

Cloud BigTable Vs Apache HBase - A Brief Comparison

Name	Google Cloud Bigtable	HBase
Description	Google's NoSQL Big Data database service. It's the same database that powers many core Google services, including Search, Analytics, Maps, and Gmail.	Wide-column store based on Apache Hadoop and on concepts of BigTable
Primary database model	Key-value store Wide column store	Wide column store
Developer	Google	Apache Software Foundation
Initial release	2015	2008
License	commercial	Open Source
Cloud-based only	yes	no
Data scheme	schema-free	schema-free, schema definition possible
Supported programming languages	C# C++ Go Java JavaScript (Node.js) Python	C C# C++ Groovy Java PHP Python Scala
Server-side scripts	no	yes
Triggers	no	yes

PDE	Cloud BigTable	PDE
Partitioning methods	Sharding	Sharding
Replication methods	Internal replication in Colossus, and regional replication between two clusters in different zones	Multi-source replication Source-replica replication
MapReduce	yes	yes
Consistency concepts	Immediate consistency (for a single cluster), Eventual consistency (for two or more replicated clusters)	Immediate Consistency or Eventual Consistency
Foreign keys	no	no
Transaction concepts	Atomic single-row operations	Single row ACID (across millions of columns)
In-memory capabilities	no	yes
User concepts	Access rights for users, groups and roles based on Google Cloud Identity and Access Management (IAM)	Access Control Lists (ACL) for RBAC, integration with Apache Ranger for RBAC & ABAC