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 | |  |  |  | | --- | --- | --- | |  |  |  | | Access (Jet, MSDE) |  |  | |
| Owner | Microsoft is the main owner and developer |
| Supported Models | We can find in their webpage that their main model is of the Relational type |
| Who is using it (min 3) | Coca Cola, United Health Group, Office Team Inc |
| Availability tools and how it works | They have very good availability, the achieved this by splitting the data into different servers, the replica set |
| Data partitioning and how it works | They do it through splitting the data, the replica set method |
| On-Premise, on-cloud or hybrid | By the information found in their webpage we can learn that the main architecture stays in the Cloud |
| Data manipulation language | Sql is the main lenguaje to do interact with the DataBase |
| Data Storage System | Microsoft Access stores data in its own format based on the Access Jet Database Engine. It can also import or link directly to data stored in other applications and databases |
| Other Interesting Features | You can use Visual Basic Applications  The import and export of data to many formats Including [Excel](https://en.wikipedia.org/wiki/Microsoft_Excel), [Outlook](https://en.wikipedia.org/wiki/Microsoft_Outlook), [ASCII](https://en.wikipedia.org/wiki/ASCII), [dBase](https://en.wikipedia.org/wiki/DBase), [Paradox](https://en.wikipedia.org/wiki/Paradox_(database)), [FoxPro](https://en.wikipedia.org/wiki/FoxPro_2), [SQL Server](https://en.wikipedia.org/wiki/Microsoft_SQL_Server) and [Oracle](https://en.wikipedia.org/wiki/Oracle_Database). It also has the ability to link to data in its existing location and use it for viewing, querying, editing, and reporting. This allows the existing data to change while ensuring that Access uses the latest data. |

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| BDMS name | DB2 |
| Owner | IBM |
| Supported Models | They mainly use relational models but recently they ben updated to support object-relational features and none relational like JSON and XML |
| Who is using it (min 3) | Yum Brands, MMC Group Lp and IBM. |
| Availability tools and how it works | They use their model called pureScale in order to ensure high availability |
| Data partitioning and how it works | Data base clustering also known as multiple servers |
| On-Premise, on-cloud or hybrid | According to their website, they appear to have both cloud and on-premise |
| Data manipulation language | Sql is the main lenguaje to do interact with the DataBase |
| Data Storage System | They have multiple servers as we said when we talked about availability |
| Other Interesting Features | Server Manager, IBM db2 Advanced Recovery Features, db2 Connect |

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| BDMS name | MySql |
| Owner | Open source by Oracle |
| Supported Models | They use relational models |
| Who is using it (min 3) | Google, Facebook and Twitter |
| Availability tools and how it works | They developed a high availability software “Fabric” with wich they manage their multiple servers |
| Data partitioning and how it works | They split the data throughout their multiple servers, so you can say they have copies of it |
| On-Premise, on-cloud or hybrid | Their service is on the cloud |
| Data manipulation language | You can use Mysql, python, Java or Perl |
| Data Storage System | Multiple servers so they can offer a high availability |
| Other Interesting Features | They have graphical interfaces, multiple systems to manipule your mysql databases |

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| BDMS name | SQL Server |
| Owner | Microsoft is the owner and developer of this DBMS |
| Supported Models | Relational Models |
| Who is using it (min 3) | Jack Henry & Associates Inc., ARUP laboratories, PEOPLE tech |
| Availability tools and how it works | You can access all of your information through TDS, that means Tabular Data Streams and it is the application layer protocol defined by Microsoft |
| Data partitioning and how it works | They have their data in shared memory and name pipes |
| On-Premise, on-cloud or hybrid | You can use it either on your computer or equipment or access it through the cloud |
| Data manipulation language | The main language for data manipulation inside this DBMS is mysql |
| Data Storage System | Multiple servers, with which they are able to ensure high availability |
| Other Interesting Features | Business Intelligence, web, workgroup, Azure |

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| BDMS name | Adabas |
| Owner | Software AG |
| Supported Models | Extended Relational Models or None Relational models |
| Who is using it (min 3) | Accenture, Philadelphia City and Nissan |
| Availability tools and how it works | They use their model called pureScale in order to ensure high availability |
| Data partitioning and how it works | They do it through splitting the data, the replica set method |
| On-Premise, on-cloud or hybrid | They mainly operate in the cloud, so you can Access the information from wherever you are, trying to make it fast for you and relievable |
| Data manipulation language | Mysql is the main manipulation language for this DBMS |
| Data Storage System | They use multiple servers, and they storage the data in all of them, in order to make the access easier |
| Other Interesting Features | Event Analytics, and Adabas for ZIIP |

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| BDMS name | PostgreSQL |
| Owner | PostgreSQL Global Development Group it is also Open Source |
| Supported Models | Object Relational |
| Who is using it (min 3) | Apple, Cisco, IMBD, Skype, SUN |
| Availability tools and how it works | My using replication they are able to offer a high availability for their users |
| Data partitioning and how it works | They use the replication system which means they have the information storage in multiple servers |
| On-Premise, on-cloud or hybrid | They can work as both, but it is primarily used as an on cloud service |
| Data manipulation language | Sql is the main manipulation language for this BDMS |
| Data Storage System | As mentioned before they use multiple servers. |
| Other Interesting Features | They have a unique concurrency control called MVCC |

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| BDMS name | FileMaker Pro |
| Owner | FileMaker Inc or well… Apple |
| Supported Models | Relational Model is the mainly used |
| Who is using it (min 3) | It is relatively new (2017), so right now their main users are medium-large businesses like Braun Electric Company, Jones Company and GoSolar NewCastle |
| Availability tools and how it works | The availability is literally in your bare hands because you access it from your own computer |
| Data partitioning and how it works | It is mainly saved in your own computer as we said |
| On-Premise, on-cloud or hybrid | This is an on-premise system, meaning you used it in your own computer |
| Data manipulation language | You can use either SQL or MySql types of languages to manipulate this DBMS |
| Data Storage System | You are mainly keeping the information in your own computer |
| Other Interesting Features | A very user-friendly GUI |

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| BDMS name | Cosmo DB |
| Owner | Microsoft |
| Supported Models | Multi-paradigma |
| Who is using it (min 3) | Microsoft basically |
| Availability tools and how it works | Global distribution in several data centers. Failover replicas. |
| Data partitioning and how it works | Sharding. Cosmos Db added automatic partitioning capability in 2016 with the introduction of partitioned collections |
| On-Premise, on-cloud or hybrid | On Cloud |
| Data manipulation language | Sql is the main lenguage |
| Data Storage System | Proprietary |
| Other Interesting Features | It is growing really fast |

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| BDMS name | Mongo DB |
| Owner | Mongo DB Inc. |
| Supported Models | They use a document store |
| Who is using it (min 3) | Google, UPS, Facebook, Cisco |
| Availability tools and how it works | Failover replica set, master-slave replication |
| Data partitioning and how it works | Sharding |
| On-Premise, on-cloud or hybrid | Hybrid |
| Data manipulation language | Proprietary protocol achieved by using JSON |
| Data Storage System | BSON files |
| Other Interesting Features | They have BSON files up to 2GB |

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| --- | --- |
| BDMS name | Oracle |
| Owner | Oracle |
| Supported Models | Relational |
| Who is using it (min 3) | Coca-Cola, FEMSA, Swarovski |
| Availability tools and how it works | Zero loss replication |
| Data partitioning and how it works | Horizontal partitioning |
| On-Premise, on-cloud or hybrid | Hybrid |
| Data manipulation language | Sql type of lenguages |
| Data Storage System | Blocks, extents and Segments |
| Other Interesting Features | Really good and big clients |

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| BDMS name | Cassandra |
| Owner | Apache |
| Supported Models | Wide-column store kind of files |
| Who is using it (min 3) | Apple, ComeCast and AT&T |
| Availability tools and how it works | Clustering |
| Data partitioning and how it works | Clustering |
| On-Premise, on-cloud or hybrid | Only can be used on-premise |
| Data manipulation language | SQL tipe of lenguages |
| Data Storage System | It makes a new structure of many files for every SStable |
| Other Interesting Features | Can be used for web projects easily |

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| Who is using it (min 3) | It is relatively new (2017), so right now their main users are medium-large businesses like Braun Electric Company, Jones Company and GoSolar NewCastle |
| Availability tools and how it works | The availability is literally in your bare hands because you access it from your own computer |
| Data partitioning and how it works | It is mainly saved in your own computer as we said |
| On-Premise, on-cloud or hybrid | This is an on-premise system, meaning you used it in your own computer |
| Data manipulation language | You can use either SQL or MySql types of languages to manipulate this DBMS |
| Data Storage System | You are mainly keeping the information in your own computer |
| Other Interesting Features | A very user-friendly GUI |

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| BDMS name | Redis |
| Owner | RedisLabs |
| Supported Models | Key-value store type of system |
| Who is using it (min 3) | Twitter, GitHub and Snapchat |
| Availability tools and how it works | Redis Sentinel, that it’s a distributed system |
| Data partitioning and how it works | Sharding |
| On-Premise, on-cloud or hybrid | Hybrid, you can use both types |
| Data manipulation language | It uses the proprietary protocol |
| Data Storage System | It keeps everything in the HashMap memory and the datasets in RDB files |
| Other Interesting Features | none |

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| BDMS name | Azure Sql |
| Owner | Microsoft |
| Supported Models | Relational Models |
| Who is using it (min 3) | Microsoft, Associated press and Vapiano |
| Availability tools and how it works | Cloud failover system |
| Data partitioning and how it works | Proprietary |
| On-Premise, on-cloud or hybrid | On- Cloud type |
| Data manipulation language | Proprietary |
| Data Storage System | Many servers across the globe to ensure maximum availability |
| Other Interesting Features |  |

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| BDMS name | Dynamo DB |
| Owner | Amazon |
| Supported Models | Documment Store kind of system |
| Who is using it (min 3) | Amazon, Samsung, Snapchat, Tinder |
| Availability tools and how it works | Global Tables |
| Data partitioning and how it works | Automatic Partitioning, Sharding also |
| On-Premise, on-cloud or hybrid | On-Cloud |
| Data manipulation language | RestFull or php |
| Data Storage System | Propietary |
| Other Interesting Features | none |