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**Setup CUSTOMTOOLS  
Database Backup  
Routine**

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**CUSTOMTOOLS**



CUSTOMTOOLS

## Introduction

Taking care of database backups is an important and very sensitive job. We highly recommend to make back up of the CUSTOMTOOLS database on a regular basis so that if any problems occur the CUSTOMTOOLS database can easily be restore.

This document will help you to define how to setup a backup routine to the CUSTOMTOOLS database by a schedule defined by the user.

## What software can I use to do a backup?

To make database backups you can use Microsoft® SQL Management Studio® Express which is a free software. Microsoft® SQL Management Studio® Express 2014 Express can be downloaded [here](#). From the choose the download you want, select MgmtStudio 32BIT\SQLManagementStudio\_x86\_ENU.exe for 32 bit edition or MgmtStudio 32BIT\SQLManagementStudio\_x64\_ENU.exe for 64 bit edition.

Choose the download you want

<input type="checkbox"/> File Name	Size
<input type="checkbox"/> ExpressAndTools 32BIT\SQLEXPRT_x86_ENU.exe	840.8 MB
<input type="checkbox"/> ExpressAndTools 64BIT\SQLEXPRT_x64_ENU.exe	833.2 MB
<input type="checkbox"/> LocalDB 32BIT\SqlLocalDB.msi	36.6 MB
<input type="checkbox"/> LocalDB 64BIT\SqlLocalDB.msi	43.1 MB
<input checked="" type="checkbox"/> MgmtStudio 32BIT\SQLManagementStudio_x86_ENU.exe	673.0 MB
<input checked="" type="checkbox"/> MgmtStudio 64BIT\SQLManagementStudio_x64_ENU.exe	683.9 MB



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### When should we do a CUSTOMTOOLS Database back up?

Database backups can easily be automated and the task can be run daily. Also we highly recommend to make a database backup before performing any upgrade to major release of CUSTOMTOOLS (e.g. From CUSTOMTOOLS 2015 to CUSTOMTOOLS 2016) or when upgrading to Service Packs (e.g. From CUSTOMTOOLS 2016 SP0 to CUSTOMTOOLS 2016 SP1).

### Best practices:

- Backups should not be on the same physical storage as your database files
- Set up schedules to automate your backups
- Use a test server to verify the restore procedure of your backups

### Preparing SQL Server

First, you need to prepare the SQL Server to set up the CUSTOMTOOLS database backup routines. Follow the steps below to prepare the SQL Server:

1. Run **Microsoft SQL Server Management Studio**.
2. Login to your CUSTOMTOOLS database server as the **sa** user.
3. Open the **expressmaint.sql** file with the Management Studio and execute it without making any changes by pressing the **F5** key.
  - The **expressmaint.sql** file is located in TFS (*\$/CUSTOMTOOLS/CT/Misc/Code templates/SQL*)

### Setup the Database Backup Script

The database backup script used to create backup from the CUSTOMTOOLS database is called **ct\_backup.sql**. Copy the **ct\_backup.sql** file to customer's server machine, into the folder where the database backups are going to be created to.

By default the SQL Server database backups target path is **c:\Program Files\Microsoft SQL Server\MSSQL10\_50.<DatabaseName>\MSSQL\Backup\**.



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**TIP:** The `ct_backup.sql` file is also located in TFS folder `$/CUSTOMTOOLS/CT/Misc/Code templates/SQL`.

Once you have copied the backup script file to the customer's server machine, open the script file in the SQL Server management studio and change the database name and the target paths defined in the script to match with the machine where the backups will be created. See the Picture 1 for example. The item that you need to change to match with your environment are highlighted in the picture so do not make any other changes to the script unless it is required by your environment.

```
ct_backup.sql - [...SP6_B605 (sa (84))*]
1 DECLARE @db_name nvarchar(256)
2 SET @db_name = 'CustomTools 2011'
3
4
5 -- Create a backup of CustomTools database
6 EXEC expressmaint
7     @database      = @db_name,
8     @optype        = 'DB',
9     @backupfldr    = 'C:\Program Files\Microsoft SQL Server\MSSQL10_50.CTDATAVAULT\MSSQL\Backup',
10    @reportfldr     = 'C:\Program Files\Microsoft SQL Server\MSSQL10_50.CTDATAVAULT\MSSQL\Backup\reports',
11    @verify         = 1,
12    @dbretainunit   = 'weeks',
13    @dbretainval    = 1,
14    @rptretainunit  = 'months',
15    @rptretainval   = 1,
16    @report         = 1
17
18
19 -- Rebuild all table and view indexes
20 EXEC expressmaint
21     @database      = @db_name,
22     @optype        = 'REINDEX',
23     @reportfldr    = '',
24     @rptretainunit = 'weeks',
25     @rptretainval  = 1,
26     @report        = 0
27
28
29
30 -- Clear history
31 USE [CustomTools 2011]
32 GO
33
34 DELETE FROM ct.file_hst WHERE DATEADD(month, 1, created ) < getdate() AND modified IS NULL
35 DELETE FROM ct.file_hst WHERE DATEADD(month, 1, modified ) < getdate()
36
37 DELETE FROM ct.file_configuration_hst WHERE DATEADD(month, 1, created ) < getdate() AND modified IS NULL
38 DELETE FROM ct.file_configuration_hst WHERE DATEADD(month, 1, modified ) < getdate()
39
40 DELETE FROM ct.file_reference_hst WHERE DATEADD(month, 1, created ) < getdate() AND modified IS NULL
41 DELETE FROM ct.file_reference_hst WHERE DATEADD(month, 1, modified ) < getdate()
42
43 DELETE FROM ct.property_value_hst WHERE DATEADD(month, 1, created ) < getdate() AND modified IS NULL
44 DELETE FROM ct.property_value_hst WHERE DATEADD(month, 1, modified ) < getdate()
```

Picture 1. Configure database backup SQL script



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Once you have made the required changes to the backup script, it is good practice to test the script by running the backup script in the **SQL Server Management Studio** by pressing the **F5** key. If the backup script executes successfully, you can proceed to the next step.

### Create a Batch File to Run the Script

Once you have successfully configured the backup script and done the other steps mentioned above, you need to create a batch file (.bat) used to run the backup script in Windows Scheduled Task. The batch file has to contain at least the following row that executes the **ct\_backup.sql** file by using the SQLCMD command.

```
'C:\Program Files\Microsoft SQL Server\100\Tools\Binn\Sqlcmd.exe /S .\CUSTOMTOOLS /U sa /P pmc#CTSW2010! /i C:\Program Files\Microsoft SQL Server\MSSQL10_50.<DatabaseName>\MSSQL\Backup\ct_backup.sql'
```

After creating the batch file, try it by running it from the Windows command prompt. If the batch file executes fine, create a new task to the **Windows Task Scheduler (Start, All Programs, Administrative Tools, Task Scheduler)** based on the backup plan defined by the customer. Once the task is added to the scheduler, run the task once as a test from the task scheduler's list to ensure that the backup is really created by the scheduled task.

**TIP:** You can verify the created file by opening the backup path with the Windows Explorer and checking the last modified time of the database backup file created by the database backup script.

### Restore a Database Backup (SQL Server Management Studio)

To restore a database backup, we highly recommend you to follow the steps defined by [Microsoft](#).