

Sistemas de Informação II (LEI)

Information Systems (ECS)

Lab Classes

1 - Software Installation

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For the Lab Classes you'll need the following software

1. Visual Studio (VS)
2. SQL Server (complete, with Business Intelligence tools) (SS)
3. PowerBI Desktop
4. Excel

The PCs of the lab classes are ready to use:

- For SQL Server the login is “sa” and the password is “1234”
- However, **you need to install all this software on your own PC's** in order to grant to follow up your own work and not the one of other colleagues along the classes, as they are all sequential. Moreover, the software is needed for the evaluation practical work!

Install by following the order above (VS -> SS -> PowerBI) and according to the instructions on the following slides:

SQL Server and Visual Studio recommended Versions

1. Visual Studio 2019, 2017 or 2012
2. SQL Server 2019, 2017 or 2012 Developer Edition (this version is free)
3. SQL Server 2019 or 2017 Data Tools (for 2012 versions, not needed)
4. Other versions such as 2016 or 2013 are also possible. However, in order to avoid possible problems, the SQL Server and the Visual Studio versions (year) should be the same
5. In case of SQL Server 2019, and once the applications above described have been successfully installed, you'll need to install SQL Server 2019 Management Studio (SSMS) too
6. Versions 2012 should be used only if you couldn't succeed installing 2017 or 2019. In this case I will give you a link where SQL Server and Visual Studio 2012 will be available.

The links for the downloads are:

1. Download of Visual Studio
2. <https://visualstudio.microsoft.com/vs/older-downloads/>
3. Download of SQL Server (SS) Developer Edition
4. <https://www.microsoft.com/en-us/sql-server/developer-tools>
5. Download of SQL Server Datatools
 1. For 2017: <https://docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt?view=sql-server-ver15>
 2. For 2019 (see Slide 10): <https://docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt?view=sql-server-ver15#ssdt-for-visual-studio-2019>
6. Download of SQLServer 2019 Management Studio (needed for SS 2019 version only!)
7. <https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15#download-ssms>
8. Download of PowerBI Desktop
9. <https://powerbi.microsoft.com/en-us/downloads/> (choose the Desktop Version it is the only free one)

SQL Server Installation (1)

- Before installing SQL Server, if there is any version of SQL Server or SQL Server Express on your PC, begin by uninstalling it, completely and carefully, using the Windows Control Panel;
- During install you'll see that SQL Server Setup begins by testing the PC, Windows and some of the installed software. If there is any red error (fatal error) don't go on: it must be corrected first! However, it is normal a yellow error (warning) about the Windows firewall. This warning doesn't matter. You may proceed;
- The install is a little bit long and heavy process. Carefully read and follow the following instructions.

SQL Server Installation (2)

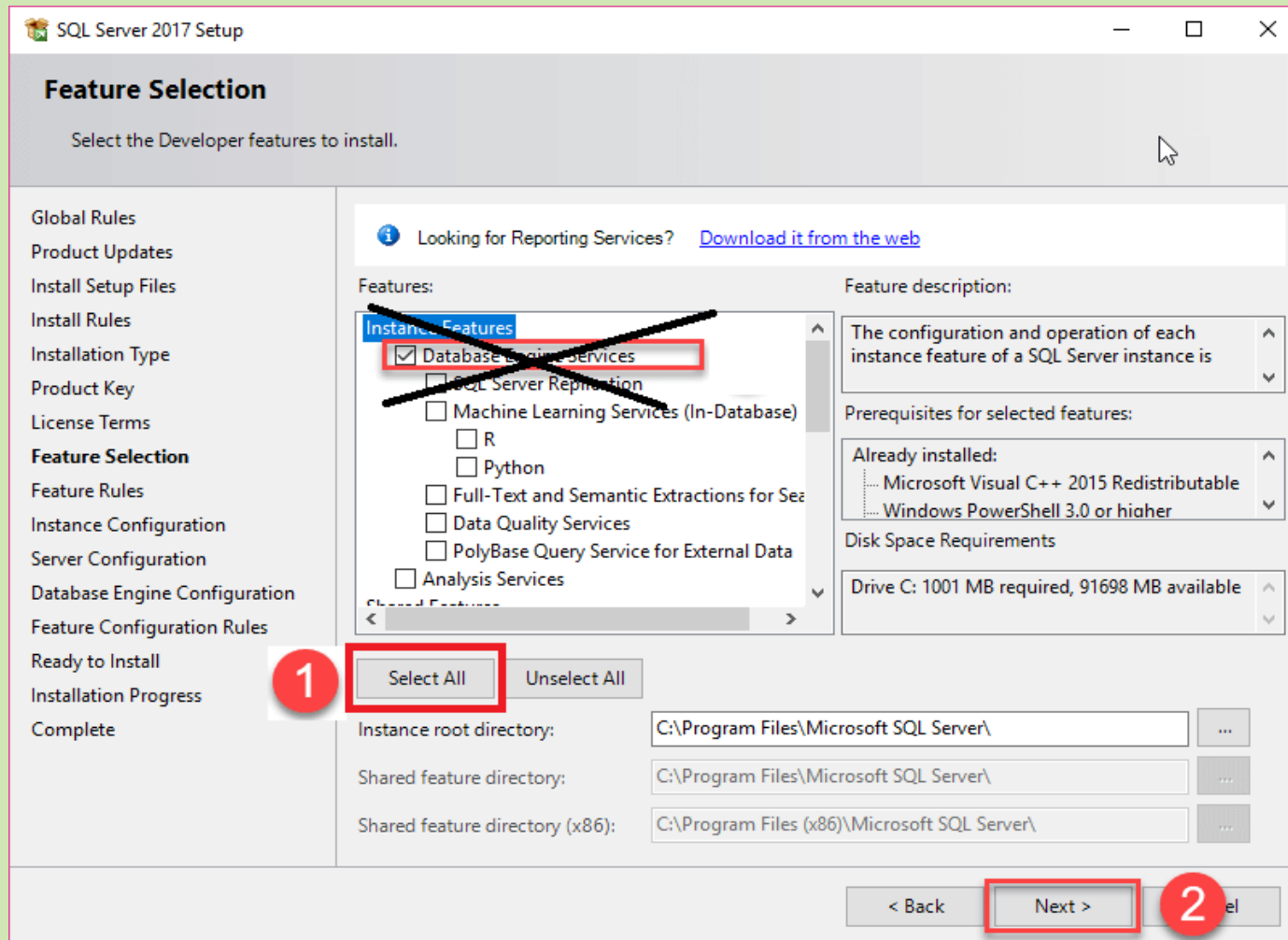
- To choose what to install: “Select All”
- For 2017 and 2019 versions there are 3 installation modes: Tabular, Multidimensional and Data Mining, and Power Pivot. It is mandatory to choose the **Multidimensional and Data Mining** mode. Any other mode won’t be good for our classes and you’ll have to uninstall and restart all over again!!
- In the Authentication Mode change it for **Mixed Authentication**. This way the installation process will create an administrator always called “sa” and will ask you for a password: you must create it at your own wish, and keep it. Do not forget this pwd: it will be frequently needed in the classes!
- The install will also display, for several times, “Add User Account”. Choose “**Add current user**”
- All the other default values, showed by the system, may be accepted
- Some detailed installation hints in the next slides

SQL Server 2017 Detailed Instalattion hints (use if needed)

- <https://www.sqlservertutorial.net/install-sql-server/>

This tutorial may be helpfull.
However:

1. Instead of choosing Database Engine Services, you must choose **Select All**
2. Some steps after, choose **Multidimensional and Data Mining** mode
3. This tutorial finishes by intalling SQL Server Management Studio. This should not be needed for this 2017 version

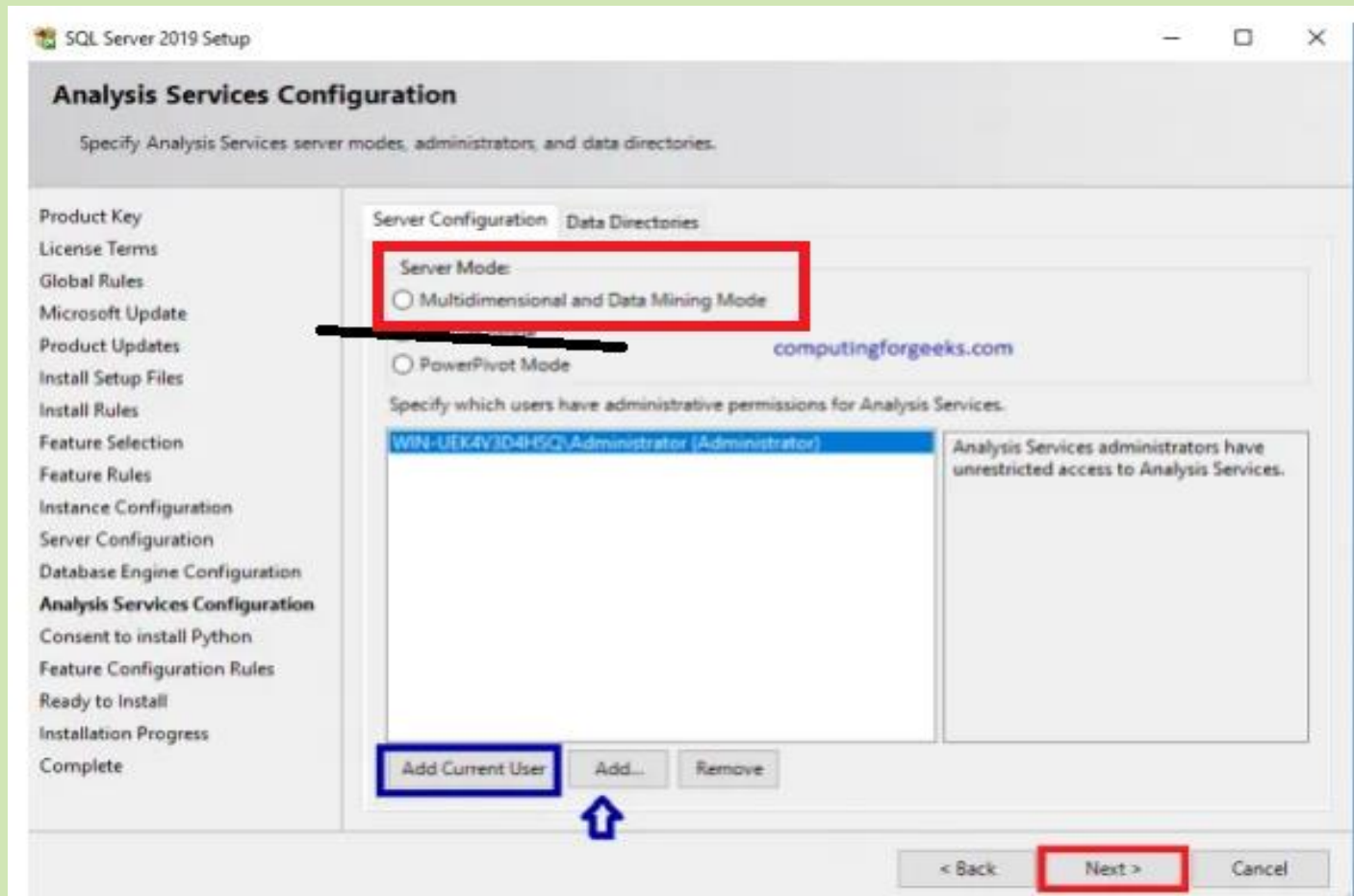


SQL Server 2019 Detailed Instalattion hints (use if needed)

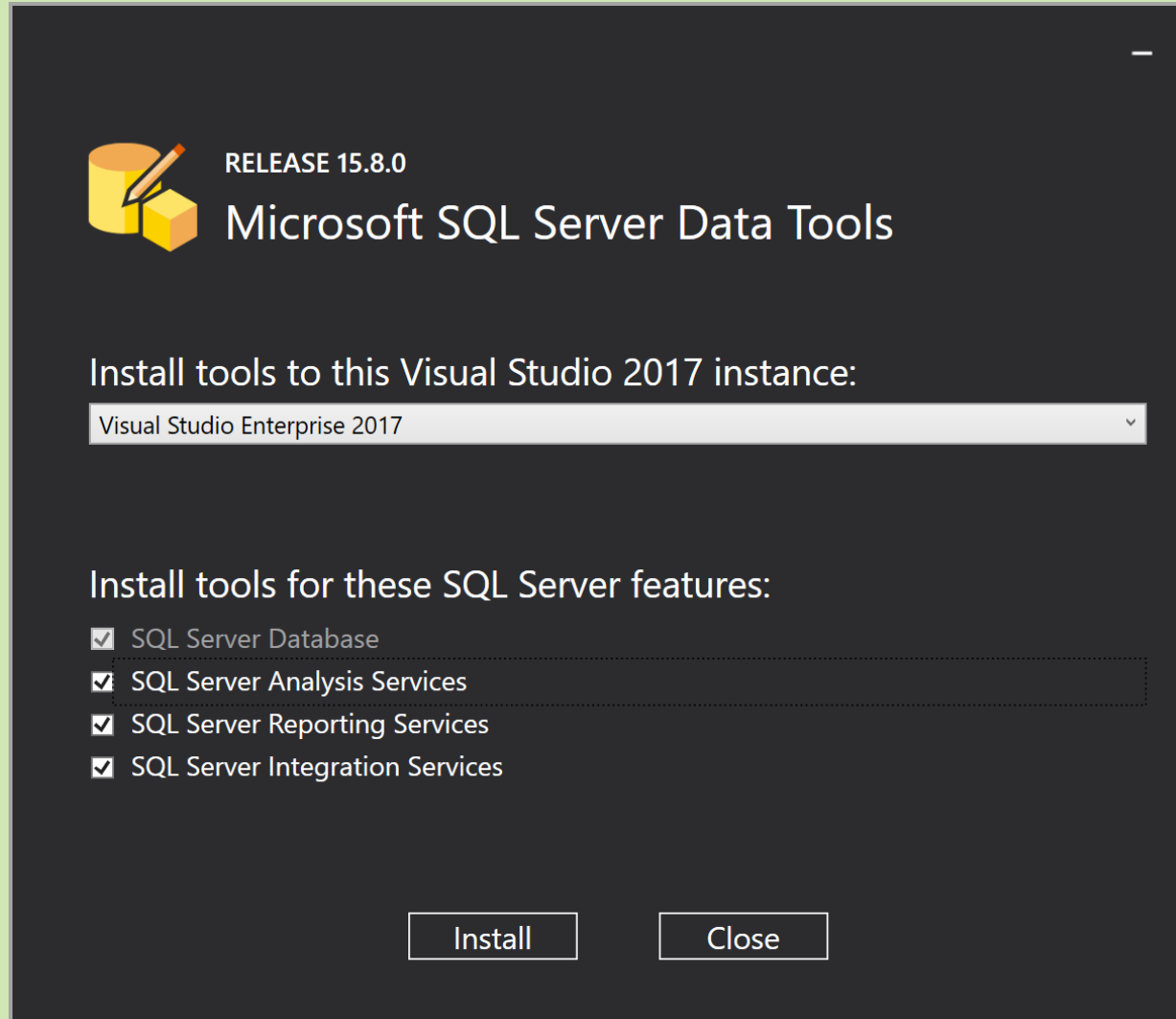
- <https://computingforgeeks.com/install-sql-server-developer-edition-on-windows-server/>

This tutorial may be helpfull.
However:

1. Instead of choosing Tabular Mode you must choose **MultiDimensional and Data Mining Mode**
2. After finishing, proceed to points 7. 8. in pg. 4 and install SSMS (SS Management Studio)



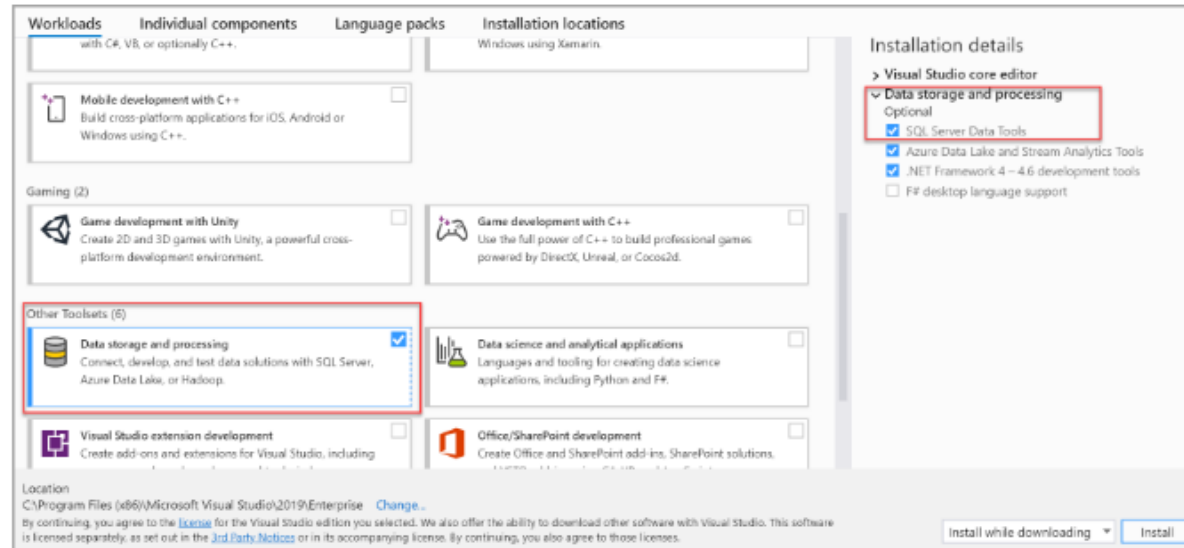
SQL Server Data Tools (SSDT) Installation 2017



1. Needed for SQL Server 2017
2. Download the correct version of Datatools following the link provided in the previous slides
3. Install as shown, by selecting:
 1. Analysis Services
 2. Reporting Services
 3. Integration Services

SQL Server Data Tools (SSDT) Installation 2019

3. Select SQL Server Data Tools under Data storage and processing in the list of workloads.



For Analysis Services, Integration Services, or Reporting Services projects, you can install the appropriate [extensions](#) from within Visual Studio with **Extensions > Manage Extensions** or from the [Marketplace](#).

- [Analysis Services](#)
- [Integration Services](#)
- [Reporting Services](#)

1. Needed for SQL Server 2019
2. The tools must be downloaded separately

<https://docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt?view=sql-server-ver15#ssdt-for-visual-studio-2019>

3. In the page of this link look for the figure on left. Install, one by one, following each link, the extensions

1. Analysis Services
2. Reporting Services
3. Integration Services

SQL Server Management Studio (SSMS) Installation

- This installation is needed for SQL Server 2019 only!
- This is a very straightforward process. Just download SSMS following the provided link in the previous slides, and install it.

Power BI Desktop Installation

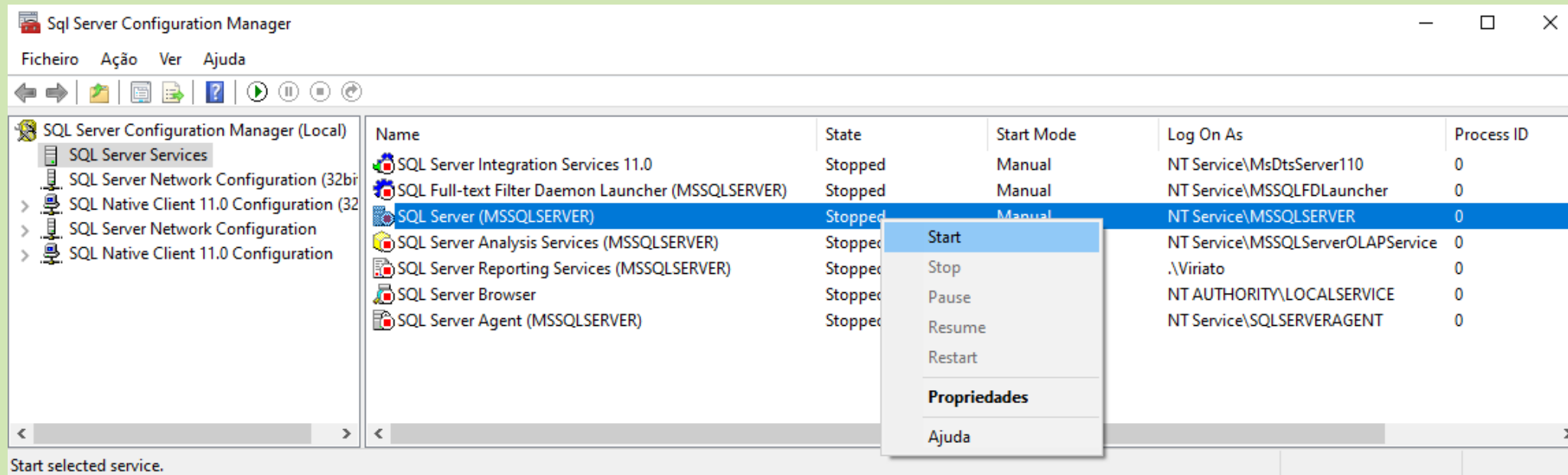
- Just download PowerBI following the provided link in the previous slides, and install it. Be sure to choose Desktop version, the only free version provided!

Excel Installation

- Excel is not available for free and opensource similar versions won't work for our purposes. So, if you have it on your PC, fine! If not ... that won't be very important... try to solve it if possible ...

Verifying the Installations (1)

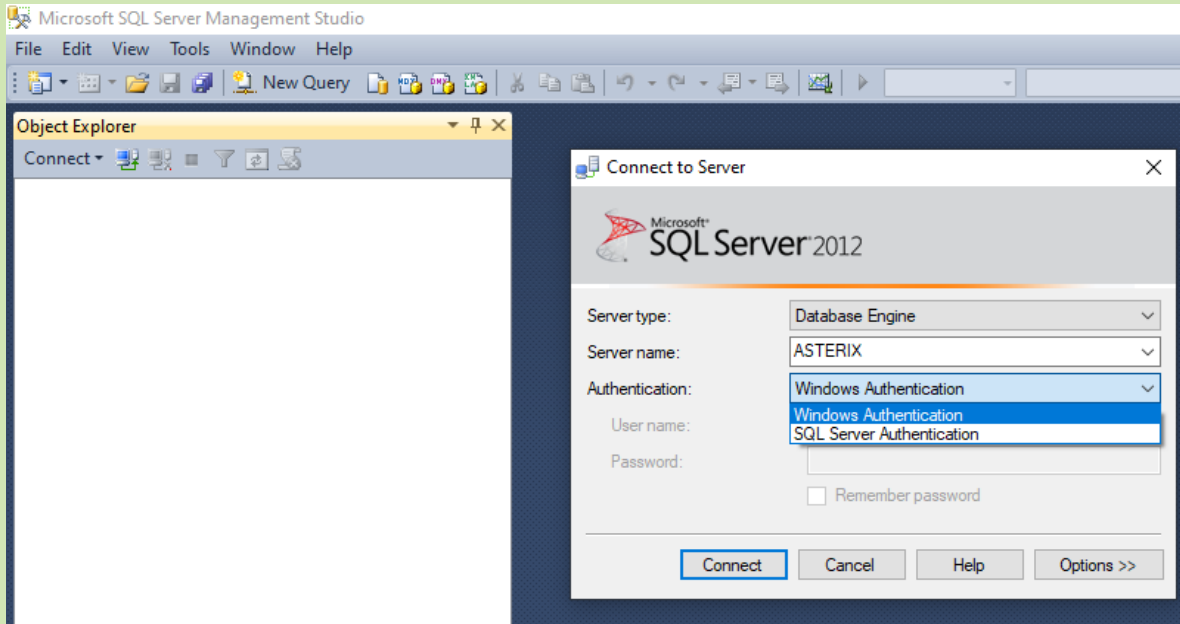
- Start the SQL Server Configuration Management. It should look like this:



- Right click the SQL Server service (database) and “Start”
- Right click also the Analysis Services, Integration Services, Agent, and “Start”
- Try to Start the SQL Server browser. If it is not active, open the Windows Services (Control Panel), look for it, change the mode to Manual. Return here and Start it.

Verifying the Installations (2)

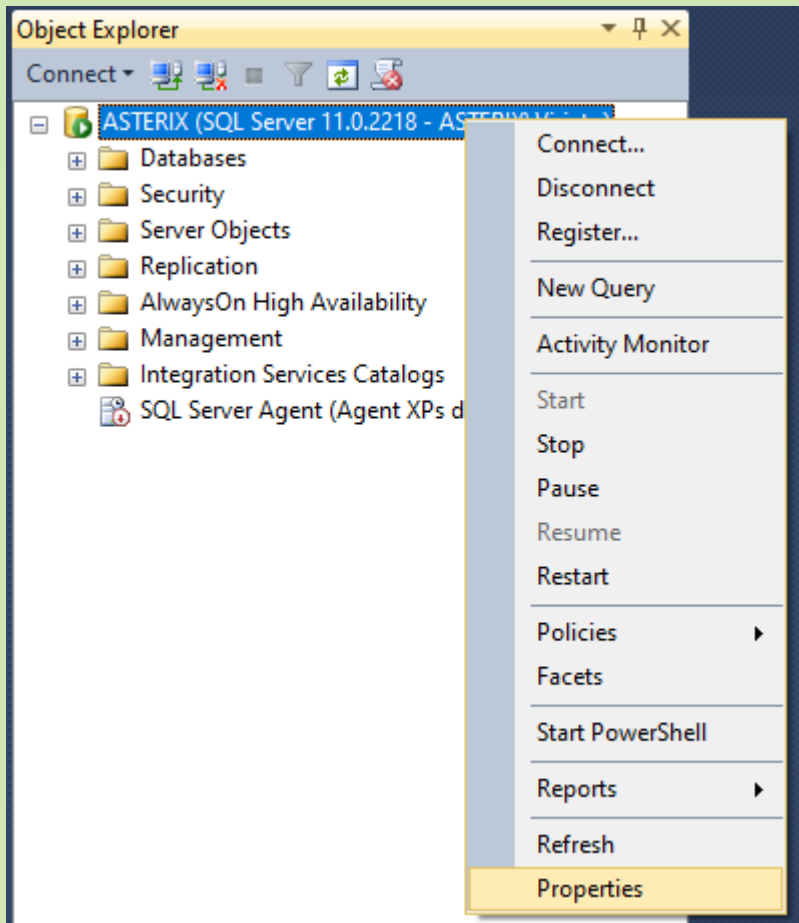
- Start the SQL Server Management Studio. It should look like this:



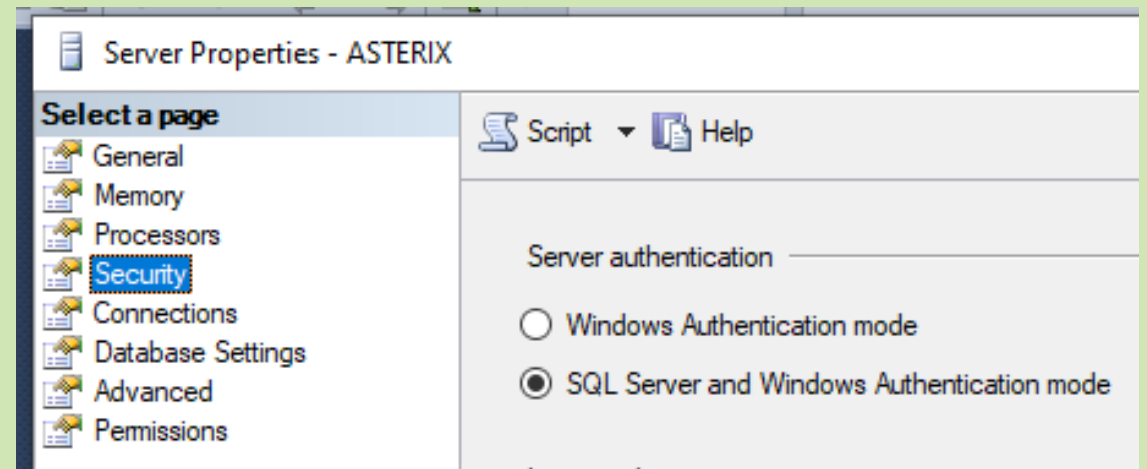
- Try to Login using Windows Authentication. It should work!
- Close the Management Studio, start it again, and try to login as SQL Server Authentication, User name “sa” and using the password you created when installing the SQL Server. It should work!

Verifying the Installations (3)

- If the login using SQL Server Authentication failed: start by logging in using the Windows authentication. Then:

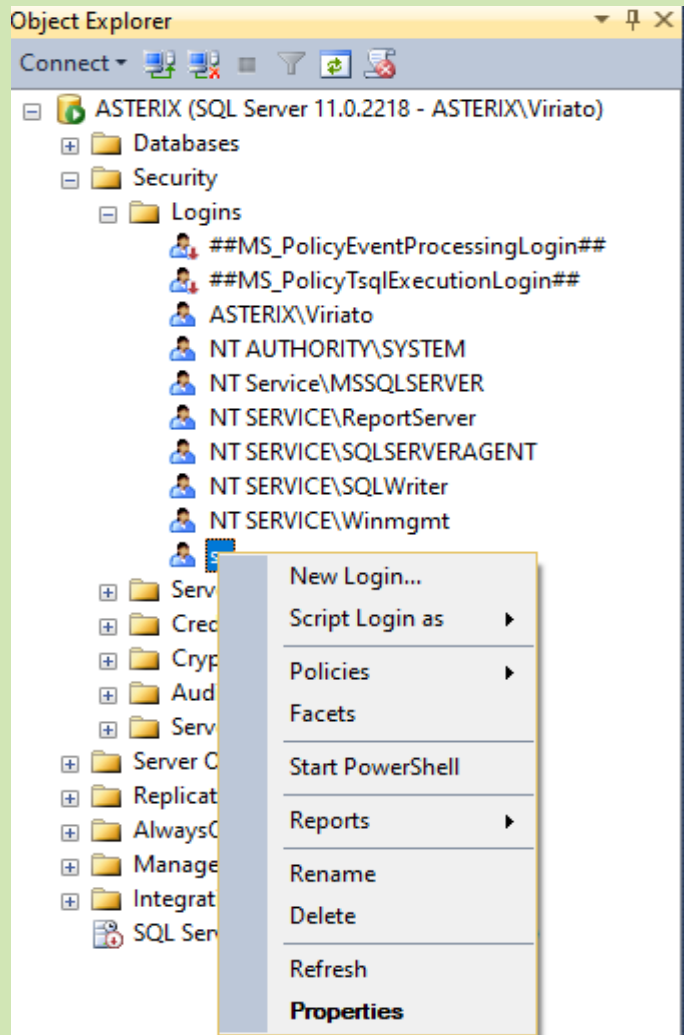


1. Right click the server name and Properties
2. Select Security and change it to SQL Server and Windows authentication

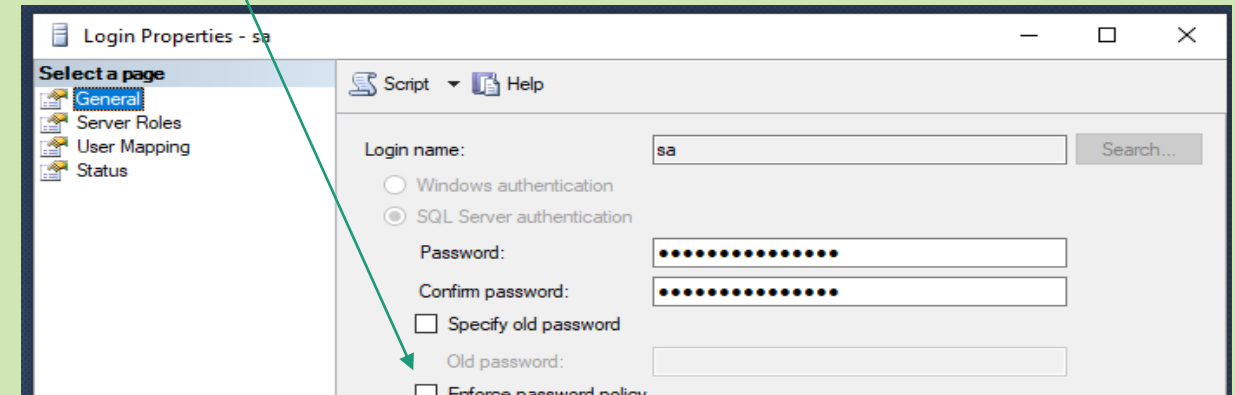


Verifying the Installations (4)

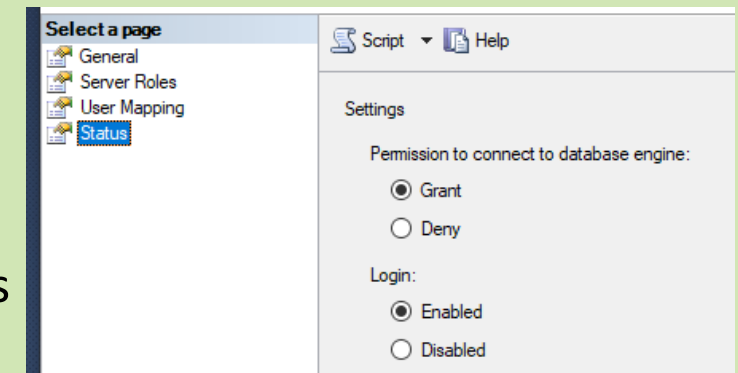
3. Close the form and then select Logins, sa, Properties



1. In General, uncheck the “Enforce Password Policy” . WARNING: do not touch the Password and Confirm Password Fields, unless you want explicitly to change the password!!

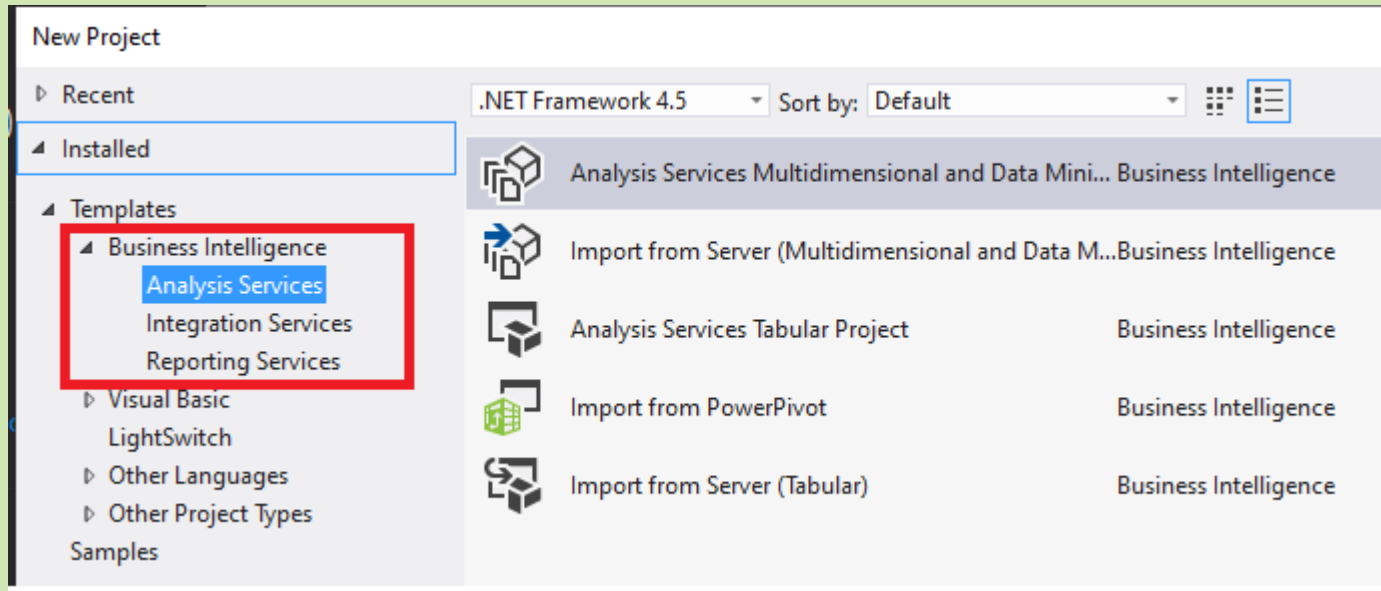


2. In Status configure as shown
3. Save, close the Management Studio and try again to login as “sa” and your password



Verifying the Installations (5)

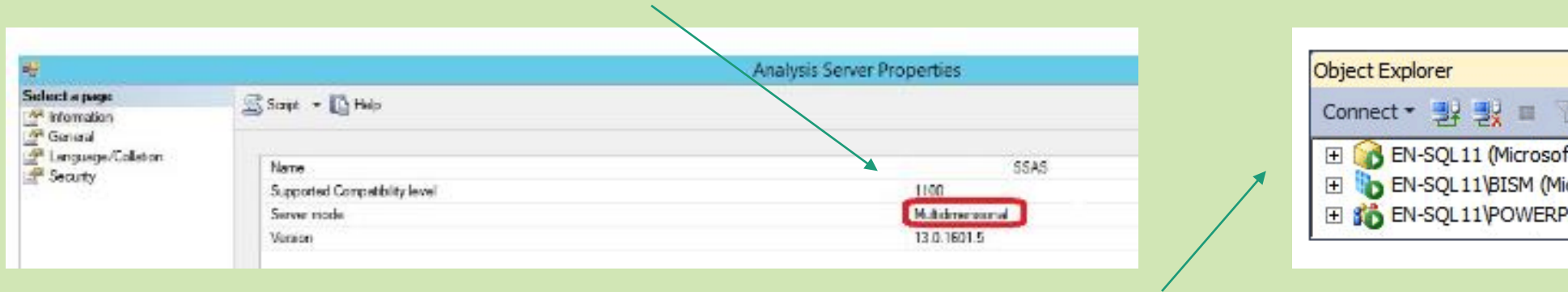
- Start the Visual Studio running it as Administrator, and choose File -> New -> Project



- You'll have to find something similar to the figure above, i.e. there must be some options to create Business Intelligence projects: Analysis, Integration and Reporting Projects
- If this doesn't show, the problem is with the installation of Datatools, or its version (year), or the SQL Server has not been installed in the Multidimensional and DataMining mode. See what happened, uninstall and reinstall as needed until it works ...

Verifying the Installations (6)

- To verify the mode of SQL Server Installation, in the Management Studio right click the server name, Properties, and you'll see its mode on a form moreless like this:



- You can also look at the icon near the server name: Multidimensional and DataMining (a cube, first line of the figure) , or table (tabular mode) or powerpivot (third line)
- You can try to change its mode without uninstalling and installing, by editing the msmdsrv.ini of SQL Server, that should be located in some folder similar to C:\Program Files\Microsoft SQL Server\MSAS13.TABULAR\OLAP\Config
- Stop de engine. Then change the Deployment mode property from 2 (tabular) or any other value, to 0 (multidimensional). At your own risk ... ☺ this is not a Microsoft recomendation ... Restart the engine.
- Some details here (and other sites) <https://www.sqlservercentral.com/articles/how-to-change-an-analysis-services-instance-to-tabular-mode>

Software Installation

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