



SQL Server Agent



Why we need SQL Server Agent

- In this era of automation, it is often required that we execute multiple scripts repeatedly in a timely fashion.
- These scripts can be used to back up an existing database, delete extra log files, process data from a table, drop and rebuild indexes on a table, or running an ETL job etc.
- All these tasks are repetitive and can be automated using the SQL Server Agent.
- This gives us the flexibility that the job will be executed as per the rules defined in the schedule and there is minimal human intervention required in order to execute these jobs.
- Once the jobs are executed, you can view the history if the execution was successful or failed.
- In case of a failure, there is an option to restart the job manually.
- SQL Server Agent can run a job on a schedule, in response to a specific event, or on demand.
- By default, the SQL Server Agent service is disabled when SQL Server is installed unless the user explicitly chooses to autostart the service.



SQL Server Agent Components

- **Jobs** : A *job* is a specified series of actions that SQL Server Agent performs.
- **Schedules** : A *schedule* specifies when a job runs.
- **Alerts**: An *alert* is an automatic response to a specific event.
- **Operators** : An *operator* defines contact information for an individual responsible for the maintenance of one or more instances of SQL Server.



Security for SQL Server Agent Administration

- SQL Server Agent uses the **SQLAgentUserRole**, **SQLAgentReaderRole**, and **SQLAgentOperatorRole** fixed database roles in the **msdb** database to control access to SQL Server Agent for users who aren't members of the **sysadmin** fixed server role.
- In addition to these fixed database roles, subsystems and proxies help database administrators ensure that each job step runs with the minimum permissions required to perform its task.
- Roles : Members of the SQLAgentUserRole, SQLAgentReaderRole, and SQLAgentOperatorRole fixed database roles in msdb, and members of the sysadmin fixed server role have access to SQL Server Agent.
- Subsystems : A subsystem is a predefined object that represents functionality that is available to a job step.
- Proxies : SQL Server Agent uses proxies to manage security contexts. A proxy can be used in more than one job step. Members of the sysadmin fixed server role can create proxies.