

Critical SQL Server and database-related alerts that are typically configured by SQL DBAs for **proactive monitoring**, with notifications sent to a DBA distribution list (e.g., *SQLDBATeam@...*) on **hourly, daily, and weekly basis**.

The list is organized by **alert category**, with **severity**, **what to monitor**, and **recommended notification frequency**. This aligns with enterprise DBA runbooks and ITIL-based monitoring practices.

1. Availability & Instance Health (Critical)

1.1 SQL Server Service Status

- SQL Server Engine service stopped/unresponsive
- SQL Server Agent service stopped
- SSIS / SSAS / SSRS service stopped (if applicable)

Frequency: Real-time / Hourly

Severity: Critical

1.2 Server Connectivity

- Unable to connect to SQL instance
- Login timeout errors
- Listener (AG) unreachable

Frequency: Real-time / Hourly

Severity: Critical

1.3 Failover & High Availability

- Always On Availability Group failover
- AG replica not synchronizing
- Replica suspended
- Quorum loss (WSFC)
- Failover cluster node down

Frequency: Real-time / Hourly

Severity: Critical

2. Database Availability & Integrity (Critical)

2.1 Database State Issues

- Database offline
- Database in suspect / recovery pending / emergency mode
- Read-only database when not expected

Frequency: Hourly

Severity: Critical

2.2 Database Corruption

- DBCC CHECKDB failures
- Allocation or consistency errors
- Torn page / checksum failures

Frequency: Daily (Immediate alert on detection)

Severity: Critical

2.3 System Database Health

- Master / MSDB / Model / TempDB offline or inaccessible

Frequency: Hourly

Severity: Critical

3. Backup & Recovery (Critical)

3.1 Backup Failures

- Full backup failure
- Differential backup failure
- Transaction log backup failure

Frequency: Hourly

Severity: Critical

3.2 Missing Backups

- No full backup in last X hours
- No log backup in last X minutes (FULL/BULK recovery)

Frequency: Daily

Severity: Critical

3.3 Restore Validation

- Restore verification failure
- Backup file corruption

Frequency: Weekly

Severity: High

4. Storage & Capacity (Critical)

4.1 Disk Space

- Data drive space below threshold (e.g., <15%, <10%, <5%)
- Log drive space below threshold
- Backup drive space exhausted

Frequency: Hourly

Severity: Critical

4.2 File Growth Issues

- Data or log file unable to grow
- Autogrowth disabled or set too small
- Excessive autogrowth events

Frequency: Hourly / Daily

Severity: Critical

4.3 TempDB Space Issues

- TempDB full or nearing capacity
- TempDB data file imbalance

Frequency: Hourly

Severity: Critical

5. Performance & Resource Utilization (Critical)

5.1 CPU

- Sustained high CPU usage (e.g., >85%)
- SQL Server consuming abnormal CPU
- Scheduler queue length high

Frequency: Hourly

Severity: High / Critical

5.2 Memory

- Memory pressure (PLE below threshold)
- SQL Server memory trimmed by OS
- Insufficient max server memory configuration

Frequency: Hourly / Daily

Severity: High

5.3 IO Performance

- High disk latency (Data / Log / TempDB)
- IO stalls
- Read/write latency exceeding SLA

Frequency: Hourly

Severity: High

6. Blocking, Deadlocks & Concurrency (Critical)

6.1 Blocking

- Long-running blocking chains
- Head blocker sessions

Frequency: Hourly

Severity: High

6.2 Deadlocks

- Deadlock detected
- Repeated deadlocks on same objects

Frequency: Immediate / Hourly summary

Severity: High

7. Job & Automation Failures (Critical)

7.1 SQL Agent Jobs

- Job failure (backup, maintenance, ETL, monitoring)
- Job disabled unexpectedly
- Job running longer than expected

Frequency: Hourly

Severity: Critical

7.2 Maintenance Plans

- Index maintenance failure
- Statistics update failure
- Cleanup job failure

Frequency: Daily

Severity: High

8. Security & Access (Critical)

8.1 Authentication & Authorization

- Repeated login failures
- Locked or disabled critical SQL logins

- Orphaned users
Frequency: Hourly / Daily
Severity: High

8.2 Permission Changes

- sysadmin role changes
- Elevated permission grants
- Unauthorized schema changes
Frequency: Daily / Weekly
Severity: High

8.3 Encryption & Certificates

- Expiring certificates (TDE, AG, endpoints)
- Encryption disabled unexpectedly
Frequency: Weekly
Severity: High

9. Configuration & Compliance (High)

9.1 Configuration Drift

- Max memory changes
- Cost threshold for parallelism changes
- Trace flags enabled/disabled
Frequency: Daily / Weekly
Severity: Medium–High

9.2 Patch & Version

- SQL Server version mismatch in AG
- Missing critical patches
Frequency: Weekly
Severity: Medium

10. Replication / Data Movement (If Applicable)

10.1 Replication

- Replication agent failure
- Replication latency threshold exceeded
- Subscriber out of sync
Frequency: Hourly
Severity: High

10.2 ETL / Data Sync

- SSIS package failures
- Data load discrepancies
Frequency: Hourly / Daily
Severity: High

11. Error Log & Event Monitoring (Critical)

11.1 SQL Error Log

- Severity 16+ errors
- Stack dumps

- Assertion failures
- I/O errors (823, 824, 825)

Frequency: Hourly

Severity: Critical

11.2 Windows Event Log

- Disk errors
- Cluster errors
- Service crashes

Frequency: Hourly

Severity: Critical

12. Reporting & Summary Notifications

12.1 Hourly Alerts (Immediate Action)

- Service down
- Database offline
- Disk full
- Backup failure
- AG not synchronized

12.2 Daily Health Report

- Backup compliance
- Disk usage trend
- Job success/failure summary
- Performance hotspots

12.3 Weekly DBA Review

- Capacity planning
- Performance trends
- Security changes
- Patch & compliance status

Typical Notification Routing

- **Critical (Immediate):** SQLDBATeam mail + ticket + pager
- **High:** SQLDBATeam mail
- **Daily/Weekly:** Consolidated health report to SQLDBATeam