

How to maintain a production database?

The add-on feature, Intelligent Data Service (IDS) in Vijeo Designer™ allows tracking of all operators' inputs and relevant values linked to a process to ensure full traceability.

Intelligent Data Service (IDS) also offers the possibility to store data in a user-defined format Microsoft® SQL Server Database.

However a SQL Database requires some regular maintenance:

➤ **Daily:**

- Perform backups of the SQL database (and log file if using Full Recovery Mode).
- For Full Recovery mode, backup both the SQL database and the transaction log file. The transaction log can grow substantially when left unattended and possibly consume all the hard drive space when there is no restrictions set for auto grow. A nightly backup of the transaction log will free up (truncate) log space for future need. The backup process will not shrink the log file size, but there is really no need to shrink the log file if it is backed up regularly. (Unless the initial size was setup to be too large)
- Make sure to offload the backup files from the SQL server if the backup files are saved locally on the SQL Server.


➤ **Weekly or Monthly:**

- Rebuild the SQL indexes using SQL Maintenance Plan Wizard.
- Review the MDF and LDF files to make sure they haven't exceeded the initial sizes.
- Defragment the SQL drives.

➤ **Quarterly:**

- Check the integrity of the SQL backup by restoring and testing a recent database backup on a test setup.

Note: An unmaintained (or poorly maintained) database can develop problems in one or more of these areas, which can eventually lead to poor application performance or even downtime and data loss.

 Here is an example of maintenance plan from the Microsoft SQL Server website:

Maintenance plans can be created to perform the following tasks:

- *Reorganize the data on the data and index pages by rebuilding indexes with a new fill factor. Rebuilding indexes with a new fill factor makes sure that database pages contain an equally distributed amount of data and free space. It also enables faster growth in the future.*
- *Compress data files by removing empty database pages.*
- *Update index statistics to make sure the query optimizer has current information about the distribution of data values in the tables. This enables the query optimizer to make better judgments about the best way to access data, because it has more information about the data stored in the database. Although index statistics are automatically updated by SQL Server periodically, this option can force the statistics to update immediately.*
- *Perform internal consistency checks of the data and data pages within the database to make sure that a system or software problem has not damaged data.*
- *Back up the database and transaction log files. Database and log backups can be retained for a specified period. This lets you create a history of backups to be used if you have to restore the database to a time earlier than the last database backup. You can also perform differential backups.*
- *Run SQL Server Agent jobs. This can be used to create jobs that perform a variety of actions, and also the maintenance plans to run the jobs.*