## Database Management Systems

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

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| BDMS name | MySQL |
| Owner | Oracle |
| Supported Models | Relational |
| Who is using it (min 3) | booking.com  Alcatel  NASA |
| Availability tools and how it works | MySQL Cluster:  Uses synchronous replication through a two-phase commit mechanism in order to guarantee that data is written to multiple nodes upon committing the data. |
| Data partitioning and how it works | MySQL supports basic table partitioning but does not support vertical partitioning.  Partitioning allows you to have more control over how data is managed inside the database.  In partitioning, it is possible to store more data in one table than can be held on a single disk or file system partition. |
| On-Premise, on-cloud or hybrid | MySQL Cloud Service |
| Data manipulation language | C, C++, C#, Pascal, Delphi (vía dbExpress), Eiffel, Smalltalk, Java (con una implementación nativa del driver de Java), Lisp, Perl, PHP, Python, Ruby. |
| Data Storage System | InnoDB is the default MySQL storage engine. Unless you have configured a different default storage engine |

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| BDMS name | DB2 |
| Owner | IBM |
| Supported Models | Relational |
| Who is using it (min 3) | DB Best Technologies  RocketOn  Fifth Third Bancorp |
| Availability tools and how it works | DB2 clustering by using high availability clustering software |
| Data partitioning and how it works | TP, introduced in DB2 9, is similar to MDC in that it enables rows with similar values to be stored together. TP supports partitioning a table into data partitions along a single dimension. A common design would be to create a data partition for each month's data. MDC supports defining multiple dimensions. |
| On-Premise, on-cloud or hybrid | IBM Db2 Hosted is an on-demand cloud service that delivers a Db2 multi-workload SQL database in a cloud infrastructure. It offers robust performance and high availability. |
| Data manipulation language | structured query language (SQL) |
| Data Storage System | Each database also contains a system catalog that tracks information about database elements like tables, indexes, stored procedures, integrity constraints and user privileges.  DB2 uses "database log files" to record SQL transactions. |

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| BDMS name | Microsoft SQL Server |
| Owner | Microsoft |
| Supported Models | Relational |
| Who is using it (min 3) | Nigel Frank International Limited  Jack Henry & Associates, Inc.  Eagle Creek Software Services, Inc. |
| Availability tools and how it works | To provide high availability for your SQL Server databases, it is recommended that you store them on server clusters using Cluster Service. Servers configured using Cluster Service share common data and work as a single system. Each server can operate independently of other servers in the cluster. So if one server fails, another server takes over its functions. |
| Data partitioning and how it works | SQL Server supports table and index partitioning. The data of partitioned tables and indexes is divided into units that can be spread across more than one filegroup in a database. The data is partitioned horizontally, so that groups of rows are mapped into individual partitions. All partitions of a single index or table must reside in the same database. |
| On-Premise, on-cloud or hybrid | Azure Machine Learning now supports reading your data from an on-premises SQL Server database and then training and scoring a model with this data |
| Data manipulation language | Transact-SQL is the language used to administer instances of the SQL Server Database |
| Data Storage System | VMAX Storage System, json |

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| BDMS name | FireBird database |
| Owner | FireBird Foundation |
| Supported Models | Relational |
| Who is using it (min 3) | Futura Sistemas  Frontline Softworks  Groupe JVS |
| Availability tools and how it works | Users are connected to the virtual IP address of the mirror cluster. SafeKit replicates files opened by Firebird in real time. Only changes in the files are replicated across the network, thus limiting traffic (byte-level file replication). Names of file directories containing Firebird database are simply configured in SafeKit. There are no pre-requisites on disk organization for the two servers. Directories to replicate may be located in the system disk. SafeKit implements synchronous replication with no data loss on failure contrary to asynchronous replication. |
| Data partitioning and how it works | Table Partitioning |
| On-Premise, on-cloud or hybrid | on-cloud |
| Data manipulation language | SQL-92 |
| Data Storage System | BLOB |
| Other Interesting Features | Offers many ANSI SQL standard features that runs on Linux, Windows, and a variety of Unix platforms. |

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| BDMS name | **PostgreSQL** |
| Owner | **PostgreSQL Global Development Group** |
| Supported Models |  |
| Who is using it (min 3) | BASF, Agricultural Product Division  Genentech, Inc.  FlightAware  Whitepages.com |
| Availability tools and how it works | **Shared Disk Failover**  **Una aplicación se encarga de activar y copiar la información en varios servidores** |
| Data partitioning and how it works | **Statement-Based Replication Middleware**  **Una plicacion interse`ta las llamadas y decide a donde enviarla.** |
| On-Premise, on-cloud or hybrid | On-Premise |
| Data manipulation language | SQL |
| Data Storage System | Files |
| Other Interesting Features | It is consider the most advanced SQL Database, 100% open |

Isaias Martinez Vieyra

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| BDMS name | Apache Hadoop |
| Owner | Apache |
| Supported Models | No SQL |
| Who is using it (min 3) | Alibaba, AOL,CloudSpace, Dropfire, Ebay, Facebook |
| Availability tools and how it works | El HDFS hace nodos, en inicio se copia completa la información de la base de datos sin embargo en grandes cantidades de información, se hacen nodos con información especifica y dividida en diferentes racks. |
| Data partitioning and how it works | Lo hace el HDFS, lo decide hadoop al realizar el map reduce |
| On-Premise, on-cloud or hybrid | hybrid |
| Data manipulation language | Hive |
| Data Storage System | Csv, TSV, Sequence files,Parquet |
| Other Interesting Features | Es posible ejecutar un cluster completo por medio de un live cd |

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| BDMS name | Oracle Database 12c |
| Owner | Oracle |
| Supported Models | sql |
| Who is using it (min 3) | Linkedin, Toshiba,Philips |
| Availability tools and how it works | Oracle Acive Data Guard, permite unicamente lecturas a los datos fisicos. Extracción de datos y respaldos. Aligera la carga minimizando el impacto. |
| Data partitioning and how it works | Oracle tiene sus poropias formas de hacer data partitioning: Range, list, auto-list, composite, multi-column, Interval virtual, Interval, range. |
| On-Premise, on-cloud or hybrid | hybrid |
| Data manipulation language | SQL |
| Data Storage System | NAS,SAN,Tape |
| Other Interesting Features | Cloud, Paas. |

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| BDMS name | Apache Cassandra |
| Owner | Apache |
| Supported Models | nosql |
| Who is using it (min 3) | Walmart, Apple, Cico, CERN, Twitter |
| Availability tools and how it works | Nodetool. Un nodo master y esclavos. |
| Data partitioning and how it works | Cada nodo es responsible de alguna parte de los datos, puede ser por random, ordenado |
| On-Premise, on-cloud or hybrid | Hybird |
| Data manipulation language | CQL |
| Data Storage System | JSON,XML |
| Other Interesting Features |  |

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| BDMS name | SQLite |
| Owner | D.Richard Hipp |
| Supported Models | SQL |
| Who is using it (min 3) | Mozilla firefox, Skype,XBMC |
| Availability tools and how it works | No hay |
| Data partitioning and how it works | Lo hace por medio de attachments, sin embargo no son permaentes. |
| On-Premise, on-cloud or hybrid | On-Premise |
| Data manipulation language | SQL |
| Data Storage System | JSON,csv |
| Other Interesting Features |  |

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| DBMS name | Google Cloud |
| Owner | Google |
| Supported Models | Relational DB |
| Who is using it (min 3) | Spotify, BestBuy, Khan Academy |
| Availability tools and how it works | Smart routing  Load balancing  Multi-region setups to improve availability |
| Data partitioning and how it works | Yes |
| On-Premise, on-cloud or hybrid | On-Cloud |
| Data manipulation language | SQL |
| Data Storage System | Google Cloud |
| Other Interesting Features |  |

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| DBMS name | Redis |
| Owner | RedisLabs |
| Supported Models | MemoryDB |
| Who is using it (min 3) | Twitter GitHub Weibo Pinterest Snapchat Craigslist Digg StackOverflow Flickr |
| Availability tools and how it works |  |
| Data partitioning and how it works | Redis Cluster, data is automatically sharded across multiple Redis nodes. |
| On-Premise, on-cloud or hybrid | On-premise |
| Data manipulation language | SQL -like |
| Data Storage System | Memory |
| Other Interesting Features | Es muy rápida las consultas |

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| --- | --- |
| DBMS name | MariaDB |
| Owner | Michael (Monty) Widenius |
| Supported Models | Relational DB |
| Who is using it (min 3) | Google, wikipedia, tumblr |
| Availability tools and how it works | MAriaDB Max Scale |
| Data partitioning and how it works | MariaDB Galera Cluster, se replica síncronamente |
| On-Premise, on-cloud or hybrid | On-Premise |
| Data manipulation language | SQL |
| Data Storage System | XtraDB/InnoDB |
| Other Interesting Features | Viene de MySQL pero es GLP |

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| --- | --- |
| DBMS name | CouchDB |
| Owner | Apache |
| Supported Models | Relational DB |
| Who is using it (min 3) | Large Hardon Collider |
| Availability tools and how it works | no |
| Data partitioning and how it works | Clustering |
| On-Premise, on-cloud or hybrid | On-Premise |
| Data manipulation language | SQL |
| Data Storage System | Files |
| Other Interesting Features | ACID (Atomicity) properties |

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| DBMS name | Couchbase |
| Owner | Couchbase Inc. |
| Supported Models | No-Relational |
| Who is using it (min 3) | eBay, direct TV, Linked IN |
| Availability tools and how it works | Rack Awareness |
| Data partitioning and how it works | Cluster |
| On-Premise, on-cloud or hybrid | On-Premise |
| Data manipulation language | Javascript |
| Data Storage System | JSON, files |
| Other Interesting Features |  |