

# Database Management Systems

Do an internet search and find the most used DBMS (at least 15), then fill the following table:

BDMS name	BigTable
Owner	Google
Supported Models	NoSQL -MySQL
Who is using it (min 3)	Google Blogger.com Youtube Maps
Availability tools and how it works	Global Availability Cloud Bigtable is available in regions around the world, allowing you to place your service and data exactly where you want it.
Data partitioning and how it works	data are partitioned by its key and stored in different servers
On-Premise, on-cloud or hybrid	on-cloud
Data manipulation language	SWL
Data Storage System	Distributed storage
Other Interesting Features	Virtual Private Cloud (VPC) Google Cloud Load Balancing Cloud Machine Learning Engine Cloud CDN

BDMS name	Amazon DynamoDB
Owner	Amazon
Supported Models	NoSQL
Who is using it (min 3)	Localytics Clubhouse Realtime
Availability tools and how it works	<p>DynamoDB is designed to scale its provisioned throughput up or down while still remaining available.</p> <p>The service replicates data across three facilities in an AWS Region to provide fault tolerance in the event of a server failure or Availability Zone outage.</p> <p>o achieve high uptime and durability, Amazon DynamoDB synchronously replicates data across three facilities within an AWS Region.</p>
Data partitioning and how it works	<p>DynamoDB stores data in partitions</p> <p>Partition management is handled entirely by DynamoDB.</p> <p>DynamoDB allocates additional partitions to a table in the following situations:</p> <p>If you increase the table's provisioned throughput settings beyond what the existing partitions can support.</p> <p>If an existing partition fills to capacity and more storage space is required.</p>
On-Premise, on-cloud or hybrid	on-cloud
Data manipulation language	
Data Storage System	Dynamo
Other Interesting Features	<p>Auto Scaling</p> <p>DynamoDB Accelerator</p> <p>DynamoDB Titan Graph Database Integration</p> <p>Elastic MapReduce Integration</p>

BDMS name	CockroachDB
Owner	Cockroach Labs
Supported Models	SQL
Who is using it (min 3)	Baidu Kindred Futures Heroic Labs
Availability tools and how it works	Raft consensus algorithm “You can define the location of replicas in various ways, depending on the types of failures you want to secure against and your network topology”
Data partitioning and how it works	consistent and partition tolerant “In the presence of partitions, the system will become unavailable rather than do anything which might cause inconsistent results.”
On-Premise, on-cloud or hybrid	on-cloud
Data manipulation language	
Data Storage System	Cluster
Other Interesting Features	Open source Automated Scaling Automated Failover Automated Repair Distributed Transactions Consensus-Based Replication Strongly Consistent Replication

BDMS name	IBM Db2
Owner	IBM
Supported Models	SQL
Who is using it (min 3)	Sicoob China Minsheng Banking Corp. YAZAKI Europe Limited
Availability tools and how it works	The DB2 High Availability Feature enables integration between IBM DB2 server and cluster managing software.
Data partitioning and how it works	Data Partitioning Feature Evenly distributes rows across database partitions
On-Premise, on-cloud or hybrid	on-cloud
Data manipulation language	
Data Storage System	IBM InfoSphere
Other Interesting Features	Massive scalability Flexible Deployment IBM BLU Acceleration pureScale

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BDMS name	Cassandra
Owner	Apache Software Foundation
Supported Models	NoSQL
Who is using it (min 3)	APPLE GitHub Netflix
Availability tools and how it works	There are no single points of failure. There are no network bottlenecks. Every node in the cluster is identical.
Data partitioning and how it works	The Murmur3Partitioner uniformly distributes data across the cluster based on MurmurHash hash values.
On-Premise, on-cloud or hybrid	hybrid
Data manipulation language	CQL
Data Storage System	
Other Interesting Features	continuous availability linear scale performance operational simplicity

BDMS name	MySQL
Owner	Oracle
Supported Models	SQL
Who is using it (min 3)	AirBnB Facebook NASA
Availability tools and how it works	MySQL InnoDB Cluster MySQL Servers with Group Replication to replicate data to all members of the cluster while providing fault tolerance, automated failover, and elasticity. MySQL Router to ensure client requests are load balanced and routed to the correct servers in case of any database failures. MySQL Shell to create and administer InnoDB Clusters using the built-in AdminAPI.
Data partitioning and how it works	RANGE partitioning. This type of partitioning assigns rows to partitions based on column values falling within a given range. RANGE partitioning. This type of partitioning assigns rows to partitions based on column values falling within a given range. HASH partitioning. With this type of partitioning, a partition is selected based on the value returned by a user-defined expression that operates on column values in rows to be inserted into the table. KEY partitioning. This type of partitioning is similar to partitioning by HASH, except that only one or more columns to be evaluated are supplied, and the MySQL server provides its own hashing function.
On-Premise, on-cloud or hybrid	hybrid
Data manipulation language	SQL
Data Storage System	InnoDB Storage Engine



Other Interesting Features	continuous availability linear scale performance operational simplicity
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BDMS name	MongoDB
Owner	MongoDB
Supported Models	NoSQL
Who is using it (min 3)	Ebay GAP US Department of Veterans Affairs
Availability tools and how it works	Replica Set High Availability Replica sets provide high availability using automatic failover. Failover allows a secondary member to become primary if the current primary becomes unavailable.
Data partitioning and how it works	MongoDB uses the shard key associated to the collection to partition the data into chunks. A chunk consists of a subset of sharded data.
On-Premise, on-cloud or hybrid	Hybrid
Data manipulation language	SQL
Data Storage System	
Other Interesting Features	Document-Oriented store ships with built-in sharding support It has very wide driver support.

BDMS name	Oracle Database
Owner	Oracle
Supported Models	NoSQL
Who is using it (min 3)	Varsity Vivo Nakashimayahonten
Availability tools and how it works	Oracle Clusterware is software that manages the availability of user applications and Oracle databases.
Data partitioning and how it works	<p>Reference Partitioning Partitions a table by leveraging an existing parent-child relationship. The primary key relationship is used to inherit the partitioning strategy of the parent table to its child table.</p> <p>Virtual Column Based Partitioning Allows the partitioning key to be an expression, using one or more existing columns of a table, and storing the expression as metadata only.</p> <p>Interval Reference Partitioning An extension to reference partitioning that allows the use of interval partitioned tables as parent tables for reference partitioning.</p> <p>Range Partitioned Hash Cluster Allows hash clusters to be partitioned by ranges.</p>
On-Premise, on-cloud or hybrid	Hybrid
Data manipulation language	SQL
Data Storage System	
Other Interesting Features	Oracle Autonomous Database

BDMS name	Microsoft Access
Owner	Microsoft
Supported Models	NoSQL
Who is using it (min 3)	GameStop British Airways Goodbody
Availability tools and how it works	
Data partitioning and how it works	Horizontal partitioning. In this strategy, each partition is a data store in its own right, but all partitions have the same schema. Each partition is known as a shard and holds a specific subset of the data, such as all the orders for a specific set of customers in an e-commerce application.
On-Premise, on-cloud or hybrid	Hybrid
Data manipulation language	SQL
Data Storage System	
Other Interesting Features	Oracle Autonomous Database