

Evaluando los diferentes DBMS Relacionales con alcance empresarial con mayor penetración en el mercado

Oracle

Requerimientos de hardware

Server hardware

Server Display Cards	<ul style="list-style-type: none"> • Server display cards provide at least 1024 x 768 display resolution. • Server is connected to the network, contains a display monitor and DVD drive
Allocate Local Disk Space for Oracle Software	At least 4.5 GB of disk space for an Oracle Grid Infrastructure for a standalone server installation.
Minimum RAM	At least 4 GB RAM for Oracle Database installations. At least 4 GB of RAM for Oracle Grid Infrastructure for a standalone server including installations where you plan to install Oracle Database.
Disk space allocated to the temporary file system	At least 500 MB allocated to <code>%TEMP%</code>
Storage Hardware	Either Storage Area Network (SAN) or Network-Attached Storage (NAS).

<https://docs.oracle.com/database/121/NTDBI/chklist.htm#BABDBGEH>

Ambientes o plataformas

- Linux x86-64
 - Asianux Server 3 SP2 and higher
 - Oracle Linux 5 Update 2 and higher
 - Oracle Linux 5 Update 5 (with the Oracle Unbreakable Enterprise Kernel for Linux)
 - Red Hat Enterprise Linux 5 Update 2

- Red Hat Enterprise Linux 5 Update 5 (with the Oracle Unbreakable Enterprise Kernel for Linux)
- Red Hat Enterprise Linux 6
- SUSE Linux Enterprise Server 10 SP2
- SUSE Linux Enterprise Server 11
- Oracle Solaris on SPARC (64-bit)
 - Oracle Solaris 10 U6 (5.10-2008.10)
 - Oracle Solaris 11 11/11 SPARC
- Oracle Solaris on x86-64 (64-bit)
 - Oracle Solaris 10 U6 (5.10-2008.10)
 - Oracle Solaris 11 11/11 X86
- IBM AIX on POWER Systems (64-bit)
 - AIX 6.1 TL 02 SP1 ("6100-02-01"), 64-bit kernel
 - AIX 7.1 TL 0 SP1 ("7100-00-01-1037"), 64-bit kernel

https://docs.oracle.com/cd/E11882_01/doc.112/e28441/require.htm#CDMIG111

Costos de implementación y mantenimiento

The oracle database standard edition 2 cost varies between 700 and 17500 USD.

The software updates and maintenance is 3850 USD.

https://shop.oracle.com/apex/product?p1=Database&p2=OracleDatabase&p3=&p4=&p5=&intcmp=ocom_database_oracledatabase

<http://www.oracle.com/us/corporate/pricing/technology-price-list-070617.pdf>

Ventajas y desventajas de su uso

Compared to other models of computing, IT systems designed and implemented in the grid style deliver higher quality of service, lower cost, and greater flexibility. Higher quality of service results from having no single point of failure, a robust security infrastructure, and centralized, policy-driven management.

Grid computing also enables the use of smaller individual hardware components, thus reducing the cost of each individual component and providing more flexibility to devote resources in accordance with changing needs.

https://docs.oracle.com/cd/B19306_01/server.102/b14220/intro.htm

The cost of operating Oracle SQL puts it at a disadvantage in comparison to other versions of SQL. The cost difference starts with the licensing fees, which may be up to ten times as high for Oracle. Because Oracle SQL is such a complex and highly specialized language, it can be difficult to find qualified database administrators to run your system. When you do find a suitable candidate, expect to pay two or three times more in salary than you would pay a comparable Microsoft or PostgreSQL administrator.

<https://www.techwalla.com/articles/advantages-disadvantages-of-oracle-sql>

Porcentaje del mercado que controlan

There's a lot of money in managing enterprise data, and there's more of it each year. In 2015, Gartner pegged the DBMS market at \$35.9 billion.

Among Oracle, Microsoft, and IBM, only Microsoft managed to increase its market share over the past five years, growing nearly 1 point to 19.4 percent overall DBMS market share. **Oracle**, meanwhile, dropped 1.5 points to **41.6 percent** while IBM shed 5.6 points to settle in at 16.5 percent.

<https://www.infoworld.com/article/3056637/database/nosql-chips-away-at-oracle-ibm-and-microsoft-dominance.html>

SQL Server

Requerimientos de Hardware

.NET Framework	<p>SQL Server 2016 RC1 and later require .NET Framework 4.6 for the Database Engine, Master Data Services, or Replication. SQL Server 2016 setup automatically installs .NET Framework. You can also manually install .NET Framework from Microsoft .NET Framework 4.6 (Web Installer) for Windows.</p> <p>Windows 8.1, and Windows Server 2012 R2 require KB2919355 before installing .NET Framework 4.6.</p>
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Network Software	<p>Supported operating systems for SQL Server have built-in network software. Named and default instances of a stand-alone installation support the following network protocols: Shared memory, Named Pipes, TCP/IP and VIA.</p> <p>Note: Shared memory and VIA are not supported on failover clusters.</p> <p>Also note that the VIA protocol is deprecated. This feature will be removed in a future version of Microsoft SQL Server. Avoid using this feature in new development work, and plan to modify applications that currently use this feature.</p>
Hard Disk	SQL Server requires a minimum of 6 GB of available hard-disk space.
Drive	A DVD drive, as appropriate, is required for installation from disc.
Monitor	SQL Server requires Super-VGA (800x600) or higher resolution monitor.
Internet	Internet functionality requires Internet access.

Component	Requirement
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Memory *	<p>Minimum:</p> <p>Express Editions: 512 MB</p> <p>All other editions: 1 GB</p> <p>Recommended:</p> <p>Express Editions: 1 GB</p> <p>All other editions: At least 4 GB and should be increased as database size increases to ensure optimal performance.</p>
Processor Speed	<p>Minimum: x64 Processor: 1.4 GHz</p> <p>Recommended: 2.0 GHz or faster</p>
Processor Type	x64 Processor: AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support

<https://docs.microsoft.com/en-us/sql/sql-server/install/hardware-and-software-requirements-for-installing-sql-server>

Ambientes o plataformas

- Windows Server 2016 Datacenter
- Windows Server 2016 Standard
- Windows Server 2016 Essentials*
- Windows Server 2012 R2 Datacenter
- Windows Server 2012 R2 Standard
- Windows Server 2012 R2 Essentials
- Windows Server 2012 R2 Foundation

- Windows Server 2012 Datacenter
- Windows Server 2012 Standard
- Windows Server 2012 Essentials
- Windows Server 2012 Foundation
- Windows 10 Home
- Windows 10 Professional
- Windows 10 Enterprise
- Windows 10 IoT Enterprise
- Windows 8.1
- Windows 8.1 Pro
- Windows 8.1 Enterprise
- Windows 8
- Windows 8 Pro
- Windows 8 Enterprise

Costos de implementación y mantenimiento

The cost goes up to 3717 usd, and the maintenance goes up to 931 usd.

<https://www.microsoft.com/en-us/sql-server/sql-server-2017-pricing>

Ventajas y desventajas de su uso

Disadvantages:

One of the major disadvantages to using Microsoft SQL Server instead of an alternative relational database management system is that the licensing options are pretty pricey. Although using the software for development or educational purposes is free, any sort of business use incurs a licensing fee.

Advantages:

Enterprise-Grade Management Software.

Corrupt data is always a concern when power loss or improper shutdowns occur.

Microsoft SQL Server has a number of features that promote data restoration and recovery.

<https://www.techwalla.com/articles/advantages-disadvantages-of-microsoft-sql>

Porcentaje del mercado que controlan

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<https://www.infoworld.com/article/3056637/database/nosql-chips-away-at-oracle-ibm-and-microsoft-dominance.html>

MySQL

Requerimientos de Hardware

Minimum Hardware Requirements

This section describes the minimum hardware requirements for the Enterprise Service Monitor.

- 2 CPU Cores
- 2 GB RAM
- Disk I/O subsystem applicable to a write-intensive database

Recommended Hardware Requirements

This section describes the recommended hardware requirements for the Enterprise Service Manager.

- 4 CPU Cores or more
- 8 GB RAM or more
- RAID10 or RAID 0+1 disk setup

Platform	Service Manager Minimum Disk Space	Agent Minimum Disk Space
Linux x86 32-bit	N/A	600 MB
Linux x86 64-bit	1.3 GB	800 MB
Mac OS X	1.2 GB	700 MB
Solaris x86 64-bit	1.8 GB	800 MB
Solaris Sparc 64-bit	1.7 GB	600 MB

<https://dev.mysql.com/doc/mysql-monitor/3.4/en/system-prereqs-reference.html>

Ambientes o plataformas

Linux, Microsoft, Oracle, Apple, FreeBSD.

<https://www.mysql.com/support/supportedplatforms/enterprise-monitor.html>

Costos de implementación y mantenimiento

License: 0

Annual Subscription, Support & Maintenance (Per Unit) 5000 USD.

<https://www.mysql.com/tcosavings/>

Ventajas y desventajas de su uso

Advantages

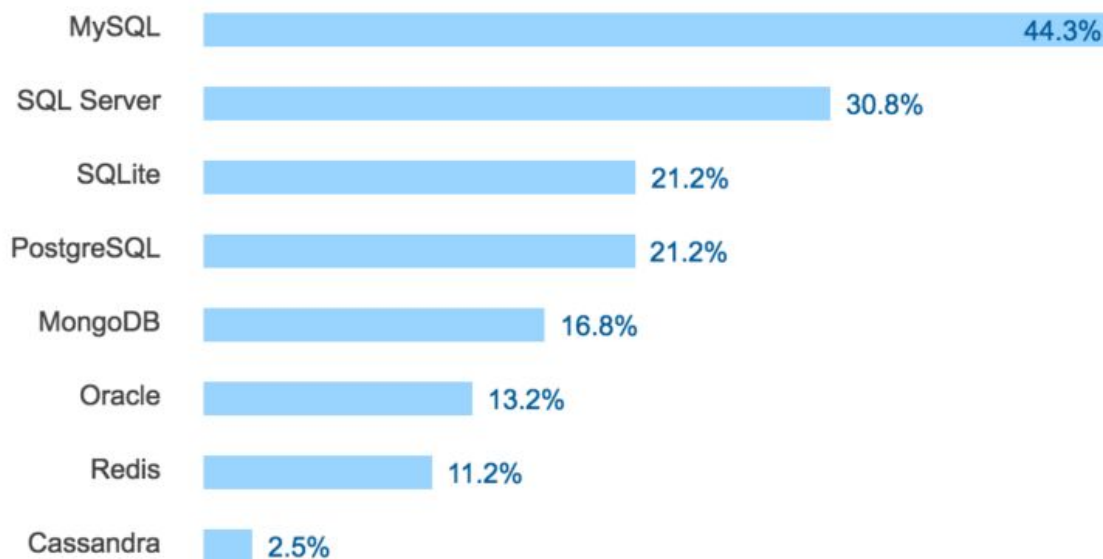
- It's Easy To Use
- Support Is Readily Available Whenever Necessary
- It's Open-Source (Sort Of)
- It's Incredibly Inexpensive
- It's An Industry Standard (And Still Extremely Popular)

Disadvantages

- It's Got A Few Stability Issues
- It Suffers From Relatively Poor Performance Scaling
- Development Is Not Community Driven – and Hence Has Lagged
- Its Functionality Tends To Be Heavily Dependant On Addons
- Although MySQL is relatively easy to set up, it tends to have less out-of-the-box
- Developers May Find Some Of Its Limitations To Be Frustrating

<https://www.datarealm.com/blog/five-advantages-disadvantages-of-mysql/>

Porcentaje del mercado que controlan



MySQL is owned by ORACLE.

<https://www.eversql.com/most-popular-databases-in-2017-according-to-stackoverflow-survey/>

MongoDB

Requerimientos de Hardware

Ops Manager: 15 GB and at least 4 cores in CPU.

Ops Manager application: 200 GB disk capacity y 8 GB RAM

For backup: 2 cores with 2GHZ, and 15 GB RAM.

<https://docs.opsmanager.mongodb.com/current/core/requirements/#hardware-requirements>

Ambientes o plataformas

Linux, Solaris, Windows, MacOS.

<https://docs.mongodb.com/manual/installation/>

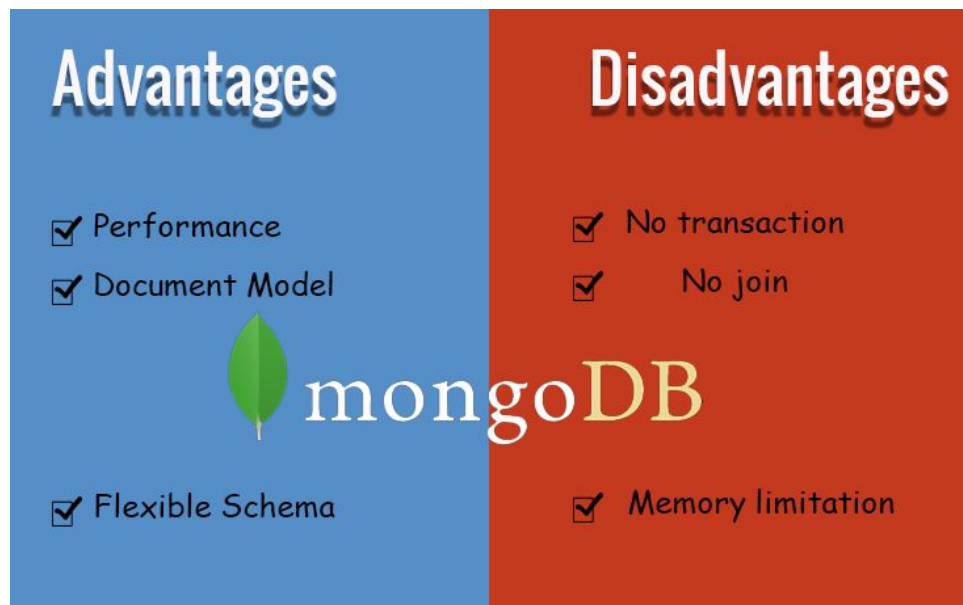
Costos de implementación y mantenimiento

The service is priced at US\$250 per production server per month, while support for testing and quality assurance environments costs \$125 per server per month.

MongoDB Enterprise comes in two tiers, with Core costing \$6,500 per server per year and Advanced priced at \$10,000 per server per year.

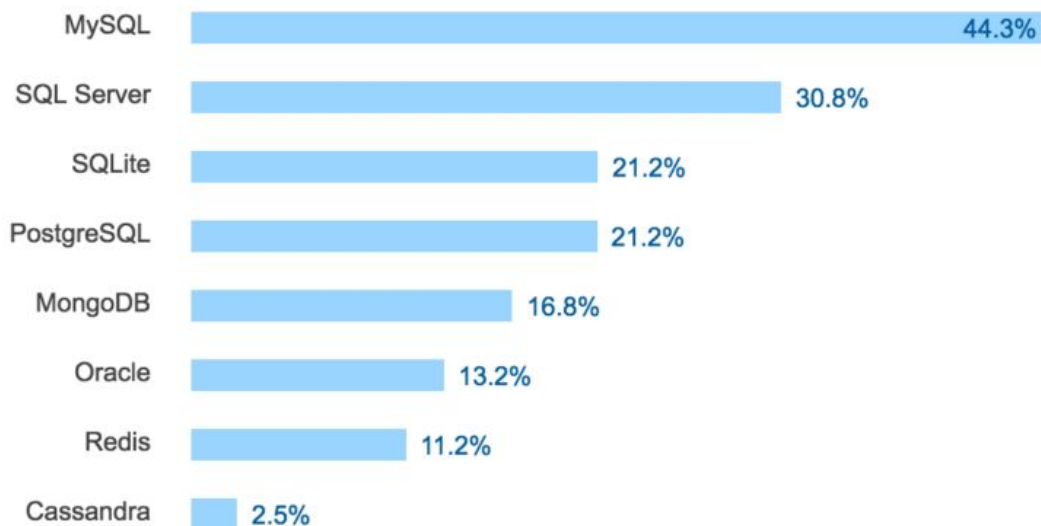
<https://www.pcworld.com/article/2466460/mongodb-adds-support-option-for-community-edition-of-its-nosql-database.html>

Ventajas y desventajas de su uso



<http://makble.com/the-advantages-and-disadvantages-of-mongodb>

Porcentaje del mercado que controlan



<https://www.eversql.com/most-popular-databases-in-2017-according-to-stackoverflow-survey/>

Conclusión

Hay muchas herramientas distintas para implementar una base de datos. Los costos varían radicalmente. Definitivamente existen algunos con excelente soporte, pero también vienen a un costo más elevado. Es necesario estudiar bien las necesidades del cliente para elegir al proveedor correcto.