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  January 3, 2019  Comments 0  Michal Sadowski  8022 Views

## Unattended installation of SQL Server

It is a third post on series related to installation and configuration of SQL Server installations.

This series is for professionals who start their journey with SQL Server administration and also for those who want to extend and structure their knowledge on SQL Server administration.

## Preparations

We are starting with the following assumptions:

1. All steps described in this first [blog post](#) has been configured
2. ISO file with SQL Server binaries and Cumulative Update files are available – steps how to download it are described in previous [blog post](#)
3. There is a connection between Windows server and domain controller
4. No issues with connectivity with Active Directory domain (no AD-related errors in System Event Log)

## Use case

Imagine a situation when you are tasked to install a dozen SQL Server instances. Using an approach described in previous [blog post](#) installation can take a significant amount of resources and time, also there is a probability of errors due to typos (e.g. in directory paths, etc.)

There are two options that can be used for the installation:

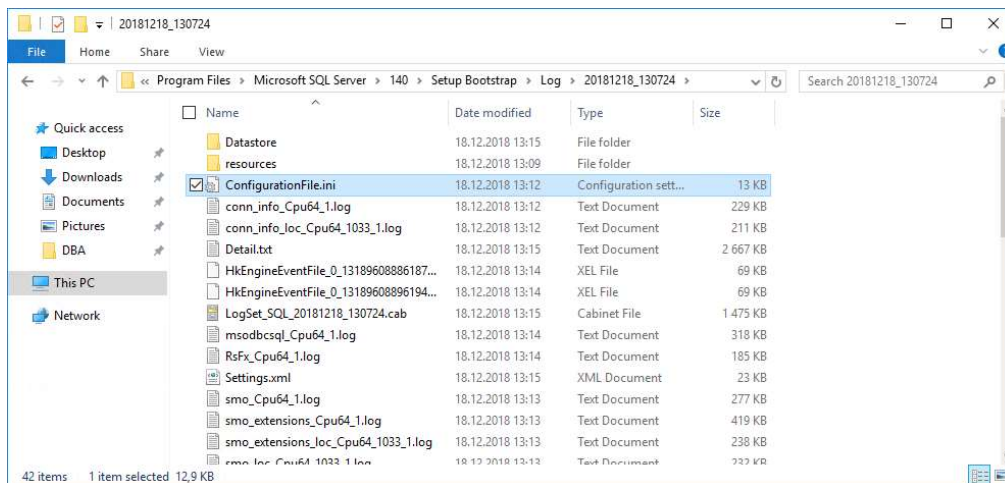
1. Using ConfigurationFile.ini
2. Using command line parameters to setup.exe file

Below there are step-by-step instructions on how to install SQL Server using both options.

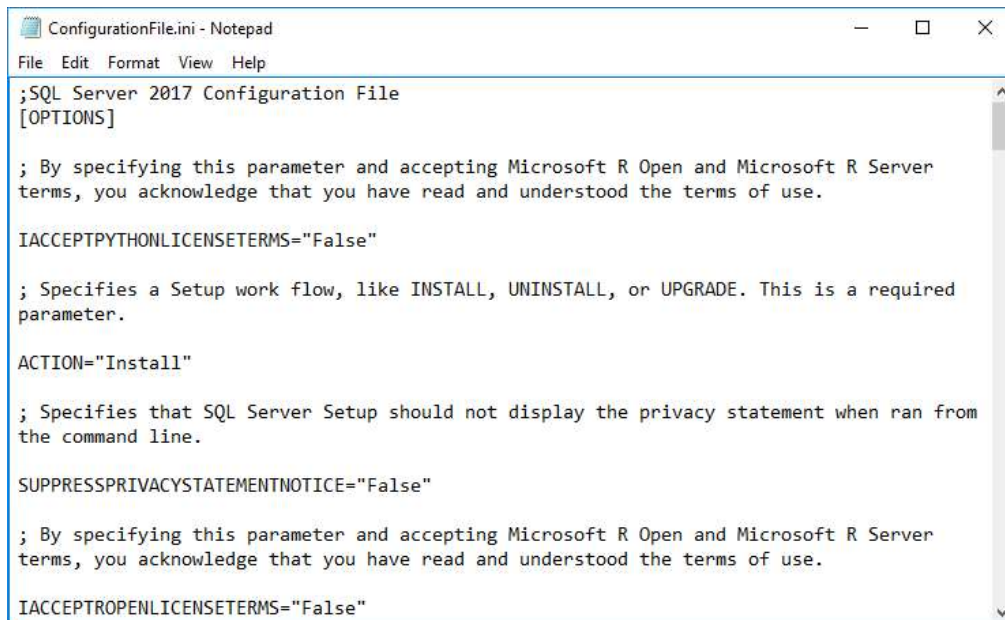
## Installation of SQL Server using ConfigurationFile.ini

In the previous post on one of the last configuration screen (*Ready to Install*), I have marked the path to ConfigurationFile.ini generated automatically by the installer. This file contains all of the settings that you have selected during installation using GUI.

Let's go to **C:\Program Files\Microsoft SQL Server\140\Setup Bootstrap\Log<date\_time>** location



Let's have a look at the ConfigurationFile.ini file:



```
ConfigurationFile.ini - Notepad
File Edit Format View Help
;SQL Server 2017 Configuration File
[OPTIONS]

; By specifying this parameter and accepting Microsoft R Open and Microsoft R Server
terms, you acknowledge that you have read and understood the terms of use.

IACCEPTPYTHONLICENSETERMS="False"

; Specifies a Setup work flow, like INSTALL, UNINSTALL, or UPGRADE. This is a required
parameter.

ACTION="Install"

; Specifies that SQL Server Setup should not display the privacy statement when ran from
the command line.

SUPPRESSPRIVACYSTATEMENTNOTICE="False"

; By specifying this parameter and accepting Microsoft R Open and Microsoft R Server
terms, you acknowledge that you have read and understood the terms of use.

IACCEPTROPENLICENSETERMS="False"
```

Inside file we have several sections that are interesting for us:

1. QUIET – determines if a user interface is disabled
2. QUIETSIMPLE – Setup will display progress only, without any user interaction
3. UIMODE – defines how User Interface will be displayed, requires that QUIETSIMPLE is set to True
4. UpdateEnabled – allows installation of updates
5. UpdateSource – specifies the location of updates
6. INDICATEPROGRESS – specifies that the detailed log will be shown on the console

Having all these parameters we can start installing SQL Server using different modes

## Manual installation with populated configuration settings

In this sections following parameters will be used:

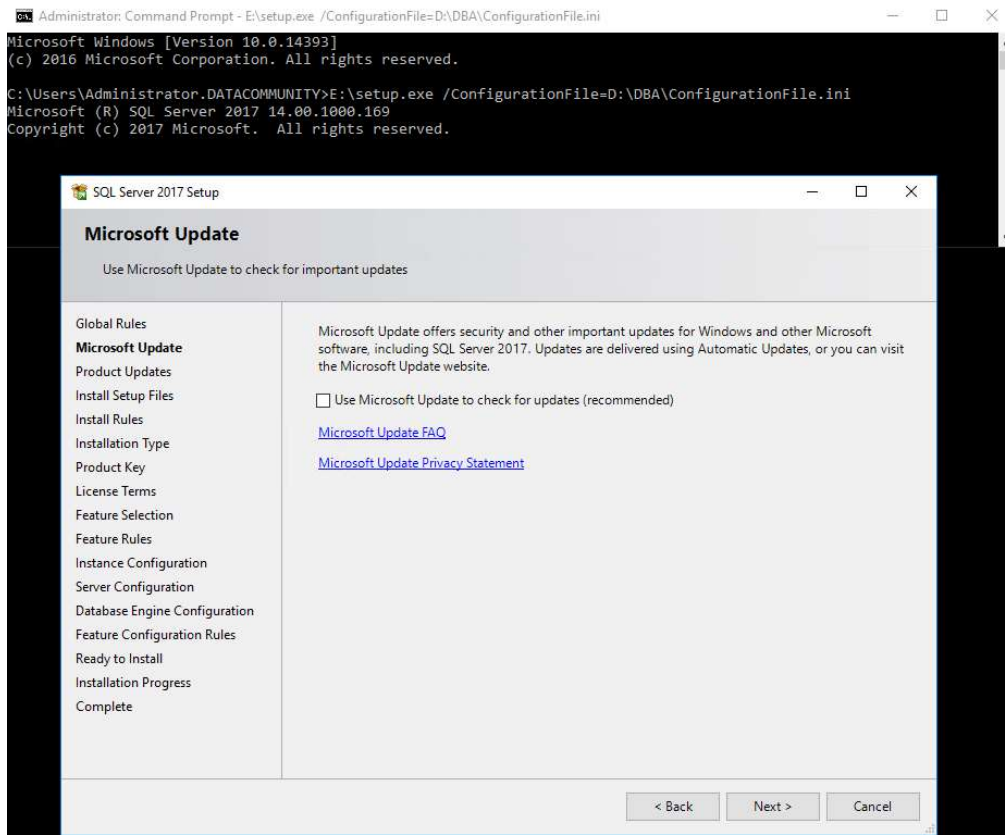
1. QUIET="False"
2. QUIETSIMPLE="False"
3. UIMODE="Normal"
4. UpdateEnabled="False"
5. UpdateSource="MU"
6. INDICATEPROGRESS="False"

To start installation run command line and provide the following command:

```
1
2 E:setup.exe /ConfigurationFile=D:DBAConfigurationFile.ini
3
```

where E: is the path to SQL Server binaries.

After running above command, GUI installation will start with values already provided



All of the configuration values are taken from ConfigurationFile.ini.

## Manual installation with populated configuration settings using latest Cumulative Update located in D:DBAUpdates directory

In this sections following parameters will be used:

1. QUIET="False"
2. QUIETSIMPLE="False"
3. UIMODE="Normal"
4. UpdateEnabled="True"
5. UpdateSource="D:DBAUpdates"
6. INDICATEPROGRESS="False"

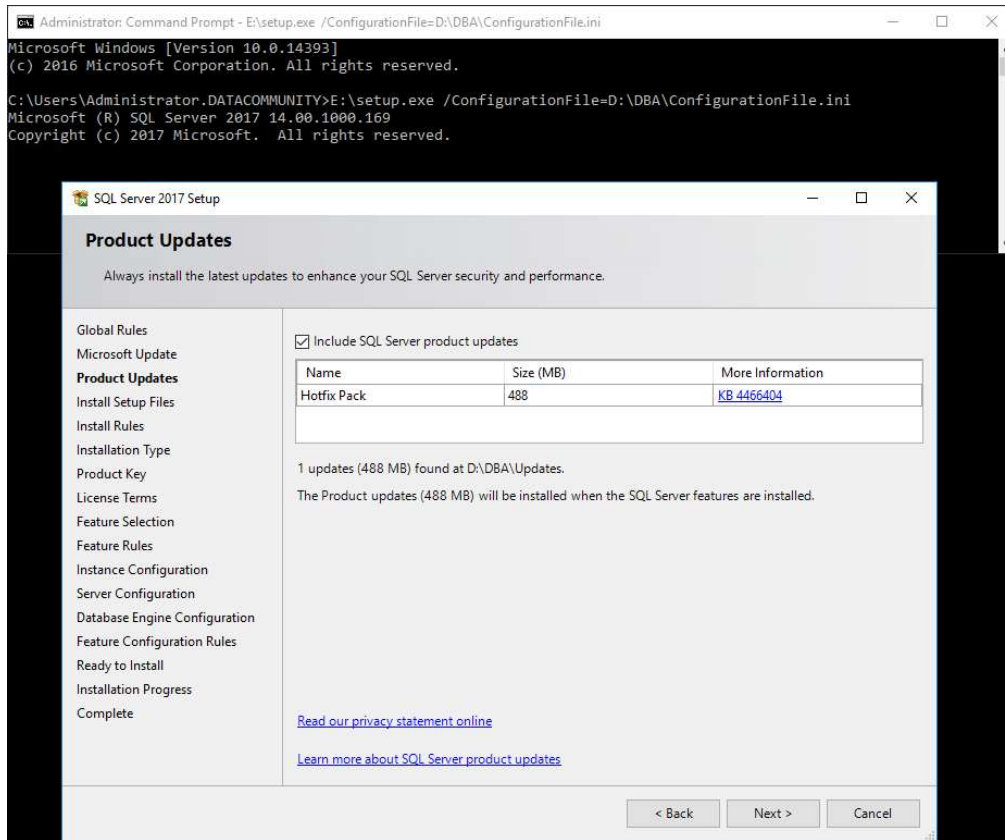
To start installation run command line and provide the following command:

```
1  
2 E:\setup.exe /ConfigurationFile=D:\DBAConfigurationFile.ini  
3
```

where E: is the path to SQL Server binaries

After running above command, GUI installation with start with values already provided.





All of the configuration values are taken from ConfigurationFile.ini.

## Automated installation using latest Cumulative Update from D:DBAUpdates directory with progress indication

In this sections following parameters will be used:

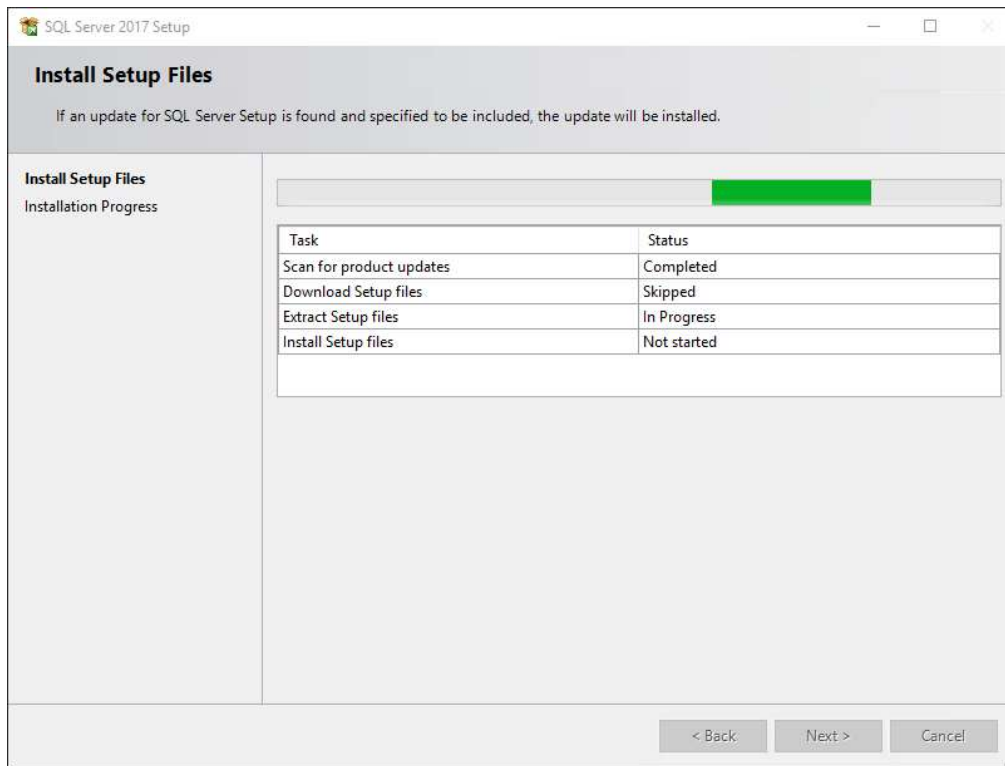
1. QUIET="False"
2. QUIETSIMPLE="True"
3. ;UIMODE="Normal" *<- commented out*
4. UpdateEnabled="True"
5. UpdateSource="D:DBAUpdates"
6. INDICATEPROGRESS="False"

To start installation run command line and provide the following command:

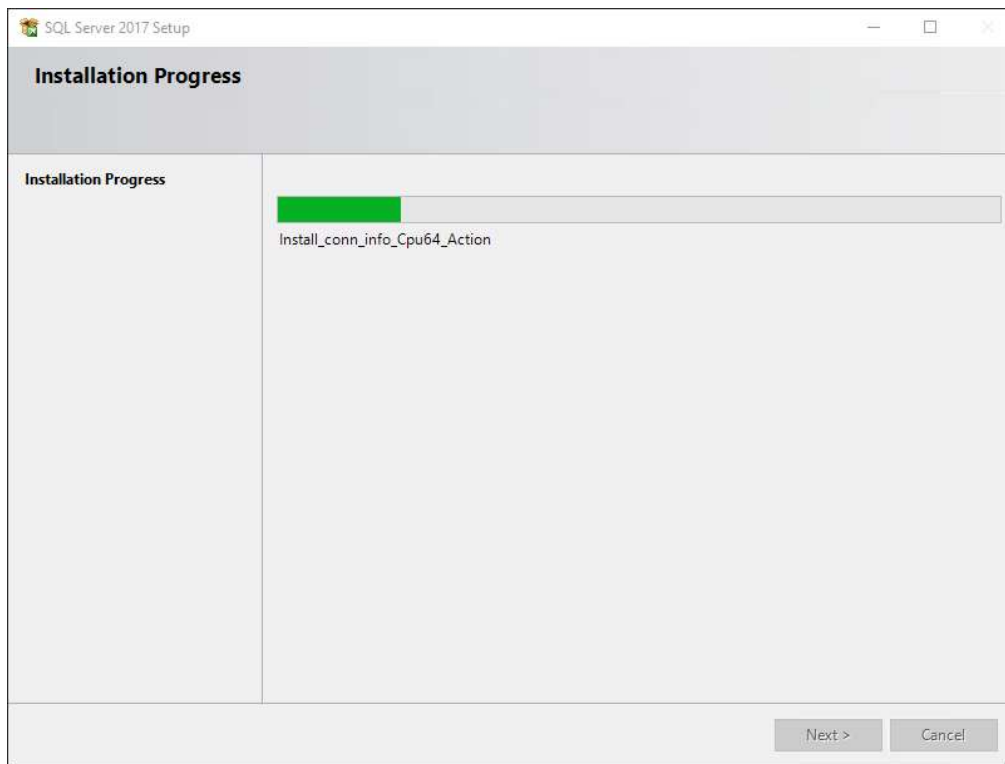
```
1
2 E:\setup.exe /ConfigurationFile=D:\DBAConfigurationFile.ini /IAcceptSQLServerLicenseTe
3
```

where E: is the path to SQL Server binaries

After running above command, the installation will start using values from the configuration file.



After setting up all installation file, installation of SQL Server itself will start.



After completing this step SQL Server is ready for use.

## Fully automated installation using latest Cumulative Update from D:DBAUpdates directory

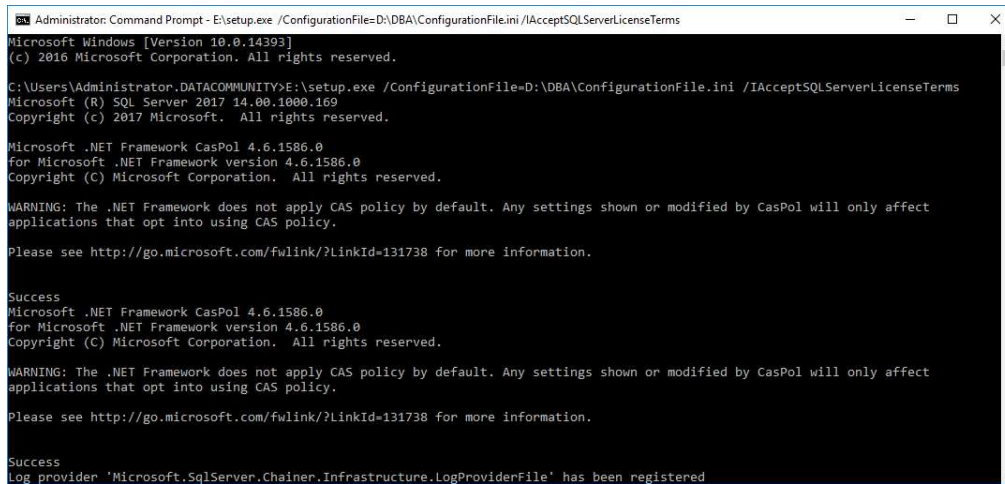
In this sections following parameters will be used:

1. QUIET="True"
2. QUIETSIMPLE="False"
3. ;UIMODE="Normal" <- *commented out*
4. UpdateEnabled="True"
5. UpdateSource="D:DBAUpdates"
6. INDICATEPROGRESS="True"

To start installation run command line and provide the following command:

```
1  
2 E:\setup.exe /ConfigurationFile=D:\DBAConfigurationFile.ini /IAcceptSQLServerLicenseTe  
3
```

Where E: is the path to SQL Server binaries



```
Administrator: Command Prompt - E:\setup.exe /ConfigurationFile=D:\DBAConfigurationFile.ini /IAcceptSQLServerLicenseTerms  
Microsoft Windows [Version 10.0.14393]  
(c) 2016 Microsoft Corporation. All rights reserved.  
  
C:\Users\Administrator.DATACOMMUNITY>E:\setup.exe /ConfigurationFile=D:\DBAConfigurationFile.ini /IAcceptSQLServerLicenseTerms  
Microsoft (R) SQL Server 2017 14.00.1000.169  
Copyright (c) 2017 Microsoft. All rights reserved.  
  
Microsoft .NET Framework CasPol 4.6.1586.0  
for Microsoft .NET Framework version 4.6.1586.0  
Copyright (c) Microsoft Corporation. All rights reserved.  
  
WARNING: The .NET Framework does not apply CAS policy by default. Any settings shown or modified by CasPol will only affect  
applications that opt into using CAS policy.  
  
Please see http://go.microsoft.com/fwlink/?LinkId=131738 for more information.  
  
Success  
Microsoft .NET Framework CasPol 4.6.1586.0  
for Microsoft .NET Framework version 4.6.1586.0  
Copyright (c) Microsoft Corporation. All rights reserved.  
  
WARNING: The .NET Framework does not apply CAS policy by default. Any settings shown or modified by CasPol will only affect  
applications that opt into using CAS policy.  
  
Please see http://go.microsoft.com/fwlink/?LinkId=131738 for more information.  
  
Success  
Log provider 'Microsoft.SqlServer.Chainer.Infrastructure.LogProviderFile' has been registered
```

There will be no GUI window displayed, the only information is shown on the console. Once all steps complete SQL Server is ready for use.

## Installation of SQL Server using a command line

An alternative option is to use command line parameters to install SQL Server. In the following example, I am going to install SQL Server with indication of installation.

For the installation following parameters are provided:

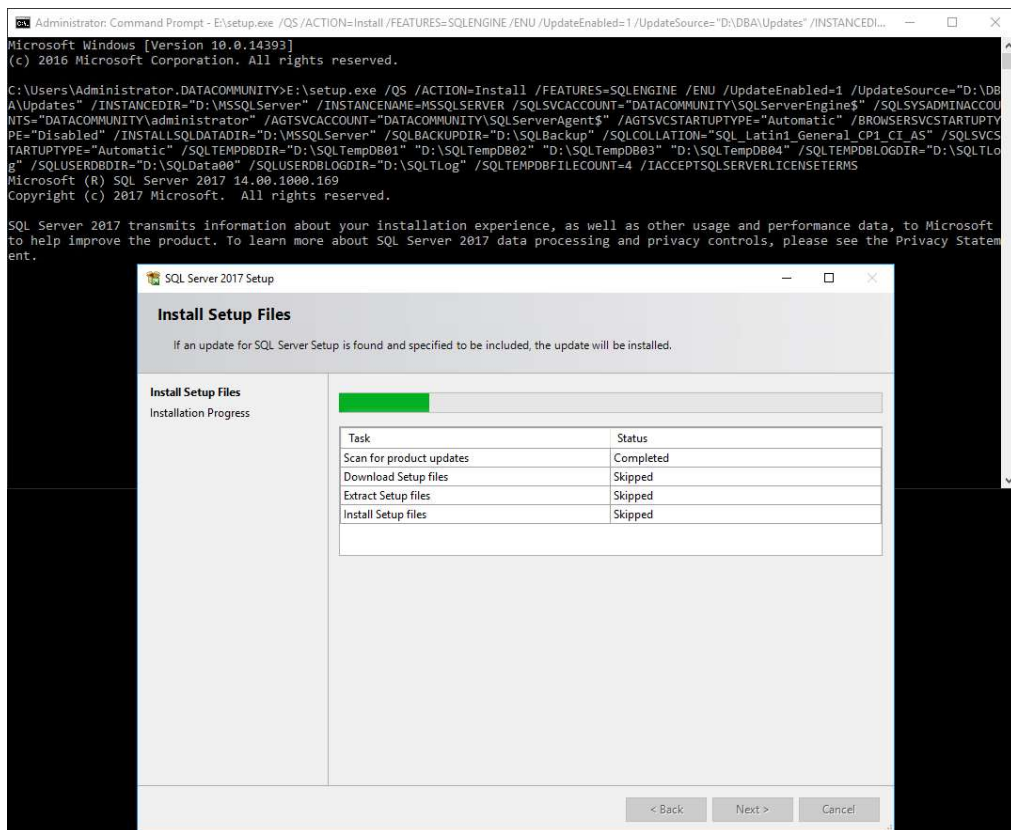
- QS
- ACTION=Install
- FEATURES=SQLENGINE
- ENU
- UpdateEnabled=1
- UpdateSource="D:DBAUpdates"
- INSTANCEDIR="D:MSSQLServer"
- INSTANCENAME=MSSQLSERVER

- SQLSVCACCOUNT="DATACOMMUNITYSQLServerEngine\$"
- SQLSYSADMINACCOUNTS="DATACOMMUNITYadministrator"
- AGTSVCACCOUNT="DATACOMMUNITYSQLServerAgent\$"
- AGTSVCSTARTUPTYPE="Automatic"
- BROWSERSVCSTARTUPTYPE="Disabled"
- INSTALLSQLDATADIR="D:\MSSQLServer"
- SQLBACKUPDIR="D:\SQLBackup"
- SQLCOLLATION="SQL\_Latin1\_General\_CP1\_CI\_AS"
- SQLSVCSTARTUPTYPE="Automatic"
- SQLTEMPDBDIR="D:\SQLTempDB01" "D:\SQLTempDB02" "D:\SQLTempDB03" "D:\SQLTempDB04"
- SQLTEMPDBLOGDIR="D:\SQLLog"
- SQLUSERDBDIR="D:\SQLData00"
- SQLUSERDBLOGDIR="D:\SQLLog"
- SQLTEMPDBFILECOUNT=4
- IACCEPTSQLSERVERLICENSETERMS

Having all parameters together, command will look like as follows:

```
1
2 E:\setup.exe /QS /ACTION=Install /FEATURES=SQLENGINE /ENU /UpdateEnabled=1 /UpdateSou
3
```

After running above command, installation will start



After installation, the progress window will be closed and SQL Server is ready for install.



This option my preferred way to install SQL Server. If you are interested in PowerShell script for unattended SQL Server installation based on provided parameters, visit [my GitHub repository](#).

## Summary

In complex environments installation of SQL Server instances can be a tedious task that can be easily automated. This blog post extensively describes methods of possible installation. Also, smaller environments can benefit from this approach by minimizing the time needed for installation, keeping quality on the same level. Every time when you want to use unattended installation SQL Server, check this blog post for all steps.

## Links

More information about steps described above can be found on the following sites:

[Install SQL Server using a configuration file](#)

[Install SQL Server from the Command Prompt](#)

<https://github.com/michalsadowski/SQLBuild>

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## ABOUT AUTHOR



**Michal Sadowski** 6 posts


Senior Database Platform Engineer, leader of Krakow chapter of Data Community Krakow - PASS Chapter. With more than 10 years of experience in Microsoft technology, helps in advisory for performance optimization on database and application levels. Holds many Microsoft certificates including MCSA: Windows Server 2008/2012/2016, MCSA: SQL Server 2012/2014/2016, MCSE: Data Platform and MCT.

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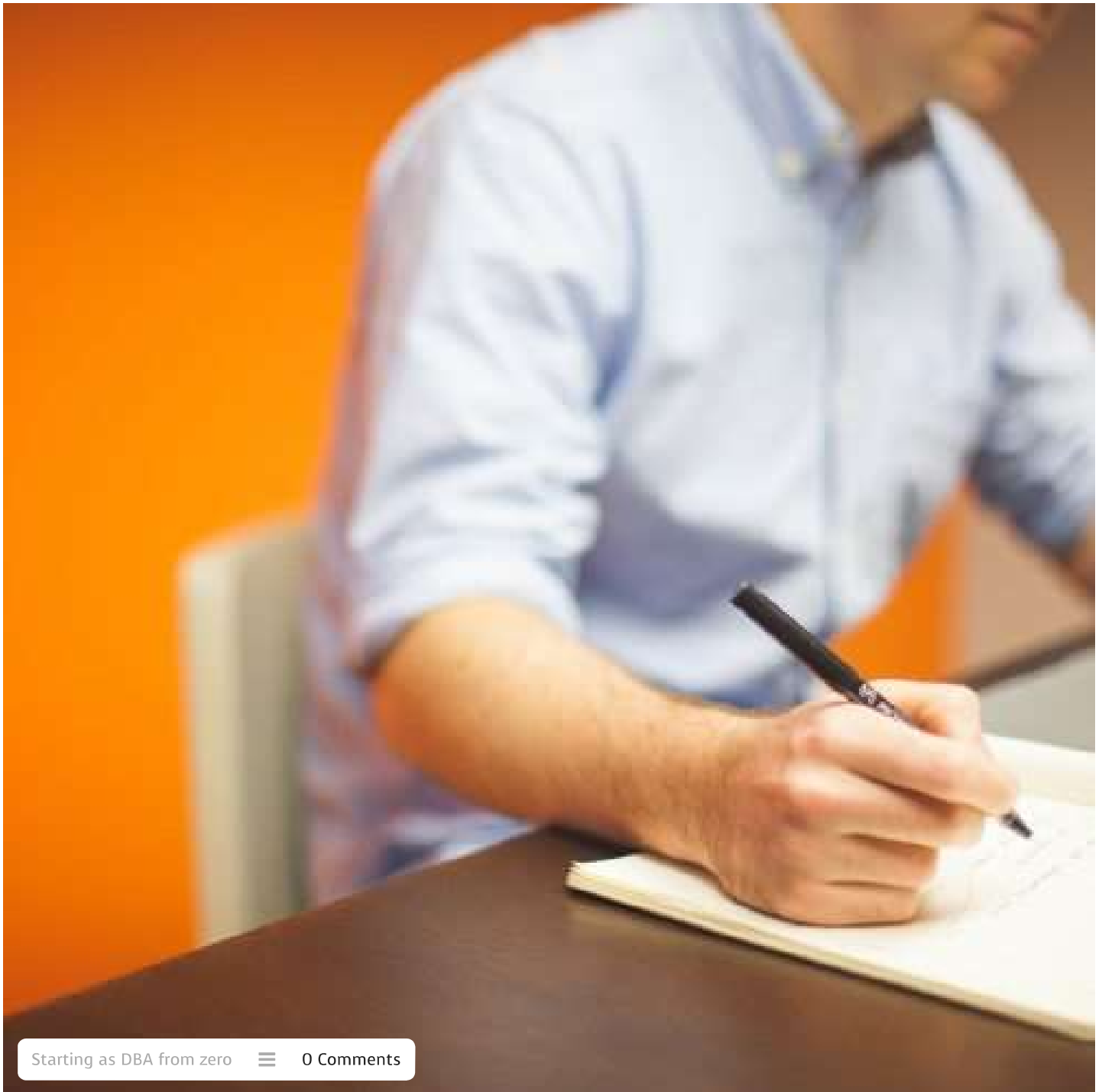
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## Last Week Reading (2019-10-27)

Hello and good morning! We have Tuesday morning, which means I experienced a delay in this post. But finally, it is out and have a look at how much stuff



Starting as DBA from zero  0 Comments

## Installation SQL Server client tools

It is the fourth post on series related to installation and configuration of SQL Server client tools required. This series is for professionals who start their journey with SQL Server



News 0 Comments

## Last Week Reading (2019-06-30)

Another week and another round-up over data area. Take a look at what I have found for you last week. Press Azure DevOps – Build SSIS project (CI) Let's build

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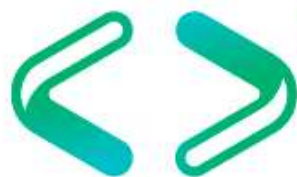


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- 30/10/2019  
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- 29/10/2019  
08:03



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