SSAS - Microsoft SQL Server Analysis Services
SSIS - SQL Server Integration Services
SSRS - SQL Server Reporting Services
SSMS - SQL Server Management Studio
BIDS - Business Intelligence Development Studio
RDP - Remote Desktop
RDBMS - Relational Database Management System
ORDBMS - Object-Relational Database Management System

What is SQL Server?

- It is a software, developed by Microsoft, which is implemented from the specification of RDBMS.
- It is also an ORDBMS.
- It is platform dependent.
- It is both GUI and command based software.
- It supports SQL (SEQUEL) language which is an IBM product, non-procedural, common database and case insensitive language.

Usage of SQL Server

- To create databases.
- To maintain databases.
- To analyze the data through SQL Server Analysis Services (SSAS).
- To generate reports through SQL Server Reporting Services (SSRS).
- To carry out ETL operations through SQL Server Integration Services (SSIS).

SQL Server Components

SQL Server works in client-server architecture, hence it supports two types of components: (a) Workstation and (b) Server.

- Workstation components are installed in every device/SQL Server operator's machine. These are just interfaces to interact with Server components. Example: SSMS, SSCM, Profiler, BIDS, SQLEM etc.
- Server components are installed in centralized server. These are services. Example: SQL Server, SQL Server Agent, SSIS, SSAS, SSRS, SQL browser, SQL Server full text search etc.

Instance of SQL Server

- An instance is an installation of SQL Server.
- An instance is an exact copy of the same software.
- If we install 'n' times, then 'n' instances will be created.
- There are two types of instances in SQL Server a) Default b) Named.
- Only one default instance will be supported in one Server.
- Multiple named instances will be supported in one Server.
- Default instance will take the server name as Instance name.
- Default instance service name is MSSQLSERVER.
- 16 instances will be supported in 2000 version.

- 50 instances will supported in 2005 and later versions.

Advantages of Instances

- To install different versions in one machine.
- To reduce cost.
- To maintain production, development, and test environments separately.
- To reduce temporary database problems.
- To separate security privileges.
- To maintain standby server.

SQL Server is available in various editions.

- Enterprise: This is the top-end edition with a full feature set.
- Standard: This has less features than Enterprise, when there is no requirement of advanced features.
- Workgroup: This is suitable for remote offices of a larger company.
- Web: This is designed for web applications.
- Developer: This is similar to Enterprise, but licensed to only one user for development, testing and demo. It can be easily upgraded to Enterprise without reinstallation.
- Express: This is free entry level database. It can utilize only 1 CPU and 1 GB memory, the maximum size of the database is 10 GB.
- Compact: This is free embedded database for mobile application development. The maximum size of the database is 4 GB.
- Datacenter: The major change in new SQL Server 2008 R2 is Datacenter Edition. The Datacenter edition has no memory limitation and offers support for more than 25 instances.
- Business Intelligence: Business Intelligence Edition is a new introduction in SQL Server 2012. This edition includes all the features in the Standard edition and support for advanced BI features such as Power View and PowerPivot, but it lacks support for advanced availability features like AlwaysOn Availability Groups and other online operations.
- Enterprise Evaluation: The SQL Server Evaluation Edition is a great way to get a fully functional and free instance of SQL Server for learning and developing solutions. This edition has a built-in expiry of 6 months from the time that you install it.

• Component	Requirement 2019
Hard Disk	SQL Server requires a minimum of 6 GB of available hard-disk space. Disk space requirements will vary with the SQL Server components you install. For more information, see Hard Disk Space Requirements later in this article. For information on supported storage types for data files, see Storage Types for Data Files.
Monitor	SQL Server requires Super-VGA (800x600) or higher resolution monitor.
Internet	Internet functionality requires Internet access (fees may apply).
Memory *	**Minimum:** Express Editions: 512 MB All other editions: 1 GB

• Component	Requirement 2019
	Recommended: Express Editions: 1 GB All other editions: At least 4 GB and should be increased as database size increases to ensure optimal performance.
Processor Speed	**Minimum:** x64 Processor: 1.4 GHz **Recommended:** 2.0 GHz or faster
Processor Type	x64 Processor: AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support

Installation

SQL Server supports two types of installation:

- Standalone
- Cluster based

Checks

- Check RDP access for the server.
- Check OS bit, IP, domain of server.
- Check if your account is in admin group to run setup.exe file.
- Software location.

Requirements

- Which version, edition, SP and hotfix if any.
- Service accounts for database engine, agent, SSAS, SSIS, SSRS, if any.
- Named instance name if any.
- Location for binaries, system, user databases.
- Authentication mode.
- Collation setting.
- List of features.

Pre-requisites for 2005

- Setup support files.
- .net framework 2.0.
- SQL Server native client.

Pre-requisites for 2008&2008R2

- Setup support files.
- .net framework 3.5 SP1.
- SQL Server native client.
- Windows installer 4.5/later version.

Pre-requisites for 2012&2014

- Setup support files.

- .net framework 4.0.
- SQL Server native client.
- Windows installer 4.5/later version.
- Windows PowerShell 2.0.

After Installation

Assigning a TCP/IP Port Number to the SQL Server Database Engine

First, you may want to change the SQL Servers default TCP port from 1433 to a different port. This exercise describes how.

1. Open SQL Server Configuration Manager by clicking Start | All Programs | Microsoft SQL Server 2012 | Configuration Tools | SQL Server Configuration Manager.
2. In the left-hand navigation pane, expand SQL Server Network Configuration and click Protocols for MSSQLSERVER.If you are changing the port for a nondefault instance, then you will click Protocols for <*Instance Name*>.
3. Right-click TCP/IP in the left section.
4. You can configure each specific IP address, or you can configure the port for all IP addresses. To do so, click the IP Addresses tab, scroll to the bottom to locate IPALL, and change the port number to your desired port.Don't change the port, as this will require you to include the port number when connecting to this server.
5. Restart the instance of SQL Server that has been changed.Click SQL Server Service in the left navigation pane.
6. Select SQL Server (MSSQLSERVER), right-click, and select Restart.

Once this change is made, you are required to specify this port number when you connect to the SQL Server instance.

Opening a SQL Server Instance Port Using Windows Firewall

If you attempt to connect to SQL Server from another machine now, the connection attempt will time out.To connect to this instance, you must open the port.You can do so using Windows Firewall, as follows:

1. Open Windows Firewall and click Start | Control Panel | Windows Firewall.
2. Toward the top of the page, click Advanced Settings.
3. Select Inbound Rules from the left navigation pane.
4. Click New Rule from the right navigation pane.
5. On the Rule Type page, select the radio button labeled Port, and click Next.
6. Ensure that the radio button labeled TCP is selected and enter **1433** in the text box labeled Specific Local Ports. Click Next.
7. Select the Allow the Connection radio button and click Next.
8. In the text box labeled Name, type a descriptive name for your inbound rule. Click Finish.

Prepare an installation guide.
Place it in the Platon platform solution_2022_10_05
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