

Operational Database powered by Apache Accumulo 1.0.0

OpDB powered by Apache Accumulo Overview

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Release notes

- For Accumulo-on-cdp 1.0.0 and Accumulo-on-cdp 1.1.0 parcel release notes, see [Apache Accumulo 2.0.0](#) and [Apache Accumulo 2.0.1](#) release notes.
- For Accumulo-on-cdp 1.10.3.7.1.7.2000.0 parcel release notes, see [Apache Accumulo 1.10.0](#) and [Apache Accumulo 1.10.3](#) release notes.

OpDB powered by Apache Accumulo overview

Apache Accumulo™ is an ideal solution for government agencies looking for a secure, distributed NoSQL data store to serve their most performance-intensive Big Data applications. The Operational Database powered by Apache Accumulo (OpDB) service is the Cloudera package of Apache Accumulo.

Apache Accumulo™ is an open source project integrated with Hadoop that provides the ability to store data in massive tables (billions of rows / millions of columns) for fast and random access. Accumulo was created and contributed to the Apache Software Foundation by the National Security Agency (NSA). It has quickly gained adoption as a Hadoop-based key/value store for applications that have unique and stringent information security requirements.

For more information about Apache Accumulo™, see the [Apache Accumulo](#) project.

OpDB CLI tool support

The Accumulo CLI toolset is different in Apache Accumulo 2.0 and later versions than it was in Accumulo 1.x. As the initial Operational Database powered by Apache Accumulo (OpDB) release is based on the Apache Accumulo 2.0.1 version, it is important to learn about these differences.

- For Accumulo-on-cdp 1.0.0 (Based on upstream version: Apache Accumulo 2.0.1) and Accumulo-on-cdp 1.1.0 (Based on upstream version: Apache Accumulo 2.0.1) parcels:

Before Apache Accumulo™ 2.0 the following toolsets were available:

- accumulo
- accumulo-tool

Since Apache Accumulo™ 2.0 the following toolsets are available:

- accumulo
- accumulo-cluster
- accumulo-service
- accumulo-util



Attention: Do not use accumulo-cluster and accumulo-service with the OpDB service. These cluster and service manager tools are not compatible with Cloudera Manager. If you use them, your OpDB service can become unavailable.

- For Accumulo-on-cdp 1.10.0 (Based on upstream version: Apache Accumulo 1.10.3) parcel:

The Accumulo CLI toolset is different in Apache Accumulo 2.0 and later versions than it was in Accumulo 1.x. As the initial Accumulo parcel release is based on the Apache Accumulo 1.10.3 version, it is important to learn about these differences.

With Apache Accumulo™ 1.10.0 the following toolsets were available:

- accumulo
- accumulo-tool

OpDB system requirements

Before you start using Operationa Database powered by Apache Accumulo (OpDB), review the prerequisites and system requirements to ensure all requirements are fulfilled.

- OpDB depends on HDFS and ZooKeeper libraries and configuration information. Therefore, HDFS and ZooKeeper are mandatory services for OpDB.
- Accumulo TabletServers must be collocated with DataNodes.
- Optionally, you can use OpDB powered by Apache Accumulo with YARN (MapReduce 2).

Table 1: OpDB system requirements for Accumulo-on-cdp 1.0.0 parcel

	Supported versions	Note
CDP	Cloudera Private Cloud Base 7.1.5 Cloudera Private Cloud Base 7.1.6 Cloudera Private Cloud Base 7.1.7	CDP Public Cloud is not supported. CDP Private Cloud Experiences are not supported.
Operating System	RHEL 7 / CentOS / OL7 Ubuntu 18.04 Bionic Beaver	Supported on the operating system with the same minor versions that are supported for the CDP installation with which OpDB is installed.
JDK	Java 8 and Java 11	Supported for the CDP install with which OpDB is installed.

Table 2: OpDB system requirements for Accumulo-on-cdp 1.1.0 parcel

	Supported versions	Note
CDP	Cloudera Private Cloud Base 7.1.7 SP1 and higher	CDP Public Cloud is not supported. CDP Private Cloud Experiences are not supported.
Operating System	RHEL 7 / RHEL 8 Ubuntu 18.04 Bionic Beaver Ubuntu 20.04 Focal Fossa SUSE Linux Enterprise Server 12	Supported on the operating system with the same minor versions that are supported for the CDP installation with which OpDB is installed.
JDK	Java 8 and Java 11	Supported for the CDP install with which OpDB is installed.



Note: *OpDB Powered by Apache Accumulo 1.1.0* does not run on JDK 17, this scenario is not supported.

Table 3: OpDB system requirements for Accumulo-on-cdp 1.10.0 parcel

	Supported versions	Note
CDP	Cloudera Private Cloud Base 7.1.7 SP2 and higher	CDP Public Cloud is not supported. CDP Private Cloud Experiences are not supported.
Operating System	RHEL 7 / RHEL 8 Ubuntu 18.04 Bionic Beaver Ubuntu 20.04 Focal Fossa SUSE Linux Enterprise Server 12	Supported on the operating system with the same minor versions that are supported for the CDP installation with which OpDB is installed.
JDK	Java 8 and Java 11	Supported for the CDP install with which OpDB is installed.



Note: *OpDB Powered by Apache Accumulo 1.10.0* does not run on JDK 17, this scenario is not supported.

Table 4: Hardware requirements for Accumulo parcels

Component	Java Heap	CPU	Disk
Master	Minimum: 1 GB <ul style="list-style-type: none"> 100-1000 tablets: 4 GB 10,000 or more tablets with 200 or more Tablet Servers: 8 GB 10,000 or more tablets with 300 or more Tablet Servers: 12 GB Set this value using the Tablet Server Max Heapsize Accumulo configuration property. See Flume Memory Consumption .	2 Cores. Add more for large clusters or bulk load.	1 disk for local logs
Tablet Server	<ul style="list-style-type: none"> Minimum: 512 MB Java Heap Recommended: 8 GB Medium scale production (200 or more tablets per Tablet Server): 16 GB Set this value using the Tablet Server Max Heapsize Accumulo configuration property.	Minimum 4 dedicated cores. You can add more cores for larger clusters, when using replication, or for bulk loads.	<ul style="list-style-type: none"> 4 or more spindles for each HDFS DataNode 1 disk for local logs (this disk can be shared with the operating system and/or other Hadoop logs)
Tracer	1 - 2 GB, depending on cluster workloads. Set this value using the Tracer Max Heapsize Accumulo configuration property.	2 or more dedicated cores, depending on cluster size and workloads	1 disk for local logs, which can be shared with the operating system and/or other Hadoop logs
GC Role	1 - 2 GB Set this value using the Garbage Collector Max Heapsize Accumulo configuration property.	2 or more dedicated cores, depending on cluster size	1 disk for local logs, which can be shared with the operating system and/or other Hadoop logs

Component	Java Heap	CPU	Disk
Monitor Role	1 - 2 GB Set this value using the Monitor Max Heapsize Accumulo configuration property.	2 or more dedicated cores, depending on cluster size and workloads	1 disk for local logs, which can be shared with the operating system and/or other Hadoop logs