

Mssql Server Comparison

Microsoft SQL server is the most popular and advanced Relational Database Management System (RDBMS) by Microsoft. It is basically a software-based product and its primary role is storage and retrieval of data as per the request of the applications on either the same system or a system on another network.

It supports large applications with millions of users or huge databases with advanced features and security. SQL Server is fully compatible with MS Access database.

Data can be easily imported or exported between these two.

Microsoft SQL server is widely used for e-commerce, line-of-business, and data warehousing solutions.

There are dozens of different editions or versions of Microsoft SQL server provided by

Microsoft with different feature sets and pricing options. From many of them,

we are going to discuss two editions in this article. They are **Microsoft SQL Server Express edition** and **Microsoft SQL Server Web edition**.

Microsoft SQL Server Express edition

It is a scaled down, entry-level database option to learn and build desktop and small server

applications. It provides a number of features of the paid editions but some technical limitations

in terms of database size and the number of users make it unsuitable for large-scale installations.

Thus, it is a good choice for developers, independent software vendors (ISVs) and for those who build small client

applications.

In case you need more advanced features of the database, SQL server express edition can be upgraded to high-end versions. There are various versions of Microsoft SQL server express edition.

Here is a summary with the years in which they were released:

VERSIONS	SERVICE PACKS
2017	None
2016	SP1
2014	SP1 and SP2
2012	SP1, SP2 and SP3
2008	R2 RTM, R2 SP1 and R2 SP2
2005	SP1, SP2, SP3 and SP4

Features:

- There is no requirement of a license for using it, as it is free for distribution.
- It is an easy to use version, designed for building simple data-driven applications up to 10 GB in size.
- Includes SQL Server Management Studio. This helps administrators and developers of different skill levels use SQL Server efficiently.
- Applications develop faster through the deep integration with Visual Web Developer, Visual Studio, and so on.
- Enhanced reporting services help create and share reports that answer complex questions through rich visualizations.
- Easy backup and restore functionality to Microsoft Azure.
- It comes with same monitoring tools that come with Standard and Enterprise editions.
- It comes with various security features – row-level security, always encrypted, dynamic data masking, basic auditing, and fine-grained auditing. One also gets

features like user- defined roles and contained databases.

- It allows one to install Machine Learning services with both Python and R language.
- It allows you to scale your applications across Server editions as you grow – without modifying application code.
- It's completely supported by Microsoft, including updates and patches from time to time.

Limitations:

- SQL Server Express can be installed on a server with many CPUs. But, it can use only one CPU at a time.
- 4GB database size limit was there for SQL2005/2008 but after 2008R2 it has been increased to up to 10GB for each database. The limit is applicable on database data files and not log files.
- Can only use a maximum of 1410 MB memory per instance.
- There's no SQL Server Agent with the Express edition.
- The performance analysis tool, Profiler, is not included with the SQL Server Express edition.
- The functionality to create and attach a schedule to a job (Job Scheduler) is not available with the express edition.
- Analysis and Integration Services are also not provided, but you can import or export the data with SQL Server Import and Export Wizard feature available with the SQL server express.

Microsoft SQL Server Web edition

Features:

- You can centrally manage your business infrastructure with its SQL Management Studio and management packs.
- Provides an added support for Windows PowerShell to automate various management tasks.

- Has robust development tools integrated into Visual Studio to support next-generation enterprise, web, business intelligence, mobile applications and so on.
- You get Distributed Replay feature that helps you assess the impact of future upgrades of server, hardware and operating system upgrades.
- You get SQL Server Agent, which can be used for scheduling maintenance tasks like backups and monitoring their execution status.
- You can optimize queries with DTA (Database Tuning Advisor).
- If you are a DB administrator, you can collect performance related data using in-build performance data collectors.
- Provides strong support for content management.

Limitations:

- Buffer pool extension is not available.
- Analysis services are not there.
- Not available to be purchased by the public. It is only for the web hosting providers through an SPLA (Service Provider License Agreement).

Important differences between MS SQL Server Express edition and Web edition

1. Cross box scale limits:

Feature name	Web edition	Express edition
Maximum memory utilized	64 GB	1410 MB
Maximum compute capacity	Limited to < 4 Sockets or 16 cores	Limited to < 1 Socket or 4 cores
Maximum relational database size	524 PB	10 GB

2. Management tools:

Feature name	Web edition	Express edition
Distributed replay – Admin tool	Yes	No
Distributed replay – Client	Yes	No
Distributed replay – Controller	Yes (1 Client)	No
SQL server agent	Yes	No
Microsoft System Center Operations Manager Management Pack	Yes	No

3. RDBMS Manageability:

Feature name	Web edition	Express edition
User instances	No	Yes
Dedicated admin connection	Yes	Yes (with trace flag)
Policy automation	Yes	No
Performance data collector	Yes	No
Standard performance reports	Yes	No
PowerShell scripting support	Yes	Yes
Direct query of indexed views	Yes	Yes

4. Programmability:

Feature name	Web edition	Express edition
Full-text and semantic search	Yes	No
Basic R & Python integration	Yes	No
JSON	Yes	Yes
Native XML support	Yes	Yes

Specification of language in query	Yes	No
Transact-SQL endpoints	Yes	No

5. Reporting services:

Feature name	Web edition	Express edition
Supported catalog database	Yes	Yes
Supported data source	Yes	Yes
Role-based security	Yes	Yes (with advanced services)
Export to Excel, PowerPoint, Word, PDF & images	Yes	Yes (with advanced services)
Report server	Yes	Yes (with advanced services)
Report designer	Yes	Yes (with advanced services)