

Cloudera Runtime 7.1.5

## Release Notes

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# CLOUDERA

<https://docs.cloudera.com/>

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# Contents

<b>Overview.....</b>	<b>6</b>
<b>Cloudera Runtime component versions.....</b>	<b>6</b>
<b>Using the Cloudera Runtime Maven repository.....</b>	<b>7</b>
Maven Artifacts for Cloudera Runtime 7.1.5.0.....	8
<b>What's new in Cloudera Runtime 7.1.5.....</b>	<b>26</b>
What's New in Apache Atlas.....	26
What's New in Apache Avro.....	27
What's New in BDR.....	27
What's New in Cruise Control.....	27
What's new in Data Analytics Studio.....	27
What's New in Apache HBase.....	27
What's New in Apache Hadoop.....	28
What's New in Apache Hadoop HDFS.....	28
What's New in Apache Hive.....	28
What's New in Hue.....	28
What's New in Apache Impala.....	29
What's New in Apache Kafka.....	29
What's New in Kerberos.....	30
What's New in Key Trustee Server.....	30
What's New in Apache Knox.....	30
What's New in Apache Kudu.....	30
What's New in Livy.....	32
What's New in MapReduce.....	32
What's New in Apache Oozie.....	33
What's New in Apache Ozone.....	33
What's New in Apache Phoenix.....	33
What's New in Apache Parquet.....	33
What's New in Queue Manager.....	33
What's New in Apache Ranger.....	34
What's New in Schema Registry.....	34
What's New in Cloudera Search.....	34
What's New in Solr.....	34
What's New in Apache Spark.....	35
What's New in Sqoop.....	35
What's New in Streams Replication Manager.....	35
What's new in Streams Messaging Manager.....	36
What's New in Apache Tez.....	36
What's New in Apache Hadoop YARN.....	36
What's New in Apache Zeppelin.....	36
What's New in Apache ZooKeeper.....	36
<b>Fixed issues in Cloudera Runtime 7.1.5.....</b>	<b>37</b>

Fixed Issues in Apache Atlas.....	37
Fixed Issues in Apache Avro.....	37
Fixed issues in Cruise Control.....	37
Fixed issues in Data Analytics Studio.....	38
Fixed Issues in Apache Hadoop.....	38
Fixed Issues in HDFS.....	38
Fixed Issues in Apache HBase.....	38
Fixed Issues in Apache Hive.....	38
Fixed Issues in Hue.....	39
Fixed Issues in Apache Impala.....	39
Fixed Issues in Apache Kafka.....	39
Fixed Issues in Apache Kudu.....	39
Fixed Issues in Apache Knox.....	40
Fixed Issues in Apache Oozie.....	40
Fixed issues in Ozone.....	40
Fixed Issues in Apache Parquet.....	40
Fixed Issues in Phoenix.....	41
Fixed Issues in Apache Ranger.....	41
Fixed Issues in Schema Registry.....	41
Fixed Issues in Cloudera Search.....	41
Fixed Issues in Apache Spark.....	42
Fixed Issues in Apache Sqoop.....	42
Fixed Issues in Streams Replication Manager.....	42
Fixed Issues in Streams Messaging Manager.....	42
Fixed Issues in Apache YARN.....	43
Fixed Issues in Zeppelin.....	43
<b>Hotfixes in Cloudera Runtime 7.1.5.....</b>	<b>43</b>
<b>Known issues in Cloudera Runtime 7.1.5.....</b>	<b>44</b>
Known Issues in Apache Atlas.....	44
Known Issues in Apache Avro.....	47
Known issues in Cruise Control.....	47
Known Issues in Data Analytics Studio.....	48
Known Issues in Apache Hadoop.....	49
Known Issues in Apache HBase.....	49
Known Issues in HDFS.....	51
Known Issues in Apache Hive.....	52
Known Issues in Hue.....	56
Known Issues in Apache Impala.....	61
Known Issues in Apache Kafka.....	66
Known Issues in Kerberos.....	69
Known Issues in Apache Knox.....	69
Known Issues in Apache Kudu.....	70
Known Issues in Apache Oozie.....	70
Known Issues in Ozone.....	70
Known Issues in Apache Phoenix.....	72
Known Issues in Apache Ranger.....	72
Known Issues in Schema Registry.....	73
Known Issues in Cloudera Search.....	73
Known Issues in Apache Solr.....	76
Known Issues in Apache Spark.....	76
Known Issues in Streams Replication Manager.....	77
Known Issues for Apache Sqoop.....	81

Known issues in Streams Messaging Manager.....	81
Known Issues in MapReduce and YARN.....	83
Known Issues in Apache Zeppelin.....	88
Known Issues in Apache ZooKeeper.....	89
<b>Behavioral changes in Cloudera Runtime 7.1.5.....</b>	<b>89</b>
Behavioral Changes in Apache Kafka.....	89
FIPS Compliant Changes in Apache Impala.....	90
Behavioral Changes in Apache Ranger.....	90
<b>Deprecation notices in Cloudera Runtime 7.1.5.....</b>	<b>91</b>
Deprecation notices in Apache Kudu.....	91
Deprecation Notices for Apache Kafka.....	91
Deprecation Notices in Apache HBase.....	92

## Overview

You can review the Release Notes of Cloudera Runtime 7.1.5 for release-specific information related to new features and improvements, bug fixes, deprecated features and components, known issues, and changed features that can affect product behavior.

To upgrade from HDP 2.6.5 to CDP 7.1.5, you must migrate from HDP 2.6.5 to CDP 7.1.4 and then upgrade from CDP 7.1.4 to CDP 7.1.5. (HDP 2.6.5 --> CDP 7.1.4 --> CDP 7.1.5)

## Cloudera Runtime component versions

You must be familiar with the versions of all the components in Cloudera Runtime 7.1.5 distribution to ensure compatibility of these components with your applications. You must also be aware of the available Technical Preview components and use them only in a testing environment.

### Apache Components

The component version number has three parts, [**Apache component version number**].[**Runtime version number**].[**Build number**]. For example, if the listed Apache HBase component version number is 2.2.3.7.1.5.0-232, then 2.2.3 is the upstream Apache HBase component version, 7.1.5 is the Runtime version, and 232 is the Runtime build. You can also view the component version numbers in Cloudera Manager.

Component	Version
Apache Arrow	0.8.0.7.1.5.0-257
Apache Atlas	2.1.0.7.1.5.0-257
Apache Calcite	1.19.0.7.1.5.0-257
Apache Avro	1.8.2.7.1.5.0-257
Apache Hadoop (Includes YARN and HDFS)	3.1.1.7.1.5.0-257
Apache HBase	2.2.3.7.1.5.0-257
Apache Hive	3.1.3000.7.1.5.0-257
Apache Impala	3.4.0.7.1.5.0-257
Apache Kafka	2.4.1.7.1.5.0-257
Apache Knox	1.3.0.7.1.5.0-257
Apache Kudu	1.13.0.7.1.5.0-257
Apache Livy	0.6.0.7.1.5.0-257
Apache MapReduce	3.1.1.7.1.5.0-257
Apache Ozone	1.0.0.7.1.5.0-257
Apache Oozie	5.1.0.7.1.5.0-257
Apache ORC	1.5.1.7.1.5.0-257
Apache Parquet	1.10.99.7.1.5.0-257
Apache Phoenix	5.0.0.7.1.5.0-257
Apache Ranger	2.1.0.7.1.5.0-257
Apache Solr	8.4.1.7.1.5.0-257

Component	Version
Apache Spark	 <b>Note:</b> The Apache component portion of the version string for Apache Spark in this release is incorrect. The Spark component in Cloudera Runtime 7.1.5 is based on Apache Spark 2.4.5, not 2.4.0. 2.4.0.7.1.5.0-257
Apache Sqoop	1.4.7.7.1.5.0-257
Apache Tez	0.9.1.7.1.5.0-257
Apache Zeppelin	0.8.2.7.1.5.0-257
Apache ZooKeeper	3.5.5.7.1.5.0-257

### Other Components

Component	Version
Cruise Control	2.0.100
Data Analytics Studio	1.4.2
GCS Connector	1.9.10
Hue	4.5.0
Search	1.0.0
Schema Registry	0.8.1.7.1.5.0
Streams Messaging Manager	2.1.0
Streams Replication Manager	1.0.0

### Connectors and Encryption Components

Component	Version
HBase connectors	1.0.0
Hive Meta Store (HMS)	1.0.0
Hive on Tez	1.0.0
Hive Warehouse Connector	1.0.0
Spark Atlas Connector	0.1.0
Spark Schema Registry	1.1.0

## Using the Cloudera Runtime Maven repository

Information about using Maven to build applications with Cloudera Runtime components.

If you want to build applications or tools for use with Cloudera Runtime components and you are using Maven or Ivy for dependency management, you can pull the Cloudera Runtime artifacts from the Cloudera Maven repository. The repository is available at [repository.cloudera.com](https://repository.cloudera.com).



**Important:** When you build an application JAR, do not include CDH JARs, because they are already provided. If you do, upgrading CDH can break your application. To avoid this situation, set the Maven dependency scope to provided. If you have already built applications which include the CDH JARs, update the dependency to set scope to provided and recompile.

The following is a sample POM (pom.xml) file:

```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
  <repositories>
    <repository>
      <id>cloudera</id>
      <url>https://repository.cloudera.com/artifactory/cloudera-repos/</url>
    </repository>
  </repositories>
</project>
```

## Maven Artifacts for Cloudera Runtime 7.1.5.0

The following table lists the project name, groupId, artifactId, and version required to access each RUNTIME artifact.

Project	groupId	artifactId	version
Apache Atlas	org.apache.atlas	atlas-authorization	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-aws-s3-bridge	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-classification-updater	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-client-common	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-client-v1	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-client-v2	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-common	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-distro	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-docs	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-graphdb-api	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-graphdb-common	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-graphdb-janus	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-index-repair-tool	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-intg	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-janusgraph-hbase2	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-notification	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-plugin-classloader	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-repository	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-server-api	2.1.0.7.1.5.0-257
	org.apache.atlas	atlas-testtools	2.1.0.7.1.5.0-257
	org.apache.atlas	hbase-bridge	2.1.0.7.1.5.0-257
	org.apache.atlas	hbase-bridge-shim	2.1.0.7.1.5.0-257
	org.apache.atlas	hbase-testing-util	2.1.0.7.1.5.0-257
	org.apache.atlas	hdfs-model	2.1.0.7.1.5.0-257
	org.apache.atlas	hive-bridge	2.1.0.7.1.5.0-257
	org.apache.atlas	hive-bridge-shim	2.1.0.7.1.5.0-257
	org.apache.atlas	impala-bridge	2.1.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.atlas	impala-bridge-shim	2.1.0.7.1.5.0-257
	org.apache.atlas	impala-hook-api	2.1.0.7.1.5.0-257
	org.apache.atlas	kafka-bridge	2.1.0.7.1.5.0-257
	org.apache.atlas	navigator-to-atlas	2.1.0.7.1.5.0-257
	org.apache.atlas	sqoop-bridge	2.1.0.7.1.5.0-257
	org.apache.atlas	sqoop-bridge-shim	2.1.0.7.1.5.0-257
Apache Avro	org.apache.avro	avro	1.8.2.7.1.5.0-257
	org.apache.avro	avro-compiler	1.8.2.7.1.5.0-257
	org.apache.avro	avro-ipc	1.8.2.7.1.5.0-257
	org.apache.avro	avro-mapred	1.8.2.7.1.5.0-257
	org.apache.avro	avro-maven-plugin	1.8.2.7.1.5.0-257
	org.apache.avro	avro-protobuf	1.8.2.7.1.5.0-257
	org.apache.avro	avro-service-archetype	1.8.2.7.1.5.0-257
	org.apache.avro	avro-thrift	1.8.2.7.1.5.0-257
	org.apache.avro	avro-tools	1.8.2.7.1.5.0-257
	org.apache.avro	trevni-avro	1.8.2.7.1.5.0-257
	org.apache.avro	trevni-core	1.8.2.7.1.5.0-257
Apache Calcite	org.apache.calcite	calcite-babel	1.19.0.7.1.5.0-257
	org.apache.calcite	calcite-core	1.19.0.7.1.5.0-257
	org.apache.calcite	calcite-druid	1.19.0.7.1.5.0-257
	org.apache.calcite	calcite-linq4j	1.19.0.7.1.5.0-257
	org.apache.calcite	calcite-server	1.19.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-core	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-metrics	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-metrics-dropwizardmetrics	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-noop-driver	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-server	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-standalone-server	1.16.0.7.1.5.0-257
	org.apache.calcite.avatica	avatica-tck	1.16.0.7.1.5.0-257
Apache Crunch	org.apache.crunch	crunch-archetype	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-contrib	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-core	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-examples	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-hbase	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-hive	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-scrunch	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-spark	0.11.0.7.1.5.0-257
	org.apache.crunch	crunch-test	0.11.0.7.1.5.0-257

Project	groupId	artifactId	version
Apache Druid	org.apache.druid	druid-aws-common	0.17.1.7.1.5.0-257
	org.apache.druid	druid-benchmarks	0.17.1.7.1.5.0-257
	org.apache.druid	druid-console	0.17.1.7.1.5.0-257
	org.apache.druid	druid-core	0.17.1.7.1.5.0-257
	org.apache.druid	druid-gcp-common	0.17.1.7.1.5.0-257
	org.apache.druid	druid-hll	0.17.1.7.1.5.0-257
	org.apache.druid	druid-indexing-hadoop	0.17.1.7.1.5.0-257
	org.apache.druid	druid-indexing-service	0.17.1.7.1.5.0-257
	org.apache.druid	druid-integration-tests	0.17.1.7.1.5.0-257
	org.apache.druid	druid-processing	0.17.1.7.1.5.0-257
	org.apache.druid	druid-server	0.17.1.7.1.5.0-257
	org.apache.druid	druid-services	0.17.1.7.1.5.0-257
	org.apache.druid	druid-sql	0.17.1.7.1.5.0-257
	org.apache.druid	extendedset	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-avro-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-basic-security	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-bloom-filter	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-datasketches	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-ec2-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-google-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-hdfs-storage	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-histogram	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-kafka-extraction-namespace	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-kafka-indexing-service	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-kerberos	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-kinesis-indexing-service	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-lookups-cached-global	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-lookups-cached-single	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-morc-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-parquet-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-protobuf-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-s3-extensions	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-stats	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-sql-metadata-storage	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-sql-metadata-storage	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-ssl-client-sslcontext	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-ssl-context-emitter	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-ssl-context-emitter	0.17.1.7.1.5.0-257
	org.apache.druid.extensions	druid-azure-extensions	0.17.1.7.1.5.0-257



Project	groupId	artifactId	version
	org.apache.hadoop	hadoop-cloud-storage	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-common	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-datajoin	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-distcp	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-extras	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-fs2img	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-gridmix	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-client	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-common	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-config	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-container-service	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-docs	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-hadoop-dependency-client	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-hadoop-dependency-server	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-hadoop-dependency-test	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-interface-admin	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-interface-client	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-interface-server	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-server-framework	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-server-scm	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-test-utils	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdds-tools	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-hdfs	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-hdfs-client	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-hdfs-httpfs	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-hdfs-native-client	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-hdfs-nfs	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-hdfs-rbf	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-kafka	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-kms	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-app	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-common	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-core	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-hs	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-hs-plugins	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-jobclient	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-nativetask	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-shuffle	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-mapreduce-client-uploader	3.1.1.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.hadoop	hadoop-mapreduce-examples	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-maven-plugins	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-minicluster	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-minikdc	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-nfs	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-openstack	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-client	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-common	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-csi	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-datanode	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-dist	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-filesystem	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-filesystem-common	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-filesystem-hadoop2	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-filesystem-hadoop3	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-filesystem-shaded	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-insight	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-integration-test	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-interface-client	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-interface-storage	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-network-tests	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-ozone-manager	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-recon	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-reconcodegen	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-s3gateway	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-ozone-tools	1.0.0.7.1.5.0-257
	org.apache.hadoop	hadoop-resourceestimator	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-rumen	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-sls	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-streaming	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-tools-dist	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-api	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-applications-distributedshell	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-applications-unmanaged-am-launcher	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-client	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-common	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-registry	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-applicationhistoryservice	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-common	3.1.1.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.hadoop	hadoop-yarn-server-nodemanager	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-resourcemanager	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-router	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-sharedcachemanager	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-tests	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-timeline-pluginstorage	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-timelineservice	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-timelineservice-hbase-client	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-timelineservice-hbase-common	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-timelineservice-hbase-server-2	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-timelineservice-hbase-tests	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-server-web-proxy	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-services-api	3.1.1.7.1.5.0-257
	org.apache.hadoop	hadoop-yarn-services-core	3.1.1.7.1.5.0-257
	org.apache.hadoop	mini-chaos-tests	1.0.0.7.1.5.0-257
Apache HBase	org.apache.hbase	hbase-annotations	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-checkstyle	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-client	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-client-project	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-common	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-endpoint	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-examples	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-external-blockcache	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-hadoop-compat	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-hadoop2-compat	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-hbtop	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-http	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-it	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-mapreduce	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-metrics	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-metrics-api	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-procedure	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-protocol	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-protocol-shaded	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-replication	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-resource-bundle	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-rest	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-rsgroup	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-server	2.2.3.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.hbase	hbase-shaded-client	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-shaded-client-byo-hadoop	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-shaded-client-project	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-shaded-mapreduce	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-shaded-testing-util	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-shaded-testing-util-tester	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-shell	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-testing-util	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-thrift	2.2.3.7.1.5.0-257
	org.apache.hbase	hbase-zookeeper	2.2.3.7.1.5.0-257
	org.apache.hbase.connector.kudu	hbase-connector-kudu-model	1.0.0.7.1.5.0-257
	org.apache.hbase.connector.kudu	hbase-connector-kudu-proxy	1.0.0.7.1.5.0-257
	org.apache.hbase.connector.spark	hbase-connector-spark	1.0.0.7.1.5.0-257
	org.apache.hbase.connector.spark	hbase-connector-spark-it	1.0.0.7.1.5.0-257
	org.apache.hbase.connector.spark	hbase-connector-spark-protocol	1.0.0.7.1.5.0-257
	org.apache.hbase.connector.spark	hbase-connector-spark-protocol-shaded	1.0.0.7.1.5.0-257
	org.apache.hbase.filesystem	hbase-filesystem	1.0.0.7.1.5.0-257
Apache Hive	org.apache.hive	hive-accumulo-handler	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-beeline	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-classification	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-cli	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-common	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-contrib	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-druid-handler	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-exec	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-hbase-handler	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-hplsql	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-jdbc	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-jdbc-handler	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-kryo-registrator	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-kudu-handler	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-llap-client	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-llap-common	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-llap-ext-client	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-llap-server	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-llap-tez	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-metastore	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-pre-upgrade	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-serde	3.1.3000.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.hive	hive-service	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-service-rpc	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-shims	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-spark-client	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-standalone-metastore	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-storage-api	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-streaming	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-testutils	3.1.3000.7.1.5.0-257
	org.apache.hive	hive-vector-code-gen	3.1.3000.7.1.5.0-257
	org.apache.hive	kafka-handler	3.1.3000.7.1.5.0-257
	org.apache.hive.hcatalog	hive-hcatalog-core	3.1.3000.7.1.5.0-257
	org.apache.hive.hcatalog	hive-hcatalog-pig-adapter	3.1.3000.7.1.5.0-257
	org.apache.hive.hcatalog	hive-hcatalog-server-extensions	3.1.3000.7.1.5.0-257
	org.apache.hive.hcatalog	hive-hcatalog-streaming	3.1.3000.7.1.5.0-257
	org.apache.hive.hcatalog	hive-webhcat	3.1.3000.7.1.5.0-257
	org.apache.hive.hcatalog	hive-webhcat-java-client	3.1.3000.7.1.5.0-257
	org.apache.hive.shims	hive-shims-0.20	3.1.3000.7.1.5.0-257
	org.apache.hive.shims	hive-shims-0.23	3.1.3000.7.1.5.0-257
	org.apache.hive.shims	hive-shims-common	3.1.3000.7.1.5.0-257
	org.apache.hive.shims	hive-shims-scheduler	3.1.3000.7.1.5.0-257
Apache Hive Warehouse Connector	com.hortonworks.hive	hive-warehouse-connector_2.11	1.0.0.7.1.5.0-257
Apache Kafka	org.apache.kafka	connect	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-api	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-basic-auth-extension	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-file	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-json	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-mirror	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-mirror-client	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-runtime	2.4.1.7.1.5.0-257
	org.apache.kafka	connect-transforms	2.4.1.7.1.5.0-257
	org.apache.kafka	generator	2.4.1.7.1.5.0-257
	org.apache.kafka	jmh-benchmarks	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-clients	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-cloudera-plugins	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-examples	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-log4j-appender	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-examples	2.4.1.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.kafka	kafka-streams-scala_2.11	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-scala_2.12	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-scala_2.13	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-test-utils	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-0100	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-0101	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-0102	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-0110	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-10	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-11	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-20	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-21	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-22	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-streams-upgrade-system-tests-23	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka-tools	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka_2.11	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka_2.12	2.4.1.7.1.5.0-257
	org.apache.kafka	kafka_2.13	2.4.1.7.1.5.0-257
Apache Knox	org.apache.knox	gateway-adapter	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-admin-ui	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-applications	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-cloud-bindings	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-demo-ldap	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-demo-ldap-launcher	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-discovery-ambari	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-discovery-cm	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-docker	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-i18n	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-i18n-logging-log4j	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-i18n-logging-slf4j	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-ha	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-identity-assertion-common	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-identity-assertion-concat	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-identity-assertion-hadoop-groups	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-identity-assertion-pseudo	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-identity-assertion-regex	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-identity-assertion-switchcase	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-jersey	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-rewrite	1.3.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.knox	gateway-provider-rewrite-common	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-rewrite-func-hostmap-static	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-rewrite-func-inbound-query-param	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-rewrite-func-service-registry	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-rewrite-step-encrypt-uri	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-rewrite-step-secure-query	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-authc-anon	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-authz-acls	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-authz-composite	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-clientcert	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-hadoopauth	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-jwt	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-pac4j	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-preauth	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-shiro	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-provider-security-webappsec	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-release	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-server	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-server-launcher	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-server-xforwarded-filter	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-admin	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-as	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-definitions	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-hashicorp-vault	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-hbase	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-health	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-hive	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-idbroker	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-impala	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-jkg	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-knoxssso	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-knoxssout	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-knoxtoken	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-livy	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-metadata	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-nifi	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-nifi-registry	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-remoteconfig	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-rm	1.3.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.knox	gateway-service-session	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-storm	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-test	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-tgs	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-vault	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-service-webhdfs	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-shell	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-shell-launcher	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-shell-release	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-shell-samples	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-spi	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-test	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-test-idbroker	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-test-release-utils	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-test-utils	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-topology-hadoop-xml	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-topology-simple	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-util-common	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-util-configinjector	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-util-launcher	1.3.0.7.1.5.0-257
	org.apache.knox	gateway-util-urltemplate	1.3.0.7.1.5.0-257
	org.apache.knox	hadoop-examples	1.3.0.7.1.5.0-257
	org.apache.knox	knox-cli-launcher	1.3.0.7.1.5.0-257
	org.apache.knox	knox-homepage-ui	1.3.0.7.1.5.0-257
	org.apache.knox	webhdfs-kerb-test	1.3.0.7.1.5.0-257
	org.apache.knox	webhdfs-test	1.3.0.7.1.5.0-257
Apache Kudu	org.apache.kudu	kudu-backup-tools	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-backup2_2.11	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-backup3_2.12	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-client	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-client-tools	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-hive	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-mapreduce	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-spark2-tools_2.11	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-spark2_2.11	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-spark3-tools_2.12	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-spark3_2.12	1.13.0.7.1.5.0-257
	org.apache.kudu	kudu-test-utils	1.13.0.7.1.5.0-257
Apache Livy	org.apache.livy	livy-api	0.6.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.livy	livy-client-common	0.6.0.7.1.5.0-257
	org.apache.livy	livy-client-http	0.6.0.7.1.5.0-257
	org.apache.livy	livy-core_2.11	0.6.0.7.1.5.0-257
	org.apache.livy	livy-examples	0.6.0.7.1.5.0-257
	org.apache.livy	livy-integration-test	0.6.0.7.1.5.0-257
	org.apache.livy	livy-repl_2.11	0.6.0.7.1.5.0-257
	org.apache.livy	livy-rsc	0.6.0.7.1.5.0-257
	org.apache.livy	livy-scala-api_2.11	0.6.0.7.1.5.0-257
	org.apache.livy	livy-server	0.6.0.7.1.5.0-257
	org.apache.livy	livy-test-lib	0.6.0.7.1.5.0-257
	org.apache.livy	livy-thriftserver	0.6.0.7.1.5.0-257
	org.apache.livy	livy-thriftserver-session	0.6.0.7.1.5.0-257
Apache Lucene	org.apache.lucene	lucene-analyzers-common	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-icu	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-kuromoji	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-morfologik	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-nori	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-openslp	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-phonetic	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-smartcn	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-analyzers-stempel	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-backward-codecs	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-benchmark	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-classification	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-codecs	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-core	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-demo	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-expressions	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-facet	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-grouping	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-highlighter	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-join	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-memory	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-misc	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-monitor	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-queries	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-queryparser	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-replicator	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-sandbox	8.4.1.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.lucene	lucene-spatial	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-spatial-extras	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-spatial3d	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-suggest	8.4.1.7.1.5.0-257
	org.apache.lucene	lucene-test-framework	8.4.1.7.1.5.0-257
Apache Oozie	org.apache.oozie	oozie-client	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-core	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-distro	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-examples	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-fluent-job-api	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-fluent-job-client	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-server	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-distcp	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-git	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-hcatalog	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-hive	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-hive2	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-oozie	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-spark	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-sqoop	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-sharelib-streaming	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-tools	5.1.0.7.1.5.0-257
	org.apache.oozie	oozie-zookeeper-security-tests	5.1.0.7.1.5.0-257
	org.apache.oozie.test	oozie-mini	5.1.0.7.1.5.0-257
Apache ORC	org.apache.orc	orc-core	1.5.1.7.1.5.0-257
	org.apache.orc	orc-examples	1.5.1.7.1.5.0-257
	org.apache.orc	orc-mapreduce	1.5.1.7.1.5.0-257
	org.apache.orc	orc-shims	1.5.1.7.1.5.0-257
	org.apache.orc	orc-tools	1.5.1.7.1.5.0-257
Apache Parquet	org.apache.parquet	parquet-avro	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-cascading	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-cascading3	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-column	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-common	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-encoding	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-format-structures	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-generator	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-hadoop	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-hadoop-bundle	1.10.99.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.parquet	parquet-jackson	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-pig	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-pig-bundle	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-protobuf	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-scala_2.10	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-thrift	1.10.99.7.1.5.0-257
	org.apache.parquet	parquet-tools	1.10.99.7.1.5.0-257
Apache Phoenix	org.apache.phoenix	phoenix-client	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-core	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-hive	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-load-balancer	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-pherf	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-queryserver	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-queryserver-client	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-server	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-spark	5.0.0.7.1.5.0-257
	org.apache.phoenix	phoenix-tracing-webapp	5.0.0.7.1.5.0-257
Apache Ranger	org.apache.ranger	conditions-enrichers	2.1.0.7.1.5.0-257
	org.apache.ranger	credentialbuilder	2.1.0.7.1.5.0-257
	org.apache.ranger	embeddedwebserver	2.1.0.7.1.5.0-257
	org.apache.ranger	jisql	2.1.0.7.1.5.0-257
	org.apache.ranger	ldapconfigcheck	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-atlas-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-atlas-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-distro	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-examples-distro	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-hbase-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-hbase-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-hdfs-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-hdfs-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-hive-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-hive-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-intg	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kafka-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kafka-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kms	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kms-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kms-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-knox-plugin	2.1.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.ranger	ranger-knox-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kudu-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kylin-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-kylin-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-nifi-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-nifi-registry-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-ozone-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-ozone-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-plugin-classloader	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-plugins-audit	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-plugins-common	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-plugins-cred	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-plugins-installer	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-raz-adls	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-raz-hook-abfs	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-raz-intg	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-raz-processor	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-rms-common	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-rms-hive	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-rms-plugins-common	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-rms-webapp	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-sampleapp-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-schema-registry-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-solr-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-solr-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-sqoop-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-sqoop-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-storm-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-storm-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-tagsync	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-tools	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-util	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-yarn-plugin	2.1.0.7.1.5.0-257
	org.apache.ranger	ranger-yarn-plugin-shim	2.1.0.7.1.5.0-257
	org.apache.ranger	sample-client	2.1.0.7.1.5.0-257
	org.apache.ranger	sampleapp	2.1.0.7.1.5.0-257
	org.apache.ranger	ugsync-util	2.1.0.7.1.5.0-257
	org.apache.ranger	unixauthclient	2.1.0.7.1.5.0-257
	org.apache.ranger	unixauthservice	2.1.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.ranger	unixusersync	2.1.0.7.1.5.0-257
Apache Solr	org.apache.solr	solr-analysis-extras	8.4.1.7.1.5.0-257
	org.apache.solr	solr-analytics	8.4.1.7.1.5.0-257
	org.apache.solr	solr-cell	8.4.1.7.1.5.0-257
	org.apache.solr	solr-clustering	8.4.1.7.1.5.0-257
	org.apache.solr	solr-core	8.4.1.7.1.5.0-257
	org.apache.solr	solr-dataimporthandler	8.4.1.7.1.5.0-257
	org.apache.solr	solr-dataimporthandler-extras	8.4.1.7.1.5.0-257
	org.apache.solr	solr-jaegertracer-configurator	8.4.1.7.1.5.0-257
	org.apache.solr	solr-langid	8.4.1.7.1.5.0-257
	org.apache.solr	solr-ltr	8.4.1.7.1.5.0-257
	org.apache.solr	solr-prometheus-exporter	8.4.1.7.1.5.0-257
	org.apache.solr	solr-security-util	8.4.1.7.1.5.0-257
	org.apache.solr	solr-solrj	8.4.1.7.1.5.0-257
	org.apache.solr	solr-test-framework	8.4.1.7.1.5.0-257
	org.apache.solr	solr-velocity	8.4.1.7.1.5.0-257
Apache Spark	org.apache.spark	spark-avro_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-catalyst_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-core_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-graphx_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-hadoop-cloud_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-hive_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-kubernetes_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-kvstore_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-launcher_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-mllib-local_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-mllib_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-network-common_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-network-shuffle_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-network-yarn_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-repl_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-sketch_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-sql-kafka-0-10_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-sql_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-streaming-kafka-0-10-assembly_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-streaming-kafka-0-10_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-streaming-kafka-0-8-assembly_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-streaming-kafka-0-8_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-streaming_2.11	2.4.0.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.spark	spark-tags_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-unsafe_2.11	2.4.0.7.1.5.0-257
	org.apache.spark	spark-yarn_2.11	2.4.0.7.1.5.0-257
Apache Sqoop	org.apache.sqoop	sqoop	1.4.7.7.1.5.0-257
	org.apache.sqoop	sqoop-test	1.4.7.7.1.5.0-257
Apache Tez	org.apache.tez	hadoop-shim	0.9.1.7.1.5.0-257
	org.apache.tez	hadoop-shim-2.8	0.9.1.7.1.5.0-257
	org.apache.tez	tez-api	0.9.1.7.1.5.0-257
	org.apache.tez	tez-aux-services	0.9.1.7.1.5.0-257
	org.apache.tez	tez-common	0.9.1.7.1.5.0-257
	org.apache.tez	tez-dag	0.9.1.7.1.5.0-257
	org.apache.tez	tez-examples	0.9.1.7.1.5.0-257
	org.apache.tez	tez-ext-service-tests	0.9.1.7.1.5.0-257
	org.apache.tez	tez-history-parser	0.9.1.7.1.5.0-257
	org.apache.tez	tez-javadoc-tools	0.9.1.7.1.5.0-257
	org.apache.tez	tez-job-analyzer	0.9.1.7.1.5.0-257
	org.apache.tez	tez-mapreduce	0.9.1.7.1.5.0-257
	org.apache.tez	tez-protobuf-history-plugin	0.9.1.7.1.5.0-257
	org.apache.tez	tez-runtime-internals	0.9.1.7.1.5.0-257
	org.apache.tez	tez-runtime-library	0.9.1.7.1.5.0-257
	org.apache.tez	tez-tests	0.9.1.7.1.5.0-257
	org.apache.tez	tez-yarn-timeline-cache-plugin	0.9.1.7.1.5.0-257
	org.apache.tez	tez-yarn-timeline-history	0.9.1.7.1.5.0-257
	org.apache.tez	tez-yarn-timeline-history-with-acls	0.9.1.7.1.5.0-257
	org.apache.tez	tez-yarn-timeline-history-with-fs	0.9.1.7.1.5.0-257
Apache Zeppelin	org.apache.zeppelin	sap	0.8.2.7.1.5.0-257
	org.apache.zeppelin	spark-interpreter	0.8.2.7.1.5.0-257
	org.apache.zeppelin	spark-scala-2.11	0.8.2.7.1.5.0-257
	org.apache.zeppelin	spark-shims	0.8.2.7.1.5.0-257
	org.apache.zeppelin	spark2-shims	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-alluxio	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-angular	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-bigquery	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-cassandra_2.10	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-display	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-elasticsearch	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-file	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-flink_2.10	0.8.2.7.1.5.0-257
	org.apache.zeppelin	zeppelin-groovy	0.8.2.7.1.5.0-257

Project	groupId	artifactId	version
	org.apache.zepelin	zepelin-hbase	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-ignite_2.10	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-interpreter	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-jdbc	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-jupyter	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-kylin	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-lens	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-livy	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-markdown	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-neo4j	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-pig	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-python	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-scio_2.10	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-server	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-shell	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-spark-dependencies	0.8.2.7.1.5.0-257
	org.apache.zepelin	zepelin-zengine	0.8.2.7.1.5.0-257
Apache ZooKeeper	org.apache.zookeeper	zookeeper	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-client-c	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-contrib-loggraph	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-contrib-rest	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-contrib-zooinpector	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-docs	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-jute	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-recipes-election	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-recipes-lock	3.5.5.7.1.5.0-257
	org.apache.zookeeper	zookeeper-recipes-queue	3.5.5.7.1.5.0-257

## What's new in Cloudera Runtime 7.1.5

You must be aware of the additional functionalities and improvements to features of components in Cloudera Runtime 7.1.5. Learn how the new features and improvements benefit you.

### What's New in Apache Atlas

Learn about the new features of Atlas in Cloudera Runtime 7.1.5.

#### Atlas Audit Operations

Atlas audit is now extended for operations like Type Definitions, import and export, server start, and server state active scenarios. For more information, see [Audit Operations](#).

### Atlas FIPS compliant cryptography

Atlas can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

#### Related Information

[Installing and Configuring CDP with FIPS](#)

## What's New in Apache Avro

Learn about the new features of Avro in Cloudera Runtime 7.1.5.

### Avro FIPS compliant cryptography

Avro can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in BDR

There are no new features for BDR in Cloudera Runtime 7.1.5.

## What's New in Cruise Control

Learn about the new features for Cruise Control in Cloudera Runtime 7.1.5

### Cruise Control FIPS compliant cryptography

Cruise Control can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's new in Data Analytics Studio

There are no new features for Data Analytics Studio in Cloudera Runtime 7.1.5

## What's New in Apache HBase

Learn about the new features of HBase in Cloudera Runtime 7.1.5.

### HBase FIPS compliant cryptography

HBase can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

### Related Information

[Installing and Configuring CDP with FIPS](#)

## What's New in Apache Hadoop

Learn about the new features of Hadoop in Cloudera Runtime 7.1.5.

### Hadoop FIPS compliant cryptography

Hadoop can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Hadoop HDFS

Learn about the new features for Hadoop HDFS in Cloudera Runtime 7.1.5

### HDFS FIPS compliant cryptography

HDFS can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

### Related Information

[Installing and Configuring CDP with FIPS](#)

## What's New in Apache Hive

Learn about the new features of Hive in Cloudera Runtime 7.1.5.

### Hive FIPS compliant cryptography

Hive can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Hue

Learn about the new features of Hue in Cloudera Runtime 7.1.5.

### Hue FIPS compliant cryptography

Hue can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Impala

Learn about the new features of Impala in Cloudera Runtime 7.1.5

### Impala FIPS compliant cryptography

Cloudera Manager supports two methods of authentication for secure access to the Impala Catalog Server, Impala Daemon, and StateStore web servers: password-based authentication and SPNEGO authentication. From this release, Impala embedded Web Server will not support HTTP password-based authentication in FIPS approved mode since it's based on MD5 and does not comply with FIPS 140-2.

For details on FIPS encryption, see [Configure CDP with FIPS-compliant encryption](#).

### Added support to Bloom filter column predicate in Impala integrated with Kudu

Until this release, Impala supported Bloom filter predicate pushdown for HDFS/Parquet. Now Impala integrated with Kudu also supports this predicate.

Bloom filter column predicate pushdown has been added to allow optimized execution of filters which match on a set of column values with a false-positive rate. Support for Impala queries utilizing Bloom filter predicate is available yielding performance improvements of 19% to 30% in TPC-H benchmarks and around 41% improvement for distributed joins across large tables.

## What's New in Apache Kafka

Learn about the new features of Kafka in Cloudera Runtime 7.1.5.

### Writing data to Ozone FS with the HDFS Sink Connector is now possible

You can now use the Cloudera developed HDFS Sink Connector in Kafka Connect to write Kafka topics to the Ozone Filesystem (Ozone FS). For a simple example, see [Configuration example for writing data to Ozone FS](#) in the Kafka Connect documentation.

### Kafka no longer uses non-FIPS compatible algorithms by default

Murmur3 hashing is introduced for the log cleaner when it builds offset maps. In addition, to the introduction of the new hashing algorithm, the default algorithm used is also changed to Murmur3. The previous default was MD5. If required, MD5 can still be used by adding `cloudera.log.cleaner.hashing.algorithm=MD5` to the Kafka Broker Advanced Configuration Snippet (Safety Valve) for `kafka.properties` property in Cloudera Manager.

### Kafka FIPS compliant cryptography

Kafka can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see [Installing and Configuring CDP with FIPS](#).

### Default Value Changes

The default values of a number of Kafka configuration properties are updated. The following table contains the updated properties as well as new and old default values:

Display Name	Property Name	Old Default	New Default
Kafka Connect rest port	<code>kafka.connect.rest.port</code>	38083	28083
Kafka Connect secure rest port	<code>kafka.connect.secure.rest.port</code>	38085	28085

Display Name	Property Name	Old Default	New Default
Jetty Metrics port to expose JMX Json	metrics.jetty.server.port	38084	28084
ZooKeeper Session Timeout	zookeeper.session.timeout.ms	6000 ms	18000 ms

## What's New in Kerberos

Learn about the new features of Kerberos in Cloudera Runtime 7.1.5.

### Kerberos FIPS compliant cryptography

Kerberos can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Key Trustee Server

Learn about the new features of Key Trustee Server in Cloudera Runtime 7.1.5.

### Key Trustee Server FIPS compliant cryptography

Key Trustee Server can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Knox

Learn about the new features of Knox in Cloudera Runtime 7.1.5.

### Knox FIPS compliant cryptography

Knox can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Kudu

Learn about the new features of Kudu in Cloudera Runtime 7.1.5.

### Kudu FIPS compliant cryptography

Kudu can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## Table Ownership

Added table ownership support. All newly created tables are automatically owned by the user creating them. It is also possible to change the owner by altering the table. You can also assign privileges to table owners using Apache Ranger.

## Bloom filter column predicate pushdown

Bloom filter column predicate pushdown is added to allow optimized execution of filters which match on a set of column values with a false-positive rate. Support for Impala queries utilizing Bloom filter predicate is available yielding performance improvements of 19% to 30% in TPC-H benchmarks and around 41% improvement for distributed joins across large tables. Support for Spark is not yet available. .

## Java client supports the columnar row format

The Java client now supports the columnar row format returned from the server transparently. Using this format can reduce the server CPU and size of the request over the network for scans. The columnar format can be enabled via the `setRowDataFormat()` method on the `KuduScanner`.

## IGNORE operations

Java and Python support are added for the following operations:

- `INSERT_IGNORE`: behaves like a normal `INSERT` except in the case when a duplicate row error would be raised by the primary key having been previously inserted.
- `UPDATE_IGNORE`: behaves like a normal `UPDATE` except a key not found error will not be raised by the primary key having not been previously inserted.
- `DELETE_IGNORE`: behaves like a normal `DELETE` except a key not found error will not be raised by the primary key having not been previously inserted. If a cluster supports `IGNORE` operations the `KuduRestore` job uses `DELETE_IGNORE` instead of `DELETE`.

A master server feature flag is also added to indicate that the cluster supports `IGNORE` operations. `IGNORE` operations are supported in Kudu Spark integration as well.

## Unique cluster Id

This feature adds a unique cluster ID to the cluster. The ID is a UUID that is automatically generated and stored in the `sys_catalog` if missing (on fresh startup or upgrade). This cluster ID is exposed through the master web-ui and the kudu master list tool.

## Optimizations and improvements

- The Spark `KuduContext` accumulator metrics now track operation counts per table instead of cumulatively for all tables.
- The `kudu local_replica delete` CLI tool now accepts multiple tablet identifiers. Along with the newly added `--ignore_nonexistent` flag, this helps with scripting scenarios when removing multiple tablet replicas from a particular Tablet Server.
- Both Master's and Tablet Server's web UI now displays the name for a service thread pool group at the `/threadz` page
- Introduced `queue_overflow_rejections_` metrics for both Masters and Tablet Servers: number of RPC requests of a particular type dropped due to RPC service queue overflow.
- Introduced a CoDel-like queue control mechanism for the apply queue. This helps to avoid accumulating too many write requests and timing them out in case of seek-bound workloads (e.g., uniform random inserts). The newly introduced queue control mechanism is disabled by default. To enable it, set the `--tablet_apply_pool_overload_threshold_ms` Tablet Server's flag to appropriate value, for example 250.
- Java client's error collector can be resized.
- Calls to the Kudu master server are now drastically reduced when using scan tokens. Previously deserializing a scan token would result in a `GetTableSchema` request and potentially a `GetTableLocations` request. Now the table

schema and location information is serialized into the scan token itself avoiding the need for any requests to the master when processing them.

- The default size of Master's RPC queue is increased to 100 for the previous 50. This is to optimize for use cases where a Kudu cluster has many clients working concurrently.
- Masters now have an option to cache table location responses. This is targeted for Kudu clusters which have many clients working concurrently. By default, the caching of table location responses is disabled. To enable table location caching, set the proper capacity of the table location cache using Master's `--table_locations_cache_capacity_mb` flag. Setting it to 0 disables the caching. Up to 17% of improvement is observed in `GetTableLocations` request rate when enabling the caching.
- Removed lock contention on Raft consensus lock in Tablet Servers while processing a write request. This helps to avoid RPC queue overflows when handling concurrent write requests to the same tablet from multiple clients.
- Master's performance for handling concurrent `GetTableSchema` requests has been improved. End-to-end tests indicated up to 15% improvement in sustained request rate for high concurrency scenarios.
- Kudu servers now use protobuf Arena objects to perform all RPC request/response-related memory allocations. This gives a boost for overall RPC performance, and with further optimization the result request rate was increased significantly for certain methods. For example, the result request rate increased up to 25% for Master's `GetTableLocations()` RPC in case of highly concurrent scenarios.
- Tablet Servers now use protobuf Arena for allocating Raft-related runtime structures. This results in substantial reduction of CPU cycles used and increases write throughput.
- Tablet Servers now use protobuf Arena for allocating `EncodedKeys` to reduce allocator contention and improve memory locality.
- Bloom filter predicate evaluation for scans can be computationally expensive. A heuristic has been added that verifies rejection rate of the supplied Bloom filter predicate below which the Bloom filter predicate is automatically disabled. This helped reduce regression observed with Bloom filter predicate in TPC-H benchmark query #9.
- Improved scan performance of dictionary and plain-encoded string columns by avoiding copying them.
- Improved maintenance manager's heuristics to prioritize larger memstores.
- Spark client's `KuduReadOptions` now supports setting a snapshot timestamp for repeatable reads with `READ_AT_SNAPSHOT` consistency mode.
- Spark 3 is supported.
- Parallelize download blocks in `tablet-copy-client`.
- Stop blocking op registration on MM mutex. This optimization buffers calls to `RegisterOp()` into a separate op map protected by a separate spinlock, and periodically merging the separate map into `'opt_'`.

## What's New in Livy

Learn about the new features of Livy in Cloudera Runtime 7.1.5.

### Livy FIPS compliant cryptography

Livy can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in MapReduce

Learn about the new features of MapReduce in Cloudera Runtime 7.1.5.

### MapReduce FIPS compliant cryptography

MapReduce can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Oozie

Learn about the new features of Oozie in Cloudera Runtime 7.1.5.

### Oozie FIPS compliant cryptography

Oozie can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Ozone

There are no new features for Ozone in Cloudera Runtime 7.1.5.

## What's New in Apache Phoenix

There are no new features for Phoenix in Cloudera Runtime 7.1.5.

### Related Information

[Installing and Configuring CDP with FIPS](#)

## What's New in Apache Parquet

Learn about the new features of Parquet in Cloudera Runtime 7.1.5.

### Parquet FIPS compliant cryptography

Parquet can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Queue Manager

Learn about the new features of Queue Manager in Cloudera Runtime 7.1.5.

### Queue Manager FIPS compliant cryptography

Queue Manager can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Ranger

Learn about the new features of Ranger in Cloudera Runtime 7.1.5.

### Ranger FIPS compliant cryptography

Ranger can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

### Ranger Hive-HDFS ACL Sync Overview

Ranger Resource Mapping Server (RMS) enables automatic translation of access policies from Hive to HDFS. For more information, see [Ranger Hive-HDFS ACL Sync](#).

## What's New in Schema Registry

Learn about the new features for Schema Registry in Cloudera Runtime 7.1.5

### New variable to set the hashing algorithm used for generating schema fingerprints

You can now change the hashing algorithm used for generating schema fingerprints. By default, Schema Registry uses MD5. To specify a different hashing algorithm such as SHA-2, go to the Cloudera Manager configuration page and search for the `schema.registry.hash.function` property. Enter the hashing algorithm and click Save.

### Schema Registry FIPS compliant cryptography

Schema Registry can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

### Related Information

[Installing and Configuring CDP with FIPS](#)

## What's New in Cloudera Search

Learn about the new features of Cloudera Search in Cloudera Runtime 7.1.5.

### MapReduceIndexerTool backup option

MapReduceIndexerTool (MRIT) introduced a new option to create result in the format of a Solr backup. These backups then can be restored into Solr using the `solrctl` utility.

## What's New in Solr

Learn about the new features of Solr in Cloudera Runtime 7.1.5.

### Solr FIPS compliant cryptography

Solr can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Spark

Learn about the new features of Spark in Cloudera Runtime 7.1.5

### Apache Spark version support

Spark included in Cloudera Runtime versions 7.1.1 and later for CDP Private Cloud Base is based on Apache Spark version 2.4.5 and contains all the feature content of that release.

### Spark FIPS compliant cryptography

Spark can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Sqoop

Learn about the new features of Sqoop in Cloudera Runtime 7.1.5.

To access the latest Sqoop documentation on Cloudera's documentation web site, go to [Sqoop Documentation 1.4.7.7.1.6.0](#).

### Sqoop FIPS compliant cryptography

Sqoop can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

### Discontinued maintenance of direct mode

The Sqoop direct mode feature is no longer maintained. This feature was primarily designed to import data from an abandoned database, which is no longer updated. Using direct mode has several drawbacks:

- Imports can cause intermittent an overlapping input split.
- Imports can generate duplicate data.
- Many problems, such as intermittent failures, can occur.
- Additional configuration is required.

Do not use the `--direct` option in Sqoop import or export commands.

## What's New in Streams Replication Manager

Learn about the new features of Streams Replication Manager in Cloudera Runtime 7.1.5.

### Streams Replication Manager FIPS compliant cryptography

Streams Replication Manager can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's new in Streams Messaging Manager

Learn about the new features of Streams Messaging Manager in Cloudera Runtime 7.1.5.

### Streams Messaging Manager FIPS compliant cryptography

Streams Messaging Manager can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

### Related Information

[Installing and Configuring CDP with FIPS](#)

## What's New in Apache Tez

Learn about the new features of Tez in Cloudera Runtime 7.1.5.

### Tez FIPS compliant cryptography

Tez can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Hadoop YARN

Learn about the new features of YARN in Cloudera Runtime 7.1.5.

### YARN FIPS compliant cryptography

YARN can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## What's New in Apache Zeppelin

There are no new features for Zeppelin in Cloudera Runtime 7.1.5.

## What's New in Apache ZooKeeper

Learn about the new features of Zookeeper in Cloudera Runtime 7.1.5.

### ZooKeeper FIPS compliant cryptography

ZooKeeper can now be configured to use FIPS compliant cryptography, through the use of FIPS 140-2 validated encryption modules, and with deployment on FIPS mode enabled RedHat Enterprise Linux (RHEL) and CentOS Operating Systems.

For more information, see *Installing and Configuring CDP with FIPS*.

## Fixed issues in Cloudera Runtime 7.1.5

You can review the list of reported issues and their fixes in Cloudera Runtime 7.1.5. Fixed issues are selected issues that were previously logged through Cloudera Support, and addressed in the current Runtime release. These issues were reported by customers or identified by Cloudera Quality Engineering teams and may have been documented in previous versions of Runtime as a known issue.

The Apache patch information for each component lists Apache patches that do not have a corresponding Cloudera Bug.

### Fixed Issues in Apache Atlas

Review the list of Atlas issues that are resolved in Cloudera Runtime 7.1.5.

#### **CDPD-372: YARN aggregation job is missing YARN metric folders because of timezone issues**

In this release, the Spark Atlas Connector produces a spark\_application entity for each Spark job. Each data flow produced by the job creates a spark\_process entity in Atlas, which tracks the actual input and output data sets for that process.

#### **OPSAPS-58720: Atlas HBase hook not enabled post migration to CDH**

This issue is now resolved.

#### **OPSAPS-58784: HMS hook is not enabled by default**

This issue is now resolved.

#### **CDPD-17968: Ambari to Cloudera Manager : Deleted entities in HDP-265 miss few attributes after migrated to CDH**

table6 is DELETED in HDP-2.6.5 and it is migrated to CDH-7.1.4. Attributes like name, db, owner are missing in DELETED entities whereas they are populated correctly in ACTIVE entities.

[ATLAS-3977](#)

#### **Apache patch information**

No additional Apache patches.

### Fixed Issues in Apache Avro

Review the list of Avro issues that are resolved in Cloudera Runtime 7.1.5.

#### **CDPD-12712: Updated thrift to solve CVE-2019-0205**

See

[AVRO-2218](#)

#### **Apache patch information**

No additional Apache patches.

### Fixed issues in Cruise Control

Review the list of Cruise Control issues that are resolved in Cloudera Runtime 7.1.5.

#### **OPSAPS-58297: Cruise Control might fail after CDP Private Cloud Base upgrade**

The default Cruise Control configuration for Process Start Retry Attempts has been changed to avoid failing after CDP Private Cloud Base upgrade. The metric collector will restart more times to ensure that Cruise Control has all the needed metrics to start.

**CDPD-19200: Cruise Control cannot collect metrics if Kafka topics have dot in their name**

The Cloudera Manager metrics fetcher returns topic and topic-partition metrics with dot in their topic name field. This caused failure in the metrics collection as Cruise Control expected the Kafka default form using underscores. Cruise Control has been changed to also collect the metrics from the topics and topic-partitions that have dots in their name field.

## Fixed issues in Data Analytics Studio

There are no fixed issues for Data Analytics Studio in Cloudera Runtime 7.1.5.

## Fixed Issues in Apache Hadoop

Review the list of Apache Hadoop issues that are resolved in Cloudera Runtime 7.1.5.

### Technical Service Bulletins

**TSB 2021-434: KMS Load Balancing Provider Fails to invalidate Cache on Key Delete**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2020-434: KMS Load Balancing Provider Fails to invalidate Cache on Key Delete](#)

## Fixed Issues in HDFS

There are no fixed issues for HDFS in Cloudera Runtime 7.1.5.

### Technical Service Bulletins

**TSB 2021-406: CVE-2020-9492 Hadoop filesystem bindings (ie: webhdfs) allows credential stealing**

For the latest update on this issue see the corresponding Knowledge article: [TSB-2021 406: CVE-2020-9492 Hadoop filesystem bindings \(ie: webhdfs\) allows credential stealing](#)

## Fixed Issues in Apache HBase

There are no fixed issues for Apache HBase in Cloudera Runtime 7.1.5.

## Fixed Issues in Apache Hive

Review the list of Hive issues that are resolved in Cloudera Runtime 7.1.5.

**CDPD-17713: MultiDelimitSerDe shifts data if strings contain non-ASCII characters**

The issue is now resolved.

[HIVE-24151](#)

**CDPD-18136: Returned proper response with status code in case of failure**

See

[RANGER-3037](#)

**CDPD-17648: Oozie hwc (hive-warehouse-connector) jar conflicts in CDP Private Cloud Base**

The Hive Warehouse Connector was adjusted to be compatible with Oozie.

No Apache issue is associated with this fixed issue.

### Apache patch information

No additional Apache patches.

## Fixed Issues in Hue

There are no fixed issues for Hue in Cloudera Runtime 7.1.5.

## Fixed Issues in Apache Impala

There are no fixed issues for Apache Impala in Cloudera Runtime 7.1.5.

## Fixed Issues in Apache Kafka

Review the list of Kafka issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-17921: advertised.listeners should allow duplicated ports (KAFKA-10478 backport)**

This is a backported fix. The advertised.listeners Kafka property now accepts duplicated ports.

### **OPSAPS-58319: Kafka metrics may have been wiped after a Kafka cluster restart**

Empty responses are now properly handled when topic names are fetched. Kafka metrics will no longer be wiped.

### **CDPD-11775: Kafka Connect does not start due to occupied ports**

The default ports for the Kafka Connect role are updated to be in the non-ephemeral range. This resolves possible port binding issues that can cause Kafka connect to not start.

### Apache patch information

Apache patches in this release. These patches do not have an associated Cloudera bug ID.

- [KAFKA-8843](#)

## Fixed Issues in Apache Kudu

Review the list of Kudu issues that are resolved in Cloudera Runtime 7.1.5.

### **[KUDU-3152](#): KuduPredicate class in Java client does not handle Date columns**

Prior to this fix, if you had a table with DATE column, you could not scan for it using the java client. A check for minimum and maximum boundaries of integer representation of java.sql.Date was added to match MIN\_DATE\_VALUE and MAX\_DATE\_VALUE in DateUtil.

### **[KUDU-2884](#): Improves the master address matching in the `kudu hms fix` tool**

### **[KUDU-3157](#): Ensure slf4j classes are not shaded**

### **[KUDU-3191](#): Fail replicas when KUDU-2233 is detected**

### **[KUDU-3195](#): Flush when any DMS in the tablet is older than the time threshold**

### **[KUDU-3198](#): Fix encodeRow() when encoding delete operations**

## Fixed Issues in Apache Knox

Review the list of Knox issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-19110: Prevent kinox from passing hadoop.auth cookie to browser**

This fix will prevent passing of auth cookies that are internal to Knox.

#### **Apache patch information**

No additional Apache patches.

## Fixed Issues in Apache Oozie

Review the list of Oozie issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-17648: Oozie HWC (hive-warehouse-connector) jar conflicts in CDP DC**

The Hive Warehouse Connector is now compatible with Oozie.

### **CDPD-9174: Missing atlas-application.properties in Oozie ShareLib**

This issue is now resolved.

When upgrading from CDH5 / HDP 2.6.5, if you have `oozie.service.CallbackService.base.url` defined as a safety-valve, you need to remove it as it will be configured by Cloudera Manager.

### **CDPD-18931: "No appropriate protocol" error with email action(disable TLS1.0/1.1)**

This issue is now resolved.

When upgrading from CDH5 / HDP 2.6.5, if you have `oozie.service.CallbackService.base.url` defined as a safety-valve, you need to remove it as it will be configured by Cloudera Manager.

#### **Apache patch information**

No additional Apache patches.

## Fixed issues in Ozone

Review the list of Ozone issues that are resolved in Cloudera Runtime 7.1.5.

#### **Technical Service Bulletins**

### **TSB 2021-457: Apache Ozone S3 Gateway allows bucket and key access to unauthenticated users**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-457: Ozone S3G Security Issue](#).

## Fixed Issues in Apache Parquet

Review the list of Parquet issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-11484: Updated log4j to solve CVE-2019-17571**

Updated log4j to solve CVE-2019-17571.

No Apache issue is associated with this this fixed issue.

### **CDPD-17613: Removed conflicting log4j-over-slf4j in parquet-tools**

Removed conflicting log4j-over-slf4j in parquet-tools.

No Apache issue is associated with this this fixed issue.

#### Apache patch information

No additional Apache patches.

## Fixed Issues in Phoenix

There are no fixed issues for Phoenix in Cloudera Runtime 7.1.5.

## Fixed Issues in Apache Ranger

Review the list of Ranger issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-19107: Support import policy by matching policy Name, Service Name and Zone Name of imported policy**

Support import policy by matching policy Name, Service Name and Zone Name of imported policy.

[RANGER-3078](#)

#### Apache patch information

No additional Apache patches.

## Fixed Issues in Schema Registry

Review the list of Schema Registry issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-16812: Read boolean properties from Kafka configurations**

Schema Registry can now read and cast String values as boolean values.

### **CDPD-17299: Schema Registry Client cannot relogin with dynamic JAAS configuration**

Schema Registry Client which uses dynamic JAAS, can now renew the Kerberos ticket when it expires.

### **CDPD-17969: Cannot fork schemas**

Previously, schema versions could not be forked when Ranger authorization was enabled. Now you can create forks and branches.

### **CDPD-18345: Schema Registry fails to start on a cluster with TLS enabled and multiple SANs in the certificate**

Schema Registry can now start without a problem when TLS is enabled and there are multiple Subject Alternative Names in the certificate.

### **OPSAPS-58157: Schema Registry Swagger page does not work due to CSP violation**

Schema Registry's Swagger page now correctly renders and the browser does not report a Content Security Policy violation error.

## Fixed Issues in Cloudera Search

Review the list of Cloudera Search issues that are resolved in Cloudera Runtime 7.1.5.

### **CDPD-18032: Backport SOLR-14663 / SOLR-14860 for CVE-2020-13957**

Backports a fix to [CVE-2020-13957](#).

## Fixed Issues in Apache Spark

Review the list of Spark issues that are resolved in Cloudera Runtime 7.1.5.

**CDPD-2650: Spark can't write ZSTD and LZ4 compressed Parquet to dynamically partitioned table.**

This issue is resolved.

**CDPD-3783: Unable to create database in spark.**

This issue is resolved.

**CDPD-372: YARN aggregation job is missing YARN metric folders because of timezone issues**

In this release, the Spark Atlas Connector produces a spark\_application entity for each Spark job. Each data flow produced by the job creates a spark\_process entity in Atlas, which tracks the actual input and output data sets for that process.

**CDPD-18458: [SPARK-32635] When pyspark**

When pyspark.sql.functions.lit() function is used with dataframe cache, it returns wrong result.

[SPARK-32635](#)

### Apache patch information

No additional Apache patches.

## Fixed Issues in Apache Sqoop

There are no fixed issues for Sqoop in Cloudera Runtime 7.1.5.

## Fixed Issues in Streams Replication Manager

There are no fixed issues for Streams Replication Manager in Cloudera Runtime 7.1.5.

## Fixed Issues in Streams Messaging Manager

Review the list of Streams Messaging Manager issues that are resolved in Cloudera Runtime 7.1.5.

**CDPD-12147: SMM throws NumberFormatException error.**

SMM throws a NumberFormatException error when the JVM of SMM is set to non-US Locale.

**CDPD-14383: SMM calls CM time series API less times.**

SMM calls Cloudera Manager time series API less times because of grouping metric requests into one call. This can be turned off by setting the following property in kafkaMetricsConfig properties:

```
request.metrics.separately: true
```

**CDPD-16215: SMM showing inaccurate Producer Messages Count in multiple places.**

If a producer was inactive for a few minutes it would be emptied from the Kafka broker cache. In that case, the producer's messages count entity would start from 0 in ServiceMonitor's database and show incorrect values for the "Messages" fields where that producer is shown.

**CDPD-16438: SMM does not handle sum() metrics properly.**

Single Point metrics (metrics that are a single timeStamp - Value pair such as sums, avgs etc) are showing data that might have been related to another timeSpan. So for instance when querying for 30 minutes, 6-hourly data is shown. The problematic queried time spans and the corresponding shown time spans are the following:

- 6 hours -> 6 hours, 1 hour, 30 mins
- 2 days -> 24 hours, 2 days

## Fixed Issues in Apache YARN

Review the list of YARN issues that are resolved in Cloudera Runtime 7.1.5.

**OPSAPS-50291: "HADOOP\_HOME,PATH,LANG,TZ" are now added by default to the yarn.nodemanager.env-whitelist Yarn configuration option.**

This issue is resolved.

**OPSAPS-58001: YARN aggregation job is missing YARN metric folders because of timezone issues**

Issue is fixed, where YarnUsageAggregation didn't find directories to aggregate in case of IST timezone.

**OPSAPS-58146: Cloudera Manager does not consider version when creating application links**

YarnWorkRelatedLinkGenerator was modified to consider the CDH or CDP version. For CDH releases the UI1 link will be generated, for CDP and later the UI2.

**COMPX-4550: Hive On Tez queries fails upon submission to dynamically created pools**

When using Hive-on-Tez with application tags, the access control check failed for dynamically created queues. With this change, the ACL settings of the parent is looked up.

[YARN-10458](#)

**CDPD-17194: Upgrade to Ember.js 2.2.1+ due to CVE-2015-7565**

Prior to this upgrade, YARN was pulling in ember.js 2.2.0 which is vulnerable to CVE-2015-7565. This CVE can be avoided by upgrading to ember.js 2.2.1.

### Apache patch information

Apache patches in this release. These patches do not have an associated Cloudera bug ID.

- [YARN-10159](#). Destroy Jersey Client in TimelineConnector.
- [YARN-7266](#). Fixed deadlock in Timeline Server thread initialization.
- [YARN-9554](#): Fixed TimelineEntity DAO serialization handling.

## Fixed Issues in Zeppelin

There are no fixed issues for Zeppelin in Cloudera Runtime 7.1.5.

## Hotfixes in Cloudera Runtime 7.1.5

You can review the list of CDP Private Cloud Base hotfixes rolled into Cloudera Runtime 7.1.5. This will help you to verify if a hotfix provided to you on a previous CDP Private Cloud Base release was included in this release.

- 7.1.4-1.cdh7.1.4.p45.15482550
- 7.1.1-1.cdh7.1.1.p2011.8063455
- 7.1.1-1.cdh7.1.1.p2007.7352607
- 7.1.3-1.cdh7.1.3.p3.7260557
- 7.1.4-1.cdh7.1.4.p1.6631336
- 7.1.3-1.cdh7.1.3.p1.6631775

## Known issues in Cloudera Runtime 7.1.5

You must be aware of the known issues and limitations, the areas of impact, and workaround in Cloudera Runtime 7.1.4.



**Note:** CDSW does not support RPM-based installation on CDP Private Base. (RPM installation is deprecated and only supported on HDP and CDH 5. For CDH6 and onward, Cloudera recommends you to use CSD-based installations.)

### Known Issues in Apache Atlas

Learn about the known issues in Atlas, the impact or changes to the functionality, and the workaround.

#### **OPSAPS-58348: The user name HTTP is not found in Atlas logs**

You must disable the Atlas metrics configuration from Cloudera Manager UI.

#### **CDPD-5542: AWS S3 Bulk and Incremental Extraction is currently not supported on 7.1.5.**

None.

#### **CDPD-17355: Atlas AWS extraction issue due to KeyError: 'entities'.**

AWS S3 extraction does not happen as the extractor.sh is missing from the host.

None.

#### **CDPD-14877:**

In the Ozone Atlas integration, only the Spark-Atlas connector is failing.

Running the Spark query through the Ozone path, an incomplete entity is created.

#### **CDPD-12668: Navigator Spark lineage can fail to render in Atlas**

As part of content conversion from Navigator to Atlas, the conversion of some spark applications created a cyclic lineage reference in Atlas, which the Atlas UI fails to render. The cases occur when a Spark application uses data from a table and updates the same table.

None.

#### **CDPD-11941: Table creation events missed when multiple tables are created in the same Hive command**

When multiple Hive tables are created in the same database in a single command, the Atlas audit log for the database may not capture all the table creation events. When there is a delay between creation commands, audits are created as expected.

None.

#### **CDPD-11940: Database audit record misses table delete**

When a hive\_table entity is created, the Atlas audit list for the parent database includes an update audit. However, at this time, the database does not show an audit when the table is deleted.

None.

#### **CDPD-11790: Simultaneous events on the Kafka topic queue can produce duplicate Atlas entities**

In normal operation, Atlas receives metadata to create entities from multiple services on the same or separate Kafka topics. In some instances, such as for Spark jobs, metadata to create a table entity in Atlas is triggered from two separate messages: one for the Spark operation and a second for the table metadata from HMS. If the process metadata arrives before the table metadata, Atlas creates a temporary entity for any tables that are not already in Atlas and reconciles the temporary entity with the HMS metadata when the table metadata arrives.

However, in some cases such as when Spark SQL queries with the write.saveAsTable function, Atlas does not reconcile the temporary and final table metadata, resulting in two entities with the same qualified name and no lineage linking the table to the process entity.

This issue is not seen for other lineage queries from spark:

```
create table default.xx3 as select * from default.xx2
insert into yy2 select * from yy
insert overwrite table ww2 select * from ww1
```

Another case where this behavior may occur is when many REST API requests are sent at the same time.

None.

**CDPD-11692: Navigator table creation time not converted to Atlas**

In converting content from Navigator to Atlas, the create time for Hive tables is not moved to Atlas.

None.

**CDPD-11338: Cluster names with upper case letters may appear in lower case in some process names**

Atlas records the cluster name as lower case in qualifiedNames for some process names. The result is that the cluster name may appear in lower case for some processes (insert overwrite table) while it appears in upper case for other queries (ctas) performed on the same cluster.

None.

**CDPD-10576: Deleted Business Metadata attributes appear in Search Suggestions**

Atlas search suggestions continue to show Business Metadata attributes even if the attributes have been deleted.

None.

**CDPD-10574: Suggestion order doesn't match search weights**

At this time, the order of search suggestions does not honor the search weight for attributes.

None.

**CDPD-9095: Duplicate audits for renaming Hive tables**

Renaming a Hive table results in duplicate ENTITY\_UPDATE events in the corresponding Atlas entity audits, both for the table and for its columns.

None.

**CDPD-7982: HBase bridge stops at HBase table with deleted column family**

Bridge importing metadata from HBase fails when it encounters an HBase table for which a column family was previously dropped. The error indicates:

```
Metadata service API org.apache.atlas.AtlasClientV2$API_V2@58112
bc4 failed with status 404 (Not Found) Response Body
( {"errorCode": "ATLAS-404-00-007", "errorMessage": "Invalid
instance creation/updation parameters passed :
hbase_column_family.table: mandatory attribute value missing in
type hbase_column_family" })
```

None.

**CDPD-7781: TLS certificates not validated on Firefox**

Atlas is not checking for valid TLS certificates when the UI is opened in FireFox browsers.

None.

**CDPD-6675: Irregular qualifiedName format for Azure storage**

The qualifiedName for hdfs\_path entities created from Azure blob locations (ABFS) doesn't have the clusterName appended to it as do hdfs\_path entities in other location types.

None.

**CDPD-5933, CDPD-5931: Unexpected Search Results When Using Regular Expressions in Basic Searches on Classifications**

When you include a regular expression or wildcard in the search criteria for a classification in the Basic Search, the results may differ unexpectedly from when full classification names are included. For example, the Exclude sub-classifications option is respected when using a full classification name as the search criteria; when using part of the classification name and the wildcard (\*) with Exclude sub-classifications turned off, entities marked with sub-classifications are not included in the results. Other instances of unexpected results include case-sensitivity.

None.

**CDPD-4762: Spark metadata order may affect lineage**

Atlas may record unexpected lineage relationships when metadata collection from the Spark Atlas Connector occurs out of sequence from metadata collection from HMS. For example, if an ALTER TABLE operation in Spark changing a table name and is reported to Atlas before HMS has processed the change, Atlas may not show the correct lineage relationships to the altered table.

None.

**CDPD-4545: Searches for Qualified Names with "@" doesn't fetch the correct results**

When searching Atlas qualifiedName values that include an "at" character (@), Atlas does not return the expected results or generate appropriate search suggestions.

Consider leaving out the portion of the search string that includes the @ sign, using the wildcard character \* instead.

**CDPD-3208: Table alias values are not found in search**

When table names are changed, Atlas keeps the old name of the table in a list of aliases. These values are not included in the search index in this release, so after a table name is changed, searching on the old table name will not return the entity for the table.

None.

**CDPD-3160: Hive lineage missing for INSERT OVERWRITE queries**

Lineage is not generated for Hive INSERT OVERWRITE queries on partitioned tables. Lineage is generated as expected for CTAS queries from partitioned tables.

None.

**CDPD-3125: Logging out of Atlas does not manage the external authentication**

At this time, Atlas does not communicate a log-out event with the external authentication management, Apache Knox. When you log out of Atlas, you can still open the instance of Atlas from the same web browser without re-authentication.

To prevent access to Atlas after logging out, close all browser windows and exit the browser.

**CDPD-1892: Ranking of top results in free-text search not intuitive**

The Free-text search feature ranks results based on which attributes match the search criteria. The attribute ranking is evolving and therefore the choice of top results may not be intuitive in this release.

If you don't find what you need in the top 5 results, use the full results or refine the search.

**CDPD-1884: Free text search in Atlas is case sensitive**

The free text search bar in the top of the screen allows you to search across entity types and through all text attributes for all entities. The search shows the top 5 results that match the search terms at any place in the text (\*term\* logic). It also shows suggestions that match the search terms that begin with the term (term\* logic). However, in this release, the search results are case-sensitive.

If you don't see the results you expect, repeat the search changing the case of the search terms.

**CDPD-1823: Queries with ? wildcard return unexpected results**

DSL queries in Advanced Search return incorrect results when the query text includes a question mark (?) wildcard character. This problem occurs in environments where trusted proxy for Knox is enabled, which is always the case for CDP.

None.

#### **CDPD-1664: Guest users are redirected incorrectly**

Authenticated users logging in to Atlas are redirected to the CDP Knox-based login page. However, if a guest user (without Atlas privileges) attempts to log in to Atlas, the user is redirected instead to the Atlas login page.

To avoid this problem, open the Atlas Dashboard in a private or incognito browser window.

#### **CDPD-922: IsUnique relationship attribute not honored**

The Atlas model includes the ability to ensure that an attribute can be set to a specific value in only one relationship entity across the cluster metadata. For example, if you wanted to add metadata tags to relationships that you wanted to make sure were unique in the system, you could design the relationship attribute with the property "IsUnique" equal true. However, in this release, the IsUnique attribute is not enforced.

None.

## Known Issues in Apache Avro

There are no known issues for Avro in Cloudera Runtime 7.1.5.

## Known issues in Cruise Control

Learn about the known issues in Cruise Control, the impact or changes to the functionality, and the workaround.

### **Cruise Control might fail at first run**

When you install Cruise Control either individually or using the Compute Cluster - StreamingMessaging(Full) deployment, Cruise Control might fail at the first run. This is caused by the difference between the Security Protocol in Kafka and in Cruise Control.

To avoid and solve this issue, see the [Add Cruise Control documentation](#).

### **Cruise Control capacity bootstrapping ignores deleted log directories**

Log directories remain in the metrics database after a log directory is removed from Kafka. This causes Cruise Control unable to start up as it tries to query the metrics in Cloudera Manager without any data in them.

You need to stop the service monitor and delete the database (by default it can be found at: /var/lib/cloudera-service-monitor). Restart the service monitor and also Cruise Control.

### **Cruise Control does not package cruise-control-version.properties**

The python client cannot be used as Cruise Control does not give any version information in HTTP response headers. In this version, Cruise Control does not support generating the cruise-control-version.properties file that is required by the python client for compatibility checks.

None

### **Some Kafka metrics are collected incorrectly in Cruise Control**

Using the network inbound/outbound capacity goals can cause the network inbound metrics to increase in the logs.

Until the issue is resolved, avoid using the network inbound/outbound capacity goal.

## Known Issues in Data Analytics Studio

Learn about the known issues in Data Analytics Studio, the impact or changes to the functionality, and the workaround.

- You may not be able to add or delete columns or change the table schema after creating a new table using the upload table feature.
- For clusters secured using Knox, you see the HTTP 401: Forbidden error message when you click the DAS quick link from Cloudera Manager and are unable to log into DAS.

Workaround: The admin user will need to provide the DAS URL from the Knox proxy topology to the users needing access to DAS.

- The download logs feature may not return the YARN application logs on a Kerberized cluster. When you download the logs, the logs contain an error-reports.json file which states that no valid Kerberos tokens are available.

Workaround: An admin user with access to the machine can use the kinit command as a hive user with hive service user keytabs and trigger the download.

- The task logs for a particular task may not be available in the task swimlane. And the zip file generated by download logs artifact may not have task logs, but instead contain an error-reports.json file with the error log of the download failures.
- You may not see any data for a report for any new queries that you run. This can happen especially for the last one day's report.

Workaround:

- Shut down the DAS Event Processor.
- Run the following command from the Postgres server:

```
update das.report_scheduler_run_audit set status = 'FAILED' where status = 'READING';
```

- Start the DAS Event Processor.

- On clusters secured with Knox proxy only: You might not be able to save the changes to the JDBC URL in the DAS UI to change the server interface (HS2 or LLAP) on which you are running your queries.
- You may be unable to upload tables or get an error while browsing files to upload tables in DAS on a cluster secured using Knox proxy.
- DAS does not parse semicolons (;) and double hyphens (--) in strings and comments.

For example, if you have a semicolon in query such as the following, the query might fail: `select * from properties where prop_value = "name1;name2";`

If a semicolon is present in a comment, then execute the query after removing the semicolon from the comment, or removing the comment altogether. For example:

```
select * from test; -- select * from test;
select * from test; /* comment; comment */
```

Queries with double hyphens (--) might also fail. For example:

```
select * from test where option = '--name';
```

- You might face UI issues on Google Chrome while using faceted search. We recommend you to use the latest version of Google Chrome (version 71.x or higher).
- Visual Explain for the same query shows different graphs on the **Compose** page and the **Query Details** page.
- While running some queries, if you restart HSI, the query execution is stopped. However, DAS does not reflect this change and the queries appear to be in the same state forever.

- After a fresh installation, when there is no data and you try to access the Reports tab, DAS displays an "HTTP 404 Not Found" error.
- Join count does not get updated for tables with partitioned columns.

### Technical Service Bulletins

#### **TSB 2022-581: Issues with “DAG ID” and “APP ID” visibility when exploring jobs in Data Analytics Studio**

When using Data Analytics Studio (DAS) with Cloudera Data Platform (CDP) Private Cloud Base, sometimes the DAG ID and APP ID will not be visible to DAS.

#### **Knowledge article:**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2022-581: Issues with “DAG ID” and “APP ID” visibility when exploring jobs in Data Analytics Studio](#)

## Known Issues in Apache Hadoop

Learn about the known issues in Hadoop, the impact or changes to the functionality, and the workaround.

**CDPD-10352: Hive on Tez cannot run certain queries on tables stored in encryption zones. This occurs when KMS connection is SSL encrypted and a self-signed certificate is used. You may see SSLHandshakeException in Hive logs in this case.**

There are two workarounds: 1. You can install a self-signed SSL certificate into cacerts file in all hosts. 2. You can copy ssl-client.xml to a directory that is available in all hosts. Then you must set the `tez.aux.uris=path-to-ssl-client.xml` property in Hive on Tez advanced configuration.

## Known Issues in Apache HBase

This topic describes known issues and workarounds for using HBase in this release of Cloudera Runtime.

**HBASE-24885: If an operator uses HBCK2 to invoke multiple `assigns` operations against one Region or happens to invoke HBCK2 `assigns` while HBase is re-assigning a Region, it is possible that the Region will be abnormally assigned. For example, unassigned, stuck in transition, and doubly-assigned.**

Obtain a fix for this issue. Operators should definitely not schedule multiple assigns for a single Region at the same time, however there is still a potential race condition.

**OpDB Data Hub cluster fails to initialize if you are reusing a cloud storage location that was used by an older OpDB Data Hub cluster**

Workaround: Stop HBase using Cloudera Manager before deleting an operational database Data Hub cluster.

**IntegrationTestReplication fails if replication does not finish before the verify phase begins**

During IntegrationTestReplication, if the verify phase starts before the replication phase finishes, the test will fail because the target cluster does not contain all of the data. If the HBase services in the target cluster does not have enough memory, long garbage-collection pauses might occur.

Workaround: Use the `-t` flag to set the timeout value before starting verification.

**HDFS encryption with HBase**

Cloudera has tested the performance impact of using HDFS encryption with HBase. The overall overhead of HDFS encryption on HBase performance is in the range of 3 to 4% for both read and update workloads. Scan performance has not been thoroughly tested.

Workaround: N/A

**AccessController postOperation problems in asynchronous operations**

When security and Access Control are enabled, the following problems occur:

- If a Delete Table fails for a reason other than missing permissions, the access rights are removed but the table may still exist and may be used again.
- If `hbaseAdmin.modifyTable()` is used to delete column families, the rights are not removed from the Access Control List (ACL) table. The `portOperation` is implemented only for `postDeleteColumn()`.
- If Create Table fails, full rights for that table persist for the user who attempted to create it. If another user later succeeds in creating the table, the user who made the failed attempt still has the full rights.

Workaround: N/A

Apache Issue: [HBASE-6992](#)

### **Bulk load is not supported when the source is the local HDFS**

The bulk load feature (the `completebulkload` command) is not supported when the source is the local HDFS and the target is an object store, such as S3/ABFS.

Workaround: Use `distcp` to move the HFiles from HDFS to S3 and then run bulk load from S3 to S3.

Apache Issue: N/A

## **Technical Service Bulletins**

### **TSB 2021-453: Snapshot and cloned table corruption when original table is deleted**

HBASE-25206 can cause data loss either through corrupting an existing hbase snapshot or destroying data that backs a clone of a previous snapshot.

#### **Upstream JIRA**

[HBASE-25206](#)

#### **Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-453: HBASE-25206 "snapshot and cloned table corruption when original table is deleted"](#)

### **TSB 2021-463: Snapshot and cloned table corruption when original table is deleted**

The HDFS short-circuit setting `dfs.client.read.shortcircuit` is overwritten to disabled by `hbase-default.xml`. HDFS short-circuit reads bypass access to data in HDFS by using a domain socket (file) instead of a network socket. This alleviates the overhead of TCP to read data from HDFS which can have a meaningful improvement on HBase performance (as high as 30-40%).

Users can restore short-circuit reads by explicitly setting `dfs.client.read.shortcircuit` in HBase configuration via the configuration management tool for their product (e.g. Cloudera Manager or Ambari).

#### **Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-463: HBase Performance Issue](#)

### **TSB 2021-494: Accumulated WAL Files Cannot be Cleaned up When Using Phoenix Secondary Global Indexes**

The Write-ahead-log (WAL) files for Phoenix tables that have secondary global indexes defined on them, cannot be automatically cleaned up by HBase, leading to excess storage usage and possible error due to filling up the storage. Accumulated WAL files can lead to lengthy restart times as they must all be played back to ensure no dataloss occurs on restart. This can have follow-on HDFS impact if the number of WAL files overwhelm HDFS Name Node.

#### **Upstream JIRA**

- [HBASE-20781](#)
- [HBASE-25459](#)
- [PHOENIX-5250](#)

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-494: Accumulated WAL Files Cannot be Cleaned up When Using Phoenix Secondary Global Indexes](#)

**TSB 2021-506: Active HBase MOB files can be removed**

Actively used MOB files can be deleted by MobFileCleanerChore due to incorrect serialization of reference file names. This is causing data loss on MOB-enabled tables.

**Upstream JIRA**

- [HBASE-23723](#)
- [HBASE-25970](#)

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-506: Active HBase MOB files can be removed](#)

## Known Issues in HDFS

Learn about the known issues in HDFS, the impact or changes to the functionality, and the workaround.

**OPSAPS-60958: The `dfs.access.time.precision` and `dfs.namenode.access.time.precision` parameters are available in Cloudera Manager > HDFS > Configuration.**

You must configure both the `dfs.access.time.precision` and `dfs.namenode.access.time.precision` parameters with the same value as Cloudera Manager still sends both the parameters to HDFS service configuration.

**OPSAPS-55788: WebHDFS is always enabled. The Enable WebHDFS checkbox does not take effect.**

None.

**Unsupported Features**

The following HDFS features are currently not supported in Cloudera Data Platform:

- ACLs for the NFS gateway ([HADOOP-11004](#))
- Aliyun Cloud Connector ([HADOOP-12756](#))
- Allow HDFS block replicas to be provided by an external storage system ([HDFS-9806](#))
- Consistent standby Serving reads ([HDFS-12943](#))
- Cost-Based RPC FairCallQueue ([HDFS-14403](#))
- HDFS Router Based Federation ([HDFS-10467](#))
- More than two NameNodes ([HDFS-6440](#))
- NameNode Federation ([HDFS-1052](#))
- NameNode Port-based Selective Encryption ([HDFS-13541](#))
- Non-Volatile Storage Class Memory (SCM) in HDFS Cache Directives ([HDFS-13762](#))
- OpenStack Swift ([HADOOP-8545](#))
- SFTP FileSystem ([HADOOP-5732](#))
- Storage policy satisfier ([HDFS-10285](#))

**Technical Service Bulletins****TSB 2021-458: Possible HDFS Erasure Coded (EC) Data Files Corruption in EC Reconstruction**

Cloudera has detected two bugs that can cause corruption of HDFS Erasure Coded (EC) files during the data reconstruction process.

The first bug can be hit during DataNode decommissioning. Due to a bug in the data reconstruction logic during decommissioning, some parity blocks may be generated with a content of all zeros.

The second issue occurs in a corner case when a DataNode times out in the reconstruction process. It will reschedule a read from another good DataNode. However, the stale DataNode reader may

have polluted the buffer and subsequent reconstruction which uses the polluted buffer will suffer from EC block corruption.

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [Cloudera Customer Advisory: Possible HDFS Erasure Coded \(EC\) Data Files Corruption in EC Reconstruction](#)

**TSB 2022-604: GetContentSummary call performance issues with Apache Ranger HDFS plugin**

With Apache Ranger enabled on the NameNode, getContentSummary calls in the Apache Hadoop Distributed File System (HDFS) lock for multiple seconds and can cause NameNode failover.

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2022-604: GetContentSummary call performance issues with Apache Ranger HDFS plugin](#)

## Known Issues in Apache Hive

Learn about the known issues in Hive, the impact or changes to the functionality, and the workaround.

**CDPD-23110: HS2 / HMS service becomes unresponsive as the LeaseRenewer thread waits to get the Kerberos ticket via System.in.**

An example on the workaround for this issue is available in this [KB article](#).

**OPSAPS-58664: Hive on Tez LDAP configurations are not pushed to hive-site.xml by Cloudera Manager**

After setting up LDAP properties in the Hive on Tez service, the settings are not pushed into hive-site.xml for Hive on Tez service even after a restart. The issue is due to HiveOnTezServiceHandler re-using definitions from HiveConfigFileDefinitions. The definitions are not including any roletypes other than HiveServiceHandler's roletypes.

**OPSAPS-59928: INSERT INTO from SELECT using hive (hbase) table returns an error under certain conditions.**

Users who upgraded to a Kerberized CDP cluster from HDP and enabled AutoTLS have reported this problem. For more information, see [Cloudera Community article: ERROR: "FAILED: Execution Error, return code 2" when the user is unable to issue INSERT INTO from SELECT using hive \(hbase\) table](#).

In Cloudera Manager TEZ Configurations, find the tez.cluster.additional.classpath.prefix Safety Valve, and set the value to /etc/hbase/conf.

**CDPD-21365: Performing a drop catalog operation drops the catalog from the CTLGS table. The DBS table has a foreign key reference on CTLGS for CTLG\_NAME. Because of this, the DBS table is locked and creates a deadlock.**

You must create an index in the DBS table on CTLG\_NAME: CREATE INDEX CTLG\_NAME\_DBS ON DBS(CTLG\_NAME);

**OPSAPS-60546: Upgrading from CDH to Cloudera Runtime 7, the Hive Java Heap Size does not propagate and defaults to 2GB.**

Manually reconfigure Hive Java Heap Size after upgrade.

**OPSAPS-54299 Installing Hive on Tez and HMS in the incorrect order causes HiveServer failure**

You need to install Hive on Tez and HMS in the correct order; otherwise, HiveServer fails. You need to install additional HiveServer roles to Hive on Tez, not the Hive service; otherwise, HiveServer fails.

Workaround: Follow instructions on [Installing Hive on Tez](#).

**CDPD-23041: DROP TABLE on a table having an index does not work**

If you migrate a Hive table to CDP having an index, DROP TABLE does not drop the table. Hive no longer supports indexes ([HIVE-18448](#)). A foreign key constraint on the indexed table prevents dropping the table. Attempting to drop such a table results in the following error:

```
java.sql.BatchUpdateException: Cannot delete or update a parent
row: a foreign key constraint fails ("hive"."IDXS", CONSTRAINT "
IDXS_FK1" FOREIGN KEY ("ORIG_TBL_ID") REFERENCES "TBL" ("TBL_ID"
))
```

There are two workarounds:

- Drop the foreign key "IDXS\_FK1" on the "IDXS" table within the metastore. You can also manually drop indexes, but do not cascade any drops because the IDXS table includes references to "TBL".
- Launch an older version of Hive, such as Hive 2.3 that includes IDXS in the DDL, and then drop the indexes as described in [Language Manual Indexing](#).

Apache Issue: [Hive-24815](#)

### **CDPD-20636 and DWX-6163: SHOW TABLES command does not produce a list of tables that are owned by the current user**

When you run the SHOW TABLES command against a Hive Virtual Warehouse, tables are only returned if you have explicit read or read/write access to the table, or if you belong to a group that has read or read/write access. If you only have access to the tables because you are the owner of the objects, you can query the table content, but the table names do not appear in the SHOW TABLES command output.

Add the owner of the database or the tables as a user with read or read/write access to the tables directly.

### **CDPD-17766: Queries fail when using spark.sql.hive.hiveserver2.jdbc.url.principal in the JDBC URL to invoke Hive.**

Do not specify spark.sql.hive.hiveserver2.jdbc.url.principal in the JDBC URL to invoke Hive remotely.

Workaround: specify principal=hive.server2.authentication.kerberos.principal as shown in the following syntax:

```
jdbc:hive://<host>:<port>/<dbName>;principal=hive.server2.authen
tication.kerberos.principal;<otherSessionConfs>?<hiveConfs>#<hive
eVars>
```

### **HIVE-24271: Problem creating an ACID table in legacy table mode**

In site-level, legacy CREATE TABLE mode, the CREATE MANAGED TABLE command might not work as expected to override the legacy behavior and create a managed ACID table. The command works only at the session level.

Workaround: Include table properties in a CREATE TABLE that specify a transactional table. For example:

```
CREATE TABLE T2(a int, b int)
STORED AS ORC
TBLPROPERTIES ('transactional'='true');
```

### **CDPD-10352: Hive on Tez cannot run certain queries on tables stored in encryption zones. This occurs when KMS connection is SSL encrypted and a self-signed certificate is used. You may see SSLHandshakeException in Hive logs in this case.**

There are two workarounds: 1. You can install a self-signed SSL certificate into cacerts file in all hosts. 2. You can copy ssl-client.xml to a directory that is available in all hosts. Then you must set the tez.aux.uris=path-to-ssl-client.xml property in Hive on Tez advanced configuration.

**CDPD-13636: Hive job fails with OutOfMemory exception in the Azure DE cluster**

Set the parameter `hive.optimize.sort.dynamic.partition.threshold=0`. Add this parameter in Cloudera Manager (Hive Service Advanced Configuration Snippet (Safety Valve) for `hive-site.xml`)

**CDPD-16802: Autotranslate assertion failure.**

The exception is not triggered when it is executed from Spark-Shell. This is from Hive in the `getJdoFilterPushdownParam` parameter of `ExpressionTree.java`, which checks the partition column as only String and not any other type.

This can be disabled by setting `hive.metastore.integral.jdo.pushdown` to true.

**ENGESC-2214: Hiveserver2 and HMS service logs are not deleted**

Update Hive log4j configurations. Hive -> Configuration -> HiveServer2 Logging Advanced Configuration Snippet (Safety Valve) Hive Metastore -> Configuration -> Hive Metastore Server Logging Advanced Configuration Snippet (Safety Valve) Add the following to the configurations: `appender.DRFA.strategy.action.type=DELETE`  
`appender.DRFA.strategy.action.basepath=${log.dir}` `appender.DRFA.strategy.action.maxdepth=1`  
`appender.DRFA.strategy.action.PathConditions.glob=${log.file}.*`  
`appender.DRFA.strategy.action.PathConditions.type=IfFileName`  
`appender.DRFA.strategy.action.PathConditions.nestedConditions.type=IfAccumulatedFileCount`  
`appender.DRFA.strategy.action.PathConditions.nestedConditions.exceeds=same value as`  
`appender.DRFA.strategy.max`

**HiveServer Web UI displays incorrect data**

If you enabled auto-TLS for TLS encryption, the HiveServer2 Web UI does not display the correct data in the following tables: Active Sessions, Open Queries, Last Max n Closed Queries

**CDPD-11890: Hive on Tez cannot run certain queries on tables stored in encryption zones**

This problem occurs when the Hadoop Key Management Server (KMS) connection is SSL-encrypted and a self signed certificate is used. `SSLHandshakeException` might appear in Hive logs.

Use one of the workarounds:

- Install a self signed SSL certificate into `cacerts` file on all hosts.
- Copy `ssl-client.xml` to a directory that is available in all hosts. In Cloudera Manager, in Clusters Hive on Tez Configuration . In Hive Service Advanced Configuration Snippet for `hive-site.xml`, click +, and add the name `tez.aux.uris` and `valuepath-to-ssl-client.xml`.

**Technical Service Bulletins****TSB 2021-459: Renaming managed (ACID) table shows empty records**

Renaming an ACID (managed) table using `ALTER TABLE <table name> RENAME` causes empty records in the table. Also, the location of the new table after renaming points to the location of the old table before renaming. This can cause correctness issues, for example:

```
create table abc (id int);
insert into abc values (1);
rename table abc to def; create table abc (id int); // should be
empty
insert into abc values (2);
select * from abc ; // returns 1 and 2, the new and the old re
sults
```

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-459: Renaming managed \(ACID\) table shows empty records](#)

**TSB 2021-480/1: Hive produces incorrect query results when skipping a header in a binary file**

In CDP, setting the table property `skip.header.line.count` to greater than 0 in a table stored in a binary format, such as Parquet, can cause incorrect query results. The `skip header` property is

intended for use with Text files and typically used with CSV files. The issue is not present when you run the query on a Text file that sets the skip header property to 1 or greater.

#### Upstream JIRA

[Apache Jira: HIVE-24827](#)

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-480.1: Hive produces incorrect query results when skipping a header in a binary file](#)

#### TSB 2021-480/2: Hive ignores the property to skip a header or footer in a compressed file

In CDP, setting the table properties skip.header.line.count and skip.footer.line.count to greater than 0 in a table stored in a compressed format, such as bzip2, can cause incorrect results from SELECT \* or SELECT COUNT ( \* ) queries.

#### Upstream JIRA

[Apache Jira: HIVE-24224](#)

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-480.2: Hive ignores the property to skip a header or footer in a compressed file](#)

#### TSB 2021-482: Race condition in subdirectory delete/rename causes hive jobs to fail

Multiple threads try to perform a rename operation on s3. One of the threads fails to perform a rename operation, causing an error. Hive logs will report "HiveException: Error moving ..." and the log will contain an error line starting with " Exception when loading partition " -all paths listed with s3a:// prefixes.

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-482: Race condition in subdirectory delete/rename causes Hive jobs to fail](#)

#### TSB 2021-501: JOIN queries return wrong result for join keys with large size in Hive

JOIN queries return wrong results when performing joins on large size keys (larger than 255 bytes). This happens when the fast hash table join algorithm is enabled, which is enabled by default.

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-501: JOIN queries return wrong result for join keys with large size in Hive](#)

#### TSB 2021-518: Incorrect results returned when joining two tables with different bucketing versions

Incorrect results are returned when joining two tables with different bucketing versions, and with the following Hive configurations: set hive.auto.convert.join = false and set mapreduce.job.reduces = any custom value.

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-518: Incorrect results returned when joining two tables with different bucketing versions](#)

#### TSB 2021-524: Intermittent data duplication if direct insert enabled

If direct insert is enabled, data is written directly to the final location with an attemptId. At the end of the insert operation, all data written before the final attempt should be deleted. However due to a bug in HIVE-21164, this does not happen.

Example: Data is written to the final location with attemptId=0, but this task fails. Hive tries the task again and writes data to the final location with attemptId=1. At the end of the insert, Hive should remove all the files with attemptId=0, but it does not.

#### Upstream JIRA

- [HIVE-21164](#)

- [HIVE-24322](#)

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-524: Intermittent data duplication if direct insert enabled](#)

**TSB 2021-529: Ranger RMS leads to HMS Connection leak and increased heap memory usage in NameNode process**

After enabling Ranger Resource Mapping Service (RMS), RMS connects to Hive MetaStore (HMS) every 30 seconds to fetch the notification event. However, for each request, RMS creates two HMS connections and only closes one of them.

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-529: Ranger RMS leads to HMS Connection leak and increased heap memory usage in NameNode process](#)

**TSB 2022-526: A Hive query may produce wrong results for some vectorized built-in functions with compound expression in PARTITION BY or ORDER BY clause**

Vectorized functions with PARTITION BY and/or ORDER BY clauses where the partition or order by expression is compound (example: cast string to integer) and not just a simple column reference may be broken.

The query may fail or output wrong results, depending on the compound expression. For example:

- Cast integer to string results in query failure with a NullPointerException
- Cast string to integer outputs wrong results

**Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2022-526: A Hive query may produce wrong results for some vectorized built-in functions with compound expression in PARTITION BY or ORDER BY clause](#)

**TSB 2023-627: IN/OR predicate on binary column returns wrong result**

An IN or an OR predicate involving a binary datatype column may produce wrong results. The OR predicate is converted to an IN due to the setting `hive.optimize.point.lookup` which is true by default. Only binary data types are affected by this issue. See <https://issues.apache.org/jira/browse/HIVE-26235> for example queries which may be affected.

**Upstream JIRA**

[HIVE-26235](#)

**Knowledge article**

For the latest update on this issue, see the corresponding Knowledge article: [TSB 2023-627: IN/OR predicate on binary column returns wrong result](#)

## Known Issues in Hue

Learn about the known issues in Hue, the impact or changes to the functionality, and the workaround.

**CDPD-40354: Uploading large files to WebHDFS from Hue secured using Knox fails**

When you upload files larger than 300 MB to WebHDFS using Hue File Browser from a Hue instance that is secured using Knox, the upload fails and you see the following error on the Hue web interface: 502 bad gateway nginx error. This error occurs only when you access the Hue instance from the Knox Gateway. Also, you may not find any exceptions in Hue or Knox service logs.

This issue is caused because the value of the “addExpect100Continue” is set to “true”. Therefore streaming large files causes out of memory error in Knox.

To resolve the issue, you must set the value of the “addExpect100Continue” to “false”.

1. SSH in to the Knox host as an Administrator.

2. Back up the following files:
  - /opt/cloudera/parcels/CDH-*[\*\*\*VERSION\*\*\*]*/lib/knox/data/services/hue/1.0.0/service.xml
  - /var/lib/knox/gateway/data/services/hue/1.0.0/service.xml
3. Open the /opt/cloudera/parcels/CDH-*[\*\*\*VERSION\*\*\*]*/lib/knox/data/services/hue/1.0.0/service.xml file for editing, search for the addExpect100Continue property, and set the value of this property to “false” as follows:

```
<param>
  <name>addExpect100Continue</name>
  <value>>false</value>
</param>
```

4. Save the file and exit.
5. Open the /var/lib/knox/gateway/data/services/hue/1.0.0/service.xml file for editing, search for the addExpect100Continue property, and set the value of this property to “false” as follows:

```
<param>
  <name>addExpect100Continue</name>
  <value>>false</value>
</param>
```

6. Save the file and exit.
7. Delete the deployment directory as follows:

```
rm -rf /var/lib/knox/gateway/data/deployments/
```

8. Restart the Knox service.

### Hue uses the unsafe-inline directive in its Content Security Policy (CSP) header

Hue 4 web interface uses the unsafe-inline directive in its CSP header. As a result, the application server does not set the CSP header in its HTTP responses, and therefore does not benefit from the additional protection against potential cross-site scripting issues and other modern application vulnerabilities which a properly configured CSP may provide. This could lead to application vulnerability.

This issue will be fixed in Hue 5. Until then, Cloudera recommends deploying additional security measures such as a firewall within the Hue server to control allowed connections, and SSO-based authentications mechanisms such as LDAP or SAML.

### Cloudera Manager displays stale Hue configuration after upgrading to CDP 7.1.x from CDH 6.

After upgrading from CDH 6 to CDP 7.1.x, you may see stale configurations in Cloudera manager for the Hue service.

Manually restart the Hue service from Cloudera Manager.

### Setting idle session timeout for Hue does not work when the cluster is secured using Knox SSO

If Hue is configured with desktop.auth.backend.KnoxSpnegoDjangoBackend as the Authentication Backend, then the automatic idle session logout that is set by configuring the idle\_session\_timeout property does not take effect. You may also see 404 error while accessing Hue from the Knox UI when the idle\_session\_timeout property is not set to -1.

None

### Downloading Impala query results containing special characters in CSV format fails with ASCII codec error

In CDP, Hue is compatible with Python 2.7.x, but the Tablib library for Hue has been upgraded from 0.10.x to 0.14.x, which is generally used with the Python 3 release. If you try to download Impala query results having special characters in the result set in a CSV format, then the download may fail with the ASCII unicode decode error.

To fix this issue, downgrade the Tablib library to 0.12.x.

1. SSH into the Hue server host.
2. Change directory to the following:

```
cd /opt/cloudera/parcels/CDH-7.x/lib/
```

3. Back up the hue directory:

```
cp -R hue hue_original
```

4. Change to the hue directory:

```
cd hue
```

5. Install the Wheel package using pip:

```
./build/env/bin/pip install wheel
```

The Wheel package is used to avoid recompiling your software during every install.

6. Install the Python Setuptools package for Hue as follows:

```
./build/env/bin/pip install setuptools==44.1.0
```

7. Install Tablib version 0.12.1 as follows:

```
./build/env/bin/pip install tablib==0.12.1
```

8. Go to Cloudera Manager and restart the Hue service.

### Impala SELECT table query fails with UTF-8 codec error

Hue cannot handle columns containing non-UTF8 data. As a result, you may see the following error while queuing tables from the Impala editor in Hue: 'utf8' codec can't decode byte 0x91 in position 6: invalid start byte.

To resolve this issue, contact Cloudera Support to apply the following software patch: ENGESC-3457.

### Psycopg2 library needed for PostgreSQL-backed Hue when on RHEL 8 or Ubuntu 20 platforms

You may see a warning on the **Host Inspector Results** page stating that a compatible version of the Psycopg2 library is missing on your host if you have installed CDP 7.1.7 on RHEL 8 or Ubuntu 20 platforms and if you are using PostgreSQL as the backend database for Hue. This is because RHEL 8 and Ubuntu 20 contain Python 3 by default and Hue does not support Python 3.

Hue in Runtime 7 requires version 2.7.5 of the psycopg2 Python package for connecting to a PostgreSQL database. If you are on RHEL 8 or Ubuntu 20, then you must install one of the following compatible psycopg2 package versions before deploying CDP 7.1.7 on your cluster: 2.7.5, 2.7.6.1, and 2.7.7. For more information, see [Installing the psycopg2 Python Package on PostgreSQL-backed Hue](#).

### Connection failed error when accessing the Search app (Solr) from Hue

If you are using Solr with Hue to generate interactive dashboards and for indexing data, and if you have deployed two Solr services on your cluster and selected the second one as a dependency for Hue, then Cloudera Manager assigns the hostname of the first Solr service and the port number of the second Solr service generating an incorrect Solr URL in the search section of the hue.ini file. As a result, you may see a “Connection failed” error when you try to access the Search app from the Hue web UI.

1. Log into Cloudera Manager as an Administrator.
2. Go to Clusters Hue service Configuration and add the following lines in the Hue Service Advanced Configuration Snippet (Safety Valve) for hue\_safety\_valve.ini field:

```
[search]
```

```
# URL of the Solr Server
solr_url=http://[***HOSTNAME***]:[***PORT***]/solr/
```

For example:

```
solr_url=http://solr2:4567/solr/
```

3. Click Save Changes.
4. Restart the Hue service.

### Invalid S3 URI error while accessing S3 bucket

The Hue Load Balancer merges the double slashes (//) in the S3 URI into a single slash (/) so that the URI prefix "/filebrowser/view=S3A://" is changed to "/filebrowser/view=S3A:". This results in an error when you try to access the S3 buckets from the Hue File Browser through the port 8889.

The Hue web UI displays the following error: “Unknown error occurred”.

The Hue server logs record the “ValueError: Invalid S3 URI: S3A” error.

To resolve this issue, add the following property in the Hue Load Balancer Advanced Configuration Snippet:

1. Sign in to Cloudera Manager as an administrator.
2. Go to Clusters Hue service Configurations Load Balancer and search for the Load Balancer Advanced Configuration Snippet (Safety Valve) for httpd.conf field.
3. Specify MergeSlashes OFF in the Load Balancer Advanced Configuration Snippet (Safety Valve) for httpd.conf field.
4. Click Save Changes.
5. Restart the Hue Load Balancer.

You should be able to load the S3 browser from both 8888 and 8889 ports.

Alternatively, you can use the Hue server port 8888 instead of the load balancer port 8889 to resolve this issue.

### Error while rerunning Oozie workflow

You may see an error such as the following while rerunning an already executed and finished Oozie workflow through the Hue web interface: E0504: App directory [hdfs://cdh/user/hue/oozie/workspaces/hue-oozie-1571929263.84] does not exist.

To resolve this issue, add the following property in the Hue Load Balancer Advanced Configuration Snippet:

1. Sign in to Cloudera Manager as an administrator.
2. Go to Clusters Hue service Configurations Load Balancer and search for the Load Balancer Advanced Configuration Snippet (Safety Valve) for httpd.conf field.
3. Specify MergeSlashes OFF in the Load Balancer Advanced Configuration Snippet (Safety Valve) for httpd.conf field.
4. Click Save Changes.
5. Restart the Hue Load Balancer.

### Python-psycopg2 package version 2.8.4 not compatible with Hue

Ubuntu 18.04 provides python-psycopg2 package version 2.8.4 but it is not compatible with Hue because of a bug in the Django framework.

Downgrade the package at the OS level by running the following command:

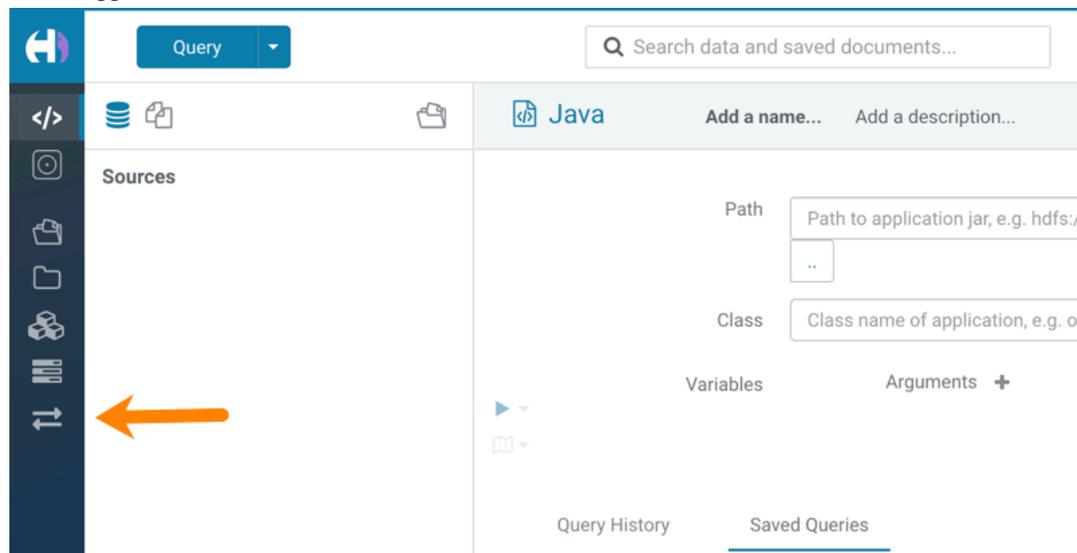
```
sudo apt install python-psycopg2==2.7.5
```

or install python-psycopg2 package using pip by running the following command:

```
sudo pip install psycopg2==2.7.5
```

### Hue Importer is not supported in the Data Engineering template

When you create a Data Hub cluster using the Data Engineering template, the Importer application is not supported in Hue:



### Hue limitation after upgrading from CDH to CDP Private Cloud Base

The `hive.server2.parallel.ops.in.session` configuration property changes from `TRUE` to `FALSE` after upgrading from CDH to CDP Private Cloud Base. Current versions of Hue are compatible with this property change; however, if you still would like to use an earlier version of Hue that was not compatible with this property being `FALSE` and shared a single JDBC connection to issue queries concurrently, the connection will no longer work after upgrading.

### Unsupported feature: Importing and exporting Oozie workflows across clusters and between different CDH versions is not supported

You can export Oozie workflows, schedules, and bundles from Hue and import them only within the same cluster if the cluster is unchanged. You can migrate bundle and coordinator jobs with their workflows only if their arguments have not changed between the old and the new cluster. For example, hostnames, NameNode, Resource Manager names, YARN queue names, and all the other parameters defined in the `workflow.xml` and `job.properties` files.

Using the import-export feature to migrate data between clusters is not recommended. To migrate data between different versions of CDH, for example, from CDH 5 to CDP 7, you must take the dump of the Hue database on the old cluster, restore it on the new cluster, and set up the database in the new environment. Also, the authentication method on the old and the new cluster should be the same because the Oozie workflows are tied to a user ID, and the exact user ID needs to be present in the new environment so that when a user logs into Hue, they can access their respective workflows.



**Note:** Migrating Oozie workflows from HDP clusters is not supported.

### PySpark and SparkSQL are not supported with Livy in Hue

Hue does not support configuring and using PySpark and SparkSQL with Livy in CDP Private Cloud Base.

### Technical Service Bulletins

**TSB 2021-487: Cloudera Hue is vulnerable to Cross-Site Scripting attacks**

Multiple Cross-Site Scripting (XSS) vulnerabilities of Cloudera Hue have been found. They allow JavaScript code injection and execution in the application context.

- CVE-2021-29994 - The Add Description field in the Table schema browser does not sanitize user inputs as expected.
- CVE-2021-32480 - Default Home direct button in Filebrowser is also susceptible to XSS attack.
- CVE-2021-32481 - The Error snippet dialog of the Hue UI does not sanitize user inputs.

### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-487: Cloudera Hue is vulnerable to Cross-Site Scripting attacks \(CVE-2021-29994, CVE-2021-32480, CVE-2021-32481\)](#)

## Known Issues in Apache Impala

Learn about the known issues in Impala, the impact or changes to the functionality, and the workaround.

### Impala known limitation when querying compacted tables

When the compaction process deletes the files for a table from the underlying HDFS location, the Impala service does not detect the changes as the compactions does not allocate new write ids. When the same table is queried from Impala it throws a 'File does not exist' exception that looks something like this:

```
Query Status: Disk I/O error on <node>:22000: Failed to open HDFS file hdfs://nameservice1/warehouse/tablespace/managed/hive/<database>/<table>/xxxxx
Error(2): No such file or directory Root cause: RemoteException: File does not exist: /warehouse/tablespace/managed/hive/<database>/<table>/xxxx
```

Use the [REFRESH/INVALIDATE](#) statements on the affected table to overcome the 'File does not exist' exception.

### HADOOP-15720: Queries stuck on failed HDFS calls and not timing out

In Impala 3.2 and higher, if the following error appears multiple times in a short duration while running a query, it would mean that the connection between the impalad and the HDFS NameNode is in a bad state.

```
"hdfsOpenFile() for <filename> at backend <hostname:port> failed to finish before the <hdfs_operation_timeout_sec> second timeout"
```

In Impala 3.1 and lower, the same issue would cause Impala to wait for a long time or not respond without showing the above error message.

Restart the impalad.

### IMPALA-532: Impala should tolerate bad locale settings

If the LC\_\* environment variables specify an unsupported locale, Impala does not start.

Add LC\_ALL="C" to the environment settings for both the Impala daemon and the Statestore daemon.

### IMPALA-5605: Configuration to prevent crashes caused by thread resource limits

Impala could encounter a serious error due to resource usage under very high concurrency. The error message is similar to:

```
F0629 08:20:02.956413 29088 llvm-codegen.cc:111] LLVM hit fatal error: Unable to allocate section memory!
```

```
terminate called after throwing an instance of 'boost::exception_
detail::clone_impl<boost::exception_detail::error_info_injector<
boost::thread_resource_error> >'
```

To prevent such errors, configure each host running an `impalad` daemon with the following settings:

```
echo 2000000 > /proc/sys/kernel/threads-max
echo 2000000 > /proc/sys/kernel/pid_max
echo 8000000 > /proc/sys/vm/max_map_count
```

Add the following lines in `/etc/security/limits.conf`:

```
impala soft nproc 262144
impala hard nproc 262144
```

### Avro Scanner fails to parse some schemas

The default value in Avro schema must match type of first union type, e.g. if the default value is null, then the first type in the UNION must be "null".

Swap the order of the fields in the schema specification. For example, use `["null", "string"]` instead of `["string", "null"]`. Note that the files written with the problematic schema must be rewritten with the new schema because Avro files have embedded schemas.

### IMPALA-691: Process mem limit does not account for the JVM's memory usage

Some memory allocated by the JVM used internally by Impala is not counted against the memory limit for the `impalad` daemon.

To monitor overall memory usage, use the `top` command, or add the memory figures in the Impala web UI `/memz` tab to JVM memory usage shown on the `/metrics` tab.

### IMPALA-9350: Ranger audit logs for applying column masking policies missing

Impala is not producing these logs.

None

### IMPALA-1024: Impala BE cannot parse Avro schema that contains a trailing semi-colon

If an Avro table has a schema definition with a trailing semicolon, Impala encounters an error when the table is queried.

Remove trailing semicolon from the Avro schema.

### IMPALA-1652: Incorrect results with basic predicate on CHAR typed column

When comparing a CHAR column value to a string literal, the literal value is not blank-padded and so the comparison might fail when it should match.

Use the `RPAD()` function to blank-pad literals compared with CHAR columns to the expected length.

### IMPALA-1792: ImpalaODBC: Can not get the value in the SQLGetData(m-x th column) after the SQLBindCol(m th column)

If the ODBC `SQLGetData` is called on a series of columns, the function calls must follow the same order as the columns. For example, if data is fetched from column 2 then column 1, the `SQLGetData` call for column 1 returns NULL.

Fetch columns in the same order they are defined in the table.



depending on the network configuration. If the daemons cannot determine the FQDN, Impala does not start on a Kerberized cluster.

Test if a host is affected by checking whether the output of the `hostname` command includes the FQDN. On hosts where `hostname` only returns the short name, pass the command-line flag `##hostname=fully_qualified_domain_name` in the startup options of all Impala-related daemons.

#### **IMPALA-6671: Metadata operations block read-only operations on unrelated tables**

Metadata operations that change the state of a table, like `COMPUTE STATS` or `ALTER RECOVER PARTITIONS`, may delay metadata propagation of unrelated unloaded tables triggered by statements like `DESCRIBE` or `SELECT` queries.

None

#### **IMPALA-7072: Impala does not support Heimdal Kerberos**

None

#### **CDPD-28139: Set spark.hadoop.hive.stats.autogather to false by default**

As an Impala user, if you submit a query against a table containing data ingested using Spark and you are concerned about the quality of the query plan, you must run `COMPUTE STATS` against such a table in any case after an ETL operation because `numRows` created by Spark could be incorrect. Also, use other stats computed by `COMPUTE STATS`, e.g., Number of Distinct Values (NDV) and NULL count for good selectivity estimates.

For example, when a user ingests data from a file into a partition of an existing table using Spark, if `spark.hadoop.hive.stats.autogather` is not set to `false` explicitly, `numRows` associated with this partition would be 0 even though there is at least one row in the file. To avoid this, the workaround is to set `"spark.hadoop.hive.stats.autogather=false"` in the "Spark Client Advanced Configuration Snippet (Safety Valve) for spark-conf/spark-defaults.conf" in Spark's CM Configuration section.

### **Technical Service Bulletins**

#### **TSB-2021-485: Impala returns fewer rows from parquet tables on S3**

[IMPALA-10310](#) was an issue in Impala's Parquet page filtering code where the scanner did not reset state appropriately when transitioning from the first row group to subsequent row groups in a single split. This caused data from the subsequent row groups to be skipped incorrectly, leading to incorrect query results. This issue cannot occur when the Parquet page filtering is disabled by setting `PARQUET_READ_PAGE_INDEX=false`.

The issue is more likely to be encountered on S3/ADLS/ABFS/etc, because Spark is sometimes configured to write 128MB row groups and the `PARQUET_OBJECT_STORE_SPLIT_SIZE` is 256MB. This makes it more likely for Impala to process two row groups in a single split.

Parquet page filtering only works based on the min/max statistics, therefore the comparison operators it supports are `"="`, `"<"`, `">"`, `"<="`, and `">="`. These operators are impacted by this bug. Expressions such as `"!="`, `'LIKE'` or the expressions including UDF do not use parquet page filtering.

The `PARQUET_OBJECT_STORE_SPLIT_SIZE` parameter is introduced in Impala 3.3 by [IMPALA-5843](#). This means that older versions of Impala do not have this issue.

#### **Upstream JIRA**

- [IMPALA-5843](#)
- [IMPALA-10310](#)

#### **Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB-2021-485: Impala returns fewer rows from parquet tables on S3](#)

#### **TSB 2021-502: Impala logs the session / operation secret on most RPCs at INFO level**

Impala logs contain the session / operation secret. With this information a person who has access to the Impala logs might be able to hijack other users' sessions. This means the attacker is able to execute statements for which they do not have the necessary privileges otherwise. Impala deployments where Apache Sentry or Apache Ranger authorization is enabled may be vulnerable to privilege escalation. Impala deployments where audit logging is enabled may be vulnerable to incorrect audit logging.

Restricting access to the Impala logs that expose secrets will reduce the risk of an attack. Additionally, restricting access to trusted users for the Impala deployment will also reduce the risk of an attack. Log redaction techniques can be used to redact secrets from the logs. For more information, see the *Cloudera Manager documentation*.

For log redaction, users can create a rule with a search pattern: `secret \(\string\) [=].*` And the replacement could be for example: `secret=LOG-REDACTED`

### Upstream JIRA

[IMPALA-10600](#)

### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-502: Impala logs the session / operation secret on most RPCs at INFO level](#)

### TSB 2021-479: Impala can return incomplete results through JDBC and ODBC clients in all CDP offerings

In CDP, we introduced a timeout on queries to Impala defaulting to 10 seconds. The timeout setting is called `FETCH_ROWS_TIMEOUT_MS`. Due to this setting, JDBC, ODBC, and Beeswax clients running Impala queries believe the data returned at 10 seconds is a complete dataset and present it as the final output. However, in cases where there are still results to return after this timeout has passed, when the driver closes the connection, based on the timeout, it results in a scenario where the query results are incomplete.

### Upstream JIRA

[IMPALA-7561](#)

### Knowledge article

For the latest update on this issue, see the corresponding Knowledge article: [TSB-2021 479: Impala can return incomplete results through JDBC and ODBC clients in all CDP offerings](#)

### TSB 2022-543: Impala query with predicate on analytic function may produce incorrect results

Apache Impala may produce incorrect results for a query which has all of the following conditions:

- There are two or more analytic functions (for example, `row_number()`) in an inline view
- Some of the functions have partition-by expression while the others do not
- There is a predicate on the inline view's output expression corresponding to the analytic function

### Upstream JIRA

[IMPALA-11030](#)

### Knowledge article

For the latest update on this issue, see the corresponding Knowledge article: [TSB 2022-543: Impala query with predicate on analytic function may produce incorrect results](#)

### TSB 2023-632: Apache Impala reads minor compacted tables incorrectly on CDP Private Cloud Base

The issue occurs when Apache Impala (Impala) reads insert-only Hive ACID tables that were minor compacted by Apache Hive (Hive).

Insert-only ACID table (also known as micro-managed ACID table) is the default table format in Impala in CDP Private Cloud Base 7.1.x and can be identified by having the following table properties:

```
"transactional"="true"
```

```
"transactional_properties"="insert_only"
```

Minor compactions can be initiated in Hive with the following statement:

```
ALTER TABLE <table_name> COMPACT 'minor'
```

A minor compaction differs from a major compaction in compacting only the files created by INSERTs since the last compaction instead of compacting all files in the table.

Performing a minor compaction results in creation of delta directories in the table (or partition) folder like `delta_0000001_0000008_v0000564`. These delta directories are not handled correctly by Impala, which can lead to returning different results compared to Hive. This means either missing rows from some data files or duplicating rows from some data files. The exact results depend on whether a major compaction was run on the table and on whether the old files compacted during a minor compaction have been deleted.

If the last compaction was a major compaction or if neither a minor nor a major compaction was performed on the table, then the issue does not occur.

Minor compaction is not initiated automatically by Hive Metastore (HMS) or any other CDP (Cloudera Data Platform) component, meaning that this issue can only occur if minor compactions were initiated explicitly by users or scripts.

### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2022-632 Impala reads minor compacted tables incorrectly on CDP Private Cloud Base](#)

## Known Issues in Apache Kafka

Learn about the known issues in Kafka, the impact or changes to the functionality, and the workaround.

### OPSAPS-59553: SMM's bootstrap server config should be updated based on Kafka's listeners

SMM does not show any metrics for Kafka or Kafka Connect when multiple listeners are set in Kafka.

Workaround: SMM cannot identify multiple listeners and still points to bootstrap server using the default broker port (9093 for SASL\_SSL). You would have to override bootstrap server URL (hostname:port as set in the listeners for broker) in the following path:

Cloudera Manager > SMM > Configuration > Streams Messaging Manager Rest Admin Server Advanced Configuration Snippet (Safety Valve) for `streams-messaging-manager.yaml` > Save Changes > Restart SMM.

### Topics created with the kafka-topics tool are only accessible by the user who created them when the deprecated --zookeeper option is used

By default all created topics are secured. However, when topic creation and deletion is done with the `kafka-topics` tool using the `--zookeeper` option, the tool talks directly to Zookeeper. Because security is the responsibility of ZooKeeper authorization and authentication, Kafka cannot prevent users from making ZooKeeper changes. As a result, if the `--zookeeper` option is used, only the user who created the topic will be able to carry out administrative actions on it. In this scenario Kafka will not have permissions to perform tasks on topics created this way.

Use `kafka-topics` with the `--bootstrap-server` option that does not require direct access to Zookeeper.

### Certain Kafka command line tools require direct access to Zookeeper

The following command line tools talk directly to ZooKeeper and therefore are not secured via Kafka:

- `kafka-configs`

- kafka-reassign-partitions

None

**The offsets.topic.replication.factor property must be less than or equal to the number of live brokers**

The offsets.topic.replication.factor broker configuration is now enforced upon auto topic creation. Internal auto topic creation will fail with a GROUP\_COORDINATOR\_NOT\_AVAILABLE error until the cluster size meets this replication factor requirement.

None

**Requests fail when sending to a nonexistent topic with auto.create.topics.enable set to true**

The first few produce requests fail when sending to a nonexistent topic with auto.create.topics.enable set to true.

Increase the number of retries in the producer configuration setting retries.

**Custom Kerberos principal names cannot be used for kerberized ZooKeeper and Kafka instances**

When using ZooKeeper authentication and a custom Kerberos principal, Kerberos-enabled Kafka does not start. You must disable ZooKeeper authentication for Kafka or use the default Kerberos principals for ZooKeeper and Kafka.

None

**Performance degradation when SSL Is enabled**

In some configuration scenarios, significant performance degradation can occur when SSL is enabled. The impact varies depending on your CPU, JVM version, Kafka configuration, and message size. Consumers are typically more affected than producers.

Configure brokers and clients with ssl.secure.random.implementation = SHA1PRNG. It often reduces this degradation drastically, but its effect is CPU and JVM dependent.

**OPSAPS-43236: Kafka garbage collection logs are written to the process directory**

By default Kafka garbage collection logs are written to the agent process directory. Changing the default path for these log files is currently unsupported.

None

**OPSAPS-59031: Kafka cannot start if configuration is added to the Kafka Broker Advanced Configuration Snippet (Safety Valve) for ssl.properties**

The Kafka Broker Advanced Configuration Snippet (Safety Valve) for ssl.properties configuration snippet does not correctly override configuration. As a result, Kafka may not start if TLS/SSL related configuration overrides are added to the this configuration snippet.

Use the Kafka Broker Advanced Configuration Snippet (Safety Valve) for kafka.properties configuration snippet instead to override SSL related properties.

**OPSAPS-58492: Automatic Ranger service creation for Kafka is incomplete**

When a new resource based service is created for Kafka in Ranger, the cruisecontrol user is not added to the policy set. This prevents Cruise Control from working properly.

Manually add the cruisecontrol user to the Kafka resource based service in Ranger.

**OPSAPS-59124: Kafka, SMM, and SRM fail to start when there are multiple Ranger Admin roles running**

If there are multiple Ranger Admin roles configured in a cluster, Kafka cannot create the Kafka resource based services in Ranger, which are required for authorization. If the resource based services are missing, the Kafka, SMM, and SRM services will fail to start.

1. In Cloudera Manager, select the Kafka service.
2. Go to Configuration.

- Find the Kafka Broker Environment Advanced Configuration Snippet (Safety Valve) property and add the following:

```
RANGER_REST_URL=[***RANGER ADMIN HOST***]:[***RANGER ADMIN PORT***]
```

- Replace [*\*\*\*RANGER ADMIN HOST\*\*\**] with the hostname where a Ranger Admin service role is deployed. You can find the hostname by going to RangerInstances. The hostname is displayed in the **Hostname** column next to Ranger Admin. Choose one of the available Ranger Admin instances.
  - Replace [*\*\*\*RANGER ADMIN PORT\*\*\**] with the port used by the Ranger Admin service role. The port is specified in the Admin HTTP Port or Admin HTTPS port Ranger property. Which port is used depends on whether SSL is enabled for Ranger Admin.
- Click Save Changes.
  - Restart Kafka.
  - Restart SMM and SRM.

### Unsupported Features

The following Kafka features are not supported in Cloudera Data Platform:

- Only Java based clients are supported. Clients developed with C, C++, Python, .NET and other languages are currently not supported.
- The Kafka default authorizer is not supported. This includes setting ACLs and all related APIs, broker functionality, and command-line tools.

### Limitations

#### Collection of Partition Level Metrics May Cause Cloudera Manager's Performance to Degrade

If the Kafka service operates with a large number of partitions, collection of partition level metrics may cause Cloudera Manager's performance to degrade.

If you are observing performance degradation and your cluster is operating with a high number of partitions, you can choose to disable the collection of partition level metrics.



**Important:** If you are using SMM to monitor Kafka or Cruise Control for rebalancing Kafka partitions, be aware that both SMM and Cruise Control rely on partition level metrics. If partition level metric collection is disabled, SMM will not be able to display information about partitions. In addition, Cruise Control will not operate properly.

Complete the following steps to turn off the collection of partition level metrics:

- Obtain the Kafka service name:
  - In Cloudera Manager, Select the Kafka service.
  - Select any available chart, and select Open in Chart Builder from the configuration icon drop-down.
  - Find \$SERVICENAME= near the top of the display.

The Kafka service name is the value of \$SERVICENAME.

2. Turn off the collection of partition level metrics:
  - a. Go to Hosts Configuration.
  - b. Find and configure the Cloudera Manager Agent Monitoring Advanced Configuration Snippet (Safety Valve) configuration property.

Enter the following to turn off the collection of partition level metrics:

```
[KAFKA_SERVICE_NAME]_feature_send_broker_topic_partition_entity_update_enabled=false
```

Replace [KAFKA\_SERVICE\_NAME] with the service name of Kafka obtained in step 1. The service name should always be in lower case.

- c. Click Save Changes.

## Known Issues in Kerberos

Learn about the known issues in Kerberos, the impact or changes to the functionality, and the workaround.

**OPSAPS-60331: If Cloudera Manager is configured to use Active Directory as a Kerberos KDC, and is also configured to use /etc/cloudera-scm-server/cmfd.keytab as the KDC admin credentials, you may encounter errors when generating Kerberos credentials.**

In the Cloudera Manager Admin Console, run the "Administration > Security > Kerberos Credentials > Import KDC Account Manager Credentials" wizard. Remove /etc/cloudera-scm-server/cmfd.keytab on the Cloudera Manager server host.

## Known Issues in Apache Knox

Learn about the known issues in Knox, the impact or changes to the functionality, and the workaround.

**CDPD-3125: Logging out of Atlas does not manage the external authentication**

At this time, Atlas does not communicate a log-out event with the external authentication management, Apache Knox. When you log out of Atlas, you can still open the instance of Atlas from the same web browser without re-authentication.

To prevent additional access to Atlas, close all browser windows and exit the browser.

**OPSAPS-58179: HIVE endpoint url is updated on only one Knox host topologies. While on other Knox host, the Cloudera Manager configuration monitoring change is not identified and topologies are not updated with the Hive URL.**

None

**OPSAPS-59751: If Cloudera Manager is configured with Apache Knox, then Replication Manager does not work.**

None

### Technical Service Bulletins

**TSB 2022-553: DOM based XSS Vulnerability in Apache Knox**

When using Knox Single Sign On (SSO) in the affected releases, a request could be crafted to redirect a user to a malicious page due to improper URL parsing. The request includes a specially crafted request parameter that could be used to redirect the user to a page controlled by an attacker. This request URL would need to be presented to the user outside the normal request flow through a XSS or phishing campaign.

### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2022-553: DOM based XSS Vulnerability in Apache Knox \("Knox"\)](#)

## Known Issues in Apache Kudu

Learn about the known issues in Kudu, the impact or changes to the functionality, and the workaround.

- Kudu HMS Sync is disabled and is not yet supported

### You get "The user 'kudu' is not part of group 'hive' on the following hosts: " warning by the Host Inspector

If you are using fine grained authorization for Kudu, and you are also using Kudu-HMS integration with HDFS-Sentry sync, then you may get the "The user 'kudu' is not part of group 'hive' on the following hosts: " warning while upgrading.

Workaround: Run the following command on all the HMS servers:

```
usermod -aG hive kudu
```

## Known Issues in Apache Oozie

Learn about the known issues in Oozie, the impact or changes to the functionality, and the workaround.

### OOZIE-3549: Oozie fails to start when Cloudera Manager 7.x is used with Cloudera Runtime 6.x and Java 11 because Oozie does not set the trust-store password.

The issue is fixed in OOZIE-3549 and is already included in CDP 7.x but not in CDH 6.x. If you are on CDH 6.x and want to upgrade to Java 11 or your Cloudera Manager to 7.x then you must request for a patch.

### Oozie jobs fail (gracefully) on secure YARN clusters when JobHistory server is down

If the JobHistory server is down on a YARN (MRv2) cluster, Oozie attempts to submit a job, by default, three times. If the job fails, Oozie automatically puts the workflow in a SUSPEND state.

When the JobHistory server is running again, use the resume command to inform Oozie to continue the workflow from the point at which it left off.

### Unsupported Feature

The following Oozie features are currently not supported in Cloudera Data Platform:

- Non-support for Pig action (CDPD-1070)
- Conditional coordinator input logic

Cloudera does not support using Derby database with Oozie. You can use it for testing or debugging purposes, but Cloudera does not recommend using it in production environments. This could cause failures while upgrading from CDH to CDP.

## Known Issues in Ozone

Learn about the known issues in Ozone, the impact or changes to the functionality, and the workaround.

### CDPD-15268: Uploading a key using the S3 Multi-part upload API into an Ozone encryption zone (TDE-enabled bucket) is not currently supported. The key upload will fail with an exception.

None

**CDPD-15362: When files and directories stored in Ozone are deleted via Hadoop filesystem shell -rm command using o3fs or ofs scheme, they will not be moved to trash even if fs.trash.interval is set to >0 on the client. Instead, they are deleted immediately.**

None

### CDPD-15330:

A network partitioned Ozone Manager (OM) in an OM HA cluster, if in a leader state before partition and does not step down as leader, can serve stale reads.

No workaround is available. If network partition is detected and the Ozone Manager node is restarted, then this issue can be resolved (even if network partition exists after restart).

**CDPD-15266: When Ozone Manager (OM) HA is enabled, not all older OM Ratis logs are purged. Similarly, for DataNode, old Ratis logs may not be purged. This can lead to older logs consuming the disk space.**

For OM, you must manually delete the OM Ratis logs from the Ratis storage directory location defined by the `ozone.om.ratis.storage.dir` property. You must only delete the logs older than the already purged logs.

For example, if the OM Ratis log directory contains the logs `log_0_100`, `log_101_200`, and `log_301_400`, then you can delete `log_0_100` and `log_101_200` as `log_201_300` is already purged.

For DataNode, you must manually delete `datanodeRatis` logs from the Ratis storage directory location defined by the `dfs.container.ratis.datanode.storage.dir` property. You must delete only the logs older than already purged logs.

For example, if the DataNode Ratis log directory contains the logs `log_0_100`, `log_101_200`, and `log_301_400`, then you can delete `log_0_100` and `log_101_200` as `log_201_300` is already purged.

Cloudera advises you to backup the ratis logs. Ensure that DataNode and OM come as back up again and the pipelines they are connected to must be healthy. In case there are any exceptions, the Ratis logs must be restored from the backup.

**CDPD-15602: Creating or deleting keys with a trailing forward slash (/) in the name is not supported via the Ozone shell or the S3 REST API. Such keys are internally treated as directories by the Ozone service for compatibility with the Hadoop filesystem interface. This will be supported in a later release of CDP.**

You can create or delete keys via the Hadoop Filesystem interface, either programmatically or via the filesystem Hadoop shell. For example, ``ozone fs -rmdir <dir>``.

### Technical Service Bulletins

#### TSB 2021-523: Multiple CVEs - Ozone security identified and addressed

The following CVEs have been addressed:

CVE link	CVE title	Affects versions
<a href="#">CVE-2021-36372</a>	Original block tokens are persisted and can be retrieved	7.1.3 until 7.1.6
<a href="#">CVE-2021-39231</a>	Missing authentication/authorization on internal RPC endpoints	7.1.3 until 7.1.6
<a href="#">CVE-2021-39232</a>	Missing admin check for SCM related admin commands	7.1.3 until 7.1.5
<a href="#">CVE-2021-39233</a>	Container-related datanode operations can be called without authorization	7.1.3 until 7.1.6
<a href="#">CVE-2021-39234</a>	Raw block data can be read bypassing ACL/authorization	7.1.3 until 7.1.6
<a href="#">CVE-2021-39235</a>	Access mode of block tokens are not enforced	7.1.3 until 7.1.5
<a href="#">CVE-2021-39236</a>	Owners of the S3 tokens are not validated	7.1.3 until 7.1.5
<a href="#">CVE-2021-41532</a>	Unauthenticated access to Ozone Recon HTTP endpoints	7.1.3 until 7.1.7

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-523: Multiple CVEs - Ozone security identified and addressed](#)

## Known Issues in Apache Phoenix

Learn about the known issues in Phoenix, the impact or changes to the functionality, and the workaround.

### Technical Service Bulletins

#### **TSB 2022-568: HBase normalizer must be disabled for Salted Phoenix tables**

When Apache Phoenix (“Phoenix”) creates a salted table, it pre-splits the table according to the number of salt regions. These regions must always be kept separate, otherwise Phoenix does not work correctly.

The HBase normalizer is not aware of this requirement, and in some cases the pre-split regions are merged automatically. This causes failure in Phoenix.

The same requirement applies when merging regions of salted tables manually: regions containing different salt keys (the first byte of the rowkey) must never be merged.

Note that either automatic or manual splitting of the regions for a salted table does not cause a problem. The problem only occurs when adjacent regions containing different salt keys are merged.

### Upstream JIRA

[PHOENIX-4906](#)

### Knowledge article

For the latest update on this issue, see the corresponding Knowledge article: [TSB 2022-568: Hbase normalizer must be disabled for Salted Phoenix tables](#)

## Known Issues in Apache Ranger

Learn about the known issues in Ranger, the impact or changes to the functionality, and the workaround.

#### **CDPD-3296: Audit files for Ranger plugin components do not appear immediately in S3 after cluster creation**

For Ranger plugin components (Atlas, Hive, HBase, etc.), audit data is updated when the applicable audit file is rolled over. The default Ranger audit rollover time is 24 hours, so audit data appears 24 hours after cluster creation.

To see the audit logs in S3 before the default rollover time of 24 hours, use the following steps to override the default value in the Cloudera Manager safety valve for the applicable service.

1. On the Configuration tab in the applicable service, select Advanced under CATEGORY.
2. Click the + icon for the <service\_name> Advanced Configuration Snippet (Safety Valve) for ranger-<service\_name>-audit.xml property.
3. Enter the following property in the Name box:  
xasecure.audit.destination.hdfs.file.rollover.sec.
4. Enter the desired rollover interval (in seconds) in the Value box. For example, if you specify 180, the audit log data is updated every 3 minutes.
5. Click Save Changes and restart the service.

#### **CDPD-12644: Ranger Key Names cannot be reused with the Ranger KMS KTS service**

Key names cannot be reused with the Ranger KMS KTS service. If the key name of a delete key is reused, the new key can be successfully created and used to create an encryption zone, but data cannot be written to that encryption zone.

Use only unique key names when creating keys.

## Known Issues in Schema Registry

There are no known issues for Schema Registry in Cloudera Runtime 7.1.5.

## Known Issues in Cloudera Search

Learn about the known issues in Cloudera Search, the impact or changes to the functionality, and the workaround.  
**MapreduceIndexerTool performance problem in CDP**

The reduce step of the MorphlineMapper task of the MapReduceIndexerTool (MRIT) can take very long to finish in CDPD. The reason of the slowness is merging norms without HDFS caching.

HDFS caching can not be enabled in the affected MRIT versions. Future MRIT releases will both allow controlling HDFS caching and will turn it on by default. For existing MRIT releases, the only known workaround is omitting norms. This disables length normalization for the field, saves some memory and improves MRIT execution times. Only full-text fields can benefit from norms. Norms are omitted for primitive (non-analyzed) types by default. (Norms were formerly also used for index-time boosting but this usage has been deprecated. Index-time boosting can be achieved using doc values fields instead.)

The downside of omitting norms is that document length will not play a role in result ranking. (With norms enabled, documents with a shorter matching field would be ranked higher than matching documents with a longer field.)

You can control norms in the schema using the omitNorms attribute in the fieldType elements. To eliminate the slowdown, you must add omitNorms="true" to all fieldType elements. It is also possible to selectively set this attribute on selected fields, which allows reducing the slowdown without completely eliminating it.

### **Splitshard of HDFS index checks local filesystem and fails**

When performing a shard split on an index that is stored on HDFS, SplitShardCmd still evaluates free disk space on the local file system of the server where Solr is installed. This may cause the command to fail, perceiving that there is no adequate disk space to perform the shard split.

None

### **DOCS-5717: Lucene index handling limitation**

The Lucene index can only be upgraded by one major version. Solr 8 will not open an index that was created with Solr 6 or earlier.

None, you need to reindex collections.

### **CDH-82042: Solr service with no added collections causes the upgrade process to fail.**

Upgrade fails while performing the bootstrap collections step of the solr-upgrade.sh script with the error message:

```
Failed to execute command Bootstrap Solr Collections on service Solr
```

if there are no collections present in Solr.

If there are no collections added to it, remove the Solr service from your cluster before you start the upgrade.

### **CDH-34050: Collection Creation No Longer Supports Automatically Selecting A Configuration If Only One Exists.**

Before CDH 5.5.0, a collection could be created without specifying a configuration. If no -c value was specified, then:

- If there was only one configuration, that configuration was chosen.

- If the collection name matched a configuration name, that configuration was chosen.

Search now includes multiple built-in configurations. As a result, there is no longer a case in which only one configuration can be chosen by default.

Explicitly specify the collection configuration to use by passing `-c <configName>` to `solrctl collection --create`.

**CDH-22190: CrunchIndexerTool which includes Spark indexer requires specific input file format specifications.**

If the `--input-file-format` option is specified with `CrunchIndexerTool`, then its argument must be `text`, `avro`, or `avroParquet`, rather than a fully qualified class name.

None

**CDH-19923: The quickstart.sh file does not validate ZooKeeper and the NameNode on some operating systems.**

The `quickstart.sh` file uses the `timeout` function to determine if `ZooKeeper` and the `NameNode` are available. To ensure this check can be complete as intended, the `quickstart.sh` determines if the operating system on which the script is running supports `timeout`. If the script detects that the operating system does not support `timeout`, the script continues without checking if the `NameNode` and `ZooKeeper` are available. If your environment is configured properly or you are using an operating system that supports `timeout`, this issue does not apply.

This issue only occurs in some operating systems. If `timeout` is not available, the `quickstart` continues and final validation is always done by the `MapReduce` jobs and `Solr` commands that are run by the `quickstart`.

**CDH-26856: Field value class guessing and Automatic schema field addition are not supported with the MapReduceIndexerTool nor with the HBaseMapReduceIndexerTool.**

The `MapReduceIndexerTool` and the `HBaseMapReduceIndexerTool` can be used with a `Managed Schema` created via `NRT` indexing of documents or via the `Solr Schema API`. However, neither tool supports adding fields automatically to the schema during `ingest`.

Define the schema before running the `MapReduceIndexerTool` or `HBaseMapReduceIndexerTool`. In non-schemaless mode, define in the schema using the `schema.xml` file. In schemaless mode, either define the schema using the `Solr Schema API` or index sample documents using `NRT` indexing before invoking the tools. In either case, Cloudera recommends that you verify that the schema is what you expect, using the `List Fields API` command.

**CDH-19407: The Browse and Spell Request Handlers are not enabled in schemaless mode.**

The `Browse` and `Spell Request Handlers` require certain fields to be present in the schema. Since those fields cannot be guaranteed to exist in a `Schemaless` setup, the `Browse` and `Spell Request Handlers` are not enabled by default.

If you require the `Browse` and `Spell Request Handlers`, add them to the `solrconfig.xml` configuration file. Generate a non-schemaless configuration to see the usual settings and modify the required fields to fit your schema.

**CDH-17978: Enabling blockcache writing may result in unusable indexes.**

It is possible to create indexes with `solr.hdfs.blockcache.write.enabled` set to `true`. Such indexes may appear corrupt to readers, and reading these indexes may irrecoverably corrupt indexes. `Blockcache` writing is disabled by default.

None

**CDH-58276: Users with insufficient Solr permissions may receive a "Page Loading" message from the Solr Web Admin UI.**

Users who are not authorized to use the `Solr Admin UI` are not given a page explaining that access is denied to them, instead receive a web page that never finishes loading.

None

**CDH-15441: Using MapReduceIndexerTool or HBaseMapReduceIndexerTool multiple times may produce duplicate entries in a collection**

Repeatedly running the MapReduceIndexerTool on the same set of input files can result in duplicate entries in the Solr collection. This occurs because the tool can only insert documents and cannot update or delete existing Solr documents. This issue does not apply to the HBaseMapReduceIndexerTool unless it is run with more than zero reducers.

To avoid this issue, use HBaseMapReduceIndexerTool with zero reducers. This must be done without Kerberos.

**CDH-58694: Deleting collections might fail if hosts are unavailable.**

It is possible to delete a collection when hosts that host some of the collection are unavailable. After such a deletion, if the previously unavailable hosts are brought back online, the deleted collection may be restored.

Ensure all hosts are online before deleting collections.

**CCDPD-4139: Collection state goes down after Solr SSL.**

If you enable TLS/SSL on a Solr instance with existing collections, the collections will break and become unavailable. Collections created after enabling TLS/SSL are not affected by this issue.

Recreate the collection after enabling TLS.

**CCPD-13923: Every Configset is Untrusted Without Kerberos**

Solr 8 introduces the concept of ‘[untrusted configset](#)’, denoting configsets that were uploaded without authentication. Collections created with an untrusted configset will not initialize if `<lib>` directives are used in the configset.

Select one of the following options if you would like to use untrusted configsets with `<lib>` directives:

- If the configset contains external libraries, but you do not want to use them, simply upload the configsets after deleting the `<lib>` directives.
- If the configset contains external libraries, and you want to use them, choose one from the following options:
  - Secure your cluster before reuploading the configset.
  - Add the libraries to Solr’s classpath, then reupload the configset without the `<lib>` directives.

**Unsupported features**

The following Solr features are currently not supported in Cloudera Data Platform:

- [Package Management System](#)
- [HTTP/2](#)
- [Solr SQL/JDBC](#)
- [Graph Traversal](#)
- [Cross Data Center Replication \(CDCR\)](#)
- [SolrCloud Autoscaling](#)
- HDFS Federation
- Saving search results
- Solr contrib modules (Spark, MapReduce and Lily HBase indexers are not contrib modules but part of the Cloudera Search product itself, therefore they are supported).

**Limitations****Default Solr core names cannot be changed**

Although it is technically possible to give user-defined Solr core names during core creation, it is to be avoided in the context of Cloudera Search. Cloudera Manager expects core names in the default "collection\_shardX\_replicaY" format. Altering core names results in Cloudera Manager being

unable to fetch Solr metrics for the given core and this, eventually, may corrupt data collection for co-located core, or even shard and server level charts.

## Known Issues in Apache Solr

This topic describes known issues and workarounds for using Solr in this release of Cloudera Runtime.

### Technical Service Bulletins

#### **TSB 2021-495: CVE-2021-29943: Apache Solr Unprivileged users may be able to perform unauthorized read/write to collections**

Using the `ConfigurableInternodeAuthHadoopPlugin` class as the authentication plugin with Ranger as the authorization module introduced a backdoor for unauthorized access to data. With this combination, when an authenticated user sends a query to a node, which does not have the data locally, the request will be forwarded in the name of the Solr service user and not in the name of the original requester. In this case, the authorization happens against the user named `solr` which may have almost full access. It may be the case that infra Solr customers were advised to switch back to `ConfigurableInternodeAuthHadoopPlugin`. Only these customers should be affected by this CVE.

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-495: Apache Solr Unprivileged users may be able to perform unauthorized read/write to collections - CVE-2021-29943](#)

#### **TSB 2021-497: 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.

#### Knowledge article

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-497: CVE-2021-27905: Apache Solr SSRF vulnerability with the Replication handler](#)

## Known Issues in Apache Spark

Learn about the known issues in Spark, the impact or changes to the functionality, and the workaround.

#### **CDPD-22670 and CDPD-23103: There are two configurations in Spark, "Atlas dependency" and "spark\_lineage\_enabled", which are conflicted. The issue is when Atlas dependency is turned off but spark\_lineage\_enabled is turned on.**

Run Spark application, Spark will log some error message and cannot continue. That can be restored by correcting the configurations and restarting Spark component with distributing client configurations.

#### **CDPD-217: HBase/Spark connectors are not supported**

The *Apache HBase Spark Connector* (`hbase-connectors/spark`) and the *Apache Spark - Apache HBase Connector* (`shc`) are not supported in the initial CDP release.

None

#### **CDPD-3038: Launching pyspark displays several HiveConf warning messages**

When pyspark starts, several Hive configuration warning messages are displayed, similar to the following:

```
19/08/09 11:48:04 WARN conf.HiveConf: HiveConf of name hive.vect
orized.use.checked.expressions does not exist
```

```
19/08/09 11:48:04 WARN conf.HiveConf: HiveConf of name hive.te
z.cartesian-product.enabled does not exist
```

These errors can be safely ignored.

## Known Issues in Streams Replication Manager

Learn about the known issues in Streams Replication Manager, the impact or changes to the functionality, and the workaround.

### Known Issues

#### MM2-163: SRM does not sync re-created source topics until the offsets have caught up with target topic

Messages written to topics that were deleted and re-created are not replicated until the source topic reaches the same offset as the target topic. For example, if at the time of deletion and re-creation there are a 100 messages on the source and target clusters, new messages will only get replicated once the re-created source topic has 100 messages. This leads to messages being lost.

None

#### CDPD-14019: SRM may automatically re-create deleted topics

If `auto.create.topics.enable` is enabled, deleted topics are automatically recreated on source clusters.

Prior to deletion, remove the topic from the topic allowlist with the `srm-control` tool. This prevents topics from being re-created.

```
srm-control topics --source [SOURCE_CLUSTER] --target [TARGET_CLUSTER] --remove [TOPIC1][TOPIC2]
```

#### CSP-462: Replication failing when SRM driver is present on multiple nodes

Kafka replication fails when the SRM driver is installed on more than one node.

None

#### CDPD-11074: The `srm-control` tool can be called without `--target`

The `srm-control` tool can be initialized without specifying the `--target` option. If the tool is called this way it will fail to run correctly.

Do not use the tool without specifying the `--target` option. Always specify both `--source` and `--target` options. For example:

```
srm-control topics --source [SOURCE_CLUSTER] --target [TARGET_CLUSTER] --list
```

#### CDPD-13864 and CDPD-15327: Replication stops after the network configuration of a source or target cluster is changed

If the network configuration of a cluster which is taking part in a replication is changed, for example, port numbers are changed as a result of enabling or disabling TLS, SRM will not update its internal configuration even if SRM is reconfigured and restarted. From SRM's perspective, it is the cluster identity that has changed. SRM cannot determine whether the new identity corresponds to the same cluster or not, only the owner or administrator of that cluster can know. In this case, SRM tries to use the last known configuration of that cluster which might not be valid, resulting in the halt of replication.

There are three workarounds for this issue. Choose one of the following:

##### Increase the driver rebalance timeout

Increasing the rebalance timeout to 5 minutes (300000 ms) or longer can resolve the issue. In general a 5 minute timeout should be sufficient for most deployments. However, depending on your scenario, an even longer period might be required. Increasing the rebalance timeout might lead to

increased latency when the SRM drivers stop. The cluster will be slower when it rebalances the load of the removed driver.

The rebalance timeout can be configured on a per cluster (alias) basis by adding the following to the Streams Replication Manager's Replication Configs Cloudera Manager property:

```
[***ALIAS***].rebalance.timeout.ms = [***VALUE***]
```

Replace [\*\*\*ALIAS\*\*\*] with a cluster alias specified in Streams Replication Manager Cluster alias. Do this for all clusters that are taking part in the replication process. When correctly configured, your configuration will have a rebalance.timeout.ms entry corresponding to each cluster (alias). For example:

```
primary.rebalance.timeout.ms = 30000
secondary.rebalance.timeout.ms = 30000
tertiary.rebalance.timeout.ms = 30000
```

After the new broker configuration is applied by SRM, the rebalance timeout can be reverted back to its original value, or removed from the configuration altogether.

### Decrease replication admin timeout

Decreasing the replication admin timeout to 15 seconds (15000 ms) can resolve the issue. With higher loads, this might cause WARN messages to appear in the SRM driver log.

The admin timeout can be configured on a per replication basis by adding the following to the Streams Replication Manager's Replication Configs Cloudera Manager property:

```
[***REPLICATION***].admin.timeout.ms = [***VALUE***]
```

Replace [\*\*\*REPLICATION\*\*\*] with a replication specified in Streams Replication Manager's Replication Configs. Do this for all affected replications. When correctly configured, your configuration will have an admin.timeout.ms entry corresponding to each affected replication. For example:

```
primary->secondary.admin.timeout.ms = 15000
secondary->primary.admin.timeout.ms = 15000
```

After the new broker configuration is applied by SRM, the admin timeout can be reverted back to its original value, or removed from the configuration altogether.

### Upgrade the brokers incrementally

Instead of switching over to the new configuration, open two separate listeners on the broker. One for the old configuration, and one for the new configuration. After updating SRM's configuration and restarting SRM, the old listener can be turned off. Non-inter-broker listeners can be configured with the dynamic configuration API of Kafka, this way not every listener change has to be followed by a restart.

### CDPD-11709: Blacklisted topics appear in the list of replicated topics

If a topic was originally replicated but was later excluded for replication, it will still appear as a replicated topic under the /remote-topics REST API endpoint. As a result, if a call is made to this endpoint, this topic will be included in the response. Additionally, the excluded topic will also be visible in the SMM UI. However, its Partitions and Consumer Groups will be 0, its Throughput, Replication Latency and Checkpoint Latency will show N/A.

None

### CDPD-18300: SRM resolves configuration provider references in its internal configuration topic

SRM saves its internal configuration topic with fully resolved properties. This means that even configuration provider references are resolved. Sensitive information can be emitted into the configuration topic this way.

None

#### **CDPD-22094: The SRM service role displays as healthy, but no metrics are processed**

The SRM service role might encounter errors that make metrics processing impossible. An example of this is when the target Kafka cluster is not reachable. The SRM service role does not automatically stop or recover if such an error is encountered. It continues to run and displays as healthy in Cloudera Manager. Metrics, however, are not processed. In addition, no new data is displayed in SMM for the replications.

1. Ensure that all clusters are available and are in a healthy state.
2. Restart SRM.

#### **CDPD-22389: The SRM driver role displays as healthy, but replication fails**

During startup, the SRM driver role might encounter errors that make data replication impossible. An example of this is when one of the clusters added for replication is not reachable. The SRM driver role does not automatically stop or recover if such an error is encountered. It will start up, continue to run, and display as healthy in Cloudera Manager. Replication, however, will not happen.

1. Ensure that all clusters are available and are in a healthy state.
2. Restart SRM.

#### **CDPD-23683: The replication status reported by the SRM service role for healthy replications is flaky**

The replication status reported by the SRM service role is flaky. The replication status might change between active and inactive frequently even if the replication is healthy. This status is also reflected in SMM on the replications tab.

None

#### **OPSAPS-59124: Kafka, SMM, and SRM fail to start when there are multiple Ranger Admin roles running**

If there are multiple Ranger Admin roles configured in a cluster, Kafka cannot create the Kafka resource based services in Ranger, which are required for authorization. If the resource based services are missing, the Kafka, SMM, and SRM services will fail to start.

1. In Cloudera Manager, select the Kafka service.
2. Go to Configuration.
3. Find the Kafka Broker Environment Advanced Configuration Snippet (Safety Valve) property and add the following:

```
RANGER_REST_URL=[***RANGER ADMIN HOST***]:[***RANGER ADMIN PORT***]
```

- Replace [**\*\*\*RANGER ADMIN HOST\*\*\***] with the hostname where a Ranger Admin service role is deployed. You can find the hostname by going to RangerInstances. The hostname is displayed in the **Hostname** column next to Ranger Admin. Choose one of the available Ranger Admin instances.
  - Replace [**\*\*\*RANGER ADMIN PORT\*\*\***] with the port used by the Ranger Admin service role. The port is specified in the Admin HTTP Port or Admin HTTPS port Ranger property. Which port is used depends on whether SSL is enabled for Ranger Admin.
4. Click Save Changes.
  5. Restart Kafka.
  6. Restart SMM and SRM.

#### **CDPD-31745: SRM Control fails to configure internal topic when target is earlier than Kafka 2.3**

When the target Kafka cluster of a replication is earlier than version 2.3, the srm-control internal topic is created with an incorrect configuration (`cleanup.policy=compact`). This causes the srm-control topic to lose the replication filter records, causing issues in the replication.

After a replication is enabled where the target Kafka cluster is earlier than 2.3, manually configure all srm-control.[*\*\*\*SOURCE CLUSTER ALIAS\*\*\**].internal topics in the target cluster to use `cleanup.policy=compact`.

### CDPD-31235: Negative consumer group lag when replicating groups through SRM

SRM checkpointing reads the offset-syncs topic to create offset mappings for committed consumer group offsets. In some corner cases, it is possible that a mapping is not available in offset-syncs. In a case like this SRM simply copies the source offset, which might not be a valid offset in the replica topic.

One possible situation is if there is an empty topic in the source cluster with a non-zero end offset (for example, retention already removed the records), and a consumer group which has a committed offset set to the end offset. If replication is configured to start replicating this topic, it will not have an offset mapping available in offset-syncs (as the topic is empty), causing SRM to copy the source offset.

This can cause issues when automatic offset synchronization is enabled, as the consumer group offset can be potentially set to a high number. SRM never rewinds these offsets, so even when there is a correct offset mapping available, the offset will not be updated correctly.

After offset mappings are created, stop the consumers of the group and set the committed offsets of the group to the end of the topic on the target cluster with this command:

```
kafka-consumer-groups --bootstrap-server [***HOST***]:[***PORT***] --group [***GROUP***] --topic [***SOURCE CLUSTER ALIAS***].[***TOPIC***] --reset-offsets --to-latest --execute
```

Alternatively, set it to the beginning of the topic with this command:

```
kafka-consumer-groups --bootstrap-server [***HOST***]:[***PORT***] --group <group> --topic [***SOURCE CLUSTER ALIAS***].[***TOPIC***] --reset-offsets --to-earliest --execute
```

## Limitations

### SRM cannot replicate Ranger authorization policies to or from Kafka clusters

Due to a limitation in the Kafka-Ranger plugin, SRM cannot replicate Ranger policies to or from clusters that are configured to use Ranger for authorization. If you are using SRM to replicate data to or from a cluster that uses Ranger, disable authorization policy synchronization in SRM. This can be achieved by clearing the Sync Topic Acls Enabled (`sync.topic.acls.enabled`) checkbox.

### SRM cannot ensure the exactly-once semantics of transactional source topics

SRM data replication uses at-least-once guarantees, and as a result cannot ensure the exactly-once semantics (EOS) of transactional topics in the backup/target cluster.



**Note:** Even though EOS is not guaranteed, you can still replicate the data of a transactional source, but you must set `isolation.level` to `read_committed` for SRM's internal consumers. This can be done by adding `[***SOURCE CLUSTER ALIAS***]->[***TARGET CLUSTER ALIAS***].consumer.isolation.level=read_committed` to the Streams Replication Manager's Replication Configs SRM service property in Cloudera Manager.

### SRM checkpointing is not supported for transactional source topics

SRM does not correctly translate checkpoints (committed consumer group offsets) for transactional topics. Checkpointing assumes that the offset mapping function is always increasing, but with transactional source topics this is violated. Transactional topics have control messages in them, which take up an offset in the log, but they are never returned on the consumer API. This causes the mappings to decrease, causing issues in the checkpointing feature. As a result of this limitation, consumer failover operations for transactional topics is not possible.

## Known Issues for Apache Sqoop

Learn about the known issues in Sqoop, the impact or changes to the functionality, and the workaround.

### Using direct mode causes problems

Using direct mode has several drawbacks:

- Imports can cause intermittent an overlapping input split.
- Imports can generate duplicate data.
- Many problems, such as intermittent failures, can occur.
- Additional configuration is required.

Stop using direct mode. Do not use the `--direct` option in Sqoop import or export commands.

### Avro, S3, and HCat do not work together properly

Importing an Avro file into S3 with HCat fails with Delegation Token not available.

### Parquet columns inadvertently renamed

Column names that start with a number are renamed when you use the `--as-parquetfile` option to import data.

Prepend column names in Parquet tables with one or more letters or underscore characters.

### Importing Parquet files might cause out-of-memory (OOM) errors

Importing multiple megabytes per row before initial-page-run check (ColumnWriter) can cause OOM. Also, rows that vary significantly by size so that the next-page-size check is based on small rows, and is set very high, followed by many large rows can also cause OOM.

## Known issues in Streams Messaging Manager

Learn about the known issues in Streams Messaging Manager (SMM), the impact or changes to the functionality, and the workaround.

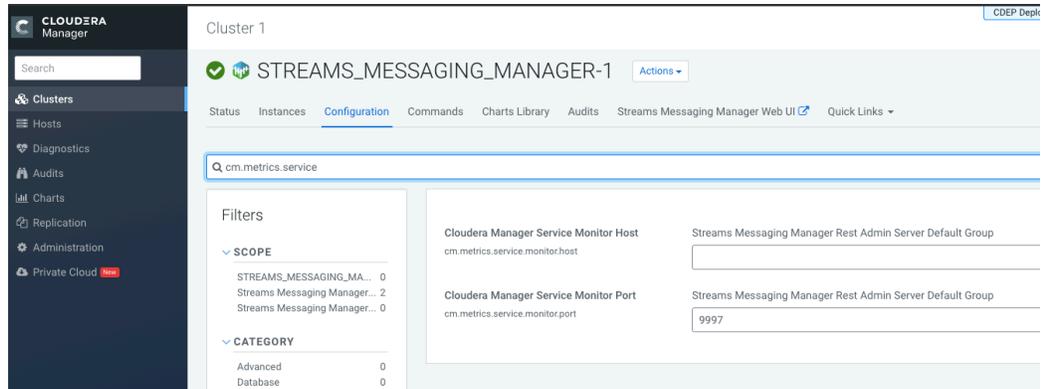
### CDPD-17361: Consumer Group metrics does not appear in SMM

SMM emits consumer metrics to Cloudera Manager and reads the consumer metrics back from Cloudera Manager. For SMM to work correctly, you must configure the Cloudera Manager Service Monitor Host property. This property is also know as `cm.metrics.service.monitor.host`.

To resolve:

1. Go to the Configuration tab for SMM.

## 2. Search for cm.metrics.service.monitor.host.



3. In the Cloudera Manager Service Monitor Host field, specify the host name of the Service Monitor host.

4. Save the update.

### CDPD-19495: SMM UI does not show producer data on topics page

In the SMM UI, the topics page, the topic profile pages, and the broker profile pages consistently show 0 for producer messages.

Workaround: For the real producer metrics, please check the aggregated REST API responses. The real producer metrics are within the producerIdToOutMessagesCount field.

### OPSAPS-59553: SMM's bootstrap server config should be updated based on Kafka's listeners

SMM does not show any metrics for Kafka or Kafka Connect when multiple listeners are set in Kafka.

Workaround: SMM cannot identify multiple listeners and still points to bootstrap server using the default broker port (9093 for SASL\_SSL). You would have to override bootstrap server URL (hostname:port as set in the listeners for broker). Add the bootstrap server details in SMM safety valve in the following path:

Cloudera Manager > SMM > Configuration > Streams Messaging Manager Rest Admin Server Advanced Configuration Snippet (Safety Valve) for streams-messaging-manager.yaml > Add the following value for bootstrap servers > Save Changes > Restart SMM.

```
streams.messaging.manager.kafka.bootstrap.servers=<comma-separated list of brokers>
```

### OPSAPS-59597: SMM UI logs are not supported by Cloudera Manager

Cloudera Manager does not display a Log Files menu for SMM UI role (and SMM UI logs cannot be displayed in the Cloudera Manager UI) because the logging type used by SMM UI is not supported by Cloudera Manager.

Workaround: View the SMM UI logs on the host.

### OPSAPS-59828: SMM cannot connect to Schema Registry when TLS is enabled

When TLS is enabled, SMM by default cannot properly connect to Schema Registry.

As a result, when viewing topics in the SMM Data Explorer with the deserializer key or value set to Avro, the following error messages are shown:

- Error deserializing key/value for partition [\*\*\*PARTITION\*\*\*] at offset [\*\*\*OFFSET\*\*\*]. If needed, please seek past the record to continue consumption.
- Failed to fetch value schema versions for topic : '[\*\*\*TOPIC\*\*\*]'.

In addition, the following certificate error will also be present in the SMM log:

- javax.net.ssl.SSLHandshakeException: PKIX path building failed:...

Workaround: Additional security properties must be set for SMM.

1. In Cloudera Manager, select the SMM service.
2. Go to Configuration.
3. Find and configure the SMM\_JMX\_OPTS property.

Add the following JVM SSL properties:

- Djavax.net.ssl.trustStore=[\*\*\*SMM TRUSTSTORE LOCATION\*\*\*]
- Djavax.net.ssl.trustStorePassword=[\*\*\*PASSWORD\*\*\*]

#### **OPSAPS-59124: Kafka, SMM, and SRM fail to start when there are multiple Ranger Admin roles running**

If there are multiple Ranger Admin roles configured in a cluster, Kafka cannot create the Kafka resource based services in Ranger, which are required for authorization. If the resource based services are missing, the Kafka, SMM, and SRM services will fail to start.

Workaround:

1. In Cloudera Manager, select the Kafka service.
2. Go to Configuration.
3. Find the Kafka Broker Environment Advanced Configuration Snippet (Safety Valve) property and add the following:

```
RANGER_REST_URL=[ ***RANGER ADMIN HOST*** ] : [ ***RANGER ADMIN PORT*** ]
```

- Replace [\*\*\*RANGER ADMIN HOST\*\*\*] with the hostname where a Ranger Admin service role is deployed. You can find the hostname by going to RangerInstances. The hostname is displayed in the **Hostname** column next to Ranger Admin. Choose one of the available Ranger Admin instances.
  - Replace [\*\*\*RANGER ADMIN PORT\*\*\*] with the port used by the Ranger Admin service role. The port is specified in the Admin HTTP Port or Admin HTTPS port Ranger property. Which port is used depends on whether SSL is enabled for Ranger Admin.
4. Click Save Changes.
  5. Restart Kafka.
  6. Restart SMM and SRM.

## Known Issues in MapReduce and YARN

Learn about the known issues in MapReduce and YARN, the impact or changes to the functionality, and the workaround.

#### **YARN-10316:**

The convert maxAppsDefault and maxRunningApps settings properties are not available for converting from Fair Scheduler to Capacity Scheduler.

#### **OPSAPS-57067: Yarn Service in Cloudera Manager reports stale configuration yarn.cluster.scaling.recommendation.enable.**

This issue does not affect the functionality. Restart YARN service.

#### **JobHistory URL mismatch after server relocation**

After moving the JobHistory Server to a new host, the URLs listed for the JobHistory Server on the ResourceManager web UI still point to the old JobHistory Server. This affects existing jobs only. New jobs started after the move are not affected.

For any existing jobs that have the incorrect JobHistory Server URL, there is no option other than to allow the jobs to roll off the history over time. For new jobs, make sure that all clients have the updated `mapred-site.xml` that references the correct JobHistory Server.

**CDH-49165: History link in ResourceManager web UI broken for killed Spark applications**

When a Spark application is killed, the history link in the ResourceManager web UI does not work.

To view the history for a killed Spark application, see the Spark HistoryServer web UI instead.

**CDH-6808: Routable IP address required by ResourceManager**

ResourceManager requires routable host:port addresses for `yarn.resourcemanager.scheduler.address`, and does not support using the wildcard `0.0.0.0` address.

Set the address, in the form `host:port`, either in the client-side configuration, or on the command line when you submit the job.

**OPSAPS-52066: Stacks under Logs Directory for Hadoop daemons are not accessible from Knox Gateway.**

Stacks under the Logs directory for Hadoop daemons, such as NameNode, DataNode, ResourceManager, NodeManager, and JobHistoryServer are not accessible from Knox Gateway.

Administrators can SSH directly to the Hadoop Daemon machine to collect stacks under the Logs directory.

**CDPD-2936: Application logs are not accessible in WebUI2 or Cloudera Manager**

Running Containers Logs from NodeManager local directory cannot be accessed either in Cloudera Manager or in WebUI2 due to log aggregation.

Use the YARN log CLI to access application logs. For example:

```
yarn logs -applicationId <Application ID>
```

Apache Issue: [YARN-9725](#)

**COMPX-3181: Application logs does not work for AZURE and AWS cluster**

Yarn Application Log Aggregation will fail for any YARN job (MR, Tez, Spark, etc) which do not use cloud storage, or use a cloud storage location other than the one configured for YARN logs (`yarn.nodemanager.remote-app-log-dir`).

Configure the following:

- For MapReduce job, set `mapreduce.job.hdfs-servers` in the `mapred-site.xml` file with all filesystems required for the job including the one set in `yarn.nodemanager.remote-app-log-dir` such as `hdfs://nn1/`, `hdfs://nn2/`.
- For Spark job, set the job level with all filesystems required for the job including the one set in `yarn.nodemanager.remote-app-log-dir` such as `hdfs://nn1/`, `hdfs://nn2/` in `spark.yarn.access.hadoopFileSystems` and pass it through the `--config` option in `spark-submit`.
- For jobs submitted using the `hadoop` command, place a separate `core-site.xml` file with `fs.defaultFS` set to the filesystem set in `yarn.nodemanager.remote-app-log-dir` in a path. Add that directory path in `--config` when executing the `hadoop` command.

**COMPX-1445: Queue Manager operations are failing when Queue Manager is installed separately from YARN**

If Queue Manager is not selected during YARN installation, Queue Manager operation are failing. Queue Manager says 0 queues are configured and several failures are present. That is because ZooKeeper configuration store is not enabled.

1. In Cloudera Manager, select the YARN service.
2. Click the Configuration tab.
3. Find the Queue Manager Service property.

4. Select the Queue Manager service that the YARM service instance depends on.
5. Click Save Changes.
6. Restart all services that are marked stale in Cloudera Manager.

**COMPX-1451: Queue Manager does not support multiple Resource**

When YARN High Availability is enabled there are multiple Resource Managers. Queue Manager receives multiple ResourceManager URLs for a High Availability cluster. It picks the active ResourceManager URL only when Queue Manager page is loaded. Queue Manager cannot handle it gracefully when the currently active ResourceManager goes down while the user is still using the Queue Manager UI.

Reload the Queue Manager page manually.

**COMPX-3329: Autorestart is not enabled for Queue Manager in Data Hub**

In a Data Hub cluster, Queue Manager is installed with autorestart disabled. Hence, if Queue Manager goes down, it will not restart automatically.

If Queue Manager goes down in a Data Hub cluster, you must go to the Cloudera Manager Dashboard and restart the Queue Manager service.

**Third party applications do not launch if MapReduce framework path is not included in the client configuration**

MapReduce application framework is loaded from HDFS instead of being present on the NodeManagers. By default the `mapreduce.application.framework.path` property is set to the appropriate value, but third party applications with their own configurations will not launch.

Set the `mapreduce.application.framework.path` property to the appropriate configuration for third party applications.

**YARN cannot start if Kerberos principal name is changed**

If the Kerberos principal name is changed in Cloudera Manager after launch, YARN will not be able to start. In such case the keytabs can be correctly generated but YARN cannot access ZooKeeper with the new Kerberos principal name and old ACLs.

There are two possible workarounds:

- Delete the `znode` and restart the YARN service.
- Use the `reset ZK ACLs` command. This also sets the `znodes` below `/rmstore/ZKRMStateRoot` to `world:anyone:cdrwa` which is less secure.

**COMPX-5240: Restarting parent queue does not restart child queues in weight mode**

When a dynamic auto child creation enabled parent queue is stopped in weight mode, its static and dynamically created child queues are also stopped. However, when the dynamic auto child creation enabled parent queue is restarted, its child queues remain stopped. In addition, the dynamically created child queues cannot be restarted manually through the YARN Queue Manager UI either.

Delete the dynamic auto child creation enabled parent queue. This action also deletes all its child queues, both static and dynamically created child queues, including the stopped dynamic queues. Then recreate the parent queue, enable the dynamic auto child creation feature for it and add any required static child queues.

**COMPX-5244: Root queue should not be enabled for auto-queue creation**

After dynamic auto child creation is enabled for a queue using the YARN Queue Manager UI, you cannot disable it using the YARN Queue Manager UI. That can cause problem when you want to switch between resource allocation modes, for example from weight mode to relative mode. The YARN Queue Manager UI does not let you to switch resource allocation mode if there is at least one dynamic auto child creation enabled parent queue in your queue hierarchy.

If the dynamic auto child creation enabled parent queue is NOT the root or the `root.default` queue: Stop and remove the dynamic auto child creation enabled parent queue. Note that this stops and remove all of its child queues as well.

If the dynamic auto child creation enabled parent queue is the root or the root.default queue:  
You cannot stop and remove neither the root nor the root.default queue. You have to change the configuration in the applicable configuration file:

1. In Cloudera Manager, navigate to YARN>>Configuration.
2. Search for capacity scheduler and find the Capacity Scheduler Configuration Advanced Configuration Snippet (Safety Valve) property.
3. Add the following configuration: `yarn.scheduler.capacity.<queue-path>.auto-queue-creation-v2.enabled=false` For example: `yarn.scheduler.capacity.root.default.auto-queue-creation-v2.enabled=false` Alternatively, you can remove the `yarn.scheduler.capacity.<queue-path>.auto-queue-creation-v2.enabled` property from the configuration file.
4. Restart the Resource Manager.

#### **COMPX-5589: Unable to add new queue to leaf queue with partition capacity in Weight/Absolute mode**

Scenario

1. User creates one or more partitions.
2. Assigns a partition to a parent with children
3. Switches to the partition to distribute the capacities
4. Creates a new child queue under one of the leaf queues but the following error is displayed:

```

Error :
2021-03-05 17:21:26,734 ERROR
com.cloudera.cpx.server.api.repositories.SchedulerRepository: Val
idation failed for Add queue
operation. Error message: CapacityScheduler configuration vali
dation failed:java.io.IOException:
Failed to re-init queues : Parent queue 'root.test2' have childr
en queue used mixed of weight
mode, percentage and absolute mode, it is not allowed, please do
uble check, details:
{Queue=root.test2.test2childNew, label= uses weight mode}. {Que
ue=root.test2.test2childNew,
label=partition uses percentage mode}

```

To create new queues under leaf queues without hitting this error, perform the following:

1. Switch to Relative mode
  2. Create the required queues
  3. Create the required partitions
  4. Assign partitions and set capacities
  5. Switch back to Weight mode
1. Create the entire queue structure
  2. Create the required partitions
  3. Assign partition to queues
  4. Set partition capacities

#### **COMPX-5264: Unable to switch to Weight mode on creating a managed parent queue in Relative mode**

In the current implementation, if there is an existing managed queue in Relative mode, then conversion to Weight mode is not be allowed.

To proceed with the conversion from Relative mode to Weight mode, there should not be any managed queues. You must first delete the managed queues before conversion. In Weight mode, a parent queue can be converted into managed parent queue.

#### **COMPX-5549: Queue Manager UI sets maximum-capacity to null when you switch mode with multiple partitions**

If you associate a partition with one or more queues and then switch the allocation mode before assigning capacities to the queues, an Operation Failed error is displayed as the `max-capacity` is set to null.

After you associate a partition with one or more queues, in the YARN Queue Manager UI, click Overview > <Partition name> from the dropdown list and distribute capacity to the queues before switching allocation mode or creating placement rules.

#### **COMPX-4992: Unable to switch to absolute mode after deleting a partition using YARN Queue Manager**

If you delete a partition (node label) which has been associated with queues and those queues have capacities configured for that partition (node label), the CS.xml still contains the partition (node label) information. Hence, you cannot switch to absolute mode after deleting the partition (node label).

It is recommended not to delete a partition (node label) which has been associated with queues and those queues have capacities configured for that partition (node label).

#### **JobHistory URL mismatch after server relocation**

After moving the JobHistory Server to a new host, the URLs listed for the JobHistory Server on the ResourceManager web UI still point to the old JobHistory Server. This affects existing jobs only. New jobs started after the move are not affected.

For any existing jobs that have the incorrect JobHistory Server URL, there is no option other than to allow the jobs to roll off the history over time. For new jobs, make sure that all clients have the updated `mapred-site.xml` that references the correct JobHistory Server.

#### **YARN cannot start if Kerberos principal name is changed**

If the Kerberos principal name is changed in Cloudera Manager after launch, YARN will not be able to start. In such case the keytabs can be correctly generated but YARN cannot access ZooKeeper with the new Kerberos principal name and old ACLs.

There are two possible workarounds:

- Delete the `znode` and restart the YARN service.
- Use the `reset ZK ACLs` command. This also sets the `znodes` below `/rmstore/ZKRMStateRoot` to `world:anyone:cdrwa` which is less secure.

#### **COMPX-8687: Missing access check for getAppAttempts**

When the Job ACL feature is enabled using Cloudera Manager (YARN Configuration Enable JOB ACL property), the `mapreduce.cluster.acls.enabled` property is not generated to all configuration files, including the `yarn-site.xml` configuration file. As a result the ResourceManager process will use the default value of this property. The default property of `mapreduce.cluster.acls.enabled` is `false`.

Workaround: Enable the Job ACL feature using an advanced configuration snippet:

1. In Cloudera Manager select the YARN service.
2. Click Configuration.
3. Find the YARN Service MapReduce Advanced Configuration Snippet (Safety Valve) property.
4. Click the plus icon and add the following:
  - Name: `mapreduce.cluster.acls.enabled`
  - Value: `true`
5. Click Save Changes.

### **Unsupported Features**

The following YARN features are currently not supported in Cloudera Data Platform:

- Application Timeline Server v2 (ATSV2)

- Container Resizing
- Distributed or Centralized Allocation of Opportunistic Containers
- Distributed Scheduling
- Docker on YARN (DockerContainerExecutor) on Data Hub clusters
- Dynamic Resource Pools
- Fair Scheduler
- GPU support for Docker
- Hadoop Pipes
- Native Services
- Pluggable Scheduler Configuration
- Queue Priority Support
- Reservation REST APIs
- Resource Estimator Service
- Resource Profiles
- (non-Zookeeper) ResourceManager State Store
- Rolling Log Aggregation
- Shared Cache
- YARN Federation
- Moving jobs between queues

### Technical Service Bulletins

#### **TSB 2021-539: Capacity Scheduler queue pending metrics can become negative in certain production workload scenarios causing blocked queues**

The pending metrics of Capacity Scheduler queues can become negative in certain production workload scenarios.

Once this metric becomes negative, the scheduler is unable to schedule any further resource requests on the specific queue. As a result, new applications are stuck in the ACCEPTED state unless YARN ResourceManager is restarted or failed-over.

#### **Knowledge article**

For the latest update on this issue see the corresponding Knowledge article: [TSB 2021-539: Capacity Scheduler queue pending metrics can become negative in certain production workload scenarios causing blocked queues](#)

## Known Issues in Apache Zeppelin

Learn about the known issues in Zeppelin, the impact or changes to the functionality, and the workaround.

#### **BUG-125263: Zeppelin service move fails on clusters upgraded from HDP3.1.5**

Resolve the circular symlink issue on the Zeppelin node by linking the conf directory to a new directory under /etc/zeppelin:

- # mkdir -p /etc/zeppelin/<version>/0
- # rm /usr/hdp/<version>/zeppelin/conf
- # ln -s /etc/zeppelin/<version>/0 /usr/hdp/<version>/zeppelin/conf

Where version is the HDP version. For example, 7.1.x-yyy. Restart the Zeppelin server in Ambari.

#### **CDPD-3090: Due to a configuration typo, functionality involving notebook repositories does not work**

Due to a missing closing brace, access to the notebook repositories API is blocked by default.

From the CDP Management Console, go to Cloudera Manager for the cluster running Zeppelin. On the Zeppelin configuration page (Zeppelin serviceConfiguration), enter shiro urls in the Search field, and then add the missing closing brace to the notebook-repositories URL, as follows:

```
/api/notebook-repositories/** = authc, roles[{{zeppelin_admin_group}}]
```

Click Save Changes, and restart the Zeppelin service.

#### **CDPD-2406: Logout button does not work**

Clicking the Logout button in the Zeppelin UI logs you out, but then immediately logs you back in using SSO.

Close the browser.

## Known Issues in Apache ZooKeeper

Learn about the known issues in ZooKeeper, the impact or changes to the functionality, and the workaround.

### **Zookeeper-client does not use ZooKeeper TLS/SSL automatically**

The command-line tool 'zookeeper-client' is installed to all Cloudera Nodes and it can be used to start the default Java command line ZooKeeper client. However even when ZooKeeper TLS/SSL is enabled, the zookeeper-client command connects to localhost:2181, without using TLS/SSL.

Manually configure the 2182 port, when zookeeper-client connects to a ZooKeeper cluster. The following is an example of connecting to a specific three-node ZooKeeper cluster using TLS/SSL:

```
CLIENT_JVMFLAGS="-Dzookeeper.clientCnxnSocket=org.apache.zookeeper.ClientCnxnSocketNetty -Dzookeeper.ssl.keyStore.location=<path to your configured keystore> -Dzookeeper.ssl.keyStore.password=<the password you configured for the keystore> -Dzookeeper.ssl.trustStore.location=<path to your configured truststore> -Dzookeeper.ssl.trustStore.password=<the password you configured for the truststore> -Dzookeeper.client.secure=true" zookeeper-client -server <your.zookeeper.server-1>:2182,<your.zookeeper.server-2>:2182,<your.zookeeper.server-3>:2182
```

## Behavioral changes in Cloudera Runtime 7.1.5

You can review the changes in certain features or functionalities of components that have resulted in a change in behavior from the previously released version to this version of Cloudera Runtime 7.1.5.

### Behavioral Changes in Apache Kafka

Learn about the change in certain functionality of Kafka that has resulted in a change in behavior from the previously released version to this version of Cloudera Runtime.

#### **Summary:**

The default hashing algorithm of the log cleaner for building offset maps has changed to Murmur3.

#### **Details:**

##### **Previous behavior:**

The default hashing algorithm used was MD5.

##### **New behavior:**

The default hashing algorithm used is Murmur3.

**Summary:**

The Ranger Kafka Plugin no longer communicates with Zookeeper through secure channels even if secure communication between Kafka and Zookeeper is enabled.

**Details:****Previous behavior:**

If the Enable Secure Connection to ZooKeeper property was set to true, the Ranger Kafka Plugin communicated with Zookeeper through secure channels.

**New behavior:**

The Ranger Kafka Plugin no longer communicates with Zookeeper through secure channels even if the Enable Secure Connection to ZooKeeper property is enabled.

## FIPS Compliant Changes in Apache Impala

As an administrator, you must understand the FIPS compliant changes in Impala before configuring Impala Web UI to diagnose issues with each daemon on a particular host, or perform other administrative actions such as cancelling a running query from the built-in web server's UI.

Cloudera Manager supports two methods of authentication for secure access to the Impala Catalog Server, Impala Daemon, and StateStore web servers: password-based authentication and SPNEGO authentication. From this release, Impala embedded Web Server will not support HTTP password-based authentication in FIPS approved mode since it's based on MD5 and does not comply with FIPS 140-2.

For details on FIPS encryption, see [Configure CDP with FIPS-compliant encryption](#).

## Behavioral Changes in Apache Ranger

Learn about the change in certain functionality of Ranger that has resulted in a change in behavior from the previously released version to this version of Cloudera Runtime.

**Summary:**

Ranger Usersync configuration properties and behavior changed to simplify usability and processing.

**Details:****The following configuration properties are no longer used:**

- ranger.usersync.ldap.searchBase
- ranger.usersync.ldap.user.groupnameattribute
- ranger.usersync.group.usermapsyncenabled
- ranger.usersync.user.searchenabled
- ranger.usersync.group.searchenabled
- ranger.usersync.group.search.first.enabled

**Previous behavior:**

If groupSearchFirstEnabled = true and userSearchEnabled=false, then Usersync uses the groupMemberAttributeName (which is uniqueMember in your configuration) to retrieve users and does not use any of the user search-related configuration properties to perform ldap search for users.

**New behavior:**

Usersync always performs group search and user search separately, based on the configuration. groupMemberAttributeName is used only to retrieve group memberships and user search is used to retrieve users.

## Deprecation notices in Cloudera Runtime 7.1.5

Certain features and functionalities have been removed or deprecated in Cloudera Runtime 7.1.5. You must review these items to understand whether you must modify your existing configuration. You can also learn about the features that will be removed or deprecated in the future release to plan for the required changes.

### Terminology

Items in this section are designated as follows:

#### Deprecated

Technology that Cloudera is removing in a future CDP release. Marking an item as deprecated gives you time to plan for removal in a future CDP release.

#### Moving

Technology that Cloudera is moving from a future CDP release and is making available through an alternative Cloudera offering or subscription. Marking an item as moving gives you time to plan for removal in a future CDP release and plan for the alternative Cloudera offering or subscription for the technology.

#### Removed

Technology that Cloudera has removed from CDP 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.

#### Removed Components and Product Capabilities

No components are deprecated or removed in this Cloudera Runtime release.

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

## Deprecation notices in Apache Kudu

Certain features and functionality in Apache Kudu are deprecated or removed in Cloudera Runtime 7.1.5. You must review these changes along with the information about the features in Apache Kudu that will be removed or deprecated in a future release.

- The Flume sink has been migrated to the Apache Flume project and removed from Kudu. Users depending on the Flume integration can use the old kudu-flume jars or migrate to the Flume jars containing the Kudu sink.
- Support for Apache Sentry authorization has been deprecated and may be removed in the next release. Users depending on the Sentry integration should migrate to the Apache Ranger integration for authorization.
- Support for Python 2 has been deprecated and may be removed in the next release.
- Support for CentOS/RHEL 6, Debian 8, Ubuntu 14 has been deprecated and may be removed in the next release.

## Deprecation Notices for Apache Kafka

Certain features and functionality in Kafka are deprecated or removed in Cloudera Runtime 7.1.5. You must review these changes along with the information about the features in Kafka that will be removed or deprecated in a future release.

### Deprecated

#### **kafka-preferred-replica-election**

The `kafka-preferred-replica-election.sh` command line tool has been deprecated in upstream Apache Kafka 2.4.0. Its alternative in CDP, `kafka-preferred.replica-election`, is also deprecated.

### --zookeeper

The `--zookeeper` option has been deprecated for all Kafka command line tools except `kafka-configs` and `kafka-reassign-partitions`. Cloudera recommends that you use the `--bootstrap-server` option instead.

## Deprecation Notices in Apache HBase

Certain features and functionality in Hbase are deprecated or removed in Cloudera Runtime 7.1.5. You must review these changes along with the information about the features in HBase that will be removed or deprecated in a future release.

Use this list to understand some of the deprecated items and incompatibilities if you are upgrading from HDP 2.x or CDH 5.x to CDP.

### Known Incompatibilities when Upgrading from CDH and HDP

Cloudera Runtime uses Apache HBase 2.x.x whereas CDH 5.x and HDP 2.x uses Apache HBase 1.x.



**Important:** Some APIs that are listed as deprecated, but these APIs do not block your upgrade. You must stop using the deprecated APIs in your existing applications after upgrade, and not use these APIs in new development.

### List of Major Changes

- HBASE-16189 and HBASE-18945: You cannot open the Cloudera Runtime HFiles in CDH or HDP.
- HBASE-18240: Changed the ReplicationEndpoint Interface.
- The Dynamic Jars Directory property `hbase.dynamic.jars.dir` is disabled by default. If you want to enable dynamic classloading, you can use the `hbase.dynamic.jars.dir` property in Cloudera Manager to change the default `/${hbase.rootdir}/lib` directory to some other location, preferably a location on HDFS. This property is flagged by Cloudera Manager as deprecated when you upgrade to CDP because the property is incompatible with HBase on cloud deployments. If you are using HBase with HDFS storage, you can ignore this warning, and keep using the `hbase.use.dynamic.jars` feature.

### Co-processor API changes

- HBASE-16769: Deprecated Protocol Buffers references from `MasterObserver` and `RegionServerObserver`.
- HBASE-17312: [JDK8] Use default method for Observer Coprocessors. The interface classes of `BaseMasterAndRegionObserver`, `BaseMasterObserver`, `BaseRegionObserver`, `BaseRegionServerObserver` and `BaseWALObserver` uses JDK8's 'default' keyword to provide empty and no-op implementations.
- Interface `HTableInterface` introduces following changes to the methods listed below:

[#] interface `CoprocessorEnvironment`

Change	Result
Abstract method <code>getTable ( TableName )</code> has been removed.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>getTable ( TableName, ExecutorService )</code> has been removed.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

- Public Audience

The following tables describes the coprocessor changes:

[#] class `CoprocessorRpcChannel` (1)

Change	Result
--------	--------

This class has become interface.	A client program may be interrupted by <code>IncompatibleClassChangeError</code> or <code>InstantiationException</code> exception depending on the usage of this class.
----------------------------------	---

### Class `CoprocessorHost<E>`

Classes that were Audience Private but were removed:

Change	Result
Type of field coprocessors has been changed from <code>java.util.SortedSet&lt;E&gt;</code> to <code>org.apache.hadoop.hbase.util.SortedList&lt;E&gt;</code> .	A client program may be interrupted by <code>NoSuchFieldError</code> exception.

### MasterObserver changes

The following changes are introduced to the `MasterObserver` interface:

[#] interface `MasterObserver` (14)

Change	Result
Abstract method <code>void postCloneSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void postCreateTable ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HTableDescriptor, HRegionInfo[] )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void postDeleteSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void postGetTableDescriptors ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, List&lt;HTableDescriptor&gt; )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void postModifyTable ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, TableName, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void postRestoreSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void postSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void preCloneSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void preCreateTable ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HTableDescriptor, HRegionInfo[] )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void preDeleteSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void preGetTableDescriptors ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, List&lt;TableName&gt;, List&lt;HTableDescriptor&gt; )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void preModifyTable ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, TableName, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>void preRestoreSnapshot ( ObserverContext&lt;MasterCoprocesorEnvironment&gt;, HBaseProtos.SnapshotDescription, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

Abstract method <code>voidpreSnapshot ( ObserverContext&lt;MasterCoprocessorEnvironment&gt;, HBaseProtos.SnapshotDescription, HTableDescriptor )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
---	--

### RegionObserver interface changes

The following changes are introduced to the `RegionObserver` interface.

[#] interface `RegionObserver` (13)

Change	Result
Abstract method <code>voidpostCloseRegionOperation ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, HRegion.Operation )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpostCompactSelection ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, Store, ImmutableList&lt;StoreFile&gt; )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpostCompactSelection ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, Store, ImmutableList&lt;StoreFile&gt;, CompactionRequest )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpostGetClosestRowBefore ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, byte[ ], byte[ ], Result )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>DeleteTrackerpostInstantiateDeleteTracker ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, DeleteTracker )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpostSplit ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, HRegion, HRegion )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpostStartRegionOperation ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, HRegion.Operation )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>StoreFile.ReaderpostStoreFileReaderOpen ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, FileSystem, Path, FSDataInputStreamWrapper, long, CacheConfig, Reference, StoreFile.Reader )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpostWALRestore ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, HRegionInfo, HLogKey, WALEdit )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>InternalScannerpreFlushScannerOpen ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, Store, KeyValueScanner, InternalScanner )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpreGetClosestRowBefore ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, byte[ ], byte[ ], Result )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>StoreFile.ReaderpreStoreFileReaderOpen ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, FileSystem, Path, FSDataInputStreamWrapper, long, CacheConfig, Reference, StoreFile.Reader )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>voidpreWALRestore ( ObserverContext&lt;RegionCoprocessorEnvironment&gt;, HRegionInfo, HLogKey, WALEdit )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

### WALObserver interface changes

The following changes are introduced to the `WALObserver` interface:

[#] interface `WALObserver`

Change	Result
Abstract method <code>void postWALWrite ( ObserverContext&lt;WALCoprocessorEnvironment&gt;, HRegionInfo, HLogKey, WALEdit )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>boolean preWALWrite ( ObserverContext&lt;WALCoprocessorEnvironment&gt;, HRegionInfo, HLogKey, WALEdit )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

### Scheduler changes

Following methods are now changed to abstract:

[#]class `RpcScheduler` (1)

Change	Result
Abstract method <code>void dispatch ( CallRunner )</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

[#] `RpcScheduler.dispatch ( CallRunner p1 ) [abstract] : void 1`

`org/apache/hadoop/hbase/ipc/RpcScheduler.dispatch:(Lorg/apache/hadoop/hbase/ipc/CallRunner;)V`

Change	Result
Return value type has been changed from <code>void</code> to <code>boolean</code> .	This method has been removed because the return type is part of the method signature. A client program may be interrupted by <code>NoSuchMethodError</code> exception.

The following abstract methods have been removed:

[#]interface `PriorityFunction` (2)

Change	Result
Abstract method <code>long getDeadline ( RPCProtos.RequestHeader, Message )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>int getPriority ( RPCProtos.RequestHeader, Message )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

### Server API changes

[#] class `RpcServer` (12)

Change	Result
Type of field <code>CurCall</code> has been changed from <code>java.lang.ThreadLocal&lt;RpcServer.Call&gt;</code> to <code>java.lang.ThreadLocal&lt;RpcCall&gt;</code> .	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Abstract method <code>int getNumOpenConnections ( )</code> has been added to this class.	This class became abstract and a client program may be interrupted by <code>InstantiationError</code> exception.
Field <code>callQueueSize</code> of type <code>org.apache.hadoop.hbase.util.Counter</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>connectionList</code> of type <code>java.util.List&lt;RpcServer.Connection&gt;</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>maxIdleTime</code> of type <code>int</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>numConnections</code> of type <code>int</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>port</code> of type <code>int</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>purgeTimeout</code> of type <code>long</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>responder</code> of type <code>RpcServer.Responder</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.

Field socketSendBufferSize of type int has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field thresholdIdleConnections of type int has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.

Following abstract methods are removed:

Change	Result
Abstract method Pair<Message,CellScanner>call ( BlockingService, Descriptors.MethodDescriptor, Message, CellScanner, long, MonitoredRPCHandler ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.

## Replication and WAL changes

HBASE-18733: WALKey has been purged completely. Following are the changes to the WALKey:

[#] classWALKey (8)

Change	Result
Access level of field clusterIds has been changed from protected to private.	A client program may be interrupted by IllegalAccessException exception.
Access level of field compressionContext has been changed from protected to private.	A client program may be interrupted by IllegalAccessException exception.
Access level of field encodedRegionName has been changed from protected to private.	A client program may be interrupted by IllegalAccessException exception.
Access level of field tablename has been changed from protected to private.	A client program may be interrupted by IllegalAccessException exception.
Access level of field writeTime has been changed from protected to private.	A client program may be interrupted by IllegalAccessException exception.

Following fields have been removed:

Change	Result
Field LOG of type org.apache.commons.logging.Log has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field VERSION of type WALKey.Version has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field logSeqNum of type long has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.

## Admin Interface API changes

You cannot administer a CDP Runtime Data Hub cluster using a client that includes RelicationAdmin, ACC, Thrift and REST usage of Admin ops. Methods returning protobufs have been changed to return POJOs instead. Returns have changed from void to Future for async methods. HBASE-18106 - Admin.listProcedures and Admin.listLocks were renamed to getProcedures and getLocks. MapReduce makes use of Admin doing following admin.getClusterStatus() to calculate Splits.

- Thrift usage of Admin API:

```
compact(ByteBuffer) createTable(ByteBuffer, List<ColumnDescriptor>) deleteTable(ByteBuffer) disableTable(ByteBuffer) enableTable(ByteBuffer) getTableNames() majorCompact(ByteBuffer)
```

- REST usage of Admin API:

```
hbase-rest org.apache.hadoop.hbase.rest RootResource getTableList() TableName[] tableNames = servlet.getAdmin().listTableNames();
```

```
SchemaResource delete(UriInfo) Admin admin = servlet.getAdmin(); update(T
ableSchemaModel, boolean, UriInfo) Admin admin = servlet.getAdmin();
StorageClusterStatusResource get(UriInfo) ClusterStatus status = servlet.g
etAdmin().getClusterStatus(); StorageClusterVersionResource get(UriInfo)
model.setVersion(servlet.getAdmin().getClusterStatus().getHBaseVersion());
TableResource exists() return servlet.getAdmin().tableExists(TableName.
valueOf(table));
```

[#] interface Admin (9)

Following are the changes to the Admin interface:

Change	Result
Abstract method createTableAsync ( HTableDescriptor, byte[] [] ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method disableTableAsync ( TableName ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method enableTableAsync ( TableName ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method getCompactionState ( TableName ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method getCompactionStateForRegion ( byte[] ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method isSnapshotFinished ( HBaseProtos.SnapshotDescription ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method snapshot ( String, TableName, HBaseProtos.SnapshotDescription.Type ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method snapshot ( HBaseProtos.SnapshotDescription ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method takeSnapshotAsync ( HBaseProtos.SnapshotDescription ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.

[#] Admin.createTableAsync ( HTableDescriptor p1, byte[] [] p2 ) [abstract] : void 1

org/apache/hadoop/hbase/client/Admin.createTableAsync:(Lorg/apache/hadoop/hbase/HTableDescriptor;[[B)V

Change	Result
Return value type has been changed from void to java.util.concurrent.Future<java.lang.Void>.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

[#] Admin.disableTableAsync ( TableName p1 ) [abstract] : void 1

org/apache/hadoop/hbase/client/Admin.disableTableAsync:(Lorg/apache/hadoop/hbase/TableName;)V

Change	Result
Return value type has been changed from void to java.util.concurrent.Future<java.lang.Void>.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

Admin.enableTableAsync ( TableName p1 ) [abstract] : void 1

org/apache/hadoop/hbase/client/Admin.enableTableAsync:(Lorg/apache/hadoop/hbase/TableName;)V

Change	Result
Return value type has been changed from void to java.util.concurrent.Future<java.lang.Void>.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

Admin.enableTableAsync ( TableName p1 ) [abstract] : void 1

org/apache/hadoop/hbase/client/Admin.getCompactionState:(Lorg/apache/hadoop/hbase/TableName;)Lorg/apache/hadoop/hbase/protobuf/generated/AdminProtos\$GetRegionInfoResponse\$CompactionState;

Change	Result
Return value type has been changed from org.apache.hadoop.hbase.protobuf.generated.AdminProtos.GetRegionInfoResponse.CompactionState to CompactionState.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

[#] Admin.getCompactionStateForRegion ( byte[] p1 ) [abstract] : AdminProtos.GetRegionInfoResponse.CompactionState 1

org/apache/hadoop/hbase/client/Admin.getCompactionStateForRegion:([B)Lorg/apache/hadoop/hbase/protobuf/generated/AdminProtos\$GetRegionInfoResponse\$CompactionState;

Change	Result
Return value type has been changed from org.apache.hadoop.hbase.protobuf.generated.AdminProtos.GetRegionInfoResponse.CompactionState to CompactionState.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

### HTableDescriptor and HColumnDescriptor changes

HTableDescriptor and HColumnDescriptor has become interfaces and you can create it through Builders. HCD has become CFD. It no longer implements writable interface. package org.apache.hadoop.hbase.

[#] class HColumnDescriptor (1)

Change	Result
Removed super-interface org.apache.hadoop.io.WritableComparable<HColumnDescriptor>.	A client program may be interrupted by NoSuchMethodError exception.

class HTableDescriptor (3)

Change	Result
Removed super-interface org.apache.hadoop.io.WritableComparable<HTableDescriptor>.	A client program may be interrupted by NoSuchMethodError exception.
Field META_TABLEDESC of type HTableDescriptor has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.

[#] HTableDescriptor.getColumnFamilies ( ) : HColumnDescriptor[] (1)

org/apache/hadoop/hbase/HTableDescriptor.getColumnFamilies:()[Lorg/apache/hadoop/hbase/HColumnDescriptor;

[#] class HColumnDescriptor (1)

Change	Result
Return value type has been changed from HColumnDescriptor[] to client.ColumnFamilyDescriptor[].	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

[#] interface Table (4)

Change	Result
Abstract method batch ( List<?> ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method batchCallback ( List<?>, Batch.Callback<R> ) has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.

Abstract method <code>getWriteBufferSize ( )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>setWriteBufferSize ( long )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

### Deprecated buffer methods

- `LockTimeoutException` and `OperationConflictException` classes have been removed.

class `OperationConflictException` (1)

Result	Result
This class has been removed.	A client program may be interrupted by <code>NoClassDefFoundError</code> exception.

class class `LockTimeoutException` (1)

Change Result This class has been removed. A client program may be interrupted by `NoClassDefFoundError` exception.

### Filter API changes

Following methods have been removed: package `org.apache.hadoop.hbase.filter`

[#] class `Filter` (2)

Result	Result
Abstract method <code>getNextKeyHint ( KeyValue )</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>transform ( KeyValue )</code> has been removed from this class.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

- **HBASE-12296:** Filters should work with `ByteBufferedCell`.
- `HConnection` is removed in Cloudera Runtime.
- `RegionLoad` and `ServerLoad` internally moved to shaded Protocol Buffers.

[#] class `RegionLoad` (1)

Result	Result
Type of field <code>regionLoadPB</code> has been changed from <code>protobuf.generated.ClusterStatusProtos.RegionLoad</code> to <code>shaded.protobuf.generated.ClusterStatusProtos.RegionLoad</code> .	A client program may be interrupted by <code>NoSuchFieldError</code> exception.

[#] interface `AccessControlConstants` (3)

Result	Result
Field <code>OP_ATTRIBUTE_ACL_STRATEGY</code> of type <code>java.lang.String</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>OP_ATTRIBUTE_ACL_STRATEGY_CELL_FIRST</code> of type <code>byte[]</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.
Field <code>OP_ATTRIBUTE_ACL_STRATEGY_DEFAULT</code> of type <code>byte[]</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchFieldError</code> exception.

[#] `ServerLoad.getNumberofRequests ( ) : int 1`

`org/apache/hadoop/hbase/ServerLoad.getNumberofRequests():I`

Result	Result
--------	--------

Return value type has been changed from int to long.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.
--	---

[#] ServerLoad.getNumberOfRequests () : int 1

org/apache/hadoop/hbase/ServerLoad.getReadRequestsCount:()I

Result	Result
Return value type has been changed from int to long.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

[#] ServerLoad.getTotalNumberOfRequests () : int 1

org/apache/hadoop/hbase/ServerLoad.getTotalNumberOfRequests:()I

Result	Result
Return value type has been changed from int to long.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

[#]ServerLoad.getWriteRequestsCount () : int 1

org/apache/hadoop/hbase/ServerLoad.getWriteRequestsCount:()I

Result	Result
Return value type has been changed from int to long.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

[#]class HConstants (6)

Result	Result
Field DEFAULT_HBASE_CONFIG_READ_ZOOKEEPER_CONFIG of type boolean has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field HBASE_CONFIG_READ_ZOOKEEPER_CONFIG of type java.lang.String has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field REPLICATION_ENABLE_DEFAULT of type boolean has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field REPLICATION_ENABLE_KEY of type java.lang.String has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field ZOOKEEPER_CONFIG_NAME of type java.lang.String has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.
Field ZOOKEEPER_USEMULTI of type java.lang.String has been removed from this class.	A client program may be interrupted by NoSuchFieldError exception.

HBASE-18732: [compat 1-2] HBASE-14047 removed Cell methods without deprecation cycle.

[#]interface Cell 5

Result	Result
Abstract method getFamily () has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method getMvccVersion () has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.
Abstract method getQualifier () has been removed from this interface.	A client program may be interrupted by NoSuchMethodError exception.

Abstract method <code>getRow ()</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.
Abstract method <code>getValue ()</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

HBASE-18795:Expose `KeyValue.getBuffer()` for tests alone. Allows `KV#getBuffer` in tests only that was deprecated previously.

### Region scanner changes

[#]interface `RegionScanner (1)`

Result	Result
Abstract method <code>boolean nextRaw ( List&lt;Cell&gt;, int )</code> has been removed from this interface.	A client program may be interrupted by <code>NoSuchMethodError</code> exception.

### StoreFile changes

[#] class `StoreFile (1)`

Result	Result
This class became interface.	A client program may be interrupted by <code>IncompatibleClassChangeError</code> or <code>InstantiationError</code> exception dependent on the usage of this class.

### MapReduce changes

`HFile*Format` has been removed.

### ClusterStatus changes

[#] `ClusterStatus.getRegionsInTransition () : Map<String,RegionState> 1`

`org/apache/hadoop/hbase/ClusterStatus.getRegionsInTransition:()Ljava/util/Map;`

Result	Result
Return value type has been changed from <code>java.util.Map&lt;java.lang.String,master.RegionState&gt;</code> to <code>java.util.List&lt;master.RegionState&gt;</code> .	This method has been removed because the return type is part of the method signature. A client program may be interrupted by <code>NoSuchMethodError</code> exception.

Other changes in `ClusterStatus` include removal of `convert` methods that were no longer necessary after purge of Protocol Buffers from API.

### Purge of Protocol Buffers from API

Protocol Buffers (PB) has been deprecated in APIs.

[#] `HBaseSnapshotException.getSnapshotDescription () : HBaseProtos.SnapshotDescription 1`

`org/apache/hadoop/hbase/snapshot/HBaseSnapshotException.getSnapshotDescription:()Lorg/apache/hadoop/hbase/protobuf/generated/HBaseProtos$SnapshotDescription;`

Result	Result
Return value type has been changed from <code>org.apache.hadoop.hbase.protobuf.generated.HBaseProtos.SnapshotDescription</code> to <code>org.apache.hadoop.hbase.client.SnapshotDescription</code> .	This method has been removed because the return type is part of the method signature. A client program may be interrupted by <code>NoSuchMethodError</code> exception.

HBASE-15609: Remove PB references from `Result`, `DoubleColumnInterpreter` and any such public facing class for 2.0. `hbase-client-1.0.0.jar`, `Result.class` package `org.apache.hadoop.hbase.client`

[#] Result.getStats ( ) : ClientProtos.RegionLoadStats 1

org/apache/hadoop/hbase/client/Result.getStats:()Lorg/apache/hadoop/hbase/protobuf/generated/ClientProtos\$RegionLoadStats;

Result	Result
Return value type has been changed from org.apache.hadoop.hbase.protobuf.generated.ClientProtos.RegionLoadStats to RegionLoadStats.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.

### PrettyPrinter changes

hbase-server-1.0.0.jar, HFilePrettyPrinter.class package org.apache.hadoop.hbase.io.hfile

Result	Result
Return value type has been changed from void to int.	This method has been removed because the return type is part of the method signature. A client program may be interrupted by NoSuchMethodError exception.