Best Practices for Microsoft SQL Server

https://campus.barracuda.com/doc/44436829/

Use these tips and recommendations to efficiently protect your Microsoft SQL Server environment using Barracuda Backup.

> **Best Practice**
> Document the SQL Server configuration in detail and any subsequent changes including all applied hotfixes and service packs. Additionally, it is highly recommended that you familiarize yourself with the SQL Server documentation for database management, disaster plans, and recovery.

Microsoft SQL Server protection:

- The Barracuda Backup Agent must be installed on each SQL server
- SQL backups can either leverage Microsoft's Volume Shadow Copy Service (VSS) or Virtual device Interface (VDI) technologies
- Backup up Microsoft SQL using VSS provides full and differentials backups, while using VDI provides full and incremental backups
    - Unless there is a specific need or requirement for differential backups, Barracuda Networks recommends using VDI to protect Microsoft SQL
    - Microsoft recommends using VDI for Microsoft SQL backup; for more information, see the TechNet article
- Perform test restores periodically to ensure disaster recovery and data recovery scenarios produce expected results
- Ensure that SQL is not being backed up by more than one backup solution; using more than one backup solution can cause issues with Log backups and possibly result in data corruption
- Verify backups complete successfully before attempting any maintenance within the SQL environment
- If point-in-time restores are required, the database must be set to use the Full Recovery Model and the Barracuda Backup Agent must be set to perform SQL VDI backups which performs full and transaction log backups
  When databases are set to use the Simple Recovery Model:
    - Full and differential (VSS) backups *can* be performed
    - Transaction log backups *cannot* be performed
- By default, the Barracuda Backup Agent users the Local System account to back up SQL databases
- If SQL is configured to use Mixed Mode Authentication and the Local System account is denied access, the **Microsoft SQL Server Requires Authentication** option must be selected and credentials for the account specified
  If SQL is configured to use a Maintenance Plan for backups, there are two options:
    - The Maintenance Plan must be disabled to allow Barracuda Backup to back up the SQL

database to avoid backup failure
  - Continue to use Maintenance Plans and deselect the Microsoft SQL portion when configuring the SQL data source. Continue to back up File Systems and System State; files created by the Maintenance Plan are backed up as part of the File System backup

Barracuda Backup provides the ability to:

- Select individual or multiple databases for backup
- Protect Microsoft SQL failover clusters

Perform regular **Complete** SQL database backups weekly through Backup Schedules:

- Set your Backup type to **Smart** mode to allow Barracuda Backup to automatically determine whether **Complete** or **Log** backup is appropriate
- Create two schedules for your SQL server; create one schedule to back up once weekly using **Complete** backup mode, and create a second schedule to back up daily using **Log** backup mode
   > Transaction log truncation occurs after every **Log** backup when using Complete Recovery Model and VDI.

- If multiple backups are performed throughout the day, a nightly or every other day **Complete** backup is recommended

Barracuda Backup provides the following Microsoft SQL recovery options:

- Restore a database to any available SQL server with the same or greater version of Microsoft SQL installed
- A database can be renamed and restored to a specific alternate path
- With VDI, any database can be restored to a flat file, .**bak** and .**trn**, and recovered using SQL Management Studio
- With VSS, any database can be restore to a file system, .**mdf** and .**ldf**, and attached using SQL Management Studio
- Point-in-time restores can be done on any database using Full Recovery Model and backed up using Microsoft VDI

When restoring an SQL Differential or Transaction Log backup:

- All previous backups in the backup chain are restored sequentially
- When restoring a transaction backup, all required transaction backups are automatically restored along with the corresponding Full backup
- It is unnecessary to perform multiple restores to get back to a certain backup revision
   > Granular restore of Microsoft SQL Server database record is not supported.