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PASS SQLSATURDAY

SQL Server Health Check

Sponsors

Gold

Silver

Geek

Introduction

Every engine needs tuning your database is no different

- What is a SQL Server Health Check
- Why we should perform a SQL Server Health Check
- When we should perform a SQL Server Health Check
- What Tools we should use to perform a SQL Server Health Check
- SQL Server Health Check sample

What is a SQL Server Health Check

- Doctor collects data by asking questions
- Doctor analyzes the information
- Doctor provides a diagnostic
- Doctor provides some medicine

A SQL Server Health Check includes:

- Gathering detailed information about your SQL Servers.
- Comparing collected data to established best practices to identify potential changes to your SQL Servers so that they meet these best practices.
- Examining the differences and determining if the best practices should be implemented, or, because of special circumstances, should be ignored.
- After determining what changes, if any, should be made, test the changes on a test server (in most cases).
- Roll out the changes to production SQL Servers.

Where best practices come from

- There is no definitive source.

- Ideally, you will have created your own best practices standard guide that you follow for your company.

- If you are at the point where you need to create your own best practice standard guide, then look to authoritative resource to begin creating the guide.

Why we should perform a SQL Server Health Check

- Provides documentation and a baseline for:
  - Performance Tuning
  - Troubleshooting
  - Rebuilding, Disaster Recovery
- Help to identify potential problems & fix them early
- To implement best practices (best practices standards guide). This results in performance optimization and higher availability.
- Help to standardize your SQL Server's configuration throughout your organization

When we should perform a SQL Server Health Check

- Any SQL Servers under current administration and you have never documented them before.

- Once starting in a new job, to quickly learn about the SQL Servers you have inherited and now "own".

- As a consultant, and need to get quickly up to speed on your client's SQL Servers.

- Once an initial health check is performed, it should be repeated regularly to ensure the continued health of your SQL Servers. Follow-up health checks will be much faster because you already have collected the basics.

What Tools we should use to perform a SQL Server Health Check

- OS tools, such as administrative tools and event logs
- Performance Monitor
- SSMS, including Standard Reports
- T-SQL, PowerShell, DMVs, system views, system stored procedures, etc.
- SQL Trace/Profiler, XE (if needed)
- Your own automated collection, reporting system
- Third-party tools to collect and analyze data.

- If the number of SQL Servers you manage are few, then collecting and storing the data in a spreadsheet is probably the easiest and quickest way to collect and store the data.

- If you have many SQL Server instances, then you need to automate the health check process and store the data in a database. If you don't have the time to automate your health checks, then doing it manually with a spreadsheet is better than doing nothing at all.

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Demo

Recap

SQL Server Health Check process

```
┌─────────────────┐     ┌─────────────────┐     ┌─────────────────┐     ┌─────────────────┐     ┌─────────────────┐
│ Collect Health  │ ──▶ │    Compare      │ ──▶ │   Determine     │ ──▶ │  Test Changes   │ ──▶ │ Repeat Health   │
│  Check Data     │     │ Against Best    │     │   What to       │     │                 │     │     Check       │
│                 │     │   Practices     │     │    Change       │     │                 │     │                 │
└─────────────────┘     └─────────────────┘     └─────────────────┘     └─────────────────┘     └─────────────────┘
```

SQL Server Health Check in a nutshell

- Hardware
- Operating System
- SQL Server Settings
- Database Settings
- Security
- Database Maintenance
- SQL Server Agent Jobs
- Logs
- Monitoring
- Performance
- High Availability

Questions

Thank you!!!