

An **SQL Server Inventory Checklist** is essential for keeping track of the various components, configurations, and resources in a SQL Server environment. This checklist helps ensure that SQL Server instances are properly managed, monitored, and compliant with organizational standards.

Here's a detailed breakdown of what should be included in an SQL Server inventory checklist:

## 1. SQL Server Instance Information

- **Server Name:** Name of the physical or virtual server hosting the SQL instance.
- **Instance Name:** Name of the SQL Server instance (default or named).
- **Version & Edition:**
  - SQL Server version (e.g., 2019, 2022).
  - Edition (e.g., Standard, Enterprise, Developer, Express).
- **Build Number:** Specific build (e.g., 15.x.xxxx for SQL Server 2019) indicating patch level and updates.
- **Collation Settings:** Current collation settings for the server and databases.
- **Platform:** Type of environment (physical, virtualized, or cloud-based like Azure SQL, AWS RDS).

## 2. Licensing Information

- **Licensing Mode:** Information about whether the instance is licensed per core or via CAL (Client Access License).
- **License Expiry Date:** If applicable (especially for trial or evaluation versions).
- **Number of Cores and Sockets:** Details about the core count used in licensing.

## 3. Database Details

- **Database Names:** Names of all databases within the instance.
- **Recovery Model:** Full, Simple, or Bulk-Logged.
- **Current Size:** Database size (data and log files).
- **Growth Settings:** Auto-growth settings for both data and log files.
- **Max Size Limits:** Any size limits for databases (important for Express editions or cloud-based databases).

## 4. High Availability (HA) & Disaster Recovery (DR)

- **Availability Groups:** List of databases in Always On Availability Groups and their replication status.
- **Failover Cluster:** Details on whether SQL Server is part of a failover cluster.
- **Log Shipping:** Details of log-shipped databases and configurations.
- **Replication:** Details on transactional, snapshot, or merge replication setups.
- **Backup Strategy:**
  - Backup types (full, differential, transaction log).
  - Backup schedule and frequency.
  - Retention policies.
  - Backup location (local, network, cloud).

## 5. Security & Access

- **Authentication Mode:** Windows Authentication, SQL Server Authentication, or Mixed Mode.
- **Login Details:** List of all SQL Server logins and their permissions.
- **Server Roles:** Roles assigned to logins (e.g., sysadmin, db\_owner, etc.).
- **Database Roles:** User roles at the database level (e.g., db\_datareader, db\_datawriter).
- **Audit Settings:** Any audit logs configured to track login attempts or data modifications.
- **Encryption:**
  - Transparent Data Encryption (TDE) enabled or disabled.
  - Encryption keys, certificates, and backup status.

## 6. Performance Monitoring & Settings

- **Max Server Memory:** Configuration for how much memory is allocated to SQL Server.
- **Max Degree of Parallelism (MAXDOP):** Set value for parallel query processing.
- **CPU and Memory Usage:** Historical and real-time CPU/memory utilization stats.
- **I/O Performance:** Disk I/O throughput and latency checks.
- **Wait Statistics:** Identifying bottlenecks such as high CXPACKET, PAGEIOLATCH, or SOS\_SCHEDULER\_YIELD waits.
- **Index Fragmentation:** Fragmentation level of indexes.
- **Database Maintenance Plans:** Whether maintenance tasks like index rebuilding, statistics updates, and backups are scheduled.

## 7. SQL Server Agent Jobs

- **Job List:** List of all SQL Server Agent jobs configured on the instance.
- **Job Schedules:** Schedule for each job (e.g., daily backups, weekly index rebuilds).
- **Job Status:** Success or failure rates, and any recurring job errors.
- **Alerts and Notifications:** Set up for critical events or job failures (email, SMS).

## 8. Storage & File Information

- **Data & Log File Locations:** Paths for database MDF (data files) and LDF (log files).
- **TempDB Configuration:**
  - Number of TempDB files.
  - Size and auto-growth settings.
  - Location on disk (preferably on separate fast storage).
- **Drive Space Monitoring:** Available space on data, log, and backup drives.
- **I/O Subsystem Details:** Information about storage configuration (SAN, local disk, SSD, etc.).

## 9. Cluster & Always On Configuration

- **WSFC (Windows Server Failover Clustering):** Whether SQL Server is part of a Windows Server Failover Cluster.
- **Availability Group Details:**
  - Availability mode (synchronous/asynchronous).
  - Failover type (automatic/manual).
  - Readable secondaries.
  - Listener configuration.

## 10. Jobs, Alerts, and Operators

- **Jobs:** SQL Server Agent jobs and their status (e.g., backups, reindexing, integrity checks).
- **Alerts:** Configured alerts for job failures, low disk space, or database health.
- **Operators:** Email/SMS operators for receiving alerts.

## 11. Compliance & Auditing

- **Auditing Enabled:** Whether auditing is enabled for sensitive actions.
- **GDPR/HIPAA Compliance:** Ensure that encryption, logging, and data access follow regulations.
- **Audit Logs:** Set up to track login attempts, data modifications, and unauthorized access.

## 12. SQL Server Patching & Updates

- **Current Patch Level:** Current cumulative update (CU) or service pack (SP) applied.
- **Patching Schedule:** Frequency and dates for applying SQL Server updates and hotfixes.
- **Upgrade Path:** Future upgrade plans, if applicable (e.g., upgrading from 2017 to 2019).

## 13. SQL Server Integration Services (SSIS)

- **Package List:** List of SSIS packages deployed to the server.
- **Execution Status:** Success/failure logs for package executions.
- **Package Storage:** Where packages are stored (SQL Server, file system, or SSISDB catalog).

## 14. SQL Server Reporting Services (SSRS)

- **Report List:** Inventory of all deployed reports.
- **Data Source Configuration:** Ensure proper configuration of data sources and their security settings.
- **Report Schedules:** Scheduled reports and subscriptions.

## 15. SQL Server Analysis Services (SSAS)

- **Cube List:** List of deployed cubes for data analysis.
- **Processing Schedule:** Schedule for cube processing and refreshes.

## Tools for Inventory Collection

To automate gathering SQL Server inventory, consider using:

- **PowerShell:** Use PowerShell scripts to collect SQL Server information (e.g., `Get-SqlInstance`, `Get-SqlDatabase`).
- **T-SQL Scripts:** Execute T-SQL queries to gather information on databases, logins, jobs, and other server settings.
- **Third-Party Tools:** Tools like **dbatools**, **SQLSentry**, or **Redgate SQL Monitor** can automate much of this inventory management.

## Summary:

Maintaining a comprehensive SQL Server inventory checklist ensures that DBAs have all the essential information about their environment at their fingertips, helping with troubleshooting, audits, capacity planning, and maintenance.

Regular updates and reviews of this checklist are critical to stay on top of system changes.