check if the directory exists before using it for localization.
- [YARN-3740](#): Fixed the typo in the configuration name: APPLICATION_HISTORY_PREFIX_MAX_APPS.
- [YARN-3751](#): Fixed AppInfo to check if used resources are null.
- [YARN-3766](#): Fixed the apps table column error of generic history web UI.
- [YARN-3769](#): Consider user limit when calculating total pending resource for preemption policy in Capacity Scheduler.
- [YARN-3785](#): Support for Resource as an argument during submitApp call in MockRM test class.
- [YARN-3846](#): RM Web UI queue filter is not working for sub queue.

- [YARN-3849](#):(Too much of preemption activity causing continuous killing of containers across queues) to 2.3-maint.
- [YARN-3873](#): PendingApplications in LeafQueue should also use OrderingPolicy.
- [YARN-3885](#): ProportionalCapacityPreemptionPolicy doesn't preempt if queue is more than 2 level.
- [YARN-3894](#): RM startup should fail for wrong CS xml NodeLabel capacity configuration.
- [YARN-3896](#): RMNode transitioned from RUNNING to REBOOTED because its response id has not been reset synchronously.
- [YARN-3920](#): FairScheduler container reservation on a node should be configurable to limit it to large containers
- [YARN-3932](#): SchedulerApplicationAttempt#getResourceUsageReport and UserInfo should based on total-used-resources.
- [YARN-3941](#): Proportional Preemption policy should try to avoid sending duplicate PREEMPT_CONTAINER event to scheduler.
- [YARN-3946](#): Update exact reason as to why a submitted app is in ACCEPTED state to app's diagnostic message.
- [YARN-3948](#): Display Application Priority in RM Web UI.(Sunil G via rohithsharmaks).
- [YARN-3961](#): Expose pending, running and reserved containers of a queue in REST api and yarn top
- [YARN-3966](#): Fix excessive loggings in CapacityScheduler.
- [YARN-3971](#): Skip RMNodeLabelsManager#checkRemoveFromClusterNodeLabelsOfQueue on nodelabel recovery.
- [YARN-3978](#): Configurably turn off the saving of container info in Generic AHS
- [YARN-3982](#): container-executor parsing of container-executor.cfg broken in trunk and branch-2.
- [YARN-3983](#): Refactored CapacityScheduler#FiCaSchedulerApp to easier extend container allocation logic.
- [YARN-3986](#): getTransferredContainers in AbstractYarnScheduler should be present in YarnScheduler interface.
- [YARN-3987](#): am container complete msg ack to NM once RM receive it.
- [YARN-4000](#): RM crashes with NPE if leaf queue becomes parent queue during restart.
- [YARN-4023](#): Publish Application Priority to TimelineServer.

- [YARN-4026](#): Refactored ContainerAllocator to accept a list of priorities rather than a single priority.
- [YARN-4082](#): Container shouldn't be killed when node's label updated.
- [YARN-4087](#): Followup fixes after YARN-2019 regarding RM behavior when state-store error occurs.
- [YARN-4092](#): Fixed UI redirection to print useful messages when both RMs are in standby mode.
- [YARN-4101](#): RM should print alert messages if ZooKeeper and Resourcemanager gets connection issue.
- [YARN-4108](#): CapacityScheduler: Improve preemption to only kill containers that would satisfy the incoming request.
- [YARN-4113](#): RM should respect retry-interval when uses RetryPolicies.RETRY_FOREVER.
- [YARN-4140](#): RM container allocation delayed in case of app submitted to NodeLabel partition.
- [YARN-4149](#): yarn logs -am should provide an option to fetch all the log files.
- [YARN-4155](#): TestLogAggregationService.testLogAggregationServiceWithInterval failing.
- [YARN-4162](#): CapacityScheduler: Add resource usage by partition and queue capacity by partition to REST API.
- [YARN-4215](#): RMNodeLabels Manager Need to verify and replace node labels for the only modified Node Label Mappings in the request.
- [YARN-4225](#): Add preemption status to yarn queue -status for capacity scheduler.
- [YARN-4233](#): YARN Timeline Service plugin: ATS v1.5.
- [YARN-4245](#): Generalize config file handling in container-executor.
- [YARN-4270](#): Limit application resource reservation on nodes for non-node/rack specific requests
- [YARN-4285](#): Display resource usage as percentage of queue and cluster in the RM UI
- [YARN-4287](#): Capacity Scheduler: Rack Locality improvement
- [YARN-4288](#): Fixed RMProxy to retry on IOException from local host.
- [YARN-4290](#): Add -showDetails option to YARN Nodes CLI to print all nodes reports information.
- [YARN-4304](#): AM max resource configuration per partition to be displayed/updated correctly in UI and in various partition related metrics.

- [YARN-4309](#): Add container launch related debug information to container logs when a container fails.
- [YARN-4313](#): Race condition in MiniMRYarnCluster when getting history server address.
- [YARN-4315](#): NaN in Queue percentage for cluster apps page.
- [YARN-4329](#): [YARN-5437] Allow fetching exact reason as to why a submitted app is in ACCEPTED state in Fair Scheduler
- [YARN-4345](#): yarn radmin -updateNodeResource doesn't work
- [YARN-4347](#): Resource manager fails with Null pointer exception.
- [YARN-4349](#): YARN_APPLICATION call to ATS does not have YARN_APPLICATION_CALLER_CONTEXT.
- [YARN-4365](#): FileSystemNodeLabelStore should check for root dir existence on startup.
- [YARN-4384](#): updateNodeResource CLI should not accept negative values for resource.
- [YARN-4390](#): Do surgical preemption based on reserved container in CapacityScheduler.
- [YARN-4392](#): ApplicationCreatedEvent event time resets after RM restart/failover.
- [YARN-4393](#): TestResourceLocalizationService#testFailedDirsResourceRelease fails intermittently.
- [YARN-4403](#):
- [YARN-4405](#): Support node label store in non-appendable file system.
- [YARN-4414](#): Nodemanager connection errors are retried at multiple levels.
- [YARN-4414](#): Nodemanager connection errors are retried at multiple levels.
- [YARN-4416](#): Deadlock due to synchronised get Methods in AbstractCSQueue.
- [YARN-4417](#): Make RM and Timeline-server REST APIs more consistent.
- [YARN-4418](#): AM Resource Limit per partition can be updated to ResourceUsage as well.
- [YARN-4422](#): Generic AHS sometimes doesn't show started, node, or logs on App page.
- [YARN-4422](#): Generic AHS sometimes doesn't show started, node, or logs on App page.
- [YARN-4428](#): Redirect RM page to AHS page when AHS turned on and RM page is not available.
- [YARN-4428](#): Redirect RM page to AHS page when AHS turned on and RM page is not available.
- [YARN-4439](#): Clarify NMContainerStatus#toString method.

- [YARN-4454](#): NM to nodelabel mapping going wrong after RM restart.
- [YARN-4477](#): FairScheduler: Handle condition which can result in an infinite loop in attemptScheduling.
- [YARN-4479](#): Change CS LeafQueue pendingOrderingPolicy to honor recovered apps.
- [YARN-4497](#): RM might fail to restart when recovering apps whose attempts are missing.
- [YARN-4502](#): Fix two AM containers get allocated when AM restart.
- [YARN-4522](#): Queue acl can be checked at app submission.
- [YARN-4535](#): Fix checkstyle error in CapacityScheduler.java
- [YARN-4546](#): YARN-4546. ResourceManager crash due to scheduling opportunity overflow.
- [YARN-4546](#): YARN-4546. ResourceManager crash due to scheduling opportunity overflow.
- [YARN-4556](#): TestFifoScheduler.testResourceOverCommit fails.
- [YARN-4557](#): Fix improper Queues sorting in PartitionedQueueComparator when accessible-node-labels=*
- [YARN-4565](#):
- [YARN-4573](#): Fix test failure in TestRMAppTransitions#testAppRunningKill and testAppKilledKilled.
- [YARN-4584](#): RM startup failure when AM attempts greater than max-attempts.
- [YARN-4591](#): YARN Web UIs should provide a robots.txt. Junping Du.
- [YARN-4598](#): Invalid event: RESOURCE_FAILED at CONTAINER_CLEANEDUP_AFTER_KILL.
- [YARN-4598](#): Invalid event: RESOURCE_FAILED at CONTAINER_CLEANEDUP_AFTER_KILL.
- [YARN-4607](#): Pagination support for AppAttempt page TotalOutstandingResource Requests table.
- [YARN-4610](#): Reservations continue looking for one app causes other apps to starve.
- [YARN-4617](#): LeafQueue#pendingOrderingPolicy should always use fixed ordering policy instead of using same as active applications ordering policy.
- [YARN-4623](#): TestSystemMetricsPublisher#testPublishAppAttemptMetricsForUnmanagedAM fails with NPE on branch-2.7.
- [YARN-4625](#): Make ApplicationSubmissionContext and ApplicationSubmissionContextInfo more consistent.

- [YARN-4633](#): TestRMRestart.testRMRestartAfterPreemption fails intermittently.
- [YARN-4634](#): Scheduler UI/Metrics need to consider cases like non-queue label mappings.
- [YARN-4667](#): RM Admin CLI for refreshNodesResources throws NPE when nothing is configured.
- [YARN-4680](#): Fix TimerTasks leak in ATS V1.5 Writer.
- [YARN-4696](#): TimelineClient to add flush operation for deterministic writes
- [YARN-4697](#): NM aggregation thread pool is not bound by limits
- [YARN-4699](#): Scheduler UI and REST o/p is not in sync when -replaceLabelsOnNode is used to change label of a node.
- [YARN-4709](#): NMWebServices produces incorrect JSON for containers.
- [YARN-4709](#): NMWebServices produces incorrect JSON for containers.
- [YARN-4723](#): NodesListManager\$UnknownNodeId ClassCastException.
- [YARN-4737](#): Add CSRF filter support in YARN
- [YARN-4737](#): Add CSRF filter support in YARN
- [YARN-4746](#): yarn web services should convert parse failures of appId, appAttemptId and containerId to 400.
- [YARN-4767](#): Network issues can cause persistent RM UI outage.
- [YARN-4769](#): Add support for CSRF header in the dump capacity scheduler logs and kill app buttons in RM web UI.
- [YARN-4785](#): Inconsistent value type of the "type" field for LeafQueueInfo in response of RM REST API.
- [YARN-4785](#): Inconsistent value type of the "type" field for LeafQueueInfo in response of RM REST API.
- [YARN-4811](#): Generate histograms in ContainerMetrics for actual container resource usage.
- [YARN-4814](#): ATS 1.5 timelineclient impl call flush after every event write.
- [YARN-4815](#): ATS 1.5 timelineclient impl try to create attempt directory for every event call.
- [YARN-4817](#): TimelineClient ATsv1.5 logging is very noisy.
- [YARN-4822](#): Refactor existing Preemption Policy of CS for easier adding new approach to select preemption candidates.

- [YARN-4832](#): NM side resource value should get updated if change applied in RM side.
- [YARN-4842](#): Fixed "yarn logs" command to guess
- [YARN-4844](#): Add getMemorySize/getVirtualCoresSize to o.a.h.y.api.records.Resource.
- [YARN-4846](#): Fix random failures for TestCapacitySchedulerPreemption #testPreemptionPolicyShouldRespectAlreadyMarkedKillableContainers.
- [YARN-4865](#): Track Reserved resources in ResourceUsage and QueueCapacities.
- [YARN-4890](#): Unit test intermittent failure: TestNodeLabelContainerAllocation#testQueueUsedCapacitiesUpdate.
- [YARN-4893](#): Fix intermittent failures in TestRMAdminService.
- [YARN-4905](#): Improved "yarn logs" command-line to optionally show log metadata also.
- [YARN-4913](#): Yarn logs should take a -out option to write to a directory.
- [YARN-4916](#): TestNMProxy.testNMProxyRPCRetry fails.
- [YARN-4920](#): ATS/NM should support a link to download/get the logs in text format.
- [YARN-4934](#): Reserved Resource for QueueMetrics needs to be handled correctly in few cases.
- [YARN-4955](#): Add retry for SocketTimeoutException in TimelineClient.
- [YARN-4966](#): Improve yarn logs to fetch container logs without specifying nodeld.
- [YARN-4984](#): LogAggregationService shouldn't swallow exception in handling createAppDir() which cause thread leak.
- [YARN-4990](#): Re-direction of a particular log file within in a container in NM UI does not redirect properly.
- [YARN-5023](#): TestAMRestart#testShouldNotCountFailureToMaxAttemptRetry random failure.
- [YARN-5048](#): DelegationTokenRenewer#skipTokenRenewal may throw NPE.
- [YARN-5069](#): TestFifoScheduler.testResourceOverCommit race condition.
- [YARN-5076](#): YARN web interfaces lack XFS
- [YARN-5080](#): Cannot obtain logs using YARN CLI -am for either KILLED or RUNNING AM.
- [YARN-5083](#): YARN CLI for AM logs does not give any error message if entered invalid am value.
- [YARN-5088](#): Improve "yarn log" command-line to read the last K bytes for the log files.
- [YARN-5089](#): Improve "yarn log" command-line "logFiles" option to support regex.

- [YARN-5112](#): Excessive log warnings for directory permission issue on NM recovery.
- [YARN-5115](#): Avoid setting CONTENT-DISPOSITION header in the container-logs web-service.
- [YARN-5121](#): fix some container-executor portability issues.
- [YARN-5122](#): "yarn logs" for running containers should print an explicit footer saying that the log may be incomplete.
- [YARN-5131](#): Distributed shell AM fails when extra container arrives during finishing. Wangda Tan via junping_du.
- [YARN-5141](#): Get Container logs for the Running application from Yarn Logs CommandLine.
- [YARN-5190](#): Registering/unregistering container metrics triggered by ContainerEvent and ContainersMonitorEvent are conflict which cause uncaught exception in ContainerMonitorImpl.
- [YARN-5191](#): Renamed the newly added "download=true" option for getting logs via NMWebServices and AHSWebServices to be a better "format" option.
- [YARN-5199](#): Close LogReader in in AHSWebServices#getStreamingOutput and FileInputStream in NMWebServices#getLogs.
- [YARN-5200](#): Enhanced "yarn logs" to be able to get a list of containers whose logs are aggregated via a "show_container_log_info" option.
- [YARN-5206](#): RegistrySecurity includes id:pass in exception text if considered invalid.
- [YARN-5208](#): Run TestAMRMClient TestNMClient TestYarnClient TestClientRMTokens TestAMAuthorization tests with hadoop.security.token.service.use_ip enabled.
- [YARN-5213](#): Fix a bug in LogCLIHelpers which cause TestLogsCLI#testFetchApplicationLogs fails intermittently.
- [YARN-5214](#): Fixed locking in DirectoryCollection to avoid hanging NMs when various code-paths hit slow disks.
- [YARN-5223](#): Container line in yarn logs output for a live application should include the hostname for the container.
- [YARN-5224](#): Added new web-services /containers/{containerid}/logs & /containers/{containerid}/logs/{filename} and using them in "yarn logs" CLI to get logs of finished containers of a running application.
- [YARN-5226](#): Remove AHS enable check from LogsCLI#fetchAMContainerLogs.
- [YARN-5227](#): Yarn logs command: no need to specify applicationId when specifying containerId.
- [YARN-5251](#): Yarn CLI to obtain App logs for last 'n' bytes fails.

- [YARN-5266](#): Wrong exit code while trying to get app logs using regex via CLI.
- [YARN-5270](#): Solve miscellaneous issues caused by YARN-4844.
- [YARN-5294](#): Pass remote ip address down to YarnAuthorizationProvider.
- [YARN-5296](#): NMs going OutOfMemory because ContainerMetrics leak in ContainerMonitorImpl.
- [YARN-5297](#): Avoid printing a stack trace when recovering an app after the RM restarts.
- [YARN-5337](#): Fix Dshell OOM issues.
- [YARN-5339](#): Passing file to -out for YARN log CLI doesnt give warning or error code.
- [YARN-5353](#): ResourceManager can leak delegation tokens when they are shared across apps.
- [YARN-5363](#): For AM containers, or for containers of running-apps, "yarn logs" incorrectly only
- [YARN-5456](#): container-executor support for FreeBSD, NetBSD, and others if conf path is absolute.
- [YARN-5470](#): Differentiate exactly match with regex in yarn log CLI.
- [YARN-5476](#): Not existed application reported as ACCEPTED state by YarnClientImpl.
- [YARN-5523](#): Yarn running container log fetching causes OutOfMemoryError
- [YARN-5524](#): Yarn live log aggregation does not throw if command line arg is wrong.
- [YARN-5539](#): TimelineClient failed to retry on java.net.SocketTimeoutException: Read timed out.
- [YARN-5549](#): AMLauncher#createAMContainerLaunchContext() should not log the command to be launched indiscriminately.
- [YARN-5551](#): Ignore file backed pages from memory computation when smaps is enabled.
- [YARN-5659](#): getPathFromYarnURL should use standard methods.
- [YARN-5677](#): RM should transition to standby when connection is lost for an extended period.
- [YARN-5704](#): Provide config knobs to control enabling/disabling new/work in progress features in container-executor.
- [YARN-5711](#): Propagate exceptions back to client when using hedging RM failover provider.
- [YARN-5718](#): TimelineClient

- [YARN-5773](#): RM recovery too slow due to LeafQueue#activateApplications.
- [YARN-5864](#): Capacity Scheduler queue priority.
- [YARN-5873](#): RM crashes with NPE if generic application history is enabled.
- [YARN-5915](#): ATS 1.5 FileSystemTimelineWriter causes flush() to be called after every event write.
- [YARN-5923](#): Unable to access logs for a running application if YARN_ACL_ENABLE is enabled.
- [YARN-5999](#): AMRMClientAsync will stop if any exceptions thrown on allocate call.
- [YARN-6011](#): Add a new web service to list the files on a container in AHSWebService.
- [YARN-6029](#): CapacityScheduler deadlock when ParentQueue#getQueueUserAcInfo is called by one thread and LeafQueue#assignContainers is releasing excessive reserved container by another thread.
- [YARN-6068](#): Log aggregation get failed when NM restart even with recovery.
- [YARN-6081](#): LeafQueue#getTotalPendingResourcesConsideringUserLimit should deduct reserved from pending to avoid unnecessary preemption of reserved container.
- [YARN-6099](#): Improve webservice to list aggregated log files.
- [YARN-6100](#): Improve YARN webservice to output aggregated container logs.
- [YARN-6108](#): Improve AHS webservice to accept NM address as a parameter to get container logs.
- [YARN-6113](#): Re-direct NM Web Service to get container logs for finished applications.
- [YARN-6123](#): Add a test to make sure queues of orderingPolicy will be updated when childQueues is added or removed.
- [YARN-6126](#): Obtaining app logs for Running application fails with json parse error.
- [YARN-6137](#): Yarn client implicitly invoke ATS client which accesses HDFS.
- [YARN-6145](#): Improve log message on fail over.
- [YARN-6174](#): Log files pattern should be same for both running and finished container.
- [YARN-6189](#): ApplicationNotFoundException due to RM failed over should throw more user friendly exception.
- [YARN-6228](#): EntityGroupFSTimelineStore should allow configurable cache stores.
- [YARN-6270](#): WebUtils.getRMWebAppURLWithScheme() needs to honor RM HA setting.
- [YARN-6313](#): yarn logs cli should provide logs for a completed container even when application is still running.

- [YARN-6314](#): Potential infinite redirection on YARN log redirection web service.
- [YARN-6332](#): Make RegistrySecurity use short user names for ZK ACLs.
- [YARN-6367](#): YARN logs CLI needs always check containerLogsInfo/containerLogInfo before parse the JSON object from NMWebService.

1.7.2. Accumulo

This release provides Accumulo 1.7.0 with no additional Apache patches.

HDP 2.6.0 provided Accumulo 1.7.0 with no additional Apache patches.

1.7.3. Atlas

This release provides Atlas 0.8.0 and the following Apache patches:

- [ATLAS-855](#): Atlas logs contain stale transaction eviction message.
- [ATLAS-1433](#): Atlas allows creation of tag with attributes' name same as that of its parent tags.
- [ATLAS-1611](#): Regression: Incorrect error code for the negative tests, returned: 500 server error, expected: 400 bad request.
- [ATLAS-1644](#): Taxonomy API /api/atlas/v1/taxonomies is broken.(sumasai).
- [ATLAS-1660](#): Error code mismatch in while GETing a type that doesn't exist.
- [ATLAS-1663](#): Fix defects reported by Coverity Scan.
- [ATLAS-1672](#): fix for issues flagged by Coverity scan.
- [ATLAS-1673](#): Type deletion should check for reference & instances.
- [ATLAS-1680](#): Support for browser login using kerberos keytab.
- [ATLAS-1681](#): Added type validations for compatibility with legacy typesystem.
- [ATLAS-1684](#): export should include super-type definitions, import should preserve system attribute values.
- [ATLAS-1685](#): fix for issues flagged by coverity scan.
- [ATLAS-1686](#): fixed import to use the given guid, instead of looking into store with unique attribute.
- [ATLAS-1688](#): fix lineage UI resize issues.
- [ATLAS-1697](#): fix log4j configuration for import-hive.sh.
- [ATLAS-1707](#): fix to remove external css reference for font file.

- [ATLAS-1709](#): Unit tests for import and export APIs.
- [ATLAS-1710](#): added entity-lookup API for entity create/update UI.
- [ATLAS-1710](#): added entity-lookup API for entity create/update UI (#2).
- [ATLAS-1714](#): UI : Properties tab doesn't load when an entity has attribute of type array of integers.
- [ATLAS-1717](#): IX-Documentation.
- [ATLAS-1718](#): UI update to support enum-type attributes for tags.
- [ATLAS-1719](#): updated tag association UI to support enum-type attribute values from a drop-down.
- [ATLAS-1721](#): updated action-string in the audit logs generated during import.
- [ATLAS-1724](#): [ATLAS-1722](#): fix export to report error while exporting a non-existing entity.
- [ATLAS-1726](#): Creating type name with space causes exceptions while doing DSL search.
- [ATLAS-1727](#): Mask userdetails in quick Start utility.
- [ATLAS-1730](#): fixes in type validations and special character handling in attribute names.
- [ATLAS-1732](#): After Zoom_out from Lineage view scroll stopped working.
- [ATLAS-1735](#): Coverity Scan Fixes for 4/13.
- [ATLAS-1736](#): fixes in type validations and special character handling in attribute names.
- [ATLAS-1737](#): UI - Delete tag(classification) from UI.
- [ATLAS-1742](#): Provide option to exclude deleted entities in basic and fulltext search.
- [ATLAS-1744](#): Error when searching type with attribute name order , limit , offset (sumasai).
- [ATLAS-1745](#): Add google fonts license information to 3party-licenses.
- [ATLAS-1747](#): fixes in type validations and special character handling in attribute names.
- [ATLAS-1750](#): type ahead for entity input in create/update entity UI.
- [ATLAS-1751](#): Implement REST endpoint to support update of classification attribute.
- [ATLAS-1752](#): Fix for Atlas group for kerberos authentication.
- [ATLAS-1755](#): added checkbox to exclude deleted entities in basic and fulltext search.
- [ATLAS-1756](#): UI update to allow user to edit tag attribute values.
- [ATLAS-1759](#): UI - Add checkbox to exclude deleted entities in schema table.

- [ATLAS-1760](#): UI update to render property value per attribute type in entity definition.
- [ATLAS-1761](#): improve attribute search to enable search based on display text.
- [ATLAS-1762](#): updated error code returned by type create/updated APIs.
- [ATLAS-1767](#): Support KNOX SSO Token based authentication on Atlas REST API calls.
- [ATLAS-1771](#): confirmation dialog while deleting tag appears incorrectly in IE-9.
- [ATLAS-1776](#): UI fix to not hide 'Include historical entities' checkbox when searching a type with all DELETED entities.
- [ATLAS-1780](#): Type deletion should invalidate property keys in Titan to allow re-creation with different data type if needed.
- [ATLAS-1812](#): On browser refresh if, tag is doesn't exist, then URL should update with the first tag.
- [ATLAS-1815](#): Basic search API might return fewer entities when `excludeDeletedEntities=true`.
- [ATLAS-1816](#): button to navigate to next page in search-result is disabled incorrectly.
- [ATLAS-1818](#): basic-search enhancements to improve search performance.

HDP 2.6.0 provided Atlas 0.8.0 and the following Apache patches:

- [ATLAS-1333](#): fix for incorrect json4s library version in Atlas Storm hook.
- [ATLAS-1469](#): User provided values for tag attributes should be evaluated for its data type..
- [ATLAS-1470](#): Tag is not associated to an entity when incorrect value for byte type is provided.
- [ATLAS-1503](#): optimization of export implementation.
- [ATLAS-1611](#): incorrect error code for negative tests (#2).
- [ATLAS-1630](#): basic search performance improvement (#3).
- [ATLAS-1659](#): Update full-text search string when traits/tags are added/removed from entity.
- [ATLAS-1664](#): Able to add already added tag to an entity through REST API.
- [ATLAS-1665](#): export optimization to reduce file-size and export-time.
- [ATLAS-1666](#): fix for IT failures caused by earlier commit.
- [ATLAS-1666](#): Updated exception handling to avoid use of generic exceptions.
- [ATLAS-1667](#): Atlas UI cleanup for lineage.

- [ATLAS-1669](#): Removed Unused class.
- [ATLAS-1670](#): fix for IT failures introduced due to ATLAS-1664.
- [ATLAS-1671](#): fix for missing client IP in Ranger audit log for Atlas authorizations.
- [ATLAS-1675](#): type-registry re-initialization failure when instance goes from passive to active state.
- [ATLAS-1676](#): update Hive hook to set `hdfs_path.clusterName` attribute.
- [ATLAS-1682](#): UI update to add new overlay loader to tables; fix incorrect state while switching between basic and Advance search.
- [ATLAS-1687](#): `hbase_column_family` and `hbase_column` are not loaded after upgrade.

1.7.4. DataFu

This release provides DataFu 1.3.0 with no additional Apache patches.

HDP 2.6.0 provides DataFu 1.3.0 with no additional Apache patches.

1.7.5. Falcon

This release provides Falcon 0.10.0 with no additional Apache patches.

HDP 2.6.0 provided Falcon 0.10.0 and the following Apache patches:

- [FALCON-1944](#): Ability to provide additional DistCP options.
- [FALCON-2066](#): Extend support for Import and Export of various database types.
- [FALCON-2072](#): Hive2 URLs in Falcon should allow additional configuration elements in the URL.
- [FALCON-2082](#): Add CSRF filter for REST APIs.
- [FALCON-2083](#): Handle connector specific direct mode and verbose options for Database Import and Export.
- [FALCON-2093](#): Database import and export to support TD connector.
- [FALCON-2095](#): Hive Replication jobs are failing with `UnknownHostException` in NN HA.
- [FALCON-2117](#): Implement `X-Frame-Options` header for Falcon UI.
- [FALCON-2118](#): Proposal for new UI changes for FALCON.
- [FALCON-2273](#): Disallow external entity injection and clean up some log messages.
- [FALCON-2280](#): Unable to create mirror on WASB target.

- [FALCON-2281](#): HiveDRTest tests are getting permissions denied.

1.7.6. Flume

This release provides Flume 1.5.2 with no additional Apache patches.

HDP 2.6.0 provides Flume 1.5.2 and the following Apache patch:

- [FLUME-1334](#): Flume startup script for Windows.
- [FLUME-1734](#): Hive Sink based on the new Hive Streaming support.
- [FLUME-2058](#): TestFlumeEventQueue in FileChannel fails on Windows.
- [FLUME-2068](#): File Channel issue - recovering from BadCheckpoint exception on Windows.
- [FLUME-2095](#): JMS source with TIBCO (patch-1).
- [FLUME-2122](#): Minor cleanups of User guide.
- [FLUME-2123](#): Morphline Solr sink missing short type name.
- [FLUME-2136](#): Fix intermittent test failure in TestMonitoredCounterGroup on Windows.
- [FLUME-2137](#): Fix StagedInstall.java to invoke the correct startup script on Windows.
- [FLUME-2145](#): TestCheckpointRebuilder.testFastReplay fails on Windows.
- [FLUME-2146](#): Windows: Tmp file creation in TestBodyTextEventSerializer.java needs fixing.
- [FLUME-2150](#): Fix TestFileChannelEncryption failure on Windows.
- [FLUME-2151](#): Windows: Update TestExecSource to use native commands on Windows.
- [FLUME-2162](#): TestHDFSEventSinkOnMiniCluster.maxUnderReplicationTest fails on hadoop2.
- [FLUME-2175](#): Update Developer Guide with notes on how to upgrade Protocol Buffer version.
- [FLUME-2218](#): TestFileChannelIntegrityTool tests failing on Windows.
- [FLUME-2219](#): Windows: Flume tests need to know location of Hadoop native libraries (hadoop.dll).
- [FLUME-2224](#): Disable File channel dual checkpointing on Windows.
- [FLUME-2226](#): Refactor BlobHandler out of morphline sink and into HTTP source.
- [FLUME-2227](#): Move BlobDeserializer from Morphline Sink to flume-ng-core.
- [FLUME-2337](#): export JAVA_HOME in flume-env.sh.template and increase heap size.

- [FLUME-2358](#): File Channel needs to close BackingStore & EventQueue before deleting files in checkpoint directory.
- [FLUME-2359](#): TestFileChannelIntegrityTool throws exception on class teardown on Windows.
- [FLUME-2402](#): Warning seen when overflow is disabled for Spillable Channel.
- [FLUME-2407](#): Spillable Channel sometimes fails on reconfigure.
- [FLUME-2412](#): Improve Logging in Spillable Channel.
- [FLUME-2441](#): Unit test TestHTTPSource.java failed with IBM JDK 1.7.
- [FLUME-2442](#): Need an alternative to providing clear text passwords in flume config.
- [FLUME-2450](#): Improve replay index insertion speed.
- [FLUME-2451](#): HDFS Sink Cannot Reconnect After NameNode Restart.
- [FLUME-2501](#): Updating HttpClient lib version to ensure compat with Solr.
- [FLUME-2508](#): LineDeserializer causes incorrect behavior in SpoolDir Source on Windows.
- [FLUME-2511](#): Allow configuration of enabled protocols in Avro source and Rpc client.
- [FLUME-2520](#): HTTP Source should be able to block a prefixed set of protocols..
- [FLUME-2530](#): Resource leaks found by Coverity tool.
- [FLUME-2532](#): Windows : TestReliableSpoolingFileEventReader - need to close filereader.
- [FLUME-2533](#): HTTPS tests fail on Java 6.
- [FLUME-2534](#): Windows : Windows : TestFlumeEventQueue has many failures.
- [FLUME-2541](#): Bug in TestBucketWriter.testSequenceFileCloseRetries.
- [FLUME-2586](#): HDFS Sink should have an option to try rename even if close fails.
- [FLUME-2595](#): Add option to checkpoint on file channel shutdown.
- [FLUME-2624](#): Streaming ingest performance improvement.
- [FLUME-2632](#): High CPU on KafkaSink.
- [FLUME-2655](#): Update documentation for hdfs.closeTries based on FLUME-2586.
- [FLUME-2662](#): Upgrade to Commons-IO 2.4.
- [FLUME-2663](#): Address Build warnings of duplicate dependencies listed.
- [FLUME-2722](#): Windows : TestKafkaSourceUtil Unit Tests fail on Windows.

- [FLUME-2729](#): Allow pollableSource backoff times to be configurable.
- [FLUME-2754](#): Hive Sink skipping first transaction in each Batch of Hive Transactions.
- [FLUME-2761](#): Move Hive sink out of preview mode.
- [FLUME-2804](#): Hive sink should try to clean up transactions when flume exits.
- [FLUME-2812](#): Fix semaphore leak causing java.lang.Error: Maximum permit count exceeded in MemoryChannel.
- [FLUME-2841](#): Upgrade commons-collections to 3.2.2.
- [FLUME-2854](#): parameterizing jetty version..
- [FLUME-2865](#): Upgrade thrift version (0.9.2).
- [FLUME-2947](#): Upgrade Hive and thrift dependencies.
- [FLUME-2991](#): ExecSource command execution starts before starting the sourceCounter.
- [FLUME-3031](#): Sequence source should reset its counter for event body on channel exception.
- [FULME-2544](#): Windows: Incorrect Path Separator used in HDFS path (HDFS Sink).

1.7.7. HBase

This release provides HBase 1.1.2 and the following Apache patches:

- [HBASE-17287](#): Master becomes a zombie if filesystem object closes.
- [HBASE-17501](#): guard against NPE while reading FileTrailer and HFileBlock.
- [HBASE-17779](#): disable_table_replication returns misleading message and does not turn off replication.
- [HBASE-17785](#): RSGroupBasedLoadBalancer fails to assign new table regions when cloning snapshot.
- [HBASE-17861](#): Regionserver down when checking the permission of staging dir if hbase.rootdir is on S3.
- [HBASE-18036](#): Data locality is not maintained after cluster restart or SSH.
- [HBASE-18067](#): Allow default FORMATTER for shell put/get commands.
- [HBASE-18075](#): Support non-latin table names and namespaces.

HDP 2.6.0 provided HBase 1.1.2 and the following Apache patches:

- [BUG-45027](#);/BUG-45361 Fix hostname used with Kerberos on Dual-Homed clusters..

- [HBASE-13318](#): RpcServer.getListenerAddress should handle when the accept channel is closed (Andrew Purtell).
- [HBASE-13829](#): Add more ThrottleType (Guanghao Zhang).
- [HBASE-14123](#): HBase Backup/Restore Phase 2.
- [HBASE-14140](#): HBase Backup Admin API.
- [HBASE-14148](#): Web UI Framable Page.
- [HBASE-14172](#): Upgrade existing thrift binding using thrift 0.9.3 compiler (Josh Elser).
- [HBASE-14258](#): Make region_mover.rb script case insensitive with regard to hostname.
- [HBASE-14269](#): FuzzyRowFilter omits certain rows when multiple fuzzy key exist.
- [HBASE-14283](#): Reverse scan doesn't work with HFile inline index/bloom blocks.
- [HBASE-14302](#): TableSnapshotInputFormat should not create back references when restoring snapshot.
- [HBASE-14307](#): Incorrect use of positional read api in HFileBlock (Chris Nauroth).
- [HBASE-14313](#): After a Connection sees ConnectionClosingException it never recovers (Elliott Clark).
- [HBASE-14407](#): NotServingRegion: hbase region closed forever (Shuaifeng Zhou).
- [HBASE-14449](#): Rewrite deadlock prevention for concurrent connection close.
- [HBASE-14535](#): Integration test for rpc connection concurrency / deadlock testing (Enis Soztutar).
- [HBASE-14536](#): Balancer & SSH interfering with each other leading to unavailability.
- [HBASE-14598](#): ByteBufferOutputStream grows its HeapByteBuffer beyond JVM limitations (Ian Friedman).
- [HBASE-14635](#): Fix flaky test TestSnapshotCloneIndependence.
- [HBASE-14655](#): Narrow the scope of doAs() calls to region observer notifications for compaction.
- [HBASE-14667](#): HBaseFsck constructors have diverged (Matteo).
- [HBASE-14680](#): Two configs for snapshot timeout and better defaults.
- [HBASE-14712](#): Increase MasterProcWALs clean up granularity (Matteo Bertozzi).
- [HBASE-14805](#): status should show the master in shell (Enis).
- [HBASE-14818](#): user_permission does not list namespace permissions (li xiang).

- [HBASE-14843](#): TestWALProcedureStore.testLoad is flakey (Matteo Bertozz).
- [HBASE-14850](#): C++ client implementation (TECH PREVIEW. DO NOT DEPLOY IN PROD).
- [HBASE-14906](#): Improvements on FlushLargeStoresPolicy (Yu Li).
- [HBASE-14947](#): WALProcedureStore improvements (Matteo Bertozzi).
- [HBASE-14963](#): Remove Guava dependency from HBase client code (ddas).
- [HBASE-15019](#): Replication stuck when HDFS is restarted (Matteo).
- [HBASE-15100](#): Master WALProcs still never clean up (Matteo Bertozzi).
- [HBASE-15125](#): HBaseFsk's adoptHdfsOrphan function creates region with wrong end key boundary (chenrongwei).
- [HBASE-15136](#): Explore different queuing behaviors while busy.
- [HBASE-15142](#): Procedure v2 - Basic WebUI listing the procedures (Matteo).
- [HBASE-15144](#): Procedure v2 - Web UI displaying Store state.
- [HBASE-15146](#): Don't block on Reader threads.
- [HBASE-15221](#): Reload the cache on re-tried puts in HTableMultiplexer and adds a close() method to HTableMultiplexer.
- [HBASE-15232](#): Handle region location cache mgmt in AsyncProcess for multi()'s.
- [HBASE-15292](#): Refined ZooKeeperWatcher to prevent ZooKeeper's callback while construction (Hiroshi Ikeda).
- [HBASE-15306](#): Make RPC call queue length dynamically configurable.
- [HBASE-15377](#): Per-RS Get metric is time based, per-region metric is size-based (Heng Chen).
- [HBASE-15378](#): Scanner cannot handle heartbeat message with no results (Phil Yang).
- [HBASE-15465](#): userPermission returned by getUserPermission() for the selected namespace does not have namespace set (li xiang).
- [HBASE-15518](#): Add per-table metrics.
- [HBASE-15519](#): Add per-user metrics.
- [HBASE-15636](#): hard coded wait time out value in HBaseTestingUtility#waitUntilAllRegionsAssigned might cause test failure (Stephen Yuan Jiang).
- [HBASE-15752](#): ClassNotFoundException is encountered when custom WAL codec is not found in WALPlayer job.

- [HBASE-15767](#): upgrade httpclient to 4.3.6.
- [HBASE-15808](#): Reduce potential bulk load intermediate space usage and waste (Jerry He).
- [HBASE-15817](#): Backup history should mention the type (full or incremental) of the backup.
- [HBASE-15842](#): SnapshotInfo should display ownership information.
- [HBASE-15850](#): Localize the configuration change in testCheckTableLocks to reduce flakiness of TestHBaseFsck test suite (Stephen Yuan Jiang).
- [HBASE-15858](#): Some region server group shell commands don't work.
- [HBASE-15861](#): Add support for table sets in restore operation .
- [HBASE-15862](#): Backup - Delete- Restore does not restore deleted data.
- [HBASE-15873](#): ACL for snapshot restore / clone is not enforced.
- [HBASE-15880](#): RpcClientImpl#tracedWriteRequest incorrectly closes HTrace span (Mikhail).
- [HBASE-15884](#): NPE in StoreFileScanner#skipKVsNewerThanReadpoint during reverse scan (Sergey Soldatov).
- [HBASE-15899](#): HBase incremental restore should handle namespaces properly.
- [HBASE-15904](#): Use comma as separator for list of tables in BackupInfo.
- [HBASE-15925](#): compat-module maven variable not evaluated (Sean Busbey).
- [HBASE-15928](#): hbase backup delete command does not remove backup root dir from hdfs.
- [HBASE-15931](#): Add log for long-running tasks in AsyncProcess (Yu Li).
- [HBASE-15933](#): NullPointerException may be thrown from SimpleRegionNormalizer#getRegionSize().
- [HBASE-15953](#): HBase backup set list command does not list any existing sets.
- [HBASE-15971](#): Regression: Random Read/WorkloadC slower in 1.x than 0.98 (Stack).
- [HBASE-15972](#): hbase backup set command should not accept non-existing table.
- [HBASE-16006](#): FileSystem should be obtained from specified path in WALInputFormat#getSplits().
- [HBASE-16007](#): Job's Configuration should be passed to TableMapReduceUtil#addDependencyJars() in WALPlayer.

- [HBASE-16012](#): Major compaction can't work due to obsolete scanner read point in RegionServer (Guanghao Zhang).
- [HBASE-16016](#): Fix overflow deadline value in AssignmentManager#waitForAssignment (Stephen Yuan Jiang).
- [HBASE-16023](#): Fastpath for the FIFO rpcscheduler.
- [HBASE-16037](#): Backup/Restore: Make automatic mode default one (Vladimir Rodionov).
- [HBASE-16045](#): endtime argument for VerifyReplication was incorrectly specified in usage.
- [HBASE-16048](#): Tag InternalScanner with LimitedPrivate(HBaseInterfaceAudience.COPROC).
- [HBASE-16052](#): Improve HBaseFsck Scalability (Ben Lau).
- [HBASE-16056](#): Procedure v2 - fix master crash for FileNotFound (Matteo Bertozzi).
- [HBASE-16059](#): Region normalizer fails to trigger merge action where one of the regions is empty.
- [HBASE-16062](#): Improper error handling in WAL Reader/Writer creation (Vladimir Rodionov).
- [HBASE-16064](#): delete backup command shows HDFS permission error when deleting the intended backup.
- [HBASE-16065](#): hbase backup set describe command does not inform if the set does not exist (Vladimir Rodionov).
- [HBASE-16088](#): hbase restore gives a misleading message if the table doesn't exist.
- [HBASE-16132](#): Scan does not return all the result when regionserver is busy (binlijin).
- [HBASE-16237](#): Blocks for hbase:meta table are not cached in L1 cache.
- [HBASE-16267](#): Remove commons-httpclient dependency from hbase-rest module.
- [HBASE-16284](#): Unauthorized client can shutdown the cluster.
- [HBASE-16288](#): HFile intermediate block level indexes might recurse forever creating multi TB files.
- [HBASE-16314](#): Retry on table snapshot failure.
- [HBASE-16315](#): RegionSizeCalculator prints region names as binary without escapes.
- [HBASE-16319](#): Fix TestCacheOnWrite after HBASE-16288 (Andrew Purtell).
- [HBASE-16350](#): Undo server abort from HBASE-14968.
- [HBASE-16358](#): Backup create command: log success/failure with backup id.

- [HBASE-16359](#): NullPointerException in RSRpcServices.openRegion().
- [HBASE-16367](#): Race between master and region server initialization may lead to premature server abort.
- [HBASE-16377](#): ServerName check is ineffective in region_mover.rb.
- [HBASE-16429](#): FSHLog: deadlock if rollWriter called when ring buffer filled with appends.
- [HBASE-16604](#): Scanner retries on IOException can cause the scans to miss data.
- [HBASE-16675](#): Average region size may be incorrect.
- [HBASE-16678](#): MapReduce jobs do not update counters from ScanMetrics.
- [HBASE-16721](#): Concurrency issue in WAL unflushed seqId tracking.
- [HBASE-16750](#): Updating asciidoctor plugin version.
- [HBASE-16824](#): Writer.flush() can be called on already closed streams in WAL roll.
- [HBASE-16931](#): Setting cell's seqId to zero in compaction flow might cause RS down.
- [HBASE-16985](#): TestClusterId failed due to wrong hbase rootdir.
- [HBASE-17292](#): Add observer notification before bulk loaded hfile is moved to region directory.
- [HBASE-5291](#): Add Kerberos HTTP SPNEGO authentication support to HBase web consoles.

1.7.8. Hive

HDP 2.6.1 provides Hive 1.2.1 and Hive 2.1.0 in addition to the following patches:

Hive 1.2.1 Apache patches:

- [HIVE-11976](#): Extend CBO rules to being able to apply rules only once on a given operator.
- [HIVE-12657](#): selectDistinctStar.q results differ with jdk 1.7 vs jdk 1.8.
- [HIVE-12958](#): Make embedded Jetty server more configurable.
- [HIVE-12958](#): Make embedded Jetty server more configurable.
- [HIVE-13652](#): Import table change order of dynamic partitions.
- [HIVE-14204](#): Optimize loading dynamic partitions.
- [HIVE-14210](#): ExecDriver should call jobclient.close() to trigger cleanup.
- [HIVE-14743](#): ArrayIndexOutOfBoundsException - HBASE-backed views' query with JOINS.
- [HIVE-15556](#): Replicate views.

- [HIVE-15642](#): Replicate Insert Overwrites, Dynamic Partition Inserts and Loads.
- [HIVE-15646](#): Column level lineage is not available for table Views.
- [HIVE-15754](#): exchange partition is not generating notifications.
- [HIVE-15766](#): DBNotificationlistener leaks JDOPersistenceManager.
- [HIVE-15792](#): Hive should raise SemanticException when LPAD/RPAD pad character's length is 0.
- [HIVE-15947](#): Enhance Templetion service job operations reliability.
- [HIVE-15947](#): Enhance Templetion service job operations reliability.
- [HIVE-15993](#): Hive REPL STATUS is not returning last event ID.
- [HIVE-16006](#): Incremental REPL LOAD Inserts doesn't operate on the target database if name differs from source database.
- [HIVE-16006](#): Incremental REPL LOAD Inserts doesn't operate on the target database if name differs from source database.
- [HIVE-16060](#): GenericUDTFJSONTuple's json cache could overgrow beyond its limit.
- [HIVE-16119](#): HiveMetaStoreChecker: remove singleThread logic duplication.
- [HIVE-16171](#): Support replication of truncate table.
- [HIVE-16186](#): REPL DUMP shows last event ID of the database even if we use LIMIT option.
- [HIVE-16193](#): Hive show compactions not reflecting the correct status of the application.
- [HIVE-16197](#): Incremental insert into a partitioned table doesn't get replicated.
- [HIVE-16225](#): Memory leak in webhcat service (FileSystem CACHE entries).
- [HIVE-16225](#): Memory leak in webhcat service (FileSystem CACHE entries).
- [HIVE-16254](#): metadata for values temporary tables for INSERTs are getting replicated during bootstrap.
- [HIVE-16266](#): Enable function metadata to be written during bootstrap.
- [HIVE-16267](#): Enable bootstrap function metadata to be loaded in repl load.
- [HIVE-16268](#): enable incremental repl dump to handle functions metadata.
- [HIVE-16269](#): enable incremental function dump to be loaded via repl load.
- [HIVE-16287](#): Alter table partition rename with location - moves partition back to hive warehouse.

- [HIVE-16290](#): Stats: StatsRulesProcFactory::evaluateComparator estimates are wrong when minVal == filterVal.
- [HIVE-16291](#): Hive fails when unions a parquet table with itself.
- [HIVE-16299](#): MSCK REPAIR TABLE should enforce partition key order when adding unknown partitions.
- [HIVE-16321](#): Possible deadlock in metastore with Acid enabled.
- [HIVE-16347](#): HiveMetastoreChecker should skip listing partitions which are not valid when hive.msck.path.validation is set to skip or ignore.
- [HIVE-16372](#): Enable DDL statement for non-native tables (add/remove table properties).
- [HIVE-16427](#): Fix multi-insert query and write qtests.
- [HIVE-16461](#): DagUtils checks local resource size on the remote fs.
- [HIVE-16461](#): DagUtils checks local resource size on the remote fs.
- [HIVE-16473](#): Hive-on-Tez may fail to write to an HBase table.
- [HIVE-16488](#): Support replicating into existing db if the db is empty.
- [HIVE-16497](#): FileUtils.isActionPermittedForFileHierarchy, isOwnerOfFileHierarchy file system operations should be impersonated.
- [HIVE-16530](#): Add HS2 operation logs and improve logs for REPL commands.
- [HIVE-16567](#): parquet: tolerate when metadata is not set.
- [HIVE-16673](#): Create table as select does not check ownership of the location.
- [HIVE-16678](#): Truncate on temporary table fails with table not found error.
- [HIVE-16710](#): Make MAX_MS_TYPENAME_LENGTH configurable.

Hive 2.1.0 Apache Patches:

- [HIVE-11133](#): Support hive.explain.user for Spar.
- [HIVE-13652](#): Import table change order of dynamic partition.
- [HIVE-13673](#): LLAP: handle case where no service instance is found on the host specified in the input spli.
- [HIVE-14052](#): Cleanup structures when external clients use LLAP.
- [HIVE-14731](#): Cross product running with 1 reducer even when it's fed by 4 mappers and 1 reduce.
- [HIVE-14743](#): ArrayIndexOutOfBoundsException - HBASE-backed views' query with JOIN.

- [HIVE-15231](#): query on view with CTE and alias fails with table not found erro.
- [HIVE-15556](#): Replicate view.
- [HIVE-15642](#): Replicate Insert Overwrites, Dynamic Partition Inserts and Load.
- [HIVE-15702](#): Test timeout : TestDerbyConnecto.
- [HIVE-15708](#): Upgrade calcite version to 1.1.
- [HIVE-15754](#): exchange partition is not generating notification.
- [HIVE-15766](#): DBNotificationlistener leaks JDOPersistenceManage.
- [HIVE-15792](#): Hive should raise SemanticException when LPAD/RPAD pad character's length is .
- [HIVE-15964](#): LLAP: Llap IO codepath not getting invoked due to file column id mismatc.
- [HIVE-15993](#): Hive REPL STATUS is not returning last event l.
- [HIVE-16006](#): Incremental REPL LOAD Inserts doesn't operate on the target database if name differs from source databas.
- [HIVE-16006](#): Incremental REPL LOAD Inserts doesn't operate on the target database if name differs from source databas.
- [HIVE-16044](#): LLAP: Shuffle Handler keep-alive connections are closed from the server sid.
- [HIVE-16053](#): Remove newRatio from llap JAVA_OPTS_BAS.
- [HIVE-16060](#): GenericUDTFJSONTuple's json cache could overgrow beyond its limi.
- [HIVE-16119](#): HiveMetaStoreChecker: remove singleThread logic duplicatio.
- [HIVE-16120](#): Use jvm temporary tmp dir by defaul.
- [HIVE-16123](#): Let user pick the granularity of bucketing and max in row memor.
- [HIVE-16124](#): Drop the segments data as soon it is pushed to HDF.
- [HIVE-16171](#): Support replication of truncate tabl.
- [HIVE-16186](#): REPL DUMP shows last event ID of the database even if we use LIMIT optio.
- [HIVE-16193](#): Hive show compactions not reflecting the correct status of the applicatio.
- [HIVE-16197](#): Incremental insert into a partitioned table doesn't get replicate.
- [HIVE-16219](#): metastore notification_log contains serialized message with non functional field.
- [HIVE-16249](#): With column stats, mergejoin.q throws NP.

- [HIVE-16254](#): metadata for values temporary tables for INSERTs are getting replicated during bootstra.
- [HIVE-16266](#): Enable function metadata to be written during bootstra.
- [HIVE-16266](#): Enable function metadata to be written during bootstra.
- [HIVE-16267](#): Enable bootstrap function metadata to be loaded in repl loa.
- [HIVE-16268](#): enable incremental repl dump to handle functions metadat.
- [HIVE-16269](#): enable incremental function dump to be loaded via repl loa.
- [HIVE-16276](#): Fix NoSuchMethodError: `com.amazonaws.services.s3.transfer.TransferManagerConfiguration.setMultipartUploadThreshol`.
- [HIVE-16287](#): Alter table partition rename with location - moves partition back to hive warehous.
- [HIVE-16290](#): Stats: StatsRulesProcFactory::evaluateComparator estimates are wrong when `minValue == filterValu`.
- [HIVE-16291](#): Hive fails when unions a parquet table with itsel.
- [HIVE-16296](#): use LLAP executor count to configure reducer auto-parallelis.
- [HIVE-16299](#): MSCK REPAIR TABLE should enforce partition key order when adding unknown partition.
- [HIVE-16321](#): Possible deadlock in metastore with Acid enable.
- [HIVE-16330](#): Improve plans for scalar subquer.
- [HIVE-16341](#): Tez Task Execution Summary has incorrect input record counts on some operator.
- [HIVE-16347](#): HiveMetastoreChecker should skip listing partitions which are not valid when `hive.msck.path.validation` is set to skip or ignor.
- [HIVE-16371](#): Add bitmap selection strategy for druid storage handle.
- [HIVE-16372](#): Enable DDL statement for non-native table.
- [HIVE-16380](#): removing global test dependency of jsonasser.
- [HIVE-16385](#): StatsNoJobTask could exit early before all partitions have been processe.
- [HIVE-16386](#): Add debug logging to describe why runtime filtering semijoins are remove.
- [HIVE-16390](#): LLAP IO should take job config into account; also LLAP config should load default.
- [HIVE-16403](#): LLAP UI shows the wrong number of executor.

- [HIVE-16413](#): Create table as select does not check ownership of the locatio.
- [HIVE-16421](#): Runtime filtering breaks user-level explai.
- [HIVE-16423](#): Add hints for semijoi.
- [HIVE-16427](#): Fix multi-insert query and write qtest.
- [HIVE-16436](#): Response times in 'Task Execution Summary' at the end of the job is not correc.
- [HIVE-16441](#): De-duplicate semijoin branches in n-way join.
- [HIVE-16444](#): ATSHook should log AppID/DagID for Te.
- [HIVE-16448](#): Vectorization: Vectorized order_null.q fails with deserialize EOF exception below TEZ ReduceRecordSource.processVectorGrou.
- [HIVE-16457](#): vector_order_null.q failing in hive.
- [HIVE-16461](#): DagUtils checks local resource size on the remote f.
- [HIVE-16462](#): Vectorization: Enabling hybrid grace disables specialization of all reduce side join.
- [HIVE-16473](#): Hive-on-Tez may fail to write to an HBase tabl.
- [HIVE-16482](#): Druid Ser/Des need to use dimension output nam.
- [HIVE-16485](#): Enable outputName for RS operator in explain formatte.
- [HIVE-16488](#): Support replicating into existing db if the db is empt.
- [HIVE-16497](#): FileUtils. isActionPermittedForFileHierarchy, isOwnerOfFileHierarchy file system operations should be impersonate.
- [HIVE-16503](#): LLAP: Oversubscribe memory for noconditional task siz.
- [HIVE-16503](#): LLAP: Oversubscribe memory for noconditional task siz.
- [HIVE-16518](#): Insert override for druid does not replace all existing segment.
- [HIVE-16519](#): Fix exception thrown by checkOutputSpec.
- [HIVE-16520](#): Cache hive metadata in metastor.
- [HIVE-16523](#): VectorHashKeyWrapper hash code for strings is not so goo.
- [HIVE-16530](#): Add HS2 operation logs and improve logs for REPL command.
- [HIVE-16533](#): Vectorization: Avoid evaluating empty groupby key.
- [HIVE-16545](#): LLAP: bug in arena size determination logi.

- [HIVE-16546](#): LLAP: Fail map join tasks if hash table memory exceeds threshol.
- [HIVE-16547](#): LLAP: may not unlock buffers in some case.
- [HIVE-16550](#): Semijoin Hints should be able to skip the optimization if neede.
- [HIVE-16550](#): Semijoin Hints should be able to skip the optimization if neede.
- [HIVE-16553](#): Change default value for hive.tez.bigtable.minsize.semijoin.reductio.
- [HIVE-16568](#): Support complex types in external LLAP InputForma.
- [HIVE-16576](#): Fix encoding of intervals when fetching select query candidates from drui.
- [HIVE-16578](#): Semijoin Hints should use column name, if provided for partition key chec.
- [HIVE-16579](#): CachedStore: improvements to partition col stats caching and cache column stats for unpartitioned tabl.
- [HIVE-16581](#): bug in HIVE-1652.
- [HIVE-16586](#): Fix Unit test failures when CachedStore is enable.
- [HIVE-16588](#): Ressource leak by druid http clien.
- [HIVE-16588](#): Ressource leak by druid http clien.
- [HIVE-16598](#): LlapServiceDriver - create directories and warn of error.
- [HIVE-16599](#): NPE in runtime filtering cost when handling SMB Join.
- [HIVE-16602](#): Implement shared scans with Te.
- [HIVE-16610](#): Semijoin Hint : Should be able to handle more than one hint per alia.
- [HIVE-16628](#): Fix query25 when it uses a mix of MergeJoin and MapJoi.
- [HIVE-16628](#): Fix query25 when it uses a mix of MergeJoin and MapJoi.
- [HIVE-16633](#): username for ATS data shall always be the uid who submit the jo.
- [HIVE-16634](#): LLAP Use a pool of connections to a single A.
- [HIVE-16635](#): Progressbar: Use different timeouts for running querie.
- [HIVE-16637](#): Improve end-of-data checking for LLAP input forma.
- [HIVE-16639](#): LLAP: Derive shuffle thread counts and keep-aliv.
- [HIVE-16651](#): LlapProtocolClientProxy stack trace when using llap input forma.
- [HIVE-16652](#): LlapInputFormat: Seeing "output error" WARN messag.
- [HIVE-16655](#): LLAP: Avoid preempting fragments before they enter th.

- [HIVE-16673](#): Test for HIVE-1641.
- [HIVE-16678](#): Truncate on temporary table fails with table not found erro.
- [HIVE-16690](#): Configure Tez cartesian product edge based on LLAP cluster siz.
- [HIVE-16691](#): Add test for more datatypes for LlapInputForma.
- [HIVE-16692](#): LLAP: Keep alive connection in shuffle handle.
- [HIVE-16702](#): Use LazyBinarySerDe for LLAP InputForma.
- [HIVE-16710](#): Make MAX_MS_TYPENAME_LENGTH configurabl.
- [HIVE-16717](#): Extend shared scan optimizer to handle partition.
- [HIVE-16724](#): increase session timeout for LLAP ZK token manage.
- [HIVE-16737](#): LLAP: Shuffle handler TCP listen queue overflow.
- [HIVE-16742](#): cap the number of reducers for LLAP at the configured valu.
- [HIVE-16751](#): [Hive-Druid Storagehandler](#): Tests failed as there is output-diff for query on timestamp datatyp.
- [HIVE-16776](#): Strange cast behavior for table backed by drui.
- [HIVE-16777](#): LLAP: Use separate tokens and UGI instances when an external client is use.
- [HIVE-16779](#): cachedStore leak PersistenceManager resource.

HDP 2.6.0 provided Hive 1.2.1 and Hive 2.1.0 in addition to the following patches:

Hive 1.2.1 Apache patches:

- [HIVE-10562](#): Add versioning/format mechanism to NOTIFICATION_LOG entries, expand MESSAGE siz.
- [HIVE-10924](#): add support for MERGE statemen.
- [HIVE-11030](#): Enhance storage layer to create one delta file per writ.
- [HIVE-11293](#): HiveConnection.setAutoCommit(true) throws exception .
- [HIVE-11594](#): Analyze Table for column names with embedded space.
- [HIVE-11616](#): DelegationTokenSecretManager reuses the same objectstore, which has concurrency issue.
- [HIVE-11935](#): Race condition in HiveMetaStoreClient: isCompatibleWith and clos.
- [HIVE-12077](#): MSCK Repair table should fix partitions in batche.

- [HIVE-12594](#): X lock on partition should not conflict with S lock on DB.
- [HIVE-12664](#): Bug in reduce deduplication optimization causing ArrayOutOfBoundsException.
- [HIVE-12968](#): genNotNullFilterForJoinSourcePlan: needs to merge predicates into the multi-AND.
- [HIVE-13014](#): RetryingMetaStoreClient is retrying too aggressively .
- [HIVE-13083](#): Writing HiveDecimal to ORC can wrongly suppress present strea.
- [HIVE-13185](#): orc.ReaderImp.ensureOrcFooter() method fails on small text files with IndexOutOfBoundsException.
- [HIVE-13423](#): Handle the overflow case for decimal datatype for sum().
- [HIVE-13527](#): Using deprecated APIs in HBase client causes zookeeper connection leaks.
- [HIVE-13539](#): HiveHFileOutputFormat searching the wrong directory for HFiles .
- [HIVE-13756](#): Map failure attempts to delete reducer _temporary dir on pig multi-quer.
- [HIVE-13836](#): DbNotifications giving an error = Invalid state. Transaction has already started.
- [HIVE-13872](#): Queries failing with java.lang.ClassCastException when vectorization is enable.
- [HIVE-13936](#): Add streaming support for row_numbe.
- [HIVE-13966](#): DbNotificationListener: can loose DDL operation notification.
- [HIVE-14037](#): java.lang.ClassNotFoundException for the jar in hive.reloadable.aux.jars.path in mapreduc.
- [HIVE-14170](#): Beeline IncrementalRows should buffer rows and incrementally re-calculate width if TableOutputFormat is used .
- [HIVE-14229](#): the jars in hive.aux.jar.paths are not added to session classpath.
- [HIVE-14229](#): the jars in hive.aux.jar.paths are not added to session classpath .
- [HIVE-14251](#): Union All of different types resolves to incorrect data.
- [HIVE-14278](#): Migrate TestHadoop20SAuthBridge.java from Unit3 to Unit.
- [HIVE-14279](#): fix mvn test TestHiveMetaStore.testTransactionalValidatio.
- [HIVE-14290](#): Refactor HIVE-14054 to use Collections#newSetFromMap.
- [HIVE-14375](#): hcatalog-pig-adaptor pom.xml uses joda-time 2.2 instead of \${joda.version} that uses 2.8.1.

- [HIVE-14399](#): Fix test flakiness of `org.apache.hive.hcatalog.listener.TestDbNotificationListener.cleanupNotifs`.
- [HIVE-14436](#): Hive 1.2.1/Hitting "ql.Driver: FAILED: IllegalArgumentException Error: , expected at the end of 'decimal(9'" after enabling `hive.optimize.skewjoin` and with MR engine .
- [HIVE-14445](#): upgrade maven surefire to 2.19.1.
- [HIVE-14457](#): Partitions in encryption zone are still trashed though an exception is returned.
- [HIVE-14519](#): Multi insert query bug .
- [HIVE-14520](#): We should set a timeout for the blocking calls in `TestMsgBusConnection`.
- [HIVE-14591](#): HS2 is shut down unexpectedly during the startup time .
- [HIVE-14607](#): ORC split generation failed with exception: `java.lang.ArrayIndexOutOfBoundsException: 1`.
- [HIVE-14659](#): `OutputStream` won't close if caught exception in funtion `unparseExprForValuesClause` in `SemanticAnalyzer.java` .
- [HIVE-14690](#): Query fail when `hive.exec.parallel=true`, with conflicting session di.
- [HIVE-14693](#): Some paritions will be left out when partition number is the multiple of the option `hive.msck.repair.batch.size`.
- [HIVE-14715](#): Hive throws `NumberFormatException` with query with Null value.
- [HIVE-14762](#): Add logging while removing scratch spac.
- [HIVE-14773](#): NPE aggregating column statistics for date column in partitioned table .
- [HIVE-14774](#): Canceling query using Ctrl-C in beeline might lead to stale locks.
- [HIVE-14805](#): Subquery inside a view will have the object in the subquery as the direct input.
- [HIVE-14837](#): JDBC: standalone jar is missing hadoop core dependencie.
- [HIVE-14865](#): Fix comments after HIVE-14350.
- [HIVE-14922](#): Add perf logging for post job completion step.
- [HIVE-14924](#): MSCK REPAIR table with single threaded is throwing null pointer exception.
- [HIVE-14928](#): Analyze table no scan mess up schema.
- [HIVE-14929](#): Adding JDBC test for query cancellation scenari.
- [HIVE-14935](#): Add tests for beeline force optio.

- [HIVE-14943](#): Base Implementation (merge statement.
- [HIVE-14948](#): properly handle special characters in identifier.
- [HIVE-14959](#): Fix DISTINCT with windowing when CBO is enabled/disable.
- [HIVE-14966](#): Backport: JDBC: HiveConnction never saves HTTP cookies.
- [HIVE-14992](#): Relocate several common libraries in hive jdbc uber ja.
- [HIVE-14993](#): make WriteEntity distinguish writeTyp.
- [HIVE-15002](#): HiveSessionImpl#executeStatementInternal may leave locks in an inconsistent state.
- [HIVE-15010](#): Make LockComponent aware if it's part of dynamic partition operatio.
- [HIVE-15060](#): Remove the autoCommit warning from beeline .
- [HIVE-15099](#): PTFOperator.PTFInvocation didn't properly reset the input partition.
- [HIVE-15124](#): Fix OrInputFormat to use reader's schema for include boolean arra.
- [HIVE-15137](#): metastore add partitions background thread should use current username.
- [HIVE-15151](#): Bootstrap support for replv2.
- [HIVE-15178](#): ORC stripe merge may produce many MR jobs and no merge if split size is small .
- [HIVE-15180](#): Extend JSONMessageFactory to store additional information about metadata objects on different table events.
- [HIVE-15231](#): query on view with CTE and alias fails with table not found error .
- [HIVE-15232](#): Add notification events for functions and indexes.
- [HIVE-15284](#): Add junit test to test replication scenarios.
- [HIVE-15291](#): Comparison of timestamp fails if only date part is provided.
- [HIVE-15294](#): Capture additional metadata to replicate a simple insert at destination.
- [HIVE-15307](#): Hive MERGE: "when matched then update" allows invalid column names.
- [HIVE-15322](#): Skipping "hbase mapredcp" in hive script for certain service.
- [HIVE-15327](#): Outerjoin might produce wrong result depending on joinEmitInterval value .
- [HIVE-15332](#): REPL LOAD & DUMP support for incremental CREATE_TABLE/ADD_PTN.
- [HIVE-15333](#): Add a FetchTask to REPL DUMP plan for reading dump uri, last repl id as ResultSet.

- [HIVE-15355](#): Concurrency issues during parallel moveFile due to HDFSUtils.setFullFileStatu.
- [HIVE-15365](#): Add new methods to MessageFactory API (corresponding to the ones added in JSONMessageFactory).
- [HIVE-15366](#): REPL LOAD & DUMP support for incremental INSERT events.
- [HIVE-15426](#): Fix order guarantee of event executions for REPL LOAD.
- [HIVE-15437](#): avro tables join fails when - tbl join tbl_postfix .
- [HIVE-15448](#): ChangeManager.
- [HIVE-15466](#): REPL LOAD & DUMP support for incremental DROP_TABLE/DROP_PTIN.
- [HIVE-15469](#): Fix REPL DUMP/LOAD DROP_PTIN so it works on non-string-ptn-key tables.
- [HIVE-15472](#): JDBC: Standalone jar is missing ZK dependencie.
- [HIVE-15473](#): Progress Bar on Beeline clien.
- [HIVE-15478](#): Add file + checksum list for create table/partition during notification creation (whenever relevant).
- [HIVE-15522](#): REPL LOAD & DUMP support for incremental ALTER_TABLE/ALTER_PTIN including renames.
- [HIVE-15525](#): Hooking ChangeManager to "drop table", "drop partition.
- [HIVE-15534](#): Update db/table repl.last.id at the end of REPL LOAD of a batch of events.
- [HIVE-15542](#): NPE in StatsUtils::getColStatistics when all values in DATE column are NULL.
- [HIVE-15550](#): fix arglist logging in schematool .
- [HIVE-15551](#): memory leak in directsql for mysql+bonecp specific initialization.
- [HIVE-15551](#): memory leak in directsql for mysql+bonecp specific initialization .
- [HIVE-15569](#): failures in RetryingHMSHandler.
- [HIVE-15579](#): Support HADOOP_PROXY_USER for secure impersonation in hive metastore client.
- [HIVE-15588](#): Vectorization: Fix deallocation of scratch columns in VectorUDFCoalesce, etc to prevent wrong reus.
- [HIVE-15589](#): Flaky org.apache.hadoop.hive.ql.lockmgr.TestDbTxnManager.testHeartbeater .
- [HIVE-15668](#): change REPL DUMP syntax to use "LIMIT" instead of "BATCH" keyword.

- [HIVE-15684](#): Wrong posBigTable used in VectorMapJoinOuterFilteredOperato.
- [HIVE-15714](#): backport HIVE-11985 (and HIVE-12601) to branch-1 .
- [HIVE-15717](#): JDBC: Implement rowDeleted, rowInserted and rowUpdated to return false.
- [HIVE-15752](#): MSCK should add output WriteEntity for table in semantic analysis .
- [HIVE-15755](#): NullPointerException on invalid table name in ON clause of Merge statemen.
- [HIVE-15774](#): Ensure DbLockManager backward compatibility for non-ACID resources .
- [HIVE-15803](#): msck can hang when nested partitions are present.
- [HIVE-15830](#): Allow additional ACLs for tez jobs.
- [HIVE-15839](#): Don't force cardinality check if only WHEN NOT MATCHED is specifie.
- [HIVE-15840](#): Webhcat test TestPig_5 failing with Pig on Tez at check for percent complete of jo.
- [HIVE-15846](#): CNF error without hadoop jars, Relocate more dependencies (e.g. org.apache.zookeeper) for JDBC uber ja.
- [HIVE-15846](#): Relocate more dependencies (e.g. org.apache.zookeeper) for JDBC uber ja.
- [HIVE-15847](#): In Progress update refreshes seem slo.
- [HIVE-15848](#): count or sum distinct incorrect when hive.optimize.reducededuplication set to true.
- [HIVE-15851](#): SHOW COMPACTIONS doesn't show Jobl.
- [HIVE-15871](#): Add cross join check in SQL MERGE stm.
- [HIVE-15871](#): enable cardinality check by default.
- [HIVE-15872](#): The PERCENTILE_APPROX UDAF does not work with empty se.
- [HIVE-15879](#): Fix HiveMetaStoreChecker.checkPartitionDirs metho.
- [HIVE-15889](#): Some tasks still run after hive cli is shutdown.
- [HIVE-15891](#): Detect query rewrite scenario for UPDATE/DELETE/MERGE and fail fast.
- [HIVE-15917](#): incorrect error handling from BackgroundWork can cause beeline query to hang.
- [HIVE-15935](#): ACL is not set in ATS dat.
- [HIVE-15936](#): ConcurrentModificationException in ATSHoo.
- [HIVE-15941](#): Fix o.a.h.hive ql.exec.tez.TezTask compilation issue with tez maste.

- [HIVE-15950](#): Make DbTxnManager use Metastore client consistently with caller.
- [HIVE-15970](#): Merge statement implementation clashes with AST rewrite.
- [HIVE-15999](#): Fix flakiness in TestDbTxnManager2.
- [HIVE-16014](#): HiveMetastoreChecker should use hive.metastore.fshandler.threads instead of hive.mv.files.thread for pool siz.
- [HIVE-16028](#): Fail UPDATE/DELETE/MERGE queries when Ranger authorization manager is use.
- [HIVE-16045](#): Print progress bar along with operation lo.
- [HIVE-16050](#): Regression: Union of null with non-nul.
- [HIVE-16070](#): fix nonReserved list in IdentifiersParser..
- [HIVE-16086](#): Fix HiveMetaStoreChecker.checkPartitionDirsSingleThreaded metho.
- [HIVE-16090](#): Addendum to HIVE-1601.
- [HIVE-16102](#): Grouping sets do not conform to SQL standar.
- [HIVE-16114](#): NullPointerException in TezSessionPoolManager when getting the sessio.
- [HIVE-16160](#): OutOfMemoryError: GC overhead limit exceeded on Hs2 longevity test.
- [HIVE-16170](#): Exclude relocation of org.apache.hadoop.security.* in the JDBC standalone ja.
- [HIVE-16172](#): Switch to a fairness lock to synchronize HS2 thrift clien.
- [HIVE-16175](#): Possible race condition in InstanceCache.
- [HIVE-16181](#): Make logic for hdfs directory location extraction more generic, in webhcat test drive.
- [HIVE-7224](#): Set incremental printing to true by default in Beeline.
- [HIVE-7239](#): Fix bug in HiveIndexedInputFormat implementation that causes incorrect query result when input backed by Sequence/RC files.
- [HIVE-9941](#): sql std authorization on partitioned table: truncate and inser.

Hive 2.1.0 Apache Patches:

- [HIVE-9941](#): sql std authorization on partitioned table: truncate and insert.
- [HIVE-14214](#): ORC Schema Evolution and Predicate Push Down do not work together (no rows returned).
- [HIVE-12492](#): Inefficient join ordering in TPCDS query19 causing 50-70% slowdown.

- [HIVE-14278](#): Migrate TestHadoop235AuthBridge.java from Unit3 to Unit4.
- [HIVE-14360](#): Starting BeeLine after using !save, there is an error logged: "Error setting configuration: conf".
- [HIVE-14362](#): Support explain analyze in Hive.
- [HIVE-14367](#): Estimated size for constant nulls is 0.
- [HIVE-14405](#): Have tests log to the console along with hive.log.
- [HIVE-14432](#): LLAP signing unit test may be timing-dependent.
- [HIVE-14445](#): upgrade maven surefire to 2.19.1.
- [HIVE-14612](#):
org.apache.hive.service.cli.operation.TestOperationLoggingLayout.testSwitchLogLayout failure .
- [HIVE-14655](#): LLAP input format should escape the query string being passed to getSplits().
- [HIVE-14929](#): Adding JDBC test for query cancellation scenario.
- [HIVE-14935](#): Add tests for beeline force option.
- [HIVE-14959](#): Fix DISTINCT with windowing when CBO is enabled/disabled.
- [HIVE-14959](#): Fix DISTINCT with windowing when CBO is enabled/disabled.
- [HIVE-15002](#): HiveSessionImpl#executeStatementInternal may leave locks in an inconsistent state.
- [HIVE-15069](#): Optimize MetaStoreDirectSql:: aggrColStatsForPartitions during query compilation.
- [HIVE-15084](#): Flaky test: TestMiniTezCliDriver:explainanalyze_1, 2, 3, 4, 5.
- [HIVE-15099](#): PTFOperator.PTFInvocation didn't properly reset the input partition.
- [HIVE-15570](#): LLAP: Exception in HostAffinitySplitLocationProvider when running in container mode.
- [HIVE-15668](#): change REPL DUMP syntax to use "LIMIT" instead of "BATCH" keyword.
- [HIVE-15789](#): Vectorization: limit reduce vectorization to 32Mb chunks.
- [HIVE-15799](#): LLAP: rename VertorDeserializeOrcWriter.
- [HIVE-15809](#): Typo in the PostgreSQL database name for druid service.
- [HIVE-15830](#): Allow additional ACLs for tez jobs.

- [HIVE-15847](#): In Progress update refreshes seem slow.
- [HIVE-15848](#): count or sum distinct incorrect when hive.optimize.reducededuplication set to true.
- [HIVE-15851](#): SHOW COMPACTIONS doesn't show JobID.
- [HIVE-15872](#): The PERCENTILE_APPROX UDAF does not work with empty set.
- [HIVE-15874](#): Invalid position alias in Group By when CBO failed.
- [HIVE-15877](#): Upload dependency jars for druid storage handler.
- [HIVE-15879](#): Fix HiveMetaStoreChecker.checkPartitionDirs method.
- [HIVE-15884](#): Optimize not between for vectorization.
- [HIVE-15903](#): Compute table stats when user computes column stats.
- [HIVE-15928](#): Druid/Hive integration: Parallelization of Select queries in Druid handler.
- [HIVE-15935](#): ACL is not set in ATS data.
- [HIVE-15938](#): position alias in order by fails for union queries.
- [HIVE-15941](#): Fix o.a.h.hive ql.exec.tez.TezTask compilation issue with tez master.
- [HIVE-15948](#): Failing test: TestCliDriver, TestSparkCliDriver join31.
- [HIVE-15951](#): Make sure base persist directory is unique and deleted.
- [HIVE-15955](#): Provide additional explain plan info to facilitate display of runtime filtering and lateral joins.
- [HIVE-15958](#): LLAP: Need to check why 1000s of ipc threads are created.
- [HIVE-15959](#): LLAP: fix headroom calculation and move it to daemon.
- [HIVE-15969](#): Failures in TestRemoteHiveMetaStore, TestSetUGIONOnlyServer.
- [HIVE-15971](#): LLAP: logs urls should use daemon container id instead of fake container id.
- [HIVE-15991](#): Flaky Test: TestEncryptedHDFSCLiDriver encryption_join_with_different_encryption_keys.
- [HIVE-15994](#): Grouping function error when grouping sets are not specified.
- [HIVE-15999](#): Fix flakiness in TestDbTxnManager2 .
- [HIVE-16002](#): Correlated IN subquery with aggregate asserts in sq_count_check UDF.
- [HIVE-16005](#): miscellaneous small fixes to help with llap debuggability.

- [HIVE-16010](#): incorrect conf.set in TezSessionPoolManager.
- [HIVE-16012](#): BytesBytes hash table - better capacity exhaustion handling.
- [HIVE-16013](#): Fragments without locality can stack up on nodes.
- [HIVE-16014](#): HiveMetastoreChecker should use hive.metastore.fshandler.threads instead of hive.mv.files.thread for pool size.
- [HIVE-16015](#): LLAP: some Tez INFO logs are too noisy II.
- [HIVE-16015](#): Modify Hive log settings to integrate with tez reduced logging.
- [HIVE-16018](#): Add more information for DynamicPartitionPruningOptimization.
- [HIVE-16020](#): LLAP: Reduce IPC connection misses.
- [HIVE-16022](#): BloomFilter check not showing up in MERGE statement queries.
- [HIVE-16023](#): Bad stats estimation in TPCH Query 12.
- [HIVE-16028](#): Fail UPDATE/DELETE/MERGE queries when Ranger authorization manager is used.
- [HIVE-16033](#): LLAP: Use PrintGCDateStamps for gc logging.
- [HIVE-16034](#): Hive/Druid integration: Fix type inference for Decimal DruidOutputFormat.
- [HIVE-16040](#): union column expansion should take aliases from the leftmost branch.
- [HIVE-16045](#): Print progress bar along with operation log.
- [HIVE-16050](#): Regression: Union of null with non-null.
- [HIVE-16054](#): AMReporter should use application token instead of ugi.getCurrentUser.
- [HIVE-16065](#): Vectorization: Wrong Key/Value information used by Vectorizer.
- [HIVE-16067](#): LLAP: send out container complete messages after a fragment completes.
- [HIVE-16068](#): BloomFilter expectedEntries not always using NDV when it's available during runtime filtering.
- [HIVE-16070](#): fix nonReserved list in IdentifiersParser.g.
- [HIVE-16072](#): LLAP: Add some additional jvm metrics for hadoop-metrics2.
- [HIVE-16078](#): improve abort checking in Tez/LLAP.
- [HIVE-16082](#): Allow user to change number of listener thread in LlapTaskCommunicator.
- [HIVE-16086](#): Fix HiveMetaStoreChecker.checkPartitionDirsSingleThreaded method.

- [HIVE-16090](#): Addendum to HIVE-16014.
- [HIVE-16094](#): queued containers may timeout if they don't get to run for a long time.
- [HIVE-16097](#): minor fixes to metrics and logs in LlapTaskScheduler.
- [HIVE-16098](#): Describe table doesn't show stats for partitioned tables.
- [HIVE-16102](#): Grouping sets do not conform to SQL standard.
- [HIVE-16103](#): LLAP: Scheduler timeout monitor never stops with slot nodes.
- [HIVE-16104](#): LLAP: preemption may be too aggressive if the pre-empted task doesn't die immediately.
- [HIVE-16114](#): NullPointerException in TezSessionPoolManager when getting the session.
- [HIVE-16115](#): Stop printing progress info from operation logs with beeline progress bar.
- [HIVE-16122](#): NPE Hive Druid split introduced by HIVE-15928.
- [HIVE-16132](#): DataSize stats don't seem correct in semijoin opt branch.
- [HIVE-16133](#): Footer cache in Tez AM can take too much memory.
- [HIVE-16135](#): Vectorization: unhandled constant type for scalar argument.
- [HIVE-16137](#): Default value of hive config hive.auto.convert.join.hashtable.max.entries should be set to 40m instead of 4m.
- [HIVE-16140](#): Stabilize few randomly failing tests.
- [HIVE-16142](#): ATSHook NPE via LLAP.
- [HIVE-16150](#): LLAP: HiveInputFormat:getRecordReader: Fix log statements to reduce memory pressure.
- [HIVE-16154](#): Determine when dynamic runtime filtering should be disabled.
- [HIVE-16160](#): OutOfMemoryError: GC overhead limit exceeded on Hs2 longevity tests.
- [HIVE-16161](#): Standalone hive jdbc jar throws ClassNotFoundException.
- [HIVE-16167](#): Remove transitive dependency on mysql connector jar.
- [HIVE-16168](#): log links should use the NM nodeId port instead of web port.
- [HIVE-16170](#): Exclude relocation of org.apache.hadoop.security.* in the JDBC standalone jar.
- [HIVE-16172](#): Switch to a fairness lock to synchronize HS2 thrift client.
- [HIVE-16175](#): Possible race condition in InstanceCache.

- [HIVE-16180](#): LLAP: Native memory leak in EncodedReader.
- [HIVE-16190](#): Support expression in merge statement.
- [HIVE-16211](#): MERGE statement failing with ClassCastException.
- [HIVE-16215](#): counter recording for text cache may not fully work.
- [HIVE-16229](#): Wrong result for correlated scalar subquery with aggregate.
- [HIVE-16236](#): BuddyAllocator fragmentation - short-term fix.
- [HIVE-16238](#): LLAP: reset/end has to be invoked for o.a.h.hive.q.io.orc.encoded.EncodedReaderImpl.
- [HIVE-16245](#): Vectorization: Does not handle non-column key expressions in MERGEPARTIAL mode.
- [HIVE-16260](#): Remove parallel edges of semijoin with map joins.
- [HIVE-16274](#): Support tuning of NDV of columns using lower/upper bounds.
- [HIVE-16278](#): LLAP: metadata cache may incorrectly decrease memory usage in mem manager.
- [HIVE-16282](#): Semijoin: Disable slow-start for the bloom filter aggregate task.
- [HIVE-16298](#): Add config to specify multi-column joins have correlated columns.
- [HIVE-16305](#): Additional Datanucleus ClassLoaderResolverImpl leaks causing HS2 OOM.
- [HIVE-16310](#): Get the output operators of Reducesink when vectorization is on.
- [HIVE-16318](#): LLAP cache: address some issues in 2.2/2.3.
- [HIVE-16319](#): Fix NPE in ShortestJobFirstComparator.
- [HIVE-16323](#): HS2 JDOPersistenceManagerFactory.pmCache leaks after HIVE-14204.
- [HIVE-16325](#): Sessions are not restarted properly after the configured interval.

1.7.9. Kafka

This release provides Kafka 0.10.1.2 with no additional Apache patches.

HDP 2.6.0 provided Kafka 0.10.1.2 with no additional Apache patches.

1.7.10. Knox

This release provides Knox 0.12.0 with no additional Apache patches.

HDP 2.6.0 provided Knox 0.12.0 with no additional Apache patches.

1.7.11. Mahout

In HDP-2.3.x and 2.4.x, instead of shipping a specific Apache release of Mahout, we synchronized to a particular revision point on Apache Mahout trunk. This revision point is after the 0.9.0 release, but before the 0.10.0 release. This provides a large number of bug fixes and functional enhancements over the 0.9.0 release, but provides a stable release of the Mahout functionality before the complete conversion to new Spark-based Mahout in 0.10.0.

The revision point chosen for Mahout in HDP 2.3.x and 2.4.x is from the "mahout-0.10.x" branch of Apache Mahout, as of 19 December 2014, revision 0f037cb03e77c096 in GitHub.

In HDP-2.5.x and 2.6.x, we removed the "commons-httpclient" library from Mahout because we view it as an obsolete library with possible security issues., and upgraded the Hadoop-Client in Mahout to version 2.7.3, the same version used in HDP-2.5. As a result:

- Previously compiled Mahout jobs will need to be recompiled in the HDP-2.5 or 2.6 environment.
- There is a small possibility that some Mahout jobs may encounter "ClassNotFoundException" or "could not load class" errors related to "org.apache.commons.httpclient", "net.java.dev.jets3t", or related class name prefixes. If these errors happen, you may consider whether to manually install the needed jars in your classpath for the job, if the risk of security issues in the obsolete library is acceptable in your environment.
- There is an even smaller possibility that some Mahout jobs may encounter crashes in Mahout's hbase-client code calls to the hadoop-common libraries, due to binary compatibility problems. Regrettably, there is no way to resolve this issue except revert to the HDP-2.4.2 version of Mahout, which may have security issues. Again, this should be very unusual, and is unlikely to occur in any given Mahout job suite.

1.7.12. Oozie

This release provides Oozie 4.2.0 with no additional Apache patches.

HDP 2.6.0 provided Oozie 4.2.0 and the following Apache patches:

- [OOZIE-1402](#): Increase retry interval for non-progressing coordinator action with fix value.
- [OOZIE-1837](#): LauncherMainHadoopUtils sensitive to clock skew.
- [OOZIE-1922](#): MemoryLocksService fails if lock is acquired multiple times in same thread and released.
- [OOZIE-1976](#): Specifying coordinator input datasets in more logical ways.
- [OOZIE-2030](#): Configuration properties from global section is not getting set in Hadoop job conf when using sub-workflow action in Oozie workflow.xml.
- [OOZIE-2159](#): 'oozie validate' command should be moved server-side.

- [OOZIE-2165](#): Job log fetching can fail in Oozie HA mode when using doAs impersonation.
- [OOZIE-2168](#): Oozie flow and action names have 50 char limit.
- [OOZIE-2173](#): DISCLAIMER.txt still refers to Apache Incubator.
- [OOZIE-2178](#): fix javadoc to compile on JDK8.
- [OOZIE-2185](#): Make oozie cli source conf/oozie-client-env.sh.
- [OOZIE-2187](#): Add a way to specify a default JT/RM and NN.
- [OOZIE-2215](#): Support glob in FS EL function.
- [OOZIE-2222](#): Oozie UI parent job should be clickable.
- [OOZIE-2228](#): Statustransit service doesn't pick bundle with suspend status.
- [OOZIE-2245](#): Service to periodically check database schema.
- [OOZIE-2246](#): CoordinatorInputCheckCommand does not behave properly when har file is one of data dependency and doesn't exist.
- [OOZIE-2250](#): Show log for WAITING and TIMEDOUT coord actions.
- [OOZIE-2251](#): Expose instrumental matrices in Realtime Graphing tool.
- [OOZIE-2257](#): BundleStatusTransitXCommand doesn't update last modified time.
- [OOZIE-2260](#): Only set "java.io.tmpdir" to "tmp" for the AM.
- [OOZIE-2262](#): Fix log streaming from other server with start/end filter.
- [OOZIE-2264](#): Fix coord:offset(n,"DAY") to resolve correct data set.
- [OOZIE-2266](#): Fix 'total' actions returned in coordinator job info.
- [OOZIE-2268](#): Update ActiveMQ version for security and other fixes.
- [OOZIE-2270](#): Audit log doesn't get loaded when "audit log" tab is clicked for coord job.
- [OOZIE-2271](#): Upgrade Tomcat to 6.0.44.
- [OOZIE-2272](#): Use Hadoop's CredentialProvider for passwords in oozie-site.
- [OOZIE-2277](#): Honor oozie.action.sharelib.for.spark in Spark jobs.
- [OOZIE-2283](#): Documentation should not say that System.exit is not allowed in Java Action.
- [OOZIE-2284](#): HBaseCredentials should only add hbase-default.xml and hbase-site.xml to actionConf.
- [OOZIE-2285](#): Change in concurrency should trigger coord action ready command.

- [OOZIE-2286](#): Update Log4j and Log4j-extras to latest 1.2.x release.
- [OOZIE-2287](#): Add support for deleting hcat partitions in fs action delete.
- [OOZIE-2289](#): hive-jdbc dependency in core/pom.xml should be compile.
- [OOZIE-2291](#): Hive2 workflow.xml.security should have "cred" in action tag instead of "hive2" tag.
- [OOZIE-2293](#): Oozie 4.0.1 build failed while building Catalog.
- [OOZIE-2300](#): TestAuthFilterAuthOozieClient.testClientAuthTokenCache fails with Hadoop 2.7.0 and later.
- [OOZIE-2303](#): Typo in documentation.
- [OOZIE-2305](#): Compile Oozie with Hive-1.2.0.
- [OOZIE-2308](#): Add support for bundle:conf() function.
- [OOZIE-2309](#): Enable the coord:dateOffset() function in /coordinator-app/datasets/dataset/@initial-instance.
- [OOZIE-2312](#): oozie doesn't purge audit and error log.
- [OOZIE-2314](#): Unable to kill old instance child job by workflow or coord rerun by Launcher.
- [OOZIE-2315](#): TestOozieCLI.testshareLibUpdate_withSecurity fails with Hadoop 2.
- [OOZIE-2318](#): Provide better solution for specifying SSL truststore to Oozie Client.
- [OOZIE-2320](#): TestZKXLogStreamingService.testStreamingWithMultipleOozieServers_coordActionList is failing.
- [OOZIE-2322](#): Oozie Web UI doesn't work with Kerberos in Internet Explorer 10 or 11 and curl.
- [OOZIE-2324](#): A syntax error in the kill node causes the workflow to get stuck and other problems.
- [OOZIE-2325](#): Shell action fails if user overrides oozie.launcher.mapreduce.map.env.
- [OOZIE-2328](#): Coordinator endtime change should check if the last action is in database.
- [OOZIE-2329](#): Make handling yarn restarts configurable.
- [OOZIE-2330](#): Spark action should take the global jobTracker and nameNode configs by default and allow file and archive elements.
- [OOZIE-2332](#): Add ability to provide Hive and Hive 2 Action queries inline in workflows.

- [OOZIE-2343](#): Shell Action should take Oozie Action config and setup HADOOP_CONF_DIR.
- [OOZIE-2344](#): Enabling 'oozie.action.jobinfo.enable' doesn't inject the job information into the map/reduce job's configuration..
- [OOZIE-2345](#): Parallel job submission for forked actions.
- [OOZIE-2346](#): Add sub-workflow information like the super-parent id and workflow depth into the 'oozie.job.info' property.
- [OOZIE-2347](#): Remove unnecessary new Configuration()/new jobConf() calls from oozie.
- [OOZIE-2348](#): Recovery service keeps on recovering coord action of suspended jobs.
- [OOZIE-2350](#): Package changes for release.
- [OOZIE-2355](#): Hive2 Action doesn't pass along oozie configs to jobconf.
- [OOZIE-2356](#): Add a way to enable/disable credentials in a workflow.
- [OOZIE-2358](#): Coord rerun cleanup should reuse hcat connections.
- [OOZIE-2360](#): Spark Action fails due to missing mesos jar.
- [OOZIE-2362](#): SQL injection in BulkJPAExecutor.
- [OOZIE-2365](#): oozie fail to start when smtp password not set.
- [OOZIE-2367](#): fs delete should support skipTrash option.
- [OOZIE-2368](#): coord:dateOffset and coord:dateTzOffset can't be used for coord initial-instance.
- [OOZIE-2369](#): coord:offset doesn't resolve correctly.
- [OOZIE-2370](#): Docs for Coordinator Action Status Notification has wrong property name.
- [OOZIE-2376](#): Default action configs not honored if no <configuration> section in workflow.
- [OOZIE-2377](#): Hive2 Action should not propagate oozie.hive2.* properties to Beeline.
- [OOZIE-2378](#): org.apache.oozie.client.TestOozieCLI.testAdminInstrumentation is flakey.
- [OOZIE-2379](#):
org.apache.oozie.command.coord.TestCoordPushDependencyCheckXCommand.testRequeueOnException is flakey.
- [OOZIE-2380](#): Oozie Hive action failed with wrong tmp path.
- [OOZIE-2382](#): org.apache.oozie.action.hadoop.TestPigMain.testPig_withNullExternalID is flakey.

- [OOZIE-2385](#): org.apache.oozie.TestCoordinatorEngineStreamLog.testCoordLogStreaming is flakey.
- [OOZIE-2386](#): org.apache.oozie.util.TestXConfiguration.testSubstituteVar is flakey.
- [OOZIE-2391](#): spark-opts value in workflow.xml is not parsed properly.
- [OOZIE-2394](#): Oozie can execute command without holding lock.
- [OOZIE-2397](#): LAST_ONLY and NONE don't properly handle READY actions.
- [OOZIE-2400](#): Workflow xml configuration parser cannot deal with namespace prefix.
- [OOZIE-2401](#): Typo in twiki docs with FilesAchives instead of FilesArchives.
- [OOZIE-2402](#): oozie-setup.sh sharelib create takes a long time on large clusters.
- [OOZIE-2407](#): AbandonedService should not send mail if there is no abandoned coord.
- [OOZIE-2411](#): Add BCC to oozie email action.
- [OOZIE-2413](#): Kerberos credentials can expire if the KDC is slow to respond.
- [OOZIE-2419](#): HBase credentials are not correctly proxied.
- [OOZIE-2428](#): TestSLAService, TestSLAEventGeneration flakey tests.
- [OOZIE-2429](#): TestEventGeneration test is flakey.
- [OOZIE-2430](#): Add root logger for hive,sqoop action.
- [OOZIE-2431](#): Support hive.metastore.uris as alias for hcat.metastore.uri.
- [OOZIE-2432](#): TestPurgeXCommand fails.
- [OOZIE-2434](#): inconsistent coord action status and workflow job status.
- [OOZIE-2435](#): TestCoordChangeXCommand is flakey.
- [OOZIE-2436](#): Fork/join workflow fails with "oozie.action.yarn.tag must not be null".
- [OOZIE-2437](#): Exclude additional Hadoop dependencies from Spark Sharelib.
- [OOZIE-2438](#): Oozie client "jobs -filter" diagnostic message clarification.
- [OOZIE-2439](#): FS Action no longer uses name-node from global section or default NN.
- [OOZIE-2441](#): SubWorkflow action with propagate-configuration but no global section throws NPE on submit.
- [OOZIE-2444](#): Need conditional logic in bundles.
- [OOZIE-2445](#): Doc for - Specifying coordinator input datasets in more logical ways.

- [OOZIE-2446](#): Job does not fail during submission if non existent credential is specified.
- [OOZIE-2447](#): Illegal character 0x0 oozie client.
- [OOZIE-2452](#): Coordinator Functional Specification - EL Constants Typo.
- [OOZIE-2466](#): Repeated failure of TestMetricsInstrumentation.testSamplers.
- [OOZIE-2467](#): Oozie can shutdown itself on long GC pause.
- [OOZIE-2470](#): Remove infinite socket timeouts in the Oozie email action.
- [OOZIE-2471](#): Show child job url tab for distcp.
- [OOZIE-2474](#): <job-xml> is not being applied to the launcher job.
- [OOZIE-2475](#): Oozie does not cleanup action dir of killed actions.
- [OOZIE-2476](#): When one of the action from fork fails with transient error, WF never joins.
- [OOZIE-2481](#): Add YARN_CONF_DIR in the Shell action.
- [OOZIE-2482](#): Pyspark job fails with Oozie.
- [OOZIE-2485](#): Oozie client keeps trying to use expired auth token.
- [OOZIE-2486](#): TestSLAEventsGetForFilterJPAExecutor is flakey.
- [OOZIE-2489](#): XML parsing is vulnerable.
- [OOZIE-2490](#): Oozie can't set hadoop.security.token.service.use_ip.
- [OOZIE-2492](#): JSON security issue in js code.
- [OOZIE-2503](#): show ChildJobURLs to spark action.
- [OOZIE-2504](#): Create a log4j.properties under HADOOP_CONF_DIR in Shell Action.
- [OOZIE-2509](#): SLA job status can stuck in running state.
- [OOZIE-2510](#): TestLogStreamer.testStreamLog() fails in other timezones.
- [OOZIE-2511](#): SubWorkflow missing variable set from option if config-default is present in parent workflow.
- [OOZIE-2512](#): ShareLibservice returns incorrect path for jar.
- [OOZIE-2522](#): There can be multiple coord submit from bundle in case of ZK glitch.
- [OOZIE-2529](#): Support adding secret keys to Credentials of Launcher.
- [OOZIE-2531](#): Prevent Spark trying for token which is already available.
- [OOZIE-2532](#): patch apply does not handle binary files.

- [OOZIE-2535](#): User can't disable uber mode.
- [OOZIE-2537](#): SqoopMain does not set up log4j properly.
- [OOZIE-2541](#): Possible resource leak in Hive2Credentials.
- [OOZIE-2542](#): Option to disable OpenJPA BrokerImpl finalization.
- [OOZIE-2546](#): Improperly closed resources in OozieDBCLI.
- [OOZIE-2547](#): Add mapreduce.job.cache.files to spark action.
- [OOZIE-2548](#): Flaky test TestZKLocksService.testLockReaper.
- [OOZIE-2550](#): Flaky tests in TestZKUUIDService.java.
- [OOZIE-2551](#): Feature request: epoch timestamp generation.
- [OOZIE-2553](#): Cred tag is required for all actions in the workflow even if an action does not require it.
- [OOZIE-2556](#): TestAbandonedCoordChecker.testCatchupJob is flaky.
- [OOZIE-2563](#): Pass spark-defaults.conf to spark action.
- [OOZIE-2567](#): HCat connection is not closed while getting hcat cred.
- [OOZIE-2570](#): remove -PtestPatchCompile from patch testing as there is no such profile.
- [OOZIE-2577](#): Flaky tests TestCoordActionInputCheckXCommand.testTimeout and testTimeoutWithException.
- [OOZIE-2578](#): Oozie example distcp job fails to run within an encrypted zone with checksum match error.

1.7.13. Phoenix

This release provides Phoenix 4.7.0 and the following Apache patches:

- [PHOENIX-3710](#): Cannot use lowername data table name with indextool.
- [PHOENIX-3756](#): Handle users lacking ADMIN for the SYSTEM namespace.
- [PHOENIX-3759](#): Dropping all local index causes NPE during compaction.
- [PHOENIX-3800](#): NPE when doing UPSERT SELECT into salted tables.
- [PHOENIX-3833](#): Handle users lacking ADMIN from failing in system schema creation.
- [PHOENIX-3842](#): Turn off all BloomFilter for Phoenix tables (Lars Hofhansl).
- [PHOENIX-3843](#): Improve logging for UNION ALL errors.

HDP 2.6.0 provides Phoenix 4.7.0 and the following Apache patches:

- [PHOENIX-86](#): UDF testing in phoenix is failing with NoSuchMethodError.
- [PHOENIX-117](#): Phoenix is failing to establish connection on secure envs with NoClassDefFoundError.
- [PHOENIX-118](#): Remove very chatty logging and add notification around cache evictions.
- [PHOENIX-930](#): duplicated columns cause query exception and drop table exception (Junegunn Choi, Kalyan Hadoop).
- [PHOENIX-1523](#): Make it easy to provide a tab literal as separator for CSV imports.
- [PHOENIX-1754](#): Try to handle keytab paths on Windows filesystems.
- [PHOENIX-2276](#): Addednum2 to fix test failures.
- [PHOENIX-2276](#): addendum for fixing test failures.
- [PHOENIX-2276](#): Creating index on a global view on a multi-tenant table fails with NPE.
- [PHOENIX-2276](#): Fix test failure.
- [PHOENIX-2743](#): HivePhoenixHandler for big-big join with predicate push down.
- [PHOENIX-2748](#): Disable auto-commit during bulk load.
- [PHOENIX-2758](#): Ordered GROUP BY not occurring with leading PK equality expression.
- [PHOENIX-2784](#): phoenix-spark: Allow coercion of DATE fields to TIMESTAMP when loading DataFrames(Josh Mahonin).
- [PHOENIX-2803](#): Initializing ToCharFunction with the List <Expression> constructor fails.
- [PHOENIX-2817](#): Phoenix-Spark plugin doesn't work in secured env.
- [PHOENIX-2820](#): Investigate why SortMergeJoinIT has a sort in the explain plan.
- [PHOENIX-2828](#): Ordinality should be 1-based in UNNEST WITH ORDINALITY.
- [PHOENIX-2845](#): Timestamp ignores nanos in literal expressions.
- [PHOENIX-2856](#): HBaseManagedTimeTableReuseTest category isn't getting run.
- [PHOENIX-2871](#): Workaround sqlline issue.
- [PHOENIX-2878](#): CURRENT_TIME fails to provide correct time when projected table is using.
- [PHOENIX-2886](#): Union ALL with Char column not present in the table in Query 1 but in Query 2 throw exception (Alicia Ying Shu).
- [PHOENIX-2890](#): Extend IndexTool to allow incremental index rebuilds.

- [PHOENIX-2894](#): Sort-merge join works incorrectly with DESC columns.
- [PHOENIX-2898](#): HTable not closed in ConnectionQueryServicesImpl (Alex Araujo).
- [PHOENIX-2900](#): Unable to find hash cache once a salted table 's first region has split (chenglei).
- [PHOENIX-2905](#): hadoop-2.5.1 artifacts are in the dependency tree.
- [PHOENIX-2908](#): phoenix-core depends on both antlr 3.5 and antlr 2.7.7 (William Yang).
- [PHOENIX-2912](#): Broken IT tests after PHOENIX-2905.
- [PHOENIX-2919](#): PreparedStatement Returns Incorrect Number of Deleted Records.
- [PHOENIX-2920](#): Incorrect Queries on Multi-tenant tables with WHERE clause containing Row Value Constructor.
- [PHOENIX-2930](#): Cannot resolve columns aliased to its own name.
- [PHOENIX-2934](#): Checking a coerce expression at top level should not be necessary for Union All query (Alicia Ying Shu).
- [PHOENIX-2935](#): IndexMetaData cache can expire when a delete and or query running on server.
- [PHOENIX-2936](#): Missing antlr runtime on server side after PHOENIX-2908.
- [PHOENIX-2940](#): Query the stats table and cache stats in the client.
- [PHOENIX-2942](#): Order by incorrect for RVC.
- [PHOENIX-2952](#): Addendum to fix test case failure (Ram).
- [PHOENIX-2952](#): array_length return negative value (Joseph Sun).
- [PHOENIX-2961](#): select on a composite primary key fails when DESC is set in the table.
- [PHOENIX-2983](#): ClassCastException on auto coerce of BIGINT to DECIMAL.
- [PHOENIX-2994](#): Coalesce function may return null.
- [PHOENIX-3004](#): Allow configuration in hbase-site to define realms other than the server's.
- [PHOENIX-3006](#): Fix all ScalarFunctions to implement clone(List) or <init> (List). (James Taylor & Lars Hofhansl).
- [PHOENIX-3008](#): Prevent upgrade of existing multi-tenant table to map to namespace until we support it correctly.
- [PHOENIX-3011](#): Fix missing apache licenses.
- [PHOENIX-3013](#): TO_CHAR fails to handle indexed null value (Junegunn Choi).

- [PHOENIX-3014](#): SELECT DISTINCT pk ORDER BY pk DESC gives the wrong results with salted tables..
- [PHOENIX-3015](#): Any metadata changes may cause unpredictable result when local indexes are using.
- [PHOENIX-3021](#): Using local index during compaction is producing NPE.
- [PHOENIX-3057](#): Set incremental=false for sqlline-thin.
- [PHOENIX-3078](#):. Hive storage handler does not work if phoenix.table.name contains the schema name.
- [PHOENIX-3126](#): Tie a driver instance to a specific user (Prabhjyot Singh).
- [PHOENIX-3134](#): Ingestion of VARBINARY data should fail when data is not base64-encoded varbinary fields bulk load difference between MR/psql and upserts.
- [PHOENIX-3136](#): Do not relocate org.apache.calcite in queryserver/thin-client.
- [PHOENIX-3149](#): Local index got corrupted if intermediate compaction happen during the split..
- [PHOENIX-3152](#): Incorrect comparator in QueryOptimizer may cause IllegalArgumentException.
- [PHOENIX-3161](#): Improve performance of automatic index rebuilding.
- [PHOENIX-3164](#): Cache UGI instances for remote users in PQS.
- [PHOENIX-3189](#): Perform Kerberos login before ConnectionInfo is constructed.
- [PHOENIX-3199](#): ServerCacheClient sends cache to all regions unnecessarily (chenglei).
- [PHOENIX-3223](#): Add `hadoop classpath` to PQS classpath when available.
- [PHOENIX-3236](#): Problem with shading apache commons on Azure..
- [PHOENIX-3241](#): Support both DATE and TIMESTAMP in CONVERT_TZ().
- [PHOENIX-32451](#): Support both DATE and TIMESTAMP in CONVERT_TZ().
- [PHOENIX-3246](#): Treat U+2002 as whitespace in parser.
- [PHOENIX-3271](#): Distribute UPSERT SELECT across cluster.
- [PHOENIX-3280](#): Automatic attempt to rebuild all disabled index(James Taylor).
- [PHOENIX-3346](#): Hive PhoenixStorageHandler doesn't work well with column.
- [PHOENIX-3386](#): PhoenixStorageHandler throws NPE if local tasks executed via child.
- [PHOENIX-3387](#): Hive PhoenixStorageHandler fails with join on numeric fields.

- [PHOENIX-3408](#): arithmetic/mathematical operations with Decimal columns failed in Hive with PheonixStorageHandler..
- [PHOENIX-3416](#): Memory leak in PhoenixStorageHandler.
- [PHOENIX-3422](#): PhoenixQueryBuilder doesn't make value string correctly for char(/varchar) column type..
- [PHOENIX-3423](#): PhoenixObjectInspector doesn't have information on length of the column..
- [PHOENIX-3486](#): RoundRobinResultIterator doesn't work correctly because of setting Scan's cache size inappropriately in PhoenixInputForamt.
- [PHOENIX-3490](#): PhoenixStorageHandler doesn't handler hbase configuration properly and don't work in secured env.
- [PHOENIX-3499](#): Enable null value for quote character for CSVBulkLoad tool.
- [PHOENIX-3503](#): PhoenixStorageHandler doesn't work properly when execution engine of Hive is Tez..
- [PHOENIX-3504](#): Spark integration doesn't work with decimal columns that are using default precision.
- [PHOENIX-3505](#): Avoid NPE on close() in OrderedResultIterator.
- [PHOENIX-3512](#): PhoenixStorageHandler makes erroneous query string when handling between clauses with date constants..
- [PHOENIX-3521](#): Scan over local index may return incorrect result after flush & compaction.
- [PHOENIX-3540](#): BUG-70567 Fix Time data type in Phoenix Spark integration.
- [PHOENIX-3544](#): Fix UNSIGNED_DATE and UNSIGNED_TIME type in phoenix-spark.
- [PHOENIX-3565](#): Set failIfNoTests=false on surefire and failsafe.
- [PHOENIX-3608](#): KeyRange interset should return EMPTY_RANGE when one of it is NULL_RANGE(Rajeshbabu).
- [PHOENIX-3609](#): Detect and fix corrupted local index region during compaction.
- [PHOENIX-3610](#): Fix tableName used to get the index maintainers while creating HalfStoreFileReader for local index store.
- [PHOENIX-3652](#): User requires all Create privilege on 'default' namespace (Ankit Singhal).
- [PHOENIX-3662](#): PhoenixStorageHandler throws ClassCastException (by Jeongdae Kim).
- [PHOENIX-3684](#): Handle _HOST in principal specified in JDBC url.

- [PHOENIX-3686](#): Allow client-authentication to be disabled for PQS.
- [PHOENIX-3694](#): Drop schema does not invalidate schema from the server cache.
- [PHOENIX-3698](#): No-args constructor for IndexedWALEditCodec.
- [PHOENIX-3708](#): Tests introduced in PHOENIX-3346 doesn't work well with failsafe plugin.

1.7.14. Pig

This release provides Pig 0.16.0 with no additional Apache patches.

HDP 2.6.0 provides Pig 0.16.0 and the following Apache patches:

- [PIG-5159](#): Fix Pig not saving grunt history.
- [PIG-5175](#): Upgrade jruby to 1.7.26.

1.7.15. Ranger

This release provides Ranger 0.7.0 and the following Apache patches:

- [RANGER-1436](#): Disable, by default, deny policies with `ranger.servicedef.enableDenyAndExceptionsInPolicies` config parameter.
- [RANGER-1436](#): Turn Ranger Deny Policy & Except Conditions block to On by default .
- [RANGER-1475](#): reducing the highest time stamp value to pick all the users syncd during sync cycle.
- [RANGER-1490](#): Increase size of `sort_order` column of `x_policy_resource_map`.
- [RANGER-1531](#): Good coding practice while parsing XML documents in Ranger.
- [RANGER-1546](#): Code Improvement To Follow Best Practices.
- [RANGER-1548](#): Ranger needs better error messages when Ambari Infra is off.
- [RANGER-1550](#): HDFS test connection and resource lookup failing.
- [RANGER-1612](#): When `servicedef` is accessed, `def_options` property `"enableDenyAndExceptionsInPolicies"` is returned as `"false"` if there is no value set for it.

HDP 2.6.0 provided Ranger 0.7.0 and the following Apache patches:

- [RANGER-1378](#): Update MySQL Schema to fix issues related to `only_full_group_by` restriction of MySQL 5.7 version..
- [RANGER-1383](#): Use resource matchers for filtering service policies.
- [RANGER-1392](#): Hive test connection is failing even if `jdbc.url` configured is correct to 2.6-maint.

- [RANGER-1392](#): Revert "RANGER-1392: Hive test connection is failing even if jdbc.url configured is correct to 2.6-maint".
- [RANGER-1401](#): Add consolidated db schema script for SQLServer DB flavor.
- [RANGER-1405](#): groups are not shown if exact user name is passed in search filter.
- [RANGER-1406](#): Audit spoolfile not getting created when ranger service user didn't have permission to log into Solr.
- [RANGER-1407](#): Service update transaction log is not generated in some cases.
- [RANGER-1409](#): User role get deleted from table when he tries to update his role to a restricted role.
- [RANGER-1413](#): Fix issues uncovered by static code analysis.
- [RANGER-1413](#): Good coding practice in Ranger recommended by static code analysis.
- [RANGER-1417](#): Ranger Upgrade is failing for Oracle DB flavor.
- [RANGER-1422](#): Ranger Knox Plugin audit doesn't have the access type populated.
- [RANGER-1428](#): In certain scenario user data contains junk email-id.
- [RANGER-1434](#): Enable Group Search First causes issues when Enable Group Sync is disabled - 2.6-maint branch.
- [RANGER-1435](#): Allow different files to be specified for unix based usersync - 2.6-maint.
- [RANGER-1435](#): fixed minor issue of resource filenames from previous commit.
- [RANGER-1440](#): Improve install script to retry failing statements.
- [RANGER-1448](#): Change of import / export icons on Ranger UI.
- [RANGER-1453](#): Ranger KMS failed to start with Exception] : More than one Master Key exists.
- [RANGER-1459](#): Ranger update policy API is failing on Postgres / Oracle for case sensitive ACLs.
- [RANGER-1477](#): 'show databases' fails with access-denied when user doesn't have access to some of the databases.

1.7.16. Slider

This release provides Slider 0.92.0 with no additional Apache patches.

HDP 2.6.0 provided Slider 0.92.0 and the following Apache patches:

- [SLIDER-1220](#): Fix funtest failures when sasl security is configured for registry

1.7.17. Spark

This release provides Spark 1.6.3 with no additional Apache patches.

HDP 2.6.0 provides Spark 1.6.3 and the following Apache patches:

- [SPARK-6717](#): Clear shuffle files after checkpointing in ALS.
- [SPARK-6735](#): Add window based executor failure tracking mechanism for long running service.
- [SPARK-6847](#): Stack overflow on updateStateByKey which followed by a stream with checkpoint set.
- [SPARK-7481](#): Add spark-cloud module to pull in aws+azure object store FS accessors; test integration.
- [SPARK-7889](#): Jobs progress of apps on complete page of HistoryServer shows uncompleted.
- [SPARK-10582](#): using dynamic-executor-allocation, if AM failed, the new AM will be started. But the new AM does not allocate executors to driver.
- [SPARK-11137](#): Make StreamingContext.stop() exception-safe.
- [SPARK-11314](#): Add service API and test service for Yarn Cluster schedulers.
- [SPARK-11315](#): Add YARN extension service to publish Spark events to YARN timeline service (part of SPARK-1537).
- [SPARK-11323](#): Add History Service Provider to service application histories from YARN timeline server (part of SPARK-1537).
- [SPARK-11627](#): Spark Streaming backpressure mechanism has no initial rate limit, receivers receive data at the maximum speed , it might cause OOM exception.
- [SPARK-12001](#): StreamingContext cannot be completely stopped if the stop() is interrupted.
- [SPARK-12009](#): Avoid re-allocate yarn container while driver want to stop all executors.
- [SPARK-12142](#): Can't request executor when container allocator us bit ready.
- [SPARK-12241](#): Improve failure reporting in Yarn client obtainTokenForHBase().
- [SPARK-12353](#): wrong output for countByValue and countByValueAndWindow.
- [SPARK-12513](#): SocketReceiver hang in Netcat example.
- [SPARK-12523](#): Support long-running of the Spark on HBase and hive metastore.
- [SPARK-12920](#): Fix high CPU usage in Spark thrift server with concurrent users..

- [SPARK-12948](#): OrcRelation uses HadoopRDD which can broadcast conf objects frequently..
- [SPARK-12967](#): NettyRPC races with SparkContext.stop() and throws exception.
- [SPARK-12998](#): Enable OrcRelation even when connecting via spark thrift server..
- [SPARK-13021](#): Fail fast when custom RDD's violate RDD.partition's API contract.
- [SPARK-13117](#): WebUI should use the local ip not 0.0.0.0.
- [SPARK-13278](#): Launcher fails to start with JDK 9 EA.
- [SPARK-13308](#): ManagedBuffers passed to OneToOneStreamManager need to be freed in non error cases.
- [SPARK-13360](#): pyspark related enviroment variable is not propagated to driver in yarn-cluster mode.
- [SPARK-13468](#): Fix a corner case where the page UI should show DAG but it doesn't show.
- [SPARK-13478](#): Use real user when fetching delegation tokens.
- [SPARK-13885](#): Fix attempt id regression for Spark running on Yarn.
- [SPARK-13902](#): Make DAGScheduler not to create duplicate stage.
- [SPARK-14062](#): Fix log4j and upload metrics.properties automatically with distributed cache.
- [SPARK-14091](#): Consider improving performance of SparkContext.getCallSite()..
- [SPARK-15067](#): YARN executors are launched with fixed perm gen size.
- [SPARK-1537](#): Add integration with Yarn's Application Timeline Server.
- [SPARK-15705](#): Change the default value of spark.sql.hive.convertMetastoreOrc to false.
- [SPARK-15844](#): HistoryServer doesn't come up if spark.authenticate = true.
- [SPARK-15990](#): Add rolling log aggregation support for Spark on yarn.
- [SPARK-16110](#): Can't set Python via spark-submit for YARN cluster mode when PYSPARK_PYTHON & PYSPARK_DRIVER_PYTHON are set.
- [SPARK-19033](#): HistoryServer still uses old ACLs even if ACLs are updated.
- [SPARK-19306](#): Fix inconsistent state in DiskBlockObjectWriter when exception occurred.
- [SPARK-19970](#): Table owner should be USER instead of PRINCIPAL in kerberized clusters.

1.7.18. Sqoop

This release provides Sqoop 1.4.6 with no additional Apache patches.

HDP 2.6.0 provided Sqoop 1.4.6 with no additional Apache patches.

1.7.19. Storm

This release provides Storm 1.1.0 and the following Apache patches:

- [STORM-1114](#): Handle race condition in Storm/Trident transactional state when ZK nodes have already been created/deleted.
- [STORM-2194](#): ReportErrorAndDie doesn't always die.
- [STORM-2429](#): non-string values in supervisor.scheduler.meta cause crash.
- [STORM-2431](#): the default blobstore.dir is storm.local.dir/blobs which is different from distcache-blobstore.md.
- [STORM-2432](#): Storm-Kafka-Client Trident Spout Seeks Incorrect Offset With UNCOMMITTED_LATEST Strategy.
- [STORM-2440](#): Kill process if executor catches `java.net.SocketTimeoutException`.
- [STORM-2450](#): Write resources into correct local directory.
- [STORM-2451](#): windows storm.cmd does not set log4j2 config file correctly by default.
- [STORM-2482](#): Refactor the Storm auto credential plugins to be more usable.
- [STORM-2482](#): Refactor the Storm auto credential plugins to be more usable.
- [STORM-2496](#): Dependency artifacts should be uploaded to blobstore with READ permission for all.
- [STORM-2498](#): Fix Download Full File link in 1.x branch.
- [STORM-2501](#): Auto populate Hive credentials using Hive MetaStore delegation tokens.
- [STORM-2511](#): Submitting a topology with name containing unicode getting failed..
- [STORM-2518](#): NPE during uploading dependency artifacts with secured cluster.
- [STORM-2520](#): AutoHDFS should prefer cluster-wise hdfs kerberos principal to global hdfs kerberos principal.
- [STORM-2528](#): Bump log4j version to 2.8.2.

HDP 2.6.0 provided Storm 1.1.0 with no additional Apache patches.

1.7.20. Tez

This release provides Tez 0.7.0 and the following Apache patches:

- [TEZ-3656](#): Tez UI: Status correction is not working as expected.

HDP 2.6.0 provided Tez 0.7.0 and the following Apache patches:

- [TEZ-2712](#): Tez UI: Display the vertex description in the tooltip of vertex in DAG view UI.
- [TEZ-2852](#): TestVertexImpl fails due to race in AsyncDispatcher.
- [TEZ-3000](#): Fix TestContainerReuse.
- [TEZ-3115](#): Shuffle string handling adds significant memory overhead.
- [TEZ-3257](#): Add more unit test coverage for container reuse.
- [TEZ-3267](#): Publish queue name to ATS as part of dag summary.
- [TEZ-3404](#): Move blocking call for YARN Timeline domain creation from client side to AM.
- [TEZ-3419](#): Tez UI: Applications page shows error, for users with only DAG level ACL permission.
- [TEZ-3434](#): Add unit tests for flushing of recovery events.
- [TEZ-3470](#): Tez UI: Make the build work in IBM PPC.
- [TEZ-3484](#): Tez UI: Remove.travis.yml from webapp folder.
- [TEZ-3494](#): Support relative url for tez-ui.history-url.base config.
- [TEZ-3496](#): Tez UI: Optimize display of all tasks table.
- [TEZ-3502](#): Tez UI: Search in All DAGs page doesn't work with numeric values.
- [TEZ-3504](#): Tez UI: Duration is displaying invalid values when start or end time is invalid.
- [TEZ-3529](#): Tez UI: Add 'All Queries' table in the landing page along 'All DAGs' page.
- [TEZ-3530](#): Tez UI: Add query details page, and link the page from All Queries table.
- [TEZ-3531](#): Tez UI: All Queries table: Improve searchability.
- [TEZ-3546](#): Tez UI: On sorting asc - Not Available must be at the top.
- [TEZ-3554](#): Add a link to get to all logs from Tez UI while job is running.
- [TEZ-3554](#): Add a link to get to all logs from Tez UI while job is running.
- [TEZ-3555](#): Tez UI: Build is failing in RHEL6.
- [TEZ-3556](#): Tez UI: Display query configurations.
- [TEZ-3566](#): Avoid caching fs instances in TokenCache after a point.
- [TEZ-3568](#): Update SecurityUtils configuration to pick user provided configuration.

- [TEZ-3570](#): Tez UI: Wait for sometime before tooltips are displayed.
- [TEZ-3571](#): Tez UI: Display a Total Timeline View for Hive Queries.
- [TEZ-3574](#): Container reuse won't pickup extra dag level local resource.
- [TEZ-3575](#): RM have started forwarding origin. Use that in AMWebController for CORS support.
- [TEZ-3580](#): Tez UI: Pagination broken on queries page.
- [TEZ-3582](#): Exception swallowed in PipelinedSorter causing incorrect results.
- [TEZ-3583](#): Tez UI: UTs are flaky because of a dependency issue.
- [TEZ-3591](#): Tez UI: Logs url is broken if not open in a new tab.
- [TEZ-3592](#): Tez UI: Search issues.
- [TEZ-3593](#): Tez UI: Issues in timeline page.
- [TEZ-3594](#): Tez UI: Graphical view tooltip issues.
- [TEZ-3594](#): Tez UI: Graphical view tooltip issues.
- [TEZ-3598](#): Tez UI: Text formatting changes.
- [TEZ-3602](#): Tez UI: Query Name field is not required.
- [TEZ-3609](#): Improve ATsv15 performance for DAG entities read calls.
- [TEZ-3610](#): TEZ UI 0.7 0.9 compatibility for url query params and tez-app sub-routes.
- [TEZ-3615](#): Tez UI: Table changes.
- [TEZ-3615](#): Tez UI: Table changes.
- [TEZ-3619](#): Tez UI: Improve DAG Data download.
- [TEZ-3619](#): Tez UI: Improve DAG Data download.
- [TEZ-3626](#): Tez UI: First Task Start Time and Last Task Finish Time values are showing up incorrectly on Tez UI.
- [TEZ-3627](#): Use queue name available in RegisterApplicationMasterResponse for publishing to ATS.
- [TEZ-3629](#): Tez UI: Enable the UI to display log links from LLAP.
- [TEZ-3629](#): Tez UI: Enable the UI to display log links from LLAP.
- [TEZ-3630](#): Tez UI: Use DAG status for controlling auto-refresh polling.

- [TEZ-3639](#): Tez UI: Footer pagination is improper in landing page.
- [TEZ-3640](#): Tez UI: Add associated llap application id to queries page.
- [TEZ-3640](#): Tez UI: Add associated llap application id to queries page.
- [TEZ-3642](#): Tez UI: Auto-refresh is not stopping when DAG is the main entity.
- [TEZ-3653](#): Tez UI: Swimlane tooltip is not proper for running DAGs.

1.7.21. Zeppelin

This release provides Zeppelin 0.7.0 and the following Apache patches:

- [ZEPPELIN-1965](#): Livy SQL Interpreter: Should use `df.show(1000, false)` to display results.
- [ZEPPELIN-2530](#): Zeppelin user impersonation with domain name suffix is failing.
- [ZEPPELIN-2555](#): Run all paragraphs API does not run all paragraph as front-end user.

HDP 2.6.0 provided Zeppelin 0.7.0 and the following Apache patches:

- [ZEPPELIN-1588](#): bumping nvd3 to 1.8.5.
- [ZEPPELIN-1725](#): replace `cleanDirectory` with `forceDelete`.
- [ZEPPELIN-1964](#): Layout info is lost after refresh.
- [ZEPPELIN-2045](#): Pass interpreter properties with "spark." as prefix to SparkConf.
- [ZEPPELIN-2062](#): Hive proxy user doesn't work if interpreter name is not JDBC.
- [ZEPPELIN-2063](#): Hive Jdbc interpreter does not relogin if kerberos ticket expired when `hive.server2.transport.mode` is `htt`.
- [ZEPPELIN-2068](#): Change `interpreter.json` & `credentials.json` permission to 600.
- [ZEPPELIN-2075](#): Can't stop infinite ``while`` statement in pyspark Interpreter.
- [ZEPPELIN-2083](#): default interpreter list should honour order of `zeppelin.interpreters` property in `zeppelin-site.xml`.
- [ZEPPELIN-2084](#): `z.show` doesn't show dataframe.
- [ZEPPELIN-2094](#): Decrease npm install retry time (for branch-0.7).
- [ZEPPELIN-2105](#): yarn installed by frontend-maven-plugin causes build failure (BUG).
- [ZEPPELIN-2133](#): All interpreters sometimes throw random Connection refuse errors.
- [ZEPPELIN-2147](#): zeppelin should redirect to login page after browsersession expires.
- [ZEPPELIN-2148](#): On creation of Bar graph zeppelin UI shows it as minigraph .

- [ZEPPELIN-2149](#): Each interpreter should have a separate log file..
- [ZEPPELIN-2161](#): Nested Group Support in LdapRealm for AD.
- [ZEPPELIN-2164](#): Typo in Insufficient Privileges popup of Zeppelin.
- [ZEPPELIN-2166](#): HeliumBundleFactory can't transpile imported es6+.
- [ZEPPELIN-2167](#): User with insufficient privileges can still restore files by renaming files in/ou....
- [ZEPPELIN-2172](#): Redirect to home if notebook authentication fails in realtime.
- [ZEPPELIN-2173](#): Duplicate user names populated in the Note permission box.
- [ZEPPELIN-2175](#): Jdbc interpreter sometime doesn't show detailed error message.
- [ZEPPELIN-2178](#): Prevent from cleaning output in "Personalized Mode".
- [ZEPPELIN-2199](#): Fix lapply issue in sparkR.
- [ZEPPELIN-2202](#): Disable personalized mode btn when note is running (branch-0.7).

1.7.22. ZooKeeper

This release provides ZooKeeper 3.4.6 and the following Apache patches:

- [ZOOKEEPER-2141](#): ACL cache in DataTree never removes entries.

HDP 2.6.0 provided ZooKeeper 3.4.6 and the following Apache patches:

- [ZOOKEEPER-2227](#): stmk four-letter word fails execution at server while reading trace mask argument.

1.8. Fixed Common Vulnerabilities and Exposures

This section covers all Common Vulnerabilities and Exposures (CVE) that are addressed in this release.

1.8.1. CVE-2017-3150

Summary: Use of insecure cookies

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Atlas uses cookies that could be accessible to client-side scripts.

Fix detail: Atlas was updated to make the cookies unavailable to client-side scripts.

Recommended Action: Users should upgrade to Apache Atlas 0.7.1-incubating or later version.

1.8.2. CVE-2017-3151

Summary: Persistent XSS vulnerability

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Atlas was found vulnerable to a Stored Cross-Site Scripting in the edit-tag functionality

Fix detail: Atlas was updated to sanitize the user input.

Recommended Action: Users should upgrade to Apache Atlas 0.7.1-incubating or later version.

1.8.3. CVE-2017-3152

Summary: DOM XSS threat

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Atlas was found vulnerable to a DOM XSS in the edit-tag functionality.

Fix detail: Atlas was updated to sanitize the query parameters.

Recommended Action: Users should upgrade to Apache Atlas 0.7.1-incubating or later version.

1.8.4. CVE-2017-3153

Summary: Reflected XSS vulnerability

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Atlas was found vulnerable to a Reflected XSS in the search functionality.

Fix detail: Atlas was updated to sanitize the query parameters.

Recommended Action: Users should upgrade to Apache Atlas 0.7.1-incubating or later version.

1.8.5. CVE-2017-3154

Summary: Stack trace in error response

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Error response from Atlas server included stack trace, exposing excessive information.

Fix detail: Atlas was updated to not include stack trace in error responses.

Recommended Action: Users should upgrade to Apache Atlas 0.7.1-incubating or later version.

1.8.6. CVE-2017-3155

Summary: XFS - cross frame scripting vulnerability

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Atlas was found vulnerable to a cross frame scripting.

Fix detail: Atlas was updated to use appropriate headers to prevent this vulnerability.

Recommended Action: Users should upgrade to Apache Atlas 0.7.1-incubating or later version.

1.8.7. CVE-2017-5646

Summary:Apache Knox Impersonation Issue for WebHDFS

Severity: Important

Vendor: The Apache Software Foundation

Versions Affected: All versions of Apache Knox prior to 0.12.0

Users affected: Users who use WebHDFS through Apache Knox.

Impact: An authenticated user may use a specially crafted URL to impersonate another user while accessing WebHDFS through Apache Knox. This may result in escalated privileges and unauthorized data access. While this activity is audit logged and can be easily associated with the authenticated user, this is still a serious security issue.

Recommended Action: Upgrade to 2.6.x

Mitigation: All users are recommended to upgrade to Apache Knox 0.12.0, where validation, scrubbing and logging of such attempts has been added. The Apache Knox 0.12.0 release can be downloaded from:

Source: <http://www.apache.org/dyn/closer.cgi/knox/0.12.0/knox-0.12.0-src.zip>

Binary: <http://www.apache.org/dyn/closer.cgi/knox/0.12.0/knox-0.12.0.zip>

1.8.8. CVE-2017-7676

Summary: Apache Ranger policy evaluation ignores characters after '*' wildcard character

Severity: Critical

Vendor: Hortonworks

Versions Affected: HDP 2.3/2.4/2.5/2.6 versions including Apache Ranger versions 0.5.x/0.6.x/0.7.0

Users affected: Environments that use Ranger policies with characters after '*' wildcard character – like my*test, test*.txt

Impact: Policy resource matcher ignores characters after '*' wildcard character, which can result in unintended behavior.

Fix detail: Ranger policy resource matcher was updated to correctly handle wildcard matches.

Recommended Action: Upgrade to HDP 2.6.1+ (with Apache Ranger 0.7.1+).

1.8.9. CVE-2017-7677

Summary: Apache Ranger Hive Authorizer should check for RWX permission when external location is specified

Severity: Critical

Vendor: Hortonworks

Versions Affected: HDP 2.3/2.4/2.5/2.6 versions including Apache Ranger versions 0.5.x/0.6.x/0.7.0

Users affected: Environments that use external location for hive tables

Impact: In environments that use external location for hive tables, Apache Ranger Hive Authorizer should check for RWX permission for the external location specified for create table.

Fix detail: Ranger Hive Authorizer was updated to correctly handle permission check with external location.

Recommended Action: Users should upgrade to HDP 2.6.1+ (with Apache Ranger 0.7.1+).

1.8.10. CVE-2016-8746

Summary: Apache Ranger path matching issue in policy evaluation

Severity: Normal

Vendor: Hortonworks

Versions Affected: All HDP 2.5 versions including Apache Ranger versions 0.6.0/0.6.1/0.6.2

Users affected: All users of the ranger policy admin tool.

Impact: Ranger policy engine incorrectly matches paths in certain conditions when a policy contains wildcards and recursive flags.

Fix detail: Fixed policy evaluation logic

Recommended Action: Users should upgrade to HDP 2.5.4+ (with Apache Ranger 0.6.3+) or HDP 2.6+ (with Apache Ranger 0.7.0+)

1.8.11. CVE-2016-8751

Summary: Apache Ranger stored cross site scripting issue

Severity: Normal

Vendor: Hortonworks

Versions Affected: All HDP 2.3/2.4/2.5 versions including Apache Ranger versions 0.5.x/0.6.0/0.6.1/0.6.2

Users affected: All users of the ranger policy admin tool.

Impact: Apache Ranger is vulnerable to a Stored Cross-Site Scripting when entering custom policy conditions. Admin users can store some arbitrary javascript code execute when normal users login and access policies.

Fix detail: Added logic to sanitize the user input.

Recommended Action: Users should upgrade to HDP 2.5.4+ (with Apache Ranger 0.6.3+) or HDP 2.6+ (with Apache Ranger 0.7.0+)

1.8.12. CVE-2016-8752

Summary: Atlas web server allows user to browse webapp directory

Severity: Normal

Vendor: The Apache Software Foundation

Versions Affected: 0.6.0 or 0.7.0 or 0.7.1 versions of Apache Atlas

Users affected: All users of Apache Atlas server

Impact: Atlas users can access the webapp directory contents by pointing to URIs like /js, /img

Fix detail: Atlas was updated to prevent browsing of webapp directory contents

Mitigation: Users should upgrade to Apache Atlas 0.8-incubating or later version

1.9. Fixed Issues

Fixed issues represents selected issues that were previously logged via Hortonworks Support, but are now addressed in the current release. These issues may have been reported in previous versions within the Known Issues section; meaning they were reported by customers or identified by Hortonworks Quality Engineering team.

Incorrect Results

Hortonworks Bug ID	Apache JIRA	Summary
BUG-72574	HIVE-15231	query on view with CTE and alias fails with table not found error
BUG-76248	ATLAS-1611	Regression: Incorrect error code for the negative tests. Returned: "500 server error", expected: "400 Bad Request"
BUG-76503	AMBARI-20519 , HIVE-16310	Runtime filtering is not rendering properly
BUG-77143	ATLAS-1660	Regression : Error code mismatch in while GETing a type that doesn't exist.
BUG-77354	ATLAS-1673	Unable to re-create a deleted type through REST APIs
BUG-77970	ATLAS-1681	Atlas went into inconsistent state after creating a type with faulty definition
BUG-78244	RANGER-1484	RangerUI: Escape of policy condition text entered in the policy form.
BUG-78733	ATLAS-1722	Export API returns success, even if one of the items is not successfully imported
BUG-78826	ATLAS-1724	Exporting a non-existing entity results in success. Ideally, this should result in error.
BUG-78854	ATLAS-1673 , ATLAS-1728	Type deletion is allowed even when instance of the type exists.
BUG-78876	ATLAS-1730	Error after updating attribute's data type of an Atlas type
BUG-79286	ATLAS-1736	Type registration becomes inconsistent after creating a type with attribute name having special characters.
BUG-79529	N/A	create local index data with the timestamp of respective data table cells
BUG-79537	ATLAS-1747	Difference in result of POSTing Structs to V1 APIs and V2 APIs
BUG-80721	ZEPPELIN-1965	Livy SQL Interpreter: Should use df.show(1000, false) to display results
BUG-80803	RANGER-1576	Ranger Admin UI Access tab tags column displaying invalid details

Other

Hortonworks Bug ID	Apache JIRA	Summary
BUG-73074	ATLAS-1433	Atlas allows creation of tag with attributes' name same as that of its parent tags.

Hortonworks Bug ID	Apache JIRA	Summary
BUG-78367	FLUME-3002	Some tests in TestBucketWriter are flaky
BUG-78618	ATLAS-1714	UI : Properties tab doesn't load when an entity has attribute of type array of integers
BUG-79034	ATLAS-1684 , ATLAS-1686 , ATLAS-1709 , ATLAS-1717 , ATLAS-1721	Export/import fixes and improvements
BUG-79035	ATLAS-1663 , ATLAS-1672 , ATLAS-1685	Fix for issues flagged by Coverity scan
BUG-79734	RANGER-1431	fix AuthSessionService.mapEntityToViewBean to not throw NPE

Performance

Hortonworks Bug ID	Apache JIRA	Summary
BUG-76075	HIVE-16053	Remove newRatio from JAVA_OPTS_BASE
BUG-76952	HIVE-14731 , HIVE-16690	Cross product running with 1 reducer even when it's fed by 4 mappers and 1 reducer
BUG-77703	HIVE-16423 , HIVE-16550	Add query hint for semijoins
BUG-77829	HIVE-16462	Vectorization: Enabling hybrid grace disables specialization of all reduce side joins
BUG-77890	HIVE-16296	LLAP: Determine reducers based on number of executors
BUG-78023	hive-16423	Bloom filter branch gets duplicated for every downstream vertices
BUG-78315	SPARK-8617	in-progress files during cleanup
BUG-78678	RANGER-1522	Improve ranger startup time in Hdinsight clusters
BUG-78697	ATLAS-1707 , ATLAS-1745	A css from the index.html keeps downloading indefinitely.
BUG-78776	SPARK-8617	spark.history.fs.cleaner.* properties have no effect on .inprogress files
BUG-78946	HIVE-16371	Add bitmap selection strategy for druid storage handler
BUG-78952	CALCITE-1749	Push filter conditions partially into Druid
BUG-78953	N/A	Push Extraction function aggregation to druid.
BUG-79002	AMBARI-20999	Update LLAP settings in Ambari based on perf runs
BUG-79473	HIVE-16044	LLAP: Shuffle Handler keep-alive connections are closed from the server side
BUG-79594	HIVE-16523	hashtable-related perf regression in vectorized gby
BUG-79639	LIVY-356	Provide Livy Http Request/Response Header Size Configuration
BUG-79757	YARN-5368	Memory leak in timeline server

Hortonworks Bug ID	Apache JIRA	Summary
BUG-79995	CALCITE-1769	Push Filters down to druid when there a cast to numeric
BUG-80133	TEZ-3207 , TEZ-3708	Improved unpartitioned cartesian product
BUG-80166	TEZ-3284	Synchronization for every write in UnorderdKVWriter
BUG-80245	OOZIE-1978 , OOZIE-2719	Forkjoin validation code is ridiculously slow in some cases
BUG-80248	OOZIE-2457 , OOZIE-2496	Oozie log parsing regex consume more than 90% cpu
BUG-80275	YARN-5342	Improve non-exclusive node partition resource allocation in Capacity Scheduler
BUG-80412	FALCON-2113	Falcon retry happens in few cases in spite of a manual kill from the user
BUG-80547	HIVE-16330	Improve plans for scalar subquery with aggregates
BUG-80710	PHOENIX-3842	Local Index - Compaction fails on table with local index due to non-increasing bloom keys
BUG-80752	HBASE-18036	Data locality is not maintained after cluster restart or SSH
BUG-80845	N/A	[spark2-llap-long-running] Spark2 Thrift Server ran into OutOfMemoryError
BUG-80856	HBASE-17017 , HBASE-17072	HBASE-17072 + HBASE-17017
BUG-81198	ATLAS-1818	Basic-search takes long time to fetch results
BUG-81222	HIVE-16717	Extend shared scan optimizer to handle partitions
BUG-81273	AMBARI-21080	Update shuffle timeout settings
BUG-81442	HIVE-16737	LLAP: Shuffle handler TCP listen queue overflows
BUG-81757	HIVE-14204	Optimize loading dynamic partitions

Potential Data Loss

Hortonworks Bug ID	Apache JIRA	Summary
BUG-78455	RANGER-1490	Data truncation: Out of range value error on x_policy_resource_map table
BUG-79048	HADOOP-14195	CredentialProviderFactory \$getProviders is not thread-safe
BUG-79114	N/A	Hue :Hive query sometime utilize partition while browsing tables
BUG-80411	FALCON-2097	Feed update with replication delay creates random number of holes/ overlaps

Query Failure

Hortonworks Bug ID	Apache JIRA	Summary
BUG-76866	RANGER-1471	Multiple search not working with random data
BUG-79495	ATLAS-1744	Error when searching type with attribute name "order", "limit", "offset"

Security

Hortonworks Bug ID	Apache JIRA	Summary
BUG-76683	ZEPPELIN-2288	CSRF protection in Zeppelin
BUG-77400	N/A	Fix HiveServer2 delegation token acquisition
BUG-77816	RANGER-1475	open ldap test fails since all the delta user were not syncd
BUG-78277	HADOOP-13812	Hadoop - Upgrade Tomcat version
BUG-78283	RANGER-1499	Ranger - Upgrade Tomcat version
BUG-78757	RANGER-1500	Add support to exclude/disable SSL protocols.
BUG-78909	N/A	Allow users to submit Storm topologies via Token
BUG-78979	RANGER-1546	SCA : Insecure Randomness
BUG-78980	RANGER-1546	SCA : Password Management: Password in Comment
BUG-78981	RANGER-1546	SCA : Session Fixation
BUG-78982	RANGER-1560	SCA : Weak Cryptographic Hash
BUG-78983	RANGER-1571	SCA : Weak Cryptographic Hash: Insecure PBE Iteration Count
BUG-78984	RANGER-1571	SCA : Weak Encryption: Insecure Mode of Operation
BUG-79033	RANGER-1513	[New Feature] - Add Support for S3 authorization in Ranger Hive Plugin
BUG-79046	ATLAS-1727	Update QuickStart to mask password input
BUG-79049	ZEPPELIN-1472	Create new LdapRealm based on Apache Knox LdapRealm Class
BUG-79057	RANGER-1433 , RANGER-1531	SCA : XML Entity Expansion Injection
BUG-79058	RANGER-1531	SCA : XML External Entity Injection
BUG-79242	ATLAS-1752	Atlas Group mapping for ranger doesn't work if using kerberos authentication
BUG-79675	RANGER-1554	Ranger AD search filter is not get honored when logging into admin UI
BUG-79718	RANGER-1416	SunX509 is the hardcoded Algorithm for SSL
BUG-79934	N/A	Invalidate Previous JSESSIONID after Authentication in Zeppelin
BUG-80074	N/A	jdbc interpreter throwing CNF for SSLContexts class
BUG-80177	N/A	Parent process's env vars should not be inherited to child process during container launch
BUG-80229	N/A	Spawn thread in HdfsSecurityUtil.login to periodically relogin from keytab
BUG-80233	ZEPPELIN-2079 , ZEPPELIN-2151 , ZEPPELIN-2224 , ZEPPELIN-2407	Fixes to Zeppelin Livy interpreter and improved integration testing
BUG-80340	N/A	[2.6-maint] - Oozie - Upgrade Tomcat version
BUG-80342	OOZIE-2552	Update ActiveMQ version for security and other fixes

Hortonworks Bug ID	Apache JIRA	Summary
BUG-80381	LIVY-329	[LIVY][WE] Back port LIVY-329
BUG-80402	TBD	Invalidate Previous JSESSIONID after Authentication in Zeppelin
BUG-80522	N/A	STORM-2482: Refactor the Storm auto credential plugins to be more usable
BUG-80524	STORM-2501	STORM-2501: Auto populate Hive Credentials
BUG-80673	N/A	Fix security issue in docker implementation
BUG-80722	RANGER-1577	Update Ranger-WASB servicedefinition to remove Execute permission and disallow policies with a trailing slash
BUG-80997	STORM-2520	STORM-2520: AutoHDFS should prefer cluster-wise hdfs kerberos principal to global hdfs kerberos principal
BUG-80998	N/A	STORM-2519: Modify AbstractAutoCreds to look for configKeys in both nimbus and topology configs.
BUG-81029	RANGER-1581	Ranger plugins need to support additional date formats for tag attribute values
BUG-81270	RANGER-1603	Wildcard policy authorization incorrectly performs prefix match
BUG-81498	STORM-2528	Bump log4j version to 2.8.2
BUG-81583	HIVE-16413 , HIVE-16673	Create table as select does not check ownership of the location
BUG-81763	RANGER-1619	HS2 doesnt evaluate WASB ranger policies on the location given in Create & Load commands if the location doesn't exist
BUG-81895	N/A	if execute permission is not there on the source dir for hive operation then import operation is failing

Stability

Hortonworks Bug ID	Apache JIRA	Summary
BUG-58549	HIVE-16403	Inconsistent executor counts on LLAP UI
BUG-59449	HIVE-14052	Cleanup structures when external clients use LLAP
BUG-64676	N/A	Should close/reuse connections in spark-llap
BUG-66120	HIVE-14743	\query failure with HBase+view+join
BUG-67648	TEZ-3503 , TEZ-3656	UI changes to use queue info from DAG info and support search by queue name
BUG-68071	HIVE-16488	Support replicating into existing db if the db is empty
BUG-71753	HIVE-13652	ImportSemanticAnalyzer - use table partition column order for location
BUG-71810	HIVE-15556	Replicate views
BUG-72381	HIVE-15993	Hive Repl Status is not returning last event id

Hortonworks Bug ID	Apache JIRA	Summary
BUG-72574	HIVE-15231	query on view with CTE and alias fails with table not found error
BUG-72696	HBASE-17287	Master becomes a zombie if filesystem object closes
BUG-73121	TEZ-3626	First Task Start Time & Last Task Finish Time values are showing up incorrectly on Tez UI
BUG-73896	HIVE-16341	Tez Task Execution Summary has incorrect input record counts on some operators
BUG-74020	HIVE-16171	Support replication of truncate table
BUG-74038	HIVE-15810	Hive Server interactive server start failed with "Unable to start curator PathChildrenCache"
BUG-75212	HIVE-15754	exchange partition is not generating notifications
BUG-75214	HIVE-15964	LLAP: Llap IO codepath not getting invoked due to file column id mismatch (All schema evolution broken with LLAP-IO)
BUG-75310	HIVE-16633	userFromAuthenticator is not picking up the correct value
BUG-75381	HIVE-16006	Incremental REPL LOAD Inserts doesn't operate on the target database if name differs from source database.
BUG-75473	SLIDER-1212	testAgentEcho UT fails intermittently
BUG-75857	HBASE-17501	NullPointerException after Datanodes Decommissioned and Terminated
BUG-75966	AMBARI-21065	[LLAP] - llap daemon killed for exceeding memory
BUG-76373	HIVE-16655 , TEZ-3715 , TEZ-3716	Unnecessary preemption / kill loop
BUG-76503	AMBARI-20519 , HIVE-16310	Runtime filtering is not rendering properly
BUG-76673	HIVE-16073 , HIVE-16610	Fix partition column check during runtime filtering
BUG-76721	TEZ-3654	Cross product crash with UNION ALL
BUG-76727	N/A	flakiness in TestDbTxnManager2
BUG-76886	HIVE-16060	GenericUDTFJSONTuple's json cache could overgrow beyond its limit
BUG-77033	N/A	Column level lineage for not available for table Views in Hive1 (not Hive 2.0)
BUG-77126	HIVE-16193	Hive show compactions not reflecting the correct status of the application
BUG-77607	SLIDER-1219	Few TestSliderUtils UT are failing
BUG-77866	HADOOP-14112	Backport HADOOP-14112 for Azure Data Lake Phase I: Stabilization
BUG-77947	HIVE-11976	Extend CBO rules to being able to apply rules only once on a given operator
BUG-77960	HIVE-16546	[LLAP] - Large map join locks up the cluster for some time

Hortonworks Bug ID	Apache JIRA	Summary
BUG-77997	HIVE-15792	Hive should raise SemanticException when LPAD/RPAD pad character's length is 0
BUG-78017	HDFS-9193	Fix incorrect references the usages of the DN in dfshealth.js
BUG-78130	HIVE-15754 , HIVE-16344	Replicate alter-table-exchange
BUG-78162	HIVE-16497	FileUtils.isActionPermittedForFileHierarchy list status should be impersonated
BUG-78190	N/A	Investigate TezTaskAttemptId instance leak in llap daemons
BUG-78231	HIVE-16186	REPL DUMP shows last event ID of the database even if we use LIMIT option.
BUG-78232	HIVE-16197	Incremental insert into a partitioned table doesn't get replicated.
BUG-78480	AMBARI-20647	Superset password gets printed in ambari logs
BUG-78484	N/A	SuperSet Slice visualization page is empty screen
BUG-78489	STORM-1114	Racing condition in trident zookeeper zk-node create/delete
BUG-78492	HIVE-14210	Knox Connection to hive always hangs
BUG-78555	HIVE-16225	Memory leak in webhcat service (FileSystem CACHE entries)
BUG-78559	HIVE-15947	Enhance Templeton service job operations reliability; Fix memory leak
BUG-78562	HIVE-12958	Make embedded Jetty server more configurable
BUG-78576	N/A	Ability to limit a pmem kill / allow some applications to go over
BUG-78581	HBASE-17861	Port HBASE-17861 Regionserver down when checking the permission of staging dir if hbase.rootdir is on S3
BUG-78602	HIVE-16266	Enable function metadata to be written during bootstrap
BUG-78603	HIVE-16267	Enable bootstrap function metadata to be loaded in repl load
BUG-78604	HIVE-16268	enable incremental repl dump to handle functions metadata
BUG-78619	HIVE-16219	metastore notification_log contains serialized message with non functional fields
BUG-78664	HIVE-16390	LLAP IO does not work with s3a
BUG-78725	HIVE-16372	Enable DDL statement for non-native tables (add/remove table properties) to hive1 and hive2
BUG-78773	HADOOP-14274	Azure: Simplify Ranger-WASB policy model
BUG-78790	HIVE-16530	Replication logging as per beacon requirements
BUG-78793	HIVE-16254	metadata for values temporary tables for INSERTs are getting replicated during bootstrap

Hortonworks Bug ID	Apache JIRA	Summary
BUG-78819	N/A	2.6-DP: Superset is broken on
BUG-78839	HIVE-16461	Tez tries to localize hive-druid-handler from HDFS sometimes
BUG-78841	N/A	Running Druid explains or queries through Hive freeze about 0.05% of the time
BUG-78948	HIVE-16276	Fix NoSuchMethodError: com.amazonaws.services.s3.transfer.TransferManagerConfig
BUG-78949	HIVE-16210	Use jvm temporary tmp dir by default
BUG-78950	HIVE-16124	Drop the segments data as soon it is pushed to HDFS
BUG-78951	HIVE-16123	Let user pick the granularity of bucketing and max in row memory
BUG-78958	HIVE-16421	Runtime filtering breaks user-level explain
BUG-78968	HADOOP-14195	CredentialProviderFactory \$getProviders is not thread-safe
BUG-79024	HIVE-16637	Improve end-of-data checking for LLAP input format
BUG-79039	HIVE-16321	Possible deadlock in metastore with Acid enabled
BUG-79048	HADOOP-14195	CredentialProviderFactory \$getProviders is not thread-safe
BUG-79054	HIVE-16520 , HIVE-16586	Cache hive metadata
BUG-79055	AMBARI-20782	llap config issues post ambari/hdp upgrade
BUG-79076	N/A	Response times in "Task Execution Summary" at the end of the job is not correct
BUG-79096	ZOOKEEPER-2141	ACL cache in DataTree never removes entries (ZooKeeper-2141)
BUG-79110	HIVE-16448	Vectorization: Vectorized order_null.q fails with deserialize EOF exception below TEZ ReduceRecordSource.processVectorGroup
BUG-79203	HIVE-16287	Alter table partition rename with location - moves partition back to hive warehouse
BUG-79243	HIVE-16473	Receiving the error "Must Specify table name" on jobs after upgrade to HDP 2.5.3.0-37 from HDP 2.3.2
BUG-79247	HBASE-17937	Port HBASE-17937 Memstore size becomes negative in case of expensive postPut/Delete Coprocessor call
BUG-79250	HDFS-11545 , HDFS-11547 , HDFS-11551 , HDFS-11560 , HDFS-11570 , HDFS-11603	HDFS Device Behavior Analytics
BUG-79305	HIVE-16119 , HIVE-16299 , HIVE-16347	MSCK REPAIR TABLE should enforce partition key order when adding unknown partitions
BUG-79306	HIVE-16249	With column stats, mergejoin.q throws NPE
BUG-79308	HIVE-16290	Stats: StatsRulesProcFactory::evaluateComparator

Hortonworks Bug ID	Apache JIRA	Summary
		estimates are wrong when minValue == filterValue
BUG-79317	HIVE-16291	Hive fails when unions a parquet table with itself
BUG-79319	HIVE-16385	StatsNoJobTask could exit early before all partitions have been processed
BUG-79328	HIVE-16482	Druid Ser/Des need to use dimension output name
BUG-79473	HIVE-16044	LLAP: Shuffle Handler keep-alive connections are closed from the server side
BUG-79522	HADOOP-12173	NetworkTopology#add calls NetworkTopology#toString always
BUG-79527	HIVE-16503	LLAP: Oversubscribe memory for unconditional task size
BUG-79556	HIVE-16519	Create Hive table with DruidStorageHandler fails with java.lang.UnsupportedOperationException: not implemented yet at org.apache.hadoop.hive.druid.io.DruidOutputFormat.checkC
BUG-79584	HIVE-16519	Fix exception thrown by checkOutputSpecs
BUG-79684	N/A	Semijoin Hints should have mechanism to skip the optimizations
BUG-79692	CALCITE-1725	Group by time column without extract is broken
BUG-79696	N/A	Fix druid Q tests failures
BUG-79772	CALCITE-1764	Fix order when sorting by numeric
BUG-79791	TEZ-3700	Consumer attempt should kill itself instead of failing during validation checks with final merge avoidance
BUG-79793	RANGER-1550	HDFS and HBase resource lookup tests failing
BUG-79816	N/A	upgrade jackson.version to 1.9.13
BUG-79827	HIVE-16545 , HIVE-16547	some issues in LLAP IO
BUG-79836	TEZ-3704	Tez-UI Unit test failing
BUG-79866	HIVE-15642	Replicate Insert Overwrites, Dynamic Partition Inserts and Loads
BUG-79872	ATLAS-855	Eviction error messages seen in application logs
BUG-79883	1765	Druid adapter: Gracefully handle granularity that cannot be pushed to extraction function
BUG-79959	N/A	RM failed to start with "Failed to load/recover state java.lang.NullPointerException"
BUG-79994	CALCITE-1770	Druid adapter: CAST(NULL AS ...) gives NPE
BUG-79996	HIVE-15708	Cast to common type when using BETWEEN / IN operators
BUG-80052	N/A	Purging doesnt take place in ATS done dir
BUG-80065	YARN-4624	NPE in PartitionQueueCapacitiesInfo while accessing Scheduler UI

Hortonworks Bug ID	Apache JIRA	Summary
BUG-80123	HIVE-16427	Fix multi-insert query and write qtests
BUG-80129	HDFS-11499	Decommissioning stuck because of failing recovery
BUG-80235	ZEPPELIN-2468	Zeppelin not closing WebSocket Connections Properly
BUG-80237	HIVE-16652	LlapInputFormat: Seeing "output error" WARN message
BUG-80247	OOZIE-2433	oozie restart required if oozie metrics to graphing tool broken
BUG-80250	OOZIE-2501	ZK reentrant lock doesn't work for few cases
BUG-80269	N/A	Superset Dashboard error - Cannot find module "create-react-class"
BUG-80287	HIVE-16628	User explain not working for query25 for TPCDS 10000 scale
BUG-80289	HIVE-16598	HIVE_SERVER_INTERACTIVE start failed with ParentNotDirectoryException
BUG-80297	HIVE-16578	Semijoin Hints should use column name, if provided for partition key check
BUG-80298	HIVE-16599	NPE in runtime filtering costing logic.
BUG-80304	N/A	Running HDFS commands using wasb connector prints too many logger statements
BUG-80307	HIVE-16567	Unable to read Parquet file based tables in Hive that has Struct types.
BUG-80311	HIVE-16639	Shuffle-handler keep-alive settings
BUG-80343	OOZIE-2572	SLA DURATION miss not shown when job is running for longer than expected time
BUG-80344	OOZIE-2581	Oozie should reset SecurityManager in finally block
BUG-80365	HIVE-16588	Resource leak by druid http client
BUG-80376	STORM-2498	Download Full File link broken in 1.x branch
BUG-80396	N/A	Incorrect version of the tez view being used for Ambari-2.5.1
BUG-80405	N/A	OOM errors on LLAP daemon when running on spark-llap
BUG-80413	FALCON-2121	If a feed does not exist on a cluster, process submission fails with NPE
BUG-80441	CALCITE-1777	fix for runtime assertion error.
BUG-80447	HIVE-16602	Shared scans in Tez
BUG-80527	HIVE-16634	LLAP Use a pool of connections to a single AM from a daemon
BUG-80541	AMBARI-21011	HSI fails to come up due to failing Slider app
BUG-80605	PHOENIX-3800	NPE when doing UPSERT SELECT into salted tables
BUG-80607	PHOENIX-3759	Dropping all local index causes NPE during compaction

Hortonworks Bug ID	Apache JIRA	Summary
BUG-80651	N/A	Oozie-Spark tests fail with bad substitution error
BUG-80655	N/A	Error when running create table via JDBC
BUG-80713	N/A	Do not push filters when literal value is null
BUG-80738	TEZ-3719	DAGImpl.computeProgress slows down dispatcher and ipc threads
BUG-80741	N/A	Progressbar: Use different timeouts for running queries
BUG-80843	HIVE-16678	Truncate on temporary table failing in hive2 runs
BUG-80888	HIVE-16702	Use LazyBinarySerDe for LLAP InputFormat
BUG-80892	N/A	Webhcat-Sqoop tests failing with Error: /grid/0/hadoop/yarn/local/usercache/hrt_qa/filecache/98/sqoop.tar.gz/sqoop/bin/./../hadoop does not exist!
BUG-80893	HIVE-13673	LlapInputFormat: handle case where no service instance is found on the host specified in the input split
BUG-80899	N/A	Utf8Test_2 test fails due to differing results from benchmark
BUG-80920	MAPREDUCE-6702	Few TestMiniMRChildTask UT fails
BUG-80922	HDFS-11842	TestDataNodeOutlierDetectionViaMetrics UT fails
BUG-80930	N/A	TestStreaming UT fails
BUG-80957	N/A	Performing kill operation is failed in falcon
BUG-80978	HIVE-16692	LLAP: Keep alive connection in shuffle handler should not be closed until entire data is flushed out
BUG-81021	N/A	Vectorization UT failures with new HDP versions
BUG-81176	CURATOR-415 , HIVE-16724	"Could not increment shared counter" error while generating token in GenericUDTFGetSplits
BUG-81324	AMBARI-21092	HSI start failed due to Unrecognized VM option 'UseParallelGC-Xss512k' during EU (missing space)
BUG-81364	HIVE-16710	Increase MAX_MS_TYPENAME_LENGTH for Hive Metastore
BUG-81391	HIVE-16751	Hive-Druid Storagehandler: Tests failed as there is output-diff for query on timestamp datatype
BUG-81412	HIVE-12657	selectDistinctStar.q results differ with jdk 1.7 vs jdk 1.8
BUG-81422	HIVE-16742	LLAP: Reducer expansion is not capped at max reduce tasks
BUG-81424	N/A	insert_values_orig_table_use_metadata, hbase_viewjoins.q.out failures in hive2
BUG-81425	N/A	HiveAccessControlException Permission denied: user [hrt_qa] does not

Hortonworks Bug ID	Apache JIRA	Summary
		have [READ] privilege on [adl://testadlsonpremhdp01.azuredatalakestore.net/hive/tmp1]
BUG-81444	HIVE-16457	vector_order_null.q failing in hive2
BUG-81446	N/A	TestMTQueries failure in hive2
BUG-81447	N/A	TestDynamicPartitionPruner.testSingleSourceMultipleFiltersO fails in hive2
BUG-81471	HIVE-12657	selectDistinctStar.q results differ with jdk 1.7 vs jdk 1.8 to Hive1 2.6

Supportability

Hortonworks Bug ID	Apache JIRA	Summary
BUG-50022	N/A	storm jdbc topology should log the jdbc connection string to debug failures
BUG-75533	RANGER-1483	Ranger hive service definition to use hive metastore directly
BUG-78285	PHOENIX-3843	Improve error messages for debuggability
BUG-78474	RANGER-1548	Ranger needs better error messages when Ambari Infra is off
BUG-78589	RANGER-1509	Add version number to ldapconfigcheck.jar
BUG-78667	RANGER-1483	Ranger hive service definition to use hive metastore directly
BUG-80120	ATLAS-1767	Support KNOX SSO Token based authentication on Atlas REST API calls
BUG-80233	ZEPPELIN-2079 , ZEPPELIN-2151 , ZEPPELIN-2224 , ZEPPELIN-2407	Fixes to Zeppelin Livy interpreter and improved integration testing
BUG-80731	RANGER-1578	Ranger plugins should use default service-def when it fails to obtain from Ranger Admin or cache

Upgrade

Hortonworks Bug ID	Apache JIRA	Summary
BUG-80878	RANGER-1583	Test connections failing after Upgrade due to NPE while decrypting password
BUG-80912	SQOOP-3160	Sqoop Import failing when the table or view name has '\$' in it

Usability

Hortonworks Bug ID	Apache JIRA	Summary
BUG-76102	RANGER-1481	Capture cluster name in ranger audit info
BUG-76637	RANGER-1436	Turn Ranger Deny Policy & Except Conditions block to Off by default
BUG-76849	RANGER-1471	Remember filters on all tabs of Ranger Audits page
BUG-77176	HBASE-17779	disable_table_replication returns misleading message and does not turn off replication

Hortonworks Bug ID	Apache JIRA	Summary
BUG-77193	SPARK-19970	Spark hive context is not resolving principal to short name
BUG-77311	N/A	Livy interpreter restart as one user also restarts sessions from other users
BUG-77679	RANGER-1474	On SP12, hive policy page opens up with UDF as default under resources, rather than table.
BUG-77776	SPARK-20345	Fix STS error handling logic on HiveSQLException
BUG-78474	RANGER-1548	Ranger needs better error messages when Ambari Infra is off
BUG-78559	HIVE-15947	Enhance Templeton service job operations reliability; Fix memory leak
BUG-78562	HIVE-12958	Make embedded Jetty server more configurable
BUG-78581	HBASE-17861	Port HBASE-17861 Regionserver down when checking the permission of staging dir if hbase.rootdir is on S3
BUG-78788	PHOENIX-3710	HotFix Request for PHOENIX-3710: Cannot use lowername data table name with indextool
BUG-79036	ATLAS-1718 , ATLAS-1719	Update UI to support enum-type attributes for tags
BUG-79040	ATLAS-1688 , ATLAS-1732	Lineage UI fixes and improvements
BUG-79041	RANGER-1553	Audit log record for 'show databases' hive command contains all tags
BUG-79044	ATLAS-1697	import-hive.sh script logs debug/info logs on console instead of import-hive.log log file.
BUG-79113	N/A	Hue doesn't append single quotes around the date
BUG-79194	PHOENIX-3756	Users lacking ADMIN on 'SYSTEM' HBase namespace can't connect to Phoenix
BUG-79243	HIVE-16473	Receiving the error "Must Specify table name" on jobs after upgrade to HDP 2.5.3.0-37 from HDP 2.3.2
BUG-79551	RANGER-1556	Provide keyadmin user with privileges to read ranger kms audits
BUG-79619	ATLAS-1737	UI - Delete tag(classification) from UI.
BUG-79620	ATLAS-1750	Typeahead Implemented on create entity.
BUG-79637	ATLAS-1680	Support for browser login using kerberos keytab
BUG-79687	RANGER-1557	(Ranger) Enable/Disable Nifi Ranger Plugin should be shown when Nifi is installed in HDP cluster
BUG-79721	AMBARI-20868	Ranger start fails when Ambari Infra is off
BUG-79784	ATLAS-1760	For rendering property tab use type definition of the entity
BUG-79810	AMBARI-20920	Atlas restart failed
BUG-79983	KNOX-917	Knox Proxy - Pig view fails to load when using ambari thru KNOX

Hortonworks Bug ID	Apache JIRA	Summary
BUG-80144	N/A	Livy to log basic information before creating a session
BUG-80150	HDFS-11722	Change Datanode file IO profiling sampling to percentage
BUG-80151	N/A	[Minor Documentation Bug]: Data Movement and Integration - Falcon
BUG-80233	ZEPPELIN-2079 , ZEPPELIN-2151 , ZEPPELIN-2224 , ZEPPELIN-2407	Fixes to Zeppelin Livy interpreter and improved integration testing
BUG-80246	OOZIE-2037	Add TLSv1.1, TLSv1.2
BUG-80279	RANGER-1562	HDFS test connection is failing due to null pointer exception
BUG-80341	OOZIE-2539	Incorrect property key is used for 'hive log4j configuration file for execution mode'
BUG-80342	OOZIE-2552	Update ActiveMQ version for security and other fixes
BUG-80354	ATLAS-1644	Taxonomy API /api/atlas/v1/ taxonomies is broken.
BUG-80366	HBASE-14147	REST Support for Namespaces
BUG-80424	FALCON-2041	Graphite notification plugin breaks if pipeline tag has space
BUG-80468	ATLAS-1771	Atlas UI - While deleting Tag the Confirmation Popup appears incorrectly in IE-9
BUG-80473	ZEPPELIN-2530	Zeppelin user impersonation with domain name suffix is failing
BUG-80606	AMBARI-20988	Add missing 'cluster_host_info' column to 'request' table to MSSQL DDL
BUG-80614	ATLAS-1759	UI - Add checkbox to exclude/include deleted entities in schema table.
BUG-80705	STORM-2496	STORM-2496 Dependency artifacts should be uploaded to blobstore with READ permission for all
BUG-80711	PHOENIX-3842	Turn off all BloomFilter for Phoenix tables
BUG-80902	ATLAS-1807	Enhance DSL query to support "like" operator for wildcard searches
BUG-80986	ATLAS-1813	UI to escape special characters in URL.
BUG-81006	N/A	Modify AbstractAutoCreds to look for configKeys in both nimbus and topology configs
BUG-81046	STORM-2518	STORM-2518 NPE during uploading dependency artifacts with secured cluster
BUG-81138	ATLAS-1742	Provide option in server side to exclude deleted entities in basic and fulltext search.
BUG-81224	ATLAS-1812 , ATLAS-1820	User is not able to create tag using enum type
BUG-81253	N/A	Zeppelin spark2 interpreter fails due to user 'zeppelin' not having permissions for /apps/hive/warehouse

Hortonworks Bug ID	Apache JIRA	Summary
BUG-81280	RANGER-1602	Hive policy form should not show include/exclude option for URL resource.
BUG-81364	HIVE-16710	Increase MAX_MS_TYPENAME_LENGTH for Hive Metastore
BUG-81564	RANGER-1612	When servicedef is accessed, one of the properties "enableDenyPolicies" is returned as "false" if there is no value set for it.
BUG-81592	AMBARI-21121	STORM service check fails
BUG-81619	AMBARI-21125	Ambari STS2 checker should use principal in secure cluster

1.10. Known Issues

Hortonworks Bug ID	Apache JIRA	Apache Component	Summary
BUG-60904	KNOX-823	Knox	<p>Component Affected: Knox</p> <p>Description of Problem: When Apache Knox uses Ambari as a proxy, the QuickLinks are not rewritten to go back through the gateway.</p> <p>Workaround: If all access to Ambari is through Knox in the deployment the new Ambari quicklink profile may be used to hide and/or change URLs to go through Knox permanently. A future release will make these reflect the gateway appropriately.</p>
BUG-61512	FALCON-1965	Falcon	<p>Component Affected: Falcon</p> <p>Description of Problem: When upgrading to HDP 2.6 or later with Falcon, you might encounter the following error when starting the ActiveMQ server: ERROR - [main:] ~ Failed to start ActiveMQ JMS Message Broker. Reason: java.lang.NegativeArraySizeException (BrokerService:528) You might also encounter this error if downgrading Falcon from HDP 2.6 to an earlier release.</p> <p>Workaround: If you encounter this error, delete the ActiveMQ history and then restart Falcon. If you want to retain the history, be sure to back up the ActiveMQ history prior to deleting it.</p> <pre>cd <ACTIVEMQ_DATA_DIR> rm -rf ./localhost cd /usr/hdp/current/falcon-server su -l <FALCON_USER> ./bin/falcon-stop ./bin/falcon-start</pre>
BUG-65977	SPARK-14922	Spark	<p>Component Affected: Spark</p> <p>Description of Problem: Since Spark 2.0.0, `DROP PARTITION BY RANGE` is not supported grammatically. In other words, only `=` is supported while `<`, `>`, `<=`, `>=` aren't.</p> <p>Associated Error Message:</p>

Hortonworks Bug ID	Apache JIRA	Apache Component	Summary
			<pre>scala> sql("alter table t drop partition (b<1) ").show org.apache.spark.sql.catalyst.parser.ParseException: mismatched input '<' expecting {'}', ',', ''}(line 1, pos 31) == SQL == alter table t drop partition (b<1) -----^^^</pre> <p>Workaround: To drop partition, use the exact match with '='.</p> <pre>scala> sql("alter table t drop partition (b=0) ").show</pre>
BUG-68628	SPARK-16605 , SPARK-16628	Spark	<p>Component Affected: Spark</p> <p>Description of Problem: Column names are not getting created for Spark DataFrame</p> <p>Workaround: There are two workaround options for this issue:</p> <ul style="list-style-type: none"> Use Spark to create the tables instead of Hive. Set: <pre>sqlContext.setConf("spark.sql.hive.convertMetastoreOrc", "false")</pre>
BUG-68632	SPARK-18355	Spark	<p>Component Affected: Spark</p> <p>Description of Problem: The property <code>spark.sql.hive.convertMetastoreOrc</code> is set to "true" by default. This may impact performance.</p> <p>Workaround: You can set this property as "false" to gain some performance improvement. However, you cannot use this property for ORC tables with new columns made by <code>'ALTER TABLE'</code>. The default is false for safety.</p>
BUG-70956	N/A	Zeppelin	<p>Component Affected: Zeppelin</p> <p>Description of Problem: A Hive query submitted to the <code>%jdbc</code> interpreter returns a proxy validation error.</p> <p>Associated error messages:</p> <ul style="list-style-type: none"> HiveSQLException: Failed to validate proxy privilege of zeppelin for <user> The hiveserver2.log file lists a permission denied exception: <pre>org.apache.hadoop.ipc.RemoteException(org.apache.hadoop.security.AccessControlException): Permission denied: user=<user>, access=WRITE, inode="/user/<user>":hdfs:hdfs:drwxr-xr-x at org.apache.hadoop.hdfs.server.namenode.FSPermissionChecker.check(FSPermissionChecker.java:100) ... org.apache.hadoop.security.UserGroupInformation.doAs(UserGroupInformation.java:1643)</pre> <p>Workaround:</p> <ol style="list-style-type: none"> Create the user account on all worker nodes. For example, if the account is user3, issue the following command: <code>\$ adduser user3</code> Restart the <code>%jdbc</code> interpreter.
BUG-70956	N/A	Zeppelin	<p>Component Affected: Zeppelin</p>

Hortonworks Bug ID	Apache JIRA	Apache Component	Summary
			<p>Description of Problem: When used with Hive, the %jdbc interpreter might require Hadoop common jar files that need to be added manually.</p> <p>Workaround:</p> <ol style="list-style-type: none"> 1. On the Interpreters page, add a new repository. 2. Set the repository ID to "hortonworks". 3. Set the URL to "http://nexus-private.hortonworks.com/nexus/content/groups/public/". 4. Identify the version of HDP running on the cluster. You can find this in the Zeppelin UI by clicking on your user ID and choosing "About Zeppelin." The number after the Zeppelin version is the HDP version number. 5. In the Dependencies section on the Interpreters page, remove existing jar files and add the following three jar files, with the correct HDP version for your cluster. The following example uses version 2.6.0.0-484: <ul style="list-style-type: none"> • org.apache.hive:hive-jdbc::standalone:1.2.1000.2.6.0.0-484 Xerces:xerces:2.4.0 • org.apache.hadoop:hadoop-common:2.7.3.2.6.0.0-484
BUG-74152	PHOENIX-3688	Phoenix	<p>Component Affected: Phoenix</p> <p>Description of Problem: Rebuild(ALTER INDEX IDX ON TABLE REBUILD) of indexes created on the table having row_timestamp column will result in no data visible to the User for that Index.</p> <p>Workaround: Drop the index and recreate the same index. There will not be any extra overhead of recreating index when compared with rebuild Index.</p>
BUG-75179	ZEPPELIN-2170	Zeppelin	<p>Component Affected: Zeppelin</p> <p>Description of Problem: Zeppelin does not show all WARN messages thrown by spark-shell. At the Zeppelin notebook level, we cannot change the log level that comes as an output.</p> <p>Associated Error Message: There is no error message. This error is only related to increasing or decreasing logging in notebook output.</p> <p>Workaround: Currently, there is no workaround for this.</p>
BUG-76996	N/A	Spark 2 (Livy)	<p>Description of Problem: When upgrading from HDP-2.5.x to HDP-2.6.0 and using Spark2, the Livy interpreter is configured with a scope of 'global', and should be changed to 'scoped'.</p> <p>Workaround: After upgrading from HDP 2.5 to HDP 2.6, set the interpreter mode for %livy (Spark 2) to "scoped" using the pulldown menu in the %livy section of the Interpreters page.</p>
BUG-78035	ZEPPELIN-1263	Spark	<p>Component Affected: Zeppelin</p> <p>Description of Problem: spark.driver.memory will not take effect, the driver memory is always 1G.</p>

Hortonworks Bug ID	Apache JIRA	Apache Component	Summary
			Workaround: To change the driver memory, specify it in the SPARK_DRIVER_MEMORY property on the interpreter setting page for your spark interpreter.
BUG-79530	N/A	Zeppelin	<p>Description of Problem: The AD roles defined in shiro.ini are not honored while setting up permissions in Zeppelin notebooks.</p> <p>Workaround: Remove securityManager.realm = \$activeDirectoryRealm from Shiro through Ambari.</p>
BUG-80256	N/A	Zeppelin	<p>Description of Problem: Upgrading to a newer version of HDP version will not persist any Zeppelin notebooks from the previous version.</p> <p>Workaround: Copy the Zeppelin notebooks from you previous HDP installation into /usr/hdp/current/zeppelin-server/notebook and restart zeppelin service. Zeppelin notebooks are located in /usr/hdp/<PREV_HDP_VERSION>/zeppelin/notebook</p>
BUG-80656		Zeppelin	<p>Component Affected: Zeppelin</p> <p>Description of Problem: Zeppelin fails to start during the upgrade process from HDP 2.5 to HDP 2.6. The error starts with</p> <p>Exception in thread "main" org.apache.shiro.config.ConfigurationException: Unable to instantiate class org.apache.zeppelin.server.ActiveDirectoryGroupRealm for object named 'activeDirectoryRealm'. Please ensure you've specified the fully qualified class name correctly.</p> <p>Workaround: This error is due to a change in configuration class for Active Directory.</p> <p>In HDP 2.5: org.apache.zeppelin.server.ActiveDirectoryGroupRealm</p> <p>In HDP 2.6: org.apache.zeppelin.realm.ActiveDirectoryGroupRealm</p> <p>To resolve this issue, choose one of the following two alternatives:</p> <ul style="list-style-type: none"> • Proceed with the upgrade, and change the configuration in the shiro.ini file after the upgrade is complete (when Ambari allows configuration change). • At time of failure, change the class name in /usr/hdp/current/zeppelin-server/conf/shiro.ini, and then start Zeppelin manually.
BUG-80901	N/A	Zeppelin	<p>Component Affected: Zeppelin/Livy</p> <p>Description of Problem: This occurs when running applications through Zeppelin/Livy that requires 3rd-party libraries. These libraries are not installed on all nodes in the cluster but they are installed on their edge nodes. Running in yarn-client mode, this all works as the job is submitted and runs on the edge node where the libraries are installed. In yarn-cluster mode, this fails because the libraries are missing.</p> <p>Workaround: Set the location in spark.defaults.conf. For Livy, you will need to set</p>

Hortonworks Bug ID	Apache JIRA	Apache Component	Summary
			livy.spark.jars (the HDFS location) in livy interpreters conf. Both are globally applicable. The jars need to be present on the livy machine in both cases. Updating livy conf is preferable since it affects only the Zeppelin users.
BUG-81027	ZEPELIN-2564	Zeppelin	<p>Description of Problem: LivySparkSQLInterpreter throws <code>NullPointerException</code> when <code>getProgress</code> is called. This prevents you from seeing the progress for <code>%livy.sql</code>.</p> <p>Workaround: Currently, there is no workaround for this issue.</p>
BUG-81637	N/A	Spark	<p>Description of Problem: Executing concurrent queries over Spark via <code>Spark1-llap</code> package spawns multiple threads. This may cause multiple queries to fail. However, this will not break the spark thrift server. Spark 1.6 is built using Scala 2.10, which is where this issue manifests (i.e. "synchronize reflection code as scala 2.10 reflection is not threadsafe self"). This issue was subsequently fixed in Scala 2.11 based on this patch https://issues.scala-lang.org/browse/SI-6240.</p> <p>Associated error messages:</p> <ul style="list-style-type: none"> <code>scala.reflect.internal.Symbols\$CyclicReference: illegal cyclic reference involving class LlapContext</code> <code>SparkExecuteStatementOperation: Error running hive query: org.apache.hive.service.cli.HiveSQLException: scala.reflect.internal.Symbols\$CyclicReference: illegal cyclic reference involving class LlapContext</code> <p>Workaround: Isolate the broken queries and re-run them one by one. This will limit the query to one spawned thread.</p>
BUG-81885	N/A	Ranger	<p>Description of the problem: Hive test connection and resource lookup will not be functional from Ranger UI due to Hive JDBC jar issue (HIVE-6050).</p> <p>Workaround:</p> <ol style="list-style-type: none"> Locate 'hive*jar' files (2.1.0 version) found under <code>/usr/hdp/current/ranger-admin/ews/webapp/WEB-INF/classes/ranger-plugins/hive/</code> <pre>hive-common-2.1.0.2.6.1.0-128.jar hive-exec-2.1.0.2.6.1.0-128.jar hive-jdbc-2.1.0.2.6.1.0-128.jar hive-metastore-2.1.0.2.6.1.0-128.jar hive-service-2.1.0.2.6.1.0-128.jar</pre> Remove the above jar files (you can move them to a backup location) and copy 1.2.1000 version of the same jar files (which can be found in <code>/usr/hdp/current/hive-client/lib/</code>) to <code>/usr/hdp/current/ranger-admin/ews/webapp/WEB-INF/classes/ranger-plugins/hive/</code> <pre>hive-common-1.2.1000.2.6.1.0-128.jar hive-exec-1.2.1000.2.6.1.0-128.jar hive-jdbc-1.2.1000.2.6.1.0-128.jar hive-metastore-1.2.1000.2.6.1.0-128.jar hive-service-1.2.1000.2.6.1.0-128.jar</pre> Restart Ranger Admin
HOPS-35	N/A	Ambari, Falcon	<p>Description of Problem: Falcon check service is failing in PPC</p>

Hortonworks Bug ID	Apache JIRA	Apache Component	Summary
			<p>Workaround: You will need to install the Berkeley db jar file into the falcon server host. You can do this by following these steps:</p> <ol style="list-style-type: none"> 1. <code>wget -O je-5.0.73.jar http://search.maven.org/remotecontent?filepath=com/sleepycat/je/5.0.73/je-5.0.73.jar</code> 2. <code>cp je-5.0.73.jar /usr/share/</code> 3. <code>chmod 644 /usr/share/je-5.0.73.jar</code> 4. <code>ambari-server setup --jdbc-db=bdb --jdbc-driver=/usr/share/je-5.0.73.jar</code> 5. <code>ambari-server restart</code> 6. Restart Falcon service
N/A	N/A	N/A	<p>Description of problem: Open JDK 8u242 is not supported as it causes Kerberos failure.</p> <p>Workaround: Use a different version of Open JDK.</p>

Technical Service Bulletin	Apache JIRA	Apache Component	Summary
TSB-327	HDFS-5698	HDFS	<p>CVE-2018-11768: HDFS FSImage Corruption (potential DoS, file/dir takeover)</p> <p>In very large clusters, the in-memory format to store the user, group, acl, and extended attributes may exceed the size of the on disk format, causing corruption of fsImage.</p> <p>For more information on this issue, see the corresponding Knowledge article: TSB 2021-327:CVE-2018-11768: HDFS FSImage Corruption (potential DoS, file/dir takeover)</p>
TSB-405	N/A	N/A	<p>Impact of LDAP Channel Binding and LDAP signing changes in Microsoft Active Directory</p> <p>Microsoft has introduced changes in LDAP Signing and LDAP Channel Binding to increase the security for communications between LDAP clients and Active Directory domain controllers. These optional changes will have an impact on how 3rd party products integrate with Active Directory using the LDAP protocol.</p> <p>Workaround</p> <p>Disable LDAP Signing and LDAP Channel Binding features in Microsoft Active Directory if they are enabled</p> <p>For more information on this issue, see the corresponding Knowledge article: TSB-2021 405: Impact of LDAP Channel Binding and LDAP signing changes in Microsoft Active Directory</p>
TSB-406	N/A	HDFS	<p>CVE-2020-9492 Hadoop filesystem bindings (ie: webhdfs) allows credential stealing</p> <p>WebHDFS clients might send SPNEGO authorization header to remote URL without proper verification. A maliciously crafted request can trigger services to send server credentials to a webhdfs path (ie: webhdfs://...) for capturing the service principal</p>

Technical Service Bulletin	Apache JIRA	Apache Component	Summary
			For more information on this issue, see the corresponding Knowledge article: TSB-2021 406: CVE-2020-9492 Hadoop filesystem bindings (ie: webhdfs) allows credential stealing
TSB-434	HADOOP-17208 , HADOOP-17304	Hadoop	KMS Load Balancing Provider Fails to invalidate Cache on Key Delete For more information on this issue, see the corresponding Knowledge article: TSB 2020-434: KMS Load Balancing Provider Fails to invalidate Cache on Key Delete
TSB-465	N/A	HBase	Corruption of HBase data stored with MOB feature For more information on this issue, see the corresponding Knowledge article: TSB 2021-465: Corruption of HBase data stored with MOB feature on upgrade from CDH 5 and HDP 2
TSB-497	N/A	Solr	CVE-2021-27905: Apache Solr SSRF vulnerability with the Replication handler The Apache Solr ReplicationHandler (normally registered at "/replication" under a Solr core) has a "masterUrl" (also "leaderUrl" alias) parameter. The "masterUrl" parameter is used to designate another ReplicationHandler on another Solr core to replicate index data into the local core. To help prevent the CVE-2021-27905 SSRF vulnerability, Solr should check these parameters against a similar configuration used for the "shards" parameter. For more information on this issue, see the corresponding Knowledge article: TSB 2021-497: CVE-2021-27905: Apache Solr SSRF vulnerability with the Replication handler
TSB-512	N/A	HBase	HBase MOB data loss HBase tables with the MOB feature enabled may encounter problems which result in data loss. For more information on this issue, see the corresponding Knowledge article: TSB 2021-512: HBase MOB data loss

1.11. Documentation Errata

The following section contains late additions or corrections to the product documentation.

1.11.1. RangerUI: Escape of policy condition text entered in the policy form

Component Affected: Ranger

1.11.1.1. Description of Problem

If a user wants to create policy with custom policy conditions and the expression or text contains special characters, then policy enforcement will not work. Special characters are converted into ASCII before saving the policy into the database.

Special Characters: & < > " ` '

For example, the condition `tags.attributes['type']='abc'` would get converted to the following once the policy is saved: User can see the policy condition with these chars by opening policy in edit mode.

```
tags.attds[&#x27;dsds&#x27;]=&#x27;cssdfs&#x27;
```

You can see the policy condition with these characters by opening the policy in edit mode.

1.11.1.2. Workaround

1.11.1.2.1. Option #1: Create/Update policy via Ranger Rest API

REST URL: `http://<host>:6080/service/plugins/policies`

Creating policy with policy condition:

The below example will create policy with tags as ``tags-test`` and assign it to ``public`` group with policy condition as `tags.attr['type']=='abc'` by selecting all hive component permission like `select, update, create, drop, alter, index, lock, all`.

Example:

```
curl -H "Content-Type: application/json" -X POST http://
localhost:6080/service/plugins/policies -u admin:admin -d
'{"policyType": "0", "name": "P100", "isEnabled": true, "isAuditEnabled": true, "descr
{"tag": {"values": ["tags-
test"], "isRecursive": "", "isExcludes": false}}, "policyItems":
[{"groups": ["public"], "conditions": [{"type": "accessed-after-
expiry", "values": []}, {"type": "tag-expression", "values":
["tags.attr['type']=='abc'"]}], "accesses":
[{"type": "hive:select", "isAllowed": true},
{"type": "hive:update", "isAllowed": true},
{"type": "hive:create", "isAllowed": true},
{"type": "hive:drop", "isAllowed": true},
{"type": "hive:alter", "isAllowed": true},
{"type": "hive:index", "isAllowed": true},
{"type": "hive:lock", "isAllowed": true},
{"type": "hive:all", "isAllowed": true}]]], "denyPolicyItems":
[], "allowExceptions": [], "denyExceptions": [], "service": "tagdev"}
```

Update existing policy with policy condition:

The below example will update policy with tags as ``tags-test`` and assign it to ``public`` group with policy condition as `tags.attr['type']=='abc'` by selecting all hive component permission like `select, update, create, drop, alter, index, lock, all`.

REST URL: `http://<host-name>:6080/service/plugins/policies/<policy-id>`

Example:

```
curl -H "Content-Type: application/json" -X PUT
http://localhost:6080/service/plugins/policies/18 -u
```

```
admin:admin -d '{"id":18,"guid":"ea78a5ed-07a5-447a-978d-
e636b0490a54","isEnabled":true,"createdBy":"Admin","updatedBy":"Admin","create
{"tag":{"values":
["tags"],"isExcludes":false,"isRecursive":false}},"policyItems":
[{"accesses":[{"type":"hive:select","isAllowed":true},
{"type":"hive:update","isAllowed":true},
{"type":"hive:create","isAllowed":true},
{"type":"hive:drop","isAllowed":true},
{"type":"hive:alter","isAllowed":true},
{"type":"hive:index","isAllowed":true},
{"type":"hive:lock","isAllowed":true},
{"type":"hive:all","isAllowed":true}], "users":[],"groups":
["public"],"conditions":[{"type":"ip-range","values":
["tags.attributes['type']=abc"]}], "delegateAdmin":false}], "denyPolicyItems":
[], "allowExceptions":[],"denyExceptions":[],"dataMaskPolicyItems":
[], "rowFilterPolicyItems":[]}'
```

1.11.1.2.2. Option #2: Apply Javascript changes

Steps to update JS file :

1. Find out PermissionList.js file under /usr/hdp/current/ranger-admin
2. Find out definition of renderPolicyCondition function (line no:404).
3. Remove below line from that function i.e under display function(line no:434)

```
val = _.escape(val); //Line No:460
```

After removing the above line, the Ranger UI will allow you to create policies with policy condition that can contain special characters and policy evaluation will be successful for the same policy.

1.11.2. Workaround for Ranger service check failure

([RANGER-1607](#): Workaround for Ranger service check failure while upgrading to HDP 2.6.1 from previous HDP versions.



Note

Only when Ranger is SSL enabled.

This issue arises when attempting to upgrade to HDP-2.6.1 from previous HDP versions through Ambari. Ambari uses a curl call to do a service check to Ranger service in Ambari. If the JDK version used by Ambari is JDK-1.7, the curl call will fail with the below error:

```
curl: (35) error:14077410:SSL routines:SSL23_GET_SERVER_HELLO:sslv3 alert handshake failure
```

The reason for this error is the tomcat version used in Ranger is Tomcat-7.0.7*. Using JDK-1.7 conflicts with default ciphers provided in Tomcat-7.0.7*.

You can resolve this issue in two ways:

- Update the JDK used in Ambari from JDK-1.7 to JDK-1.8 (see the section [Change the JDK Version](#) in the Ambari Reference Guide).
- If you want to continue supporting a JDK-1.7 environment:
 1. Add the property `ranger.tomcat.ciphers` in the `ranger-admin-site` section in your Ambari Ranger configuration with the below value:

```
SSL_RSA_WITH_RC4_128_MD5, SSL_RSA_WITH_RC4_128_SHA,  
TLS_RSA_WITH_AES_128_CBC_SHA, SSL_RSA_WITH_3DES_EDE_CBC_SHA
```

2. If your environment is configured for Ranger-KMS, add the property `ranger.tomcat.ciphers` in the `ranger-kms-site` section in your Ambari Ranger configuration with the below value:

```
SSL_RSA_WITH_RC4_128_MD5, SSL_RSA_WITH_RC4_128_SHA,  
TLS_RSA_WITH_AES_128_CBC_SHA, SSL_RSA_WITH_3DES_EDE_CBC_SHA
```



Note

The noted values are working examples and may not be indicative of your environment. Ensure that the way you set these properties matches how your environment is configured.