How do I maintain / shrink tempdb that grow enormously large in SOLIDWORKS Enterprise PDM environment?

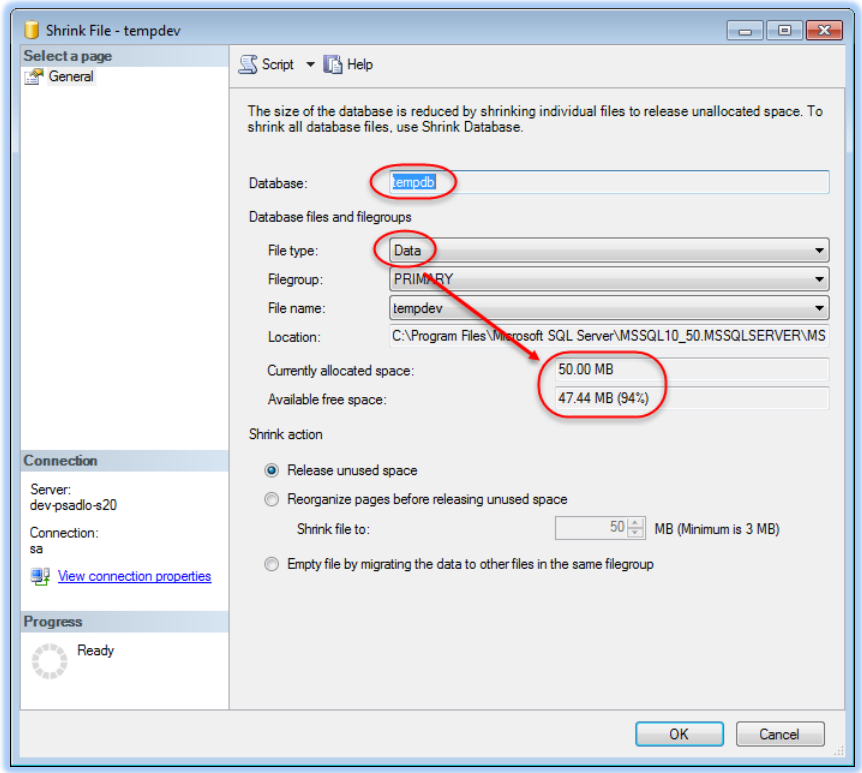
SQL Server tempdb is a system database, automatically created when you install SQL Server. It is a temporary database which is re-created/cleared every time the SQL Server service is started and at a higher level, it could be considered to be the page file for SQL server. The tempdb database is essential to normal SQL Server operation and is used extensively by both internal system-level SQL Server processes and by user-generated requests. In fact, tempdb is often the most active database in a SQL Server instance in terms of sheer numbers of transactions per second. The tempdb is a temporary workspace for storing temporary tables, worktables that hold intermediate results during the sorting or query processing and materialized static cursors, which intern increase the performance for SQL Server. Any user can create the objects in tempdb, but they can only access their own objects unless until they have additional permissions. The tempdb will grow over the time and in some case may become very large.

The following steps allow the user to shrink the tempdb. Keep in mind that shrinking files regularly is not a recommended practice, because these files may probably grow again, also since shrink operations causes' data fragmentation. (Use only in single mode and while SQL server is not used)

1) Observe how much space is actually used by your tempdb vs. allocated. There are multiple ways to do so, below are 2 examples:
   a) use the following SQL query:

```
use tempdb
go
select name, filename as [File location],
   cast (size/128.0 as decimal(10,2)) as [Allocated Size (MB)],
   CAST(FILEPROPERTY(name, 'SpaceUsed')/128.0 as decimal(10,2)) as [Used in (MB)],
   CAST((CAST(FILEPROPERTY(name, 'SpaceUsed')/128.0 as decimal(10,2))/CAST(size/128.0
as decimal(10,2)))*100 as decimal(10,2)) as [% Used]
from sysfiles
go
```

   b) use RMB on tempdb -> Tasks -> Shrink -> Files, then from the dropdown select either 'Data' or 'Log', as you can see from the example below even though a 50MB space is allocated, only about 2.5MB is actually used (those sizes are just for an example and should not be used as a guidelines for your settings as each situation is unique.)



2) Stop the SQL server. Make sure that the server is not in use and also consider that tempdb will affect all databases on your SQL.

NOTE: *Stopping the server may clear the tempdb. Do not confuse clearing vs. deleting. In some cases the tempdb may retain its allocated space and only the content of tempdb will be cleared. In such a case you may consider the following steps.*

3) Start the SQL server again.
4) use RMB on tempdb -> Tasks -> Shrink -> Files, then from the dropdown select either 'Data' or 'Log' depending what file you want to shrink. At this point you may also specify the size that you want the actual file to shrink. This will be the initial allocated space that the tempdb data file ('tempdb.mdf') will occupy on your disk. Keep in mind that setting the initial size of tempdb is different issue, and it is not covered in this solution. You do not want to set it too low to avoid frequent growing and low large to avoid allocating unnecessary disk space.
Note: *If you are uncertain you could set it to lower value and leave it running for week or two and then observer the size of the file(s), and repeat those steps while setting the initial size to the value(s) that were observed after the two weeks operation.*