**DB Maintenance Plans[**[**edit**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&veaction=edit&vesection=1) **|** [**edit source**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&action=edit&section=1)**]**

* Below are the maintenance plan setup instructions

Once the plans are complete, please run the daily and weekly backup plans to ensure they are working. Contact the stakeholder and confirm that they do want the index rebuild / statistics update task to run, we recommend that it’s run on Sunday after the DB backup is expected to complete. This would generally be about 2AM. This should also be confirmed by the stakeholder. NOTE: For DB’s that are not customer facing, we will set the SES Database Index Maintenance plan to run weekly on Sundays at 2AM.

* Note for AlwaysOn SQL clusters: The maintenance plans are AlwaysOn-aware. So, configure the same set of plans on each node of the cluster as laid out in these instructions. When they run, the maintenance plans know to check the availability group's AUTOMATED\_BACKUP\_PREFERENCE setting, and will perform the backup according to that setting. More info on that here:

<https://blogs.msdn.microsoft.com/alwaysonpro/2014/01/02/maintenance-plan-does-not-backup-database-or-log-of-database-defined-in-availability-group/>

**Setting up the Daily Maintenance Plan[**[**edit**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&veaction=edit&vesection=2) **|** [**edit source**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&action=edit&section=2)**]**

1. Connect to SQL with an administrative account.
2. Expand **management**, right click **Maintenance Plans** and select new maintenance plan:
3. Type **SES Daily Database Maintenance** and click OK.
4. On the left side of SSMS (or in the toolbar along the top), you should see **Toolbox**. Expand that and drag the following tools to the workspace:
   * Back Up Database Task
     + Maintenance Cleanup Task
5. Connect the green line from the bottom of the checkdb task to the backup task, and the green line from the bottom of the backup task to the cleanup task.
6. Double click the backup task to configure it. Select **Differential** as the backup type.
7. Hit the dropdown and select again all databases and ignore them when they aren’t online.
8. Click OK then select the destination tab. Select “Create a backup file for every database” and check “Create a sub-directory for each database”. Select the correct folder (typically E:\SQLBackup\Diff) and set the backup file extension to **diff.bak**.
9. Select the “Options” tab and set backup compression “Compress backup.”
10. Click OK, then double click the cleanup task to configure.
11. Set folder (typically E:\SQLBackup\Diff), set file extension to **diff.bak**, select “include first-level subfolders” and set the file age to **7 days**.
12. Click ok then click the small calendar icon under schedule to set the schedule as **Weekly**.
13. Check each day from **Monday through Saturday**, uncheck Sunday, leave all others default.
14. Click OK then save the maintenance plan.
15. Confirm that the job shows up under the jobs section and that the maintenance plan shows up under the maintenance plans section.
16. One Addition – After the Maintenance Cleanup Task, we want to add a statistics update section.

**Setting up the Weekly Maintenance Plan[**[**edit**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&veaction=edit&vesection=3) **|** [**edit source**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&action=edit&section=3)**]**

1. Connect to SQL with an administrative SA account.
2. Expand **management**, right click **Maintenance Plans** and select new maintenance plan:
3. Type **SES Weekly Database Maintenance** and click OK.
4. Again, open the **Toolbox** and drag the following tools to the workspace:
   * Check Database Integrity Task
     + Back Up Database Task
       - Maintenance Cleanup Task
         * Reorganize Index Task

Update Statistics Task

History Cleanup Task

1. Connect the green line from the bottom of the checkdb task to the backup task, the green line from the bottom of the backup task to the cleanup task, the green line from cleanup to reorganize, the green line from reorganize to update stat task, and from update stat task to history cleanup.
2. Double click the checkdb task to configure it.
   * Select “All databases” and check “Ignore databases where the state is not online.
   * Click OK -> OK
3. Double-click the backup task to configure it. Select **Full** as the backup type. Select All databases and ignore any that are offline.
   * Click OK then select the destination tab. Select “Create a backup file for every database” and check “Create a sub-directory for each database”. Select the correct folder (typically E:\SQLBackup\Full) and set the backup file extension to **bak**.
   * Select the options tab and select “Compress backup”. Then click OK.
4. Double click the “maintenance Cleanup Task” section.
   * Select the folder (usually E:\SQLBackup\Full) set the file extension to **bak**, check to include first level sub directories. Set the File age to **7 days**.
5. Double-click the Reorganize Index Task to configure it.
   * Select “All databases” and check “Ignore databases where the state is not online. Leave other options default. Hit OK
6. Double-click the Update Statistics Task to configure it.
   * Select “All databases” and check “Ignore databases where the state is not online. Leave other options default. Hit OK
7. Double-click the History Cleanup Task to configure it. Leave defaults? Hit OK
8. Click OK and hit the little calendar next to the schedule to set the schedule.
9. Set it to run **Weekly** on Sunday at 12:00:00AM (it should be like this by default)
10. Click OK and save this maintenance plan.
11. Confirm that it has created both the job and the new maintenance plan.
12. Run the SES Weekly Database Maintenance job to set a baseline.
13. Once that has complete successfully, run the SES Daily Database Maintenance Plan job to confirm that they are both configured correctly. Confirm that they ran in order for us to be confident that the plans will run successfully according to the schedule. Triage and correct any issues seen with running either of those jobs.

**Setting up the Index Maintenance Plan[**[**edit**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&veaction=edit&vesection=4) **|** [**edit source**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&action=edit&section=4)**]**

<https://osgwiki.com/wiki/Rebuild_Index_.SQL>

**Transaction Log Backup -- Required for SQL AlwaysOn Clusters[**[**edit**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&veaction=edit&vesection=5) **|** [**edit source**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&action=edit&section=5)**]**

* This typically won't be required for most SQL servers, as TRN backups only work for those databases in Full recovery mode. We configure most servers with Simple mode, so this won't apply to those.

1. Connect to SQL with an administrative account.
2. Expand **management**, right click **Maintenance Plans** and select new maintenance plan:
3. Type **SES TRN Maintenance** and click OK.
4. On the left side of SSMS (or in the toolbar along the top), you should see **Toolbox**. Expand that and drag the following tools to the workspace:
   * Back Up Database Task
     + Maintenance Cleanup Task
5. Connect the green line from the bottom of the backup task to the cleanup task.
6. Double click the backup task to configure it. Select **Transaction Log** as the backup type.
7. Hit the dropdown and select again all databases, and ignore them when they aren’t online.
8. Click OK then select the destination tab. Select “Create a backup file for every database” and check “Create a sub-directory for each database”. Select the correct folder (typically E:\SQLBackup\TRN) and set the backup file extension to **trn**.
9. Select the “Options” tab and set backup compression “Compress backup”
10. Click OK, then double-click the cleanup task to configure.
11. Set folder (typically E:\SQLBackup\TRN), set file extension to **trn**, select “include first-level subfolders” and set the file age to **1 hour**.
12. Click OK, then click the small calendar icon under schedule to set the schedule as **weekly**.
13. Check each day from **Monday through Saturday**, uncheck Sunday.
14. Click OK then save the maintenance plan.
15. Confirm that the job shows up under the jobs section and that the maintenance plan shows up under the maintenance plans section.

**Testing Maintenance Jobs[**[**edit**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&veaction=edit&vesection=6) **|** [**edit source**](https://osgwiki.com/index.php?title=SQL_Maintenance_Plans&action=edit&section=6)**]**

* Connect to SSMS, expand SQL Server Agent & Jobs below it
* Right click each job and click "start job at step"
  + Start with the Full backup, then run the Diff, then the TRN if applicable
  + Also run the Index job and see if it works
* Mitigate any issues