

Instalacja środowiska MS SQL Server w maszynie wirtualnej w systemie Windows 10 PRO (22H2)

Oprogramowanie wykorzystywane na laboratorium:

- MS SQL Server (np. 2019 DEV)
 - Analysis Services
 - Integration Services
 - Reporting Services
- SQL Server Management Tools
- SQL Server Data Tools + Visual Studio
- Instalacja bazy danych AdventureWorks
- Instalacja Power BI
- Instalacja MS Office (Excel)


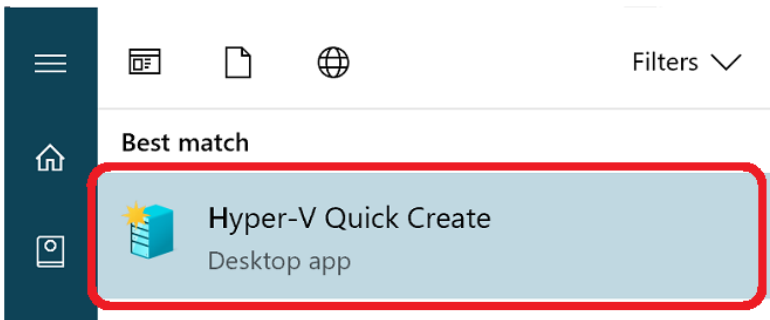
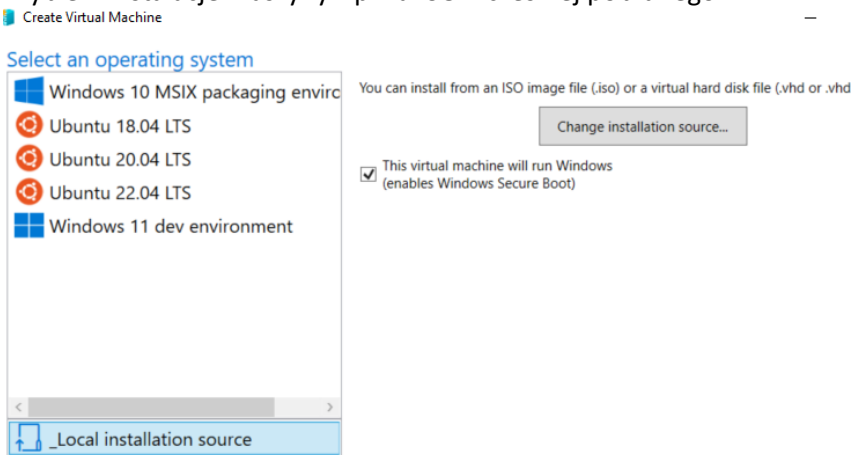
Oprogramowanie jest dostępne na stronie:

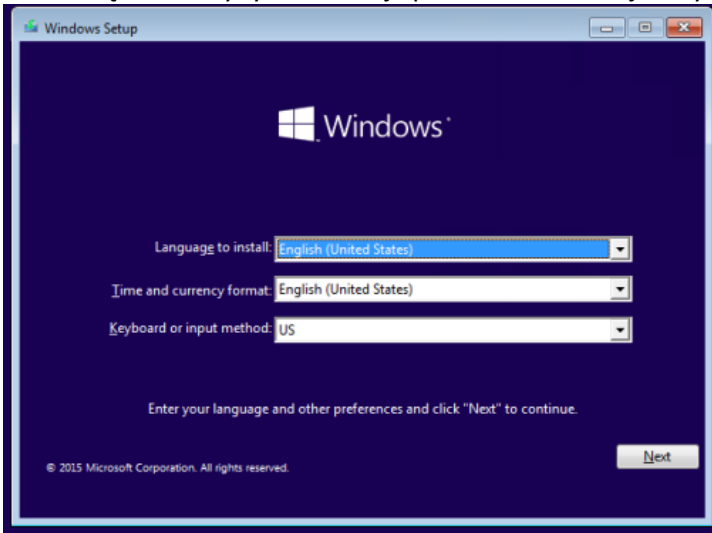
<https://azureforeducation.microsoft.com/devtools>

Należy się zarejestrować przy wykorzystaniu adresu poczty z domeny „pwr.edu.pl”.

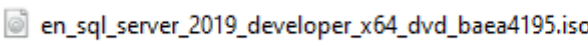
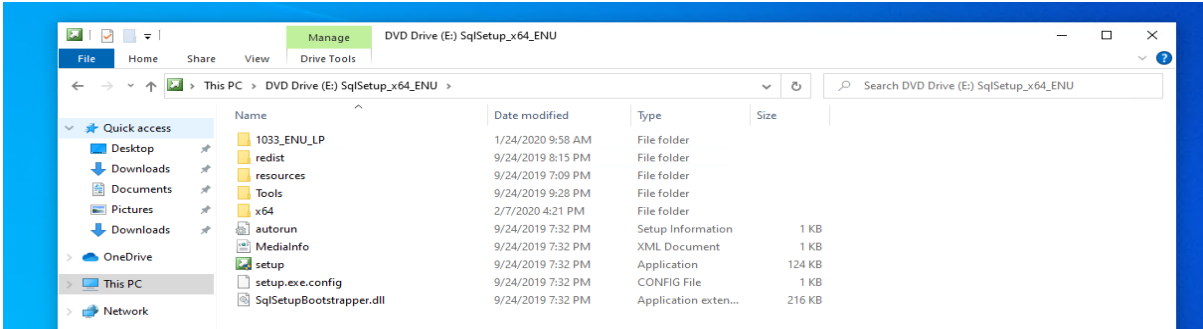
Instalacja oprogramowania w środowisku maszyny wirtualnej Hyper-V w systemie Windows 10 Pro:

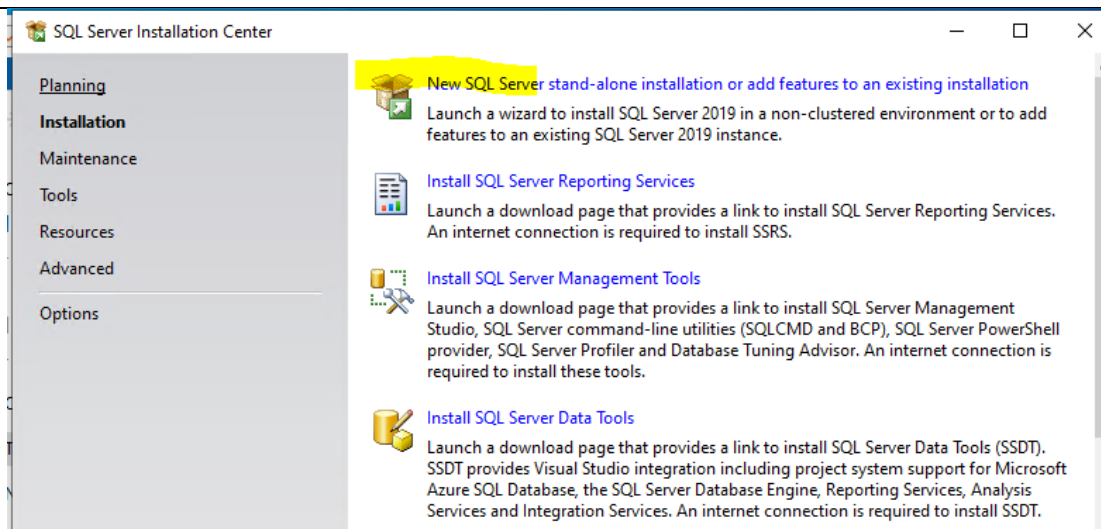
1. Uruchomienie maszyny wirtualnej systemu Windows 10 Edu (Opcjonalne)

1.1	<p>Pobierz obraz systemu operacyjnego Windows 10 Edu. Pobierz i zapisz klucz produktu:</p> <p> <code>en-us_windows_10_consumer_editions_version_22h2_x64_dvd_8da72ab3.iso</code></p>
1.2	<p>Uruchom Open Hyper-V Quick Create from the start menu:</p> 
1.3	<p>Wybierz instalację maszyny z pliku ISO wcześniej pobranego:</p> 

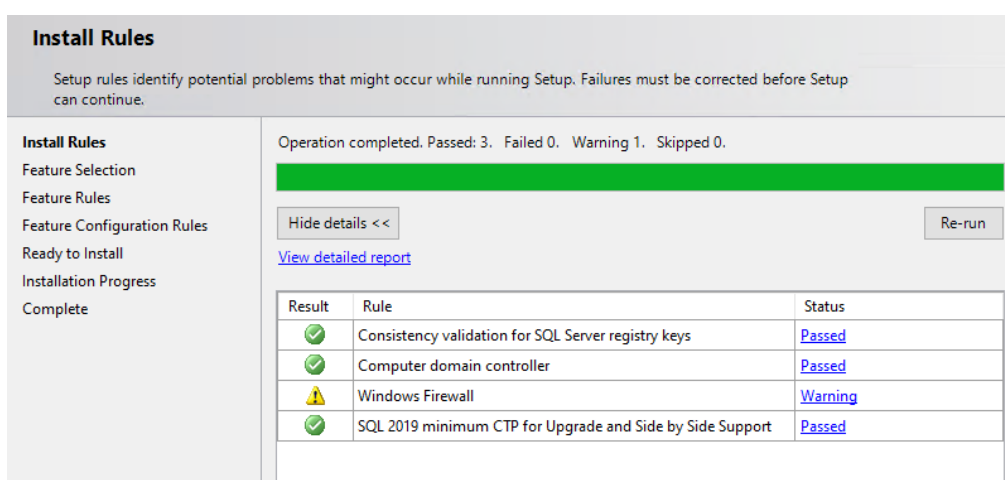
1.4	<p>Polacz się do maszyny wirtualnej i potwierdź instalacje z dysku CD. Pozostaw standardowe ustawienia języka:</p> 
1.5	Wprowadź klucz produktu pobrany wcześniej.
1.6	Przeprowadź dalsze kroki standardowej instalacji systemu operacyjnego.

2. Instalacja MS SQL Server 2019 Dev

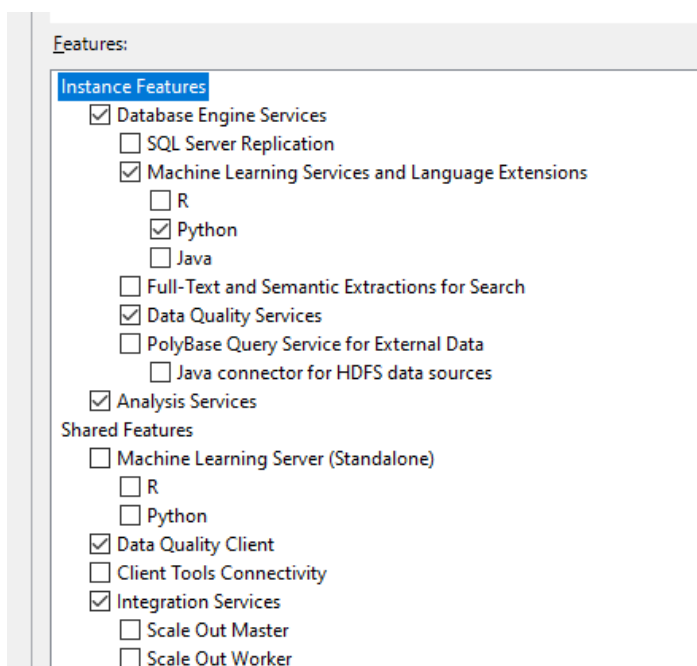
2.1	<p>Pobierz obraz nośnika instalacji systemu MS SQL Server 2019 Dev</p> 
2.2	Skopiuj plik ISO do dysku lokalnego maszyny wirtualnej (o ile jest stosowana).
2.3	<p>Podłącz plik ISO jako dysk i uruchom instalację:</p> 
2.4	Wybierz instalację SQL Server:



2.5 Wybierz wersję Developerską i standardowe ustawienia:



2.6 Wybierz następujące opcje:



2.7

Oraz:

☒ Default instance
☐ Named instance: MSSQLSERVER

Instance ID: MSSQLSERVER

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER
 Analysis Services directory: C:\Program Files\Microsoft SQL Server\MSAS15.MSSQLSERVER

Installed instances:

Instance Name	Instance ID	Features	Edition

2.8

Pozostaw automatyczne uruchomienie usług (po to mamy maszynę wirtualną):

Service Accounts | Collation

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Server Agent	NT Service\SQLSERVERAGENT		Manual
SQL Server Database Engine	NT Service\MSSQLSERVER		Automatic
SQL Server Analysis Services	NT Service\MSSQLServerOLAPService		Automatic
SQL Server Integration Services 15.0	NT Service\MSDTS150		Automatic
SQL Server Launchpad	NT Service\MSSQLLaunchpad		Automatic
SQL Server Browser	NT AUTHORITY\LOCAL SERVICE		Automatic

☒ Grant Perform Volume Maintenance Task privilege to SQL Server Database Engine Service

This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing deleted content to be accessed.

2.9

Ustaw autoryzację mixed mode i hasło administratora:

Server Configuration | Data Directories | TempDB | MaxDOP | Memory | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

☐ Windows authentication mode
☒ Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

Enter password:

Confirm password:

Specify SQL Server administrators

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SQL Server administrators have unrestricted access to the Database Engine.

2.10

Wybierz Server Mode:

Server Configuration | Data Directories

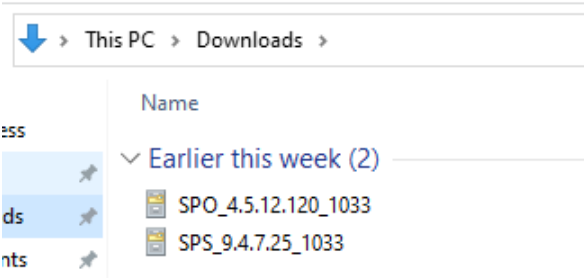
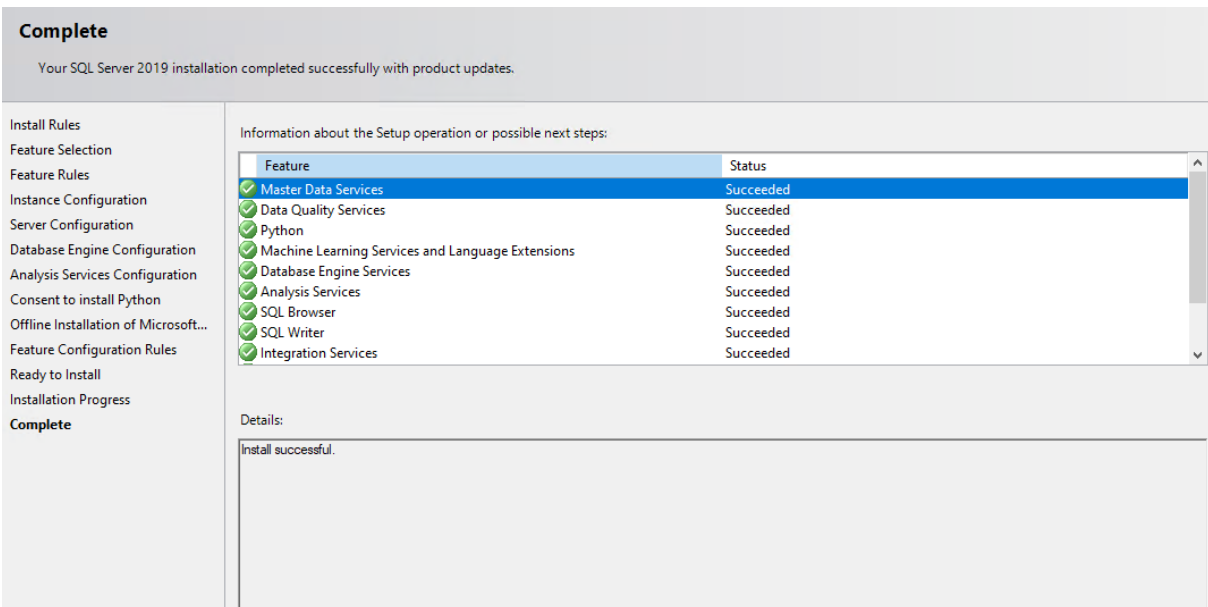
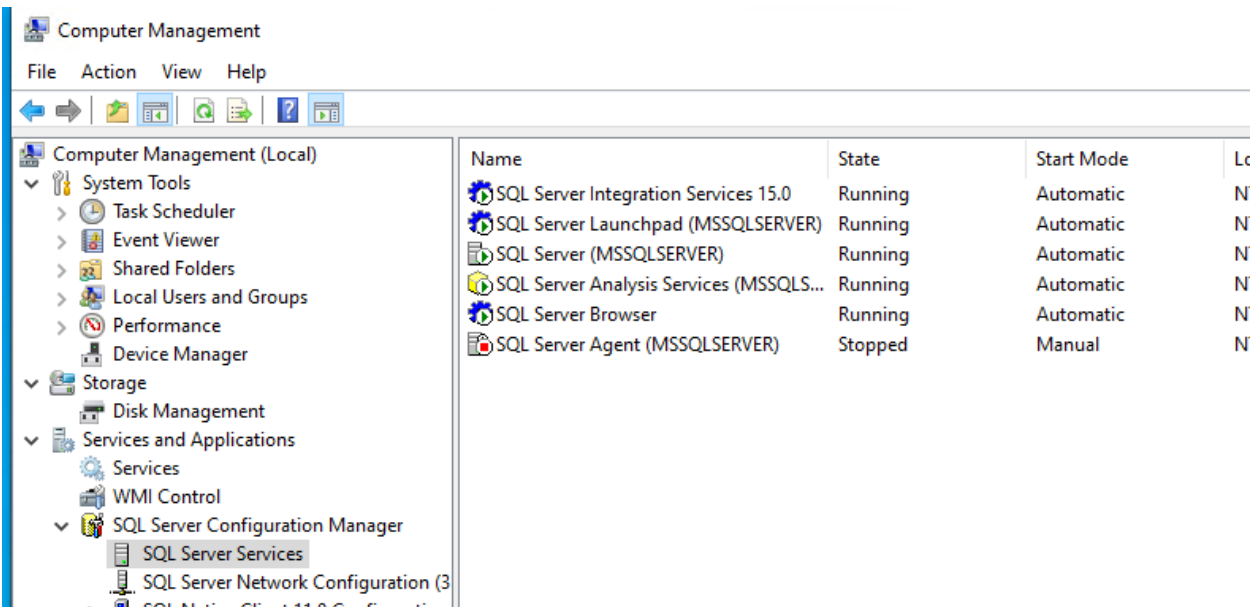
Server Mode:

☒ Multidimensional and Data Mining Mode
☐ Tabular Mode
☐ PowerPivot Mode

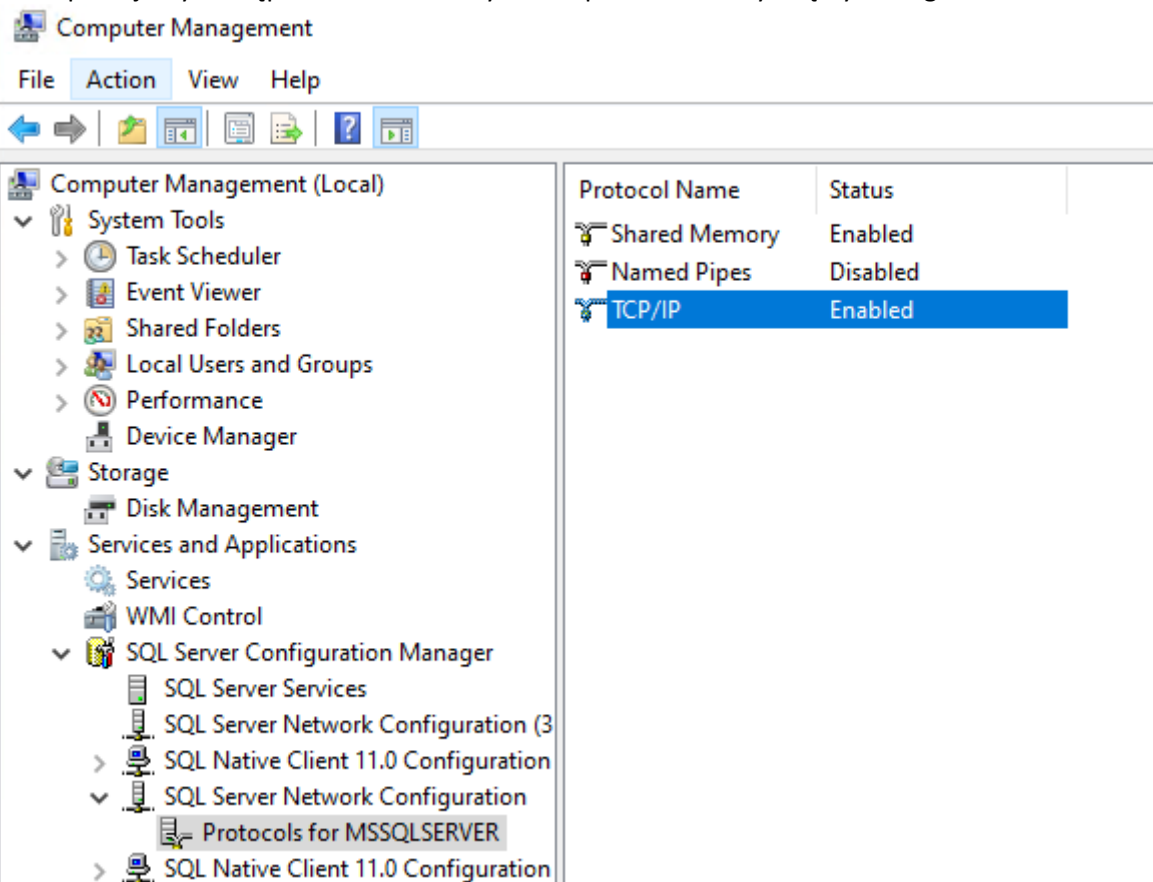
Specify which users have administrative permissions for Analysis Services.

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Analysis Services a

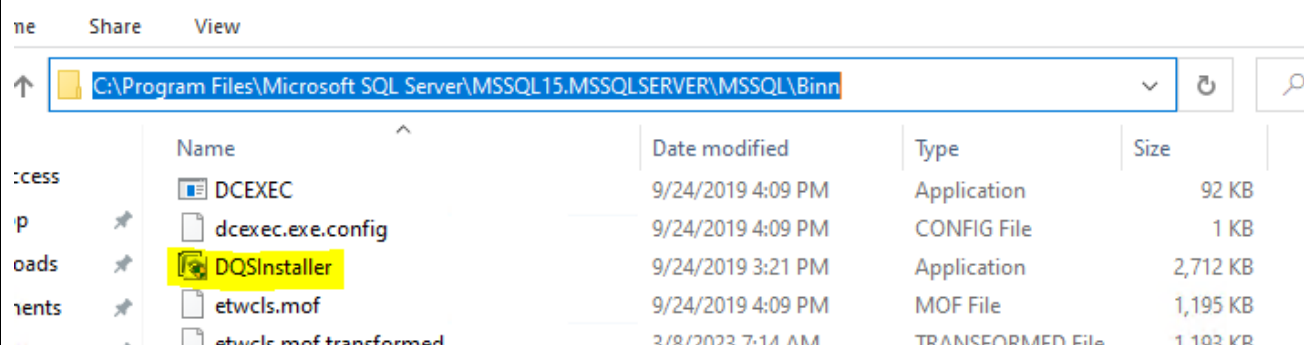
2.11	<p>W przypadku braku wymaganych pakietów instalacji pobierz je w wskaż folder gdzie zostały zapisane:</p> 																												
2.12	<p>Instalacja zakończy się komunikatem:</p>  <table> <tr> <th>Feature</th><th>Status</th></tr> <tr><td>Master Data Services</td><td>Succeeded</td></tr> <tr><td>Data Quality Services</td><td>Succeeded</td></tr> <tr><td>Python</td><td>Succeeded</td></tr> <tr><td>Machine Learning Services and Language Extensions</td><td>Succeeded</td></tr> <tr><td>Database Engine Services</td><td>Succeeded</td></tr> <tr><td>Analysis Services</td><td>Succeeded</td></tr> <tr><td>SQL Browser</td><td>Succeeded</td></tr> <tr><td>SQL Writer</td><td>Succeeded</td></tr> <tr><td>Integration Services</td><td>Succeeded</td></tr> </table> <p>Details: Install successful.</p>	Feature	Status	Master Data Services	Succeeded	Data Quality Services	Succeeded	Python	Succeeded	Machine Learning Services and Language Extensions	Succeeded	Database Engine Services	Succeeded	Analysis Services	Succeeded	SQL Browser	Succeeded	SQL Writer	Succeeded	Integration Services	Succeeded								
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SQL Writer	Succeeded																												
Integration Services	Succeeded																												
2.13	<p>Weryfikacja uruchomienia usług SQL Serwera:</p>  <table> <tr> <th>Name</th><th>State</th><th>Start Mode</th><th>Log On As</th></tr> <tr><td>SQL Server Integration Services 15.0</td><td>Running</td><td>Automatic</td><td>N</td></tr> <tr><td>SQL Server Launchpad (MSSQLSERVER)</td><td>Running</td><td>Automatic</td><td>N</td></tr> <tr><td>SQL Server (MSSQLSERVER)</td><td>Running</td><td>Automatic</td><td>N</td></tr> <tr><td>SQL Server Analysis Services (MSSQLS...</td><td>Running</td><td>Automatic</td><td>N</td></tr> <tr><td>SQL Server Browser</td><td>Running</td><td>Automatic</td><td>N</td></tr> <tr><td>SQL Server Agent (MSSQLSERVER)</td><td>Stopped</td><td>Manual</td><td>N</td></tr> </table>	Name	State	Start Mode	Log On As	SQL Server Integration Services 15.0	Running	Automatic	N	SQL Server Launchpad (MSSQLSERVER)	Running	Automatic	N	SQL Server (MSSQLSERVER)	Running	Automatic	N	SQL Server Analysis Services (MSSQLS...	Running	Automatic	N	SQL Server Browser	Running	Automatic	N	SQL Server Agent (MSSQLSERVER)	Stopped	Manual	N
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2.14 Jeżeli planujemy dostęp do serwera z innych komputerów należy włączyć usługi sieciowe:



3. Instalacja SQL Server Quality Services

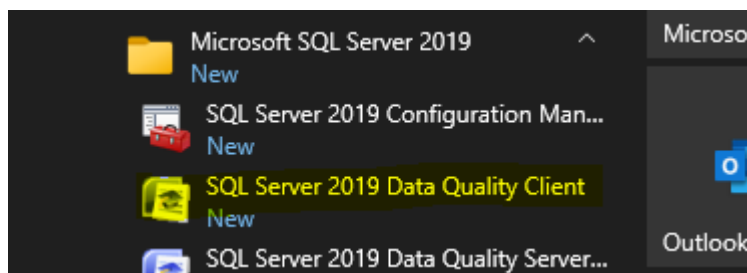
3.1 Uruchom DQSInstaller z folderu:
C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\Binn



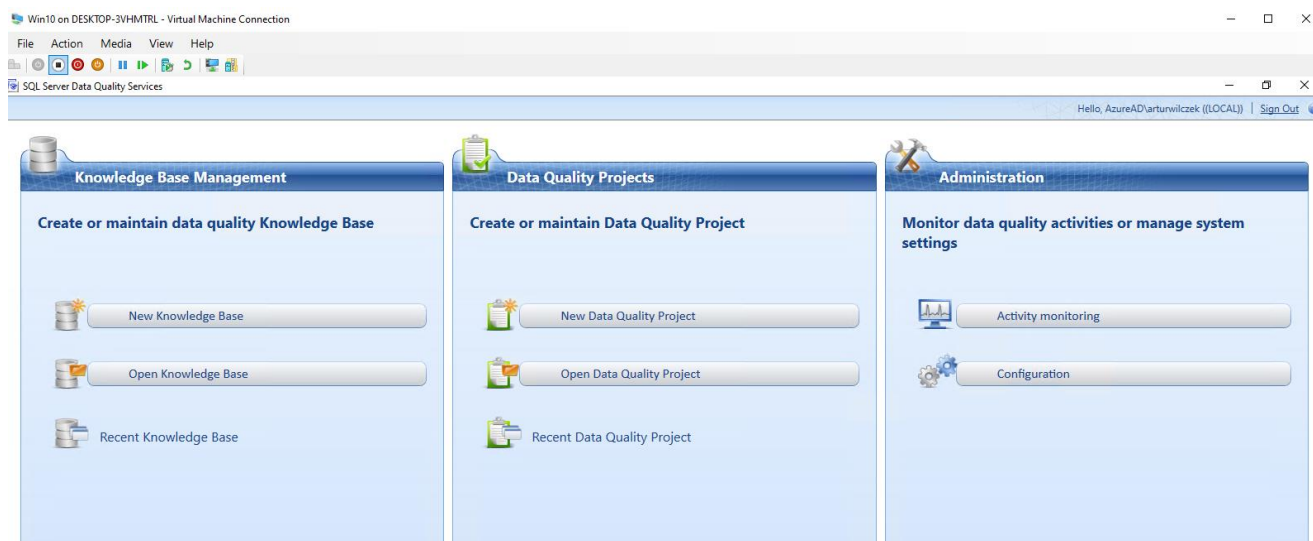
3.2 Wprowadź hasło spełniające wskazane warunki i instalacja powinna się zakończyć komunikatem:

```
C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\Binn\DQSInstaller.exe
[3/11/2023 7:22:31 AM] - Creating refresh assemblies stored procedure.
[3/11/2023 7:22:31 AM] Changed database context to 'master'.
[3/11/2023 7:22:31 AM] - Creating refresh assemblies helper linked server.
[3/11/2023 7:22:31 AM] - Creating and registering [dbo].[DQInitDQS_MAIN] (calls internal_core
rtup stored procedure.
[3/11/2023 7:22:31 AM] --> Running File: create_service_broker_objects.sql
[3/11/2023 7:22:31 AM] ---[ Registering Service Broker Objects ]---
[3/11/2023 7:22:31 AM] Changed database context to 'DQS_MAIN'.
[3/11/2023 7:22:31 AM] - Creating SB dispatcher stored procedure, messages and contract
[3/11/2023 7:22:31 AM] - Creating parallel execution SB queues and services
[3/11/2023 7:22:31 AM] - Creating calibration SB queues and services
[3/11/2023 7:22:31 AM] - Creating parallel calibration SB queues and services
[3/11/2023 7:22:31 AM] Successfully registered all assemblies.
[3/11/2023 7:22:31 AM]
[3/11/2023 7:22:31 AM] Action 'Register data quality assemblies and stored procedures' finished succe
[3/11/2023 7:22:31 AM] Executing action: Set product version property.
[3/11/2023 7:22:31 AM] Action 'Set product version property' finished successfully.
[3/11/2023 7:22:31 AM] Executing action: Create MDS user (if MDS login exists).
[3/11/2023 7:22:31 AM] Action 'Create MDS user (if MDS login exists)' finished successfully.
[3/11/2023 7:22:31 AM] Executing action: Load out of the box data.
[3/11/2023 7:22:32 AM] Started loading knowledgebase 'DQS Data'
[3/11/2023 7:23:16 AM] Finished loading knowledgebase 'DQS Data'
[3/11/2023 7:23:16 AM] Action 'Load out of the box data' finished successfully.
[3/11/2023 7:23:16 AM] DQS Installer finished successfully.
Press any key to continue...
```

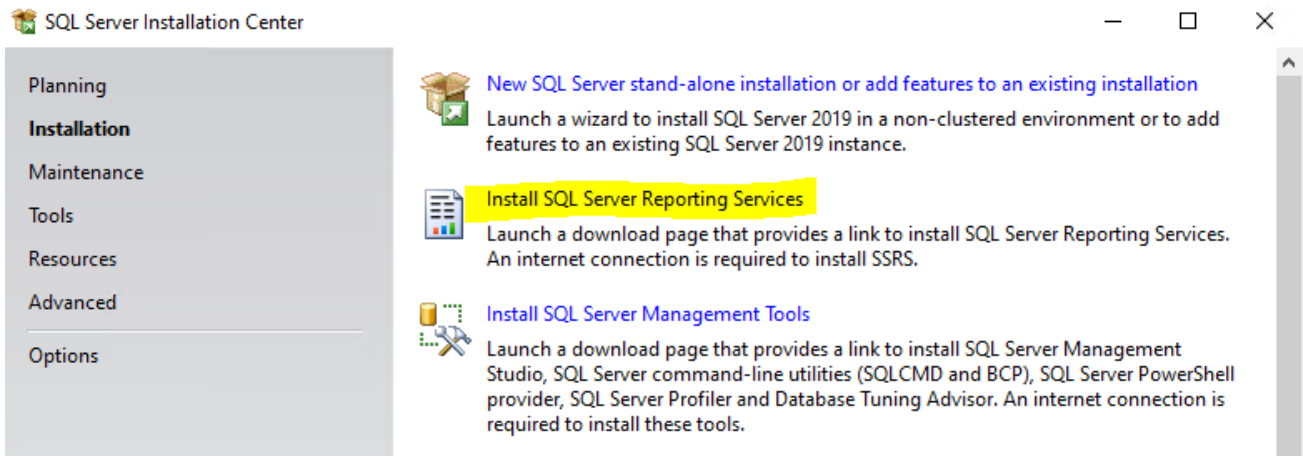

3.3 Uruchom SQL Server Data Quality Client:





3.4 SQL Server Data Quality Client:



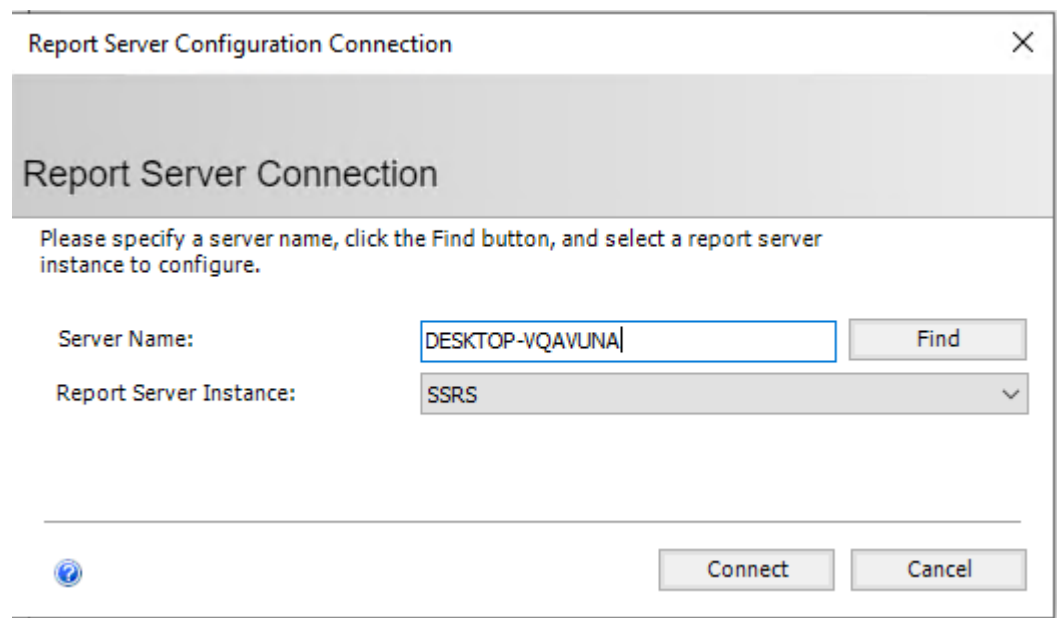
4. Instalacja SQL Server Reporting Services

4.1	<p>Uruchom instalację SQL Server i wybierz instalację Reporting Services:</p> 
4.2	<p>Pobierz pakiet instalacyjny</p> <h2>Install SQL Server Reporting Services</h2> <p>Article • 02/28/2023 • 4 minutes to read • 13 contributors Feedback</p> <p>Applies to: <input checked="" type="checkbox"/> SQL Server Reporting Services (2017 and later) <input type="checkbox"/> Power BI Report Server</p> <p>SQL Server Reporting Services installation involves server components for storing report items, rendering reports, and processing of subscription and other report services.</p> <p>Download SQL Server 2022 Reporting Services from the Microsoft Download Center.</p> <hr/> <h3>Microsoft SQL Server 2022 Reporting Services</h3> <div><p><i>Important!</i> Selecting a language below will dynamically change the complete page content to that language.</p><p>Select Language: English </p><p>Download</p></div> <p>SQL Server Reporting Services is a server-based reporting platform that provides comprehensive reporting functionality.</p>

4.3	<p data-bbox="188 103 424 132">Uruchom instalację</p> <div data-bbox="188 165 1053 824"></div>
4.4	<p data-bbox="188 831 1246 860">Wybierz edycję developerską i w standardowe ustawienia w kolejnych krokach instalacji</p>
4.5	<p data-bbox="188 898 938 927">Instalacja zakończy się. Przejdź do konfiguracji report serwera:</p> <div data-bbox="188 963 1209 1794"></div>

4.6

Połącz się:



Report Server Configuration Connection

Report Server Connection

Please specify a server name, click the Find button, and select a report server instance to configure.

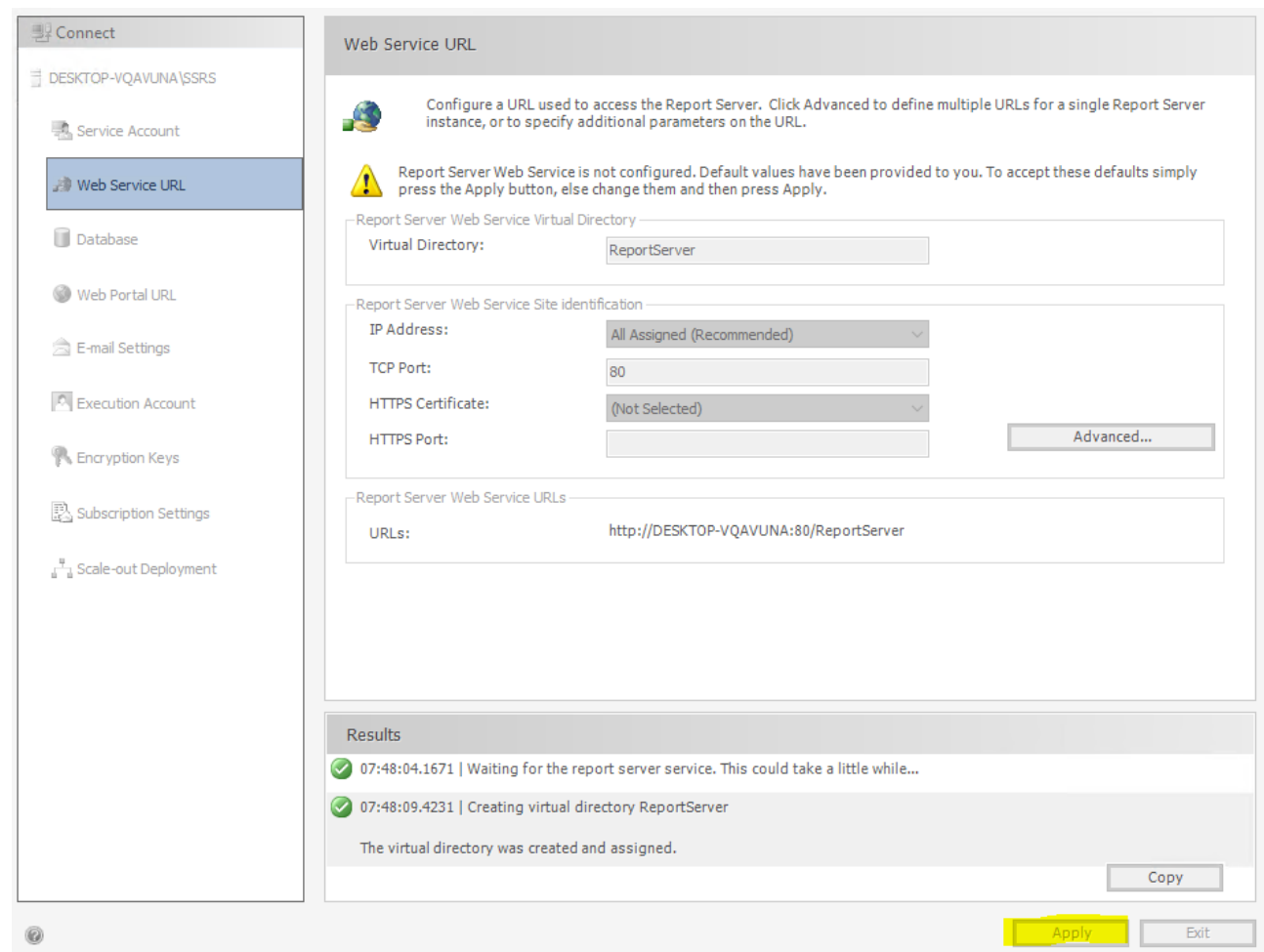
Server Name: Find

Report Server Instance: ▼

Connect Cancel

4.7

Uruchom usługi sieciowe:



Connect

- DESKTOP-VQAVUNA\SSRS
- Service Account
- Web Service URL**
- Database
- Web Portal URL
- E-mail Settings
- Execution Account
- Encryption Keys
- Subscription Settings
- Scale-out Deployment

Web Service URL

Configure a URL used to access the Report Server. Click Advanced to define multiple URLs for a single Report Server instance, or to specify additional parameters on the URL.

Report Server Web Service is not configured. Default values have been provided to you. To accept these defaults simply press the Apply button, else change them and then press Apply.

Report Server Web Service Virtual Directory

Virtual Directory:

Report Server Web Service Site identification

IP Address: ▼

TCP Port:

HTTPS Certificate: ▼

HTTPS Port:

Advanced...

Report Server Web Service URLs

URLs:

Results

- 07:48:04.1671 | Waiting for the report server service. This could take a little while...
- 07:48:09.4231 | Creating virtual directory ReportServer

The virtual directory was created and assigned.

Copy

Apply Exit

4.8 Utwórz bazę danych dla Reporting Services:

The screenshot shows the 'Report Server Database Configuration Wizard' with the 'Change Database' dialog box open. The dialog box has a left sidebar with 'Action' selected, and a main area with the following text:

Choose whether to create or configure a report server database.

Select one of the following options to create an empty report server database or select an existing report server database that has content you want to use.

Select a task from the following list:

- ☒ Create a new report server database.
- ☐ Choose an existing report server database.

The background window shows the 'Report Server Database' configuration page with fields for 'SQL Server Name' and 'Database Name', and a 'Change Database' button highlighted in yellow.

4.9 Pozostaw standardowe ustawienia:

The screenshot shows the 'Report Server Database Configuration Wizard' with the 'Database Server' step selected in the left sidebar. The main area contains the following text:

Choose a local or remote instance of a SQL Server Database Engine and specify credentials that have permission to connect to that server.

Connect to the Database Server:

Server Name:

Authentication Type:

Username:

Password:

The bottom of the wizard shows 'Previous', 'Next' (highlighted in yellow), and 'Cancel' buttons.

4.10 Instalacja bazy danych zakończy się:

Report Server Database Configuration Wizard

Change Database

Choose whether to create or configure a report server database.

Action

Database Server

Database

Credentials

Summary

Progress and Finish

Please wait while the Report Server Database Configuration wizard configures the database. This might take several minutes to complete.

Verifying database sku	Success
Generating database script	Success
Running database script	Success
Generating rights scripts	Success
Applying connection rights	Success
Setting DSN	Success

5. Instalacja SQL Server Management Tools

5.1 Uruchom instalację SQL Server i wybierz instalację Management Tools:

SQL Server Installation Center

Planning

Installation

Maintenance

Tools

Resources

Advanced

Options



[New SQL Server stand-alone installation or add features to an existing installation](#)

Launch a wizard to install SQL Server 2019 in a non-clustered environment or to add features to an existing SQL Server 2019 instance.



[Install SQL Server Reporting Services](#)

Launch a download page that provides a link to install SQL Server Reporting Services. An internet connection is required to install SSRS.



[Install SQL Server Management Tools](#)

Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.

Download SQL Server Management Studio (SSMS)

Article • 03/03/2023 • 6 minutes to read • 47 contributors

[Feedback](#)

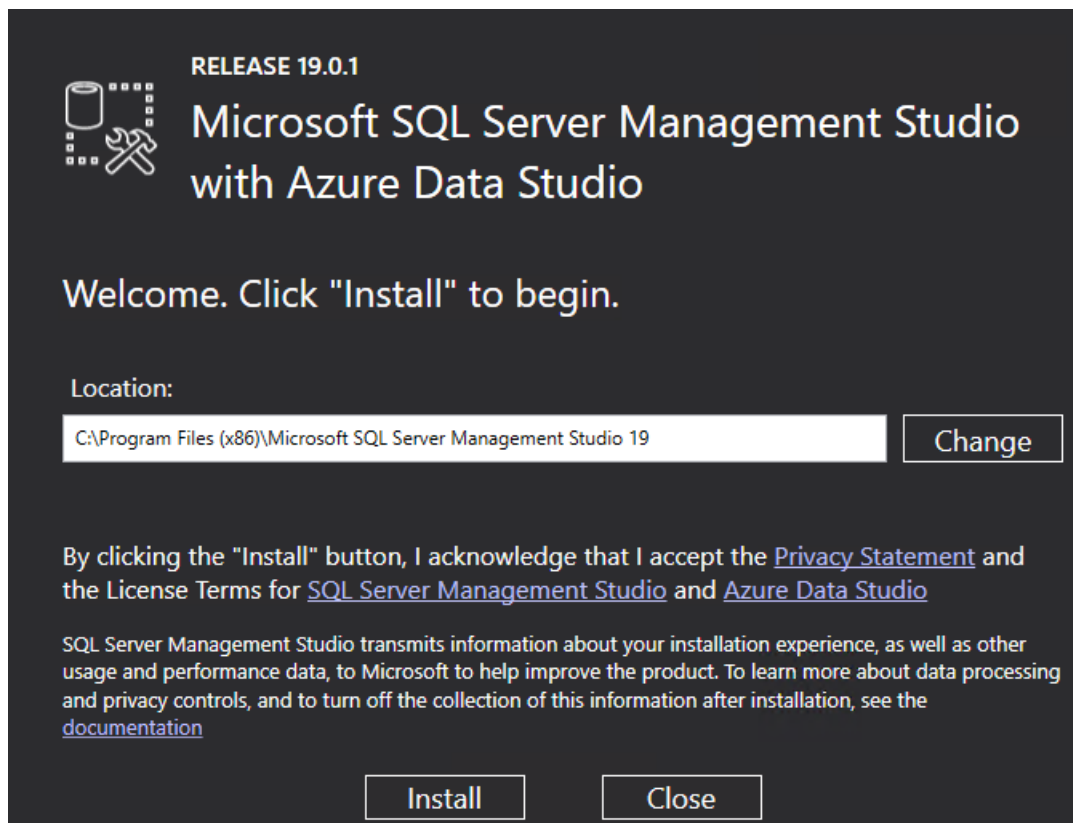
Applies to: [SQL Server](#) [Azure SQL Database](#) [Azure SQL Managed Instance](#) [Azure Synapse Analytics](#)

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure, from SQL Server to Azure SQL Database. SSMS provides tools to configure, monitor, and administer instances of SQL Server and databases. Use SSMS to deploy, monitor, and upgrade the data-tier components used by your applications and build queries and scripts.

Use SSMS to query, design, and manage your databases and data warehouses, wherever they are - on your local computer or in the cloud.

Download SSMS

↓ [Free Download for SQL Server Management Studio \(SSMS\) 19.0.1](#)



5.4 Wykonaj restart komputera/maszyny wirtualnej:



RELEASE 19.0.1

Microsoft SQL Server Management Studio with Azure Data Studio

Restart required in order to complete setup.

All specified components have been installed successfully.

The computer needs to be restarted before setup can continue.

Restart

Close

6. Instalacja SQL Server Data Tools + Visual Studio

6.1

SQL Server Data Tools są dostępne pod adresem:

[https:// docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt](https://docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt)

Download SQL Server Data Tools (SSDT) for Visual Studio

Article • 03/03/2023 • 3 minutes to read • 47 contributors

[Feedback](#)

Applies to:  SQL Server  Azure SQL Database  Azure Synapse Analytics

SQL Server Data Tools (SSDT) is a modern development tool for building SQL Server relational databases, databases in Azure SQL, Analysis Services (AS) data models, Integration Services (IS) packages, and Reporting Services (RS) reports. With SSDT, you can design and deploy any SQL Server content type with the same ease as you would develop an application in Visual Studio.

SSDT for Visual Studio 2022

Changes in SSDT for Visual Studio 2022

The core SSDT functionality to create database projects has remained integral to Visual Studio.

Note

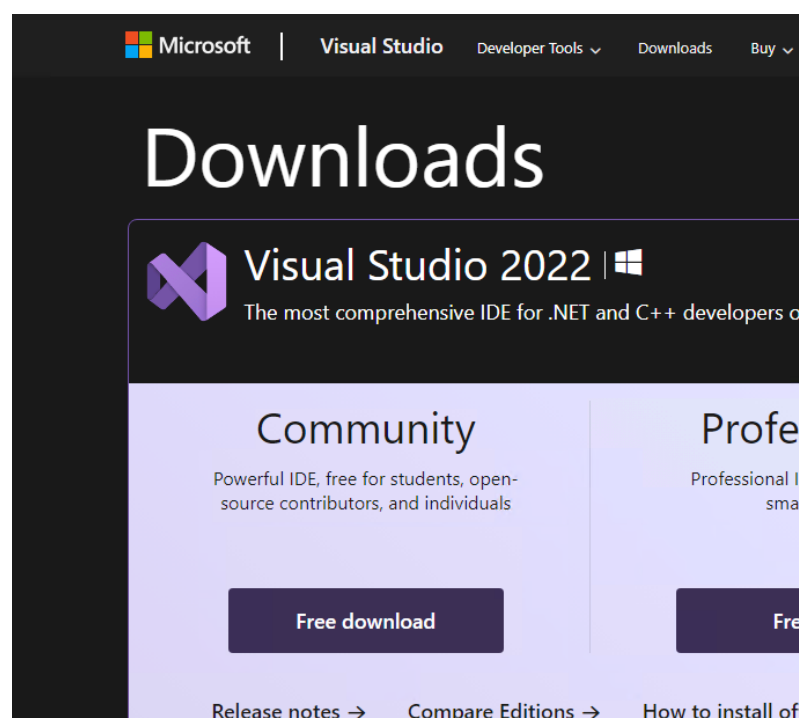
There's no SSDT standalone installer for Visual Studio 2022.

Install SSDT with Visual Studio 2022

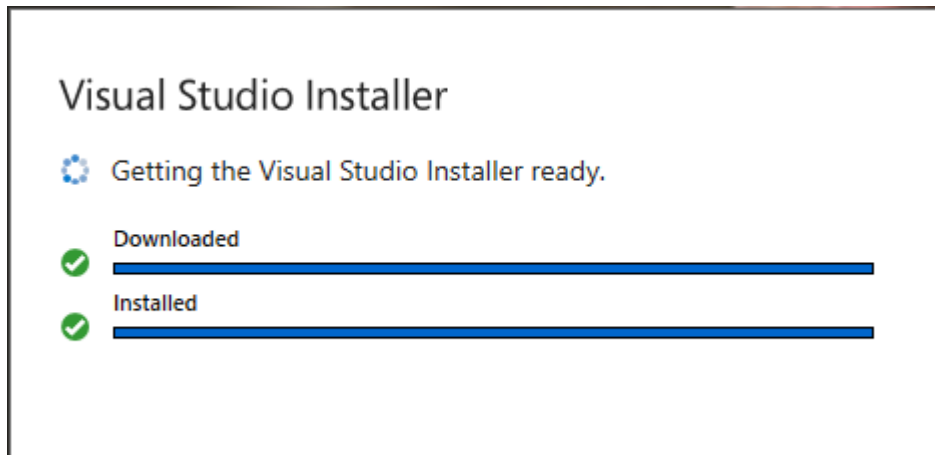
If [Visual Studio 2022](#) is already installed, you can edit the list of workloads to include SSDT. If you don't have Visual Studio 2022 installed, then you can download and install [Visual Studio 2022](#).

6.2

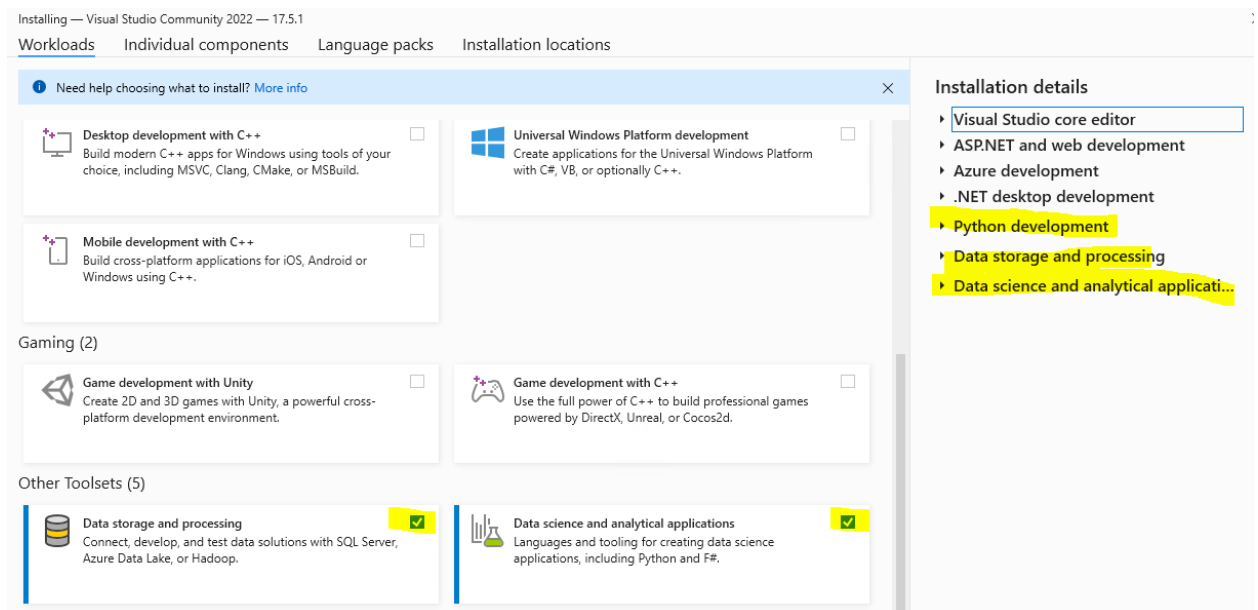
Pobierz Visual Studio



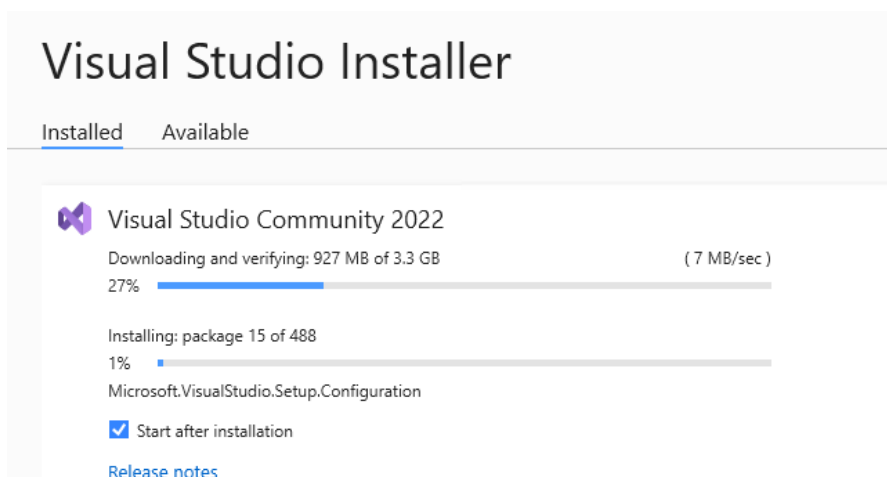
6.3 Uruchom instalację:



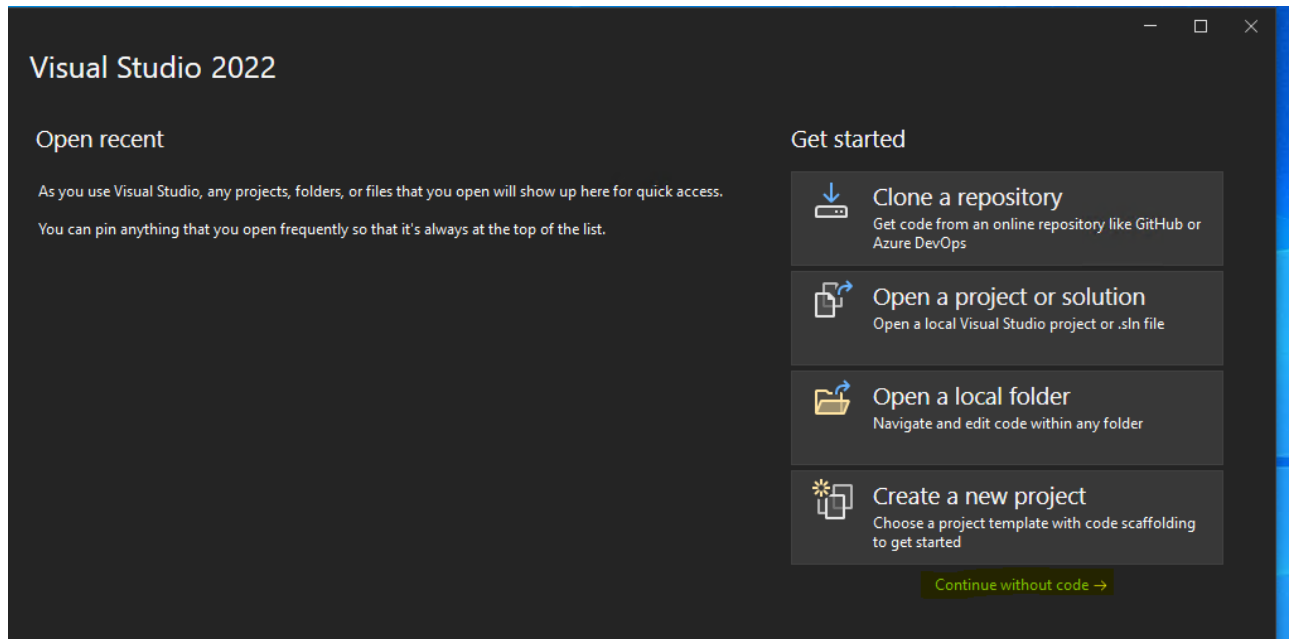
6.4 Wybierz komponenty:



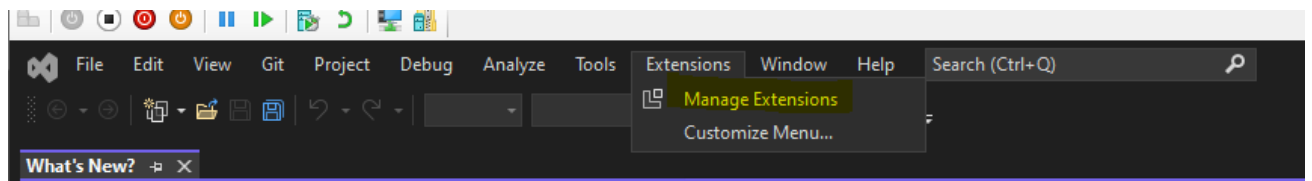
6.5 Instalacja pobierze wymagane pakiety:



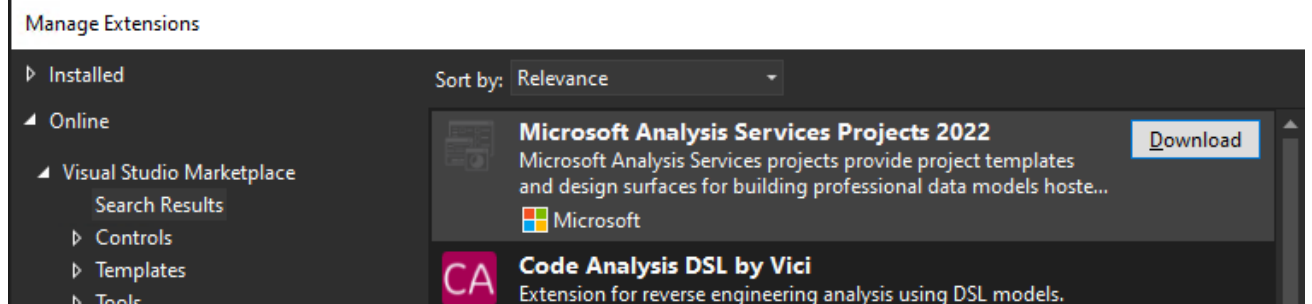
6.6 Po uruchomieniu Visual Studio. Wybieramy uruchomienie bez kodu:

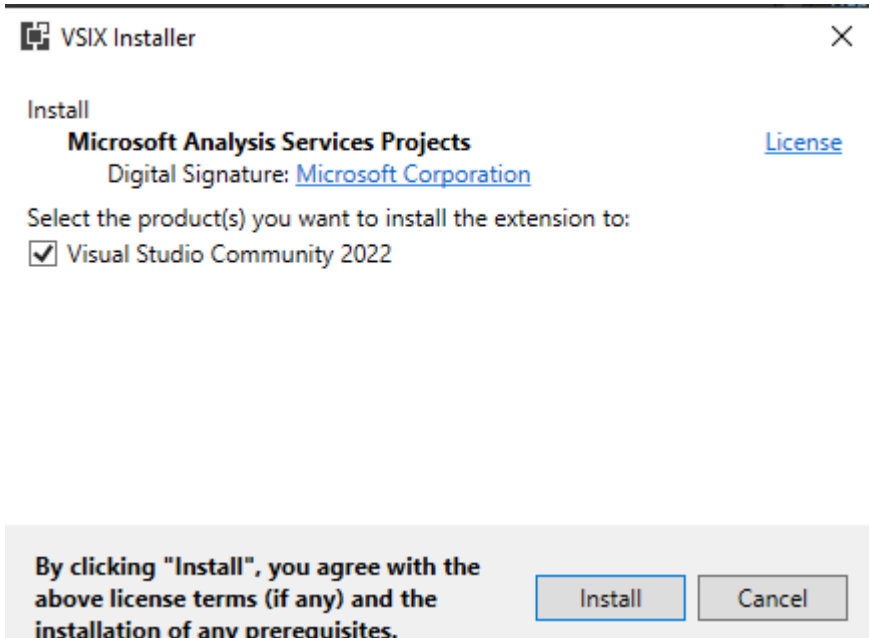
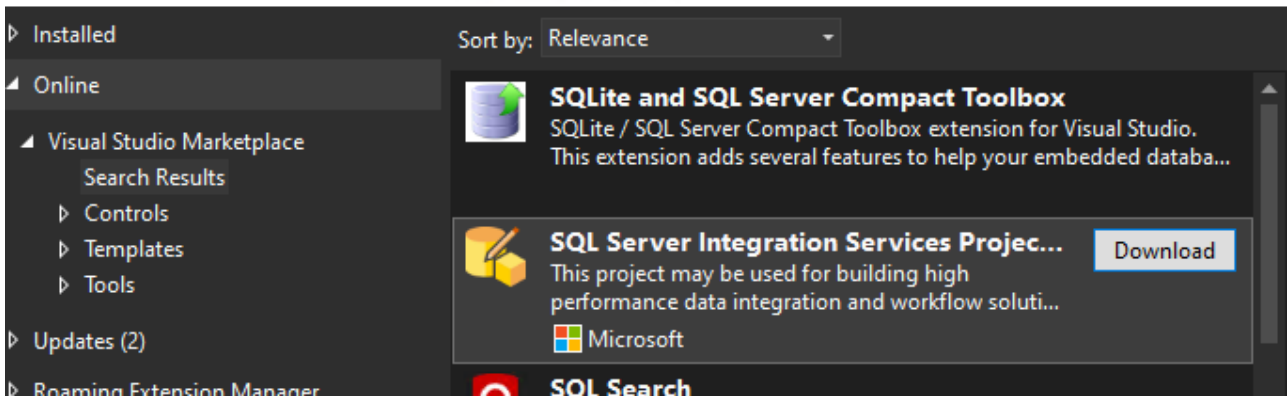
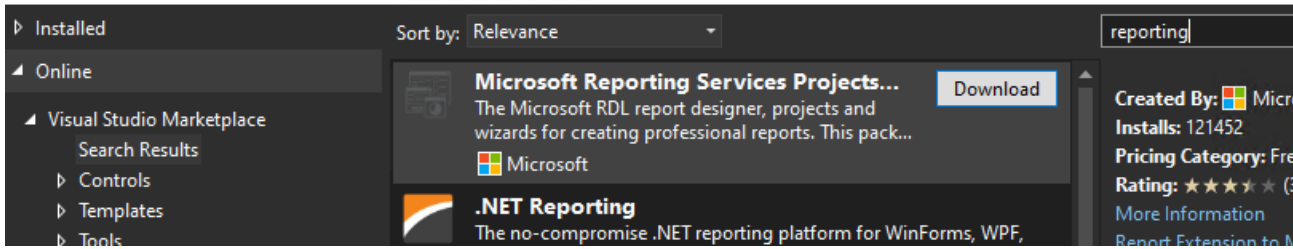


6.7 Przechodzimy do zarządzania rozszerzeniami:



6.8 Wybieramy dodatek:



6.9	<p>Uruchamiamy i instalujemy:</p> 
6.10	<p>Instalacja może wymagać zamknięcia Visual Studio (Polecenie End Tasks lub ręcznie).</p>
6.11	<p>Analogicznie instalujemy:</p> 
6.12	<p>Oraz:</p> 

7. Instalacja bazy danych AdventureWorks

7.1 Informacje dotyczące bazy danych AdventureWorks:

- a) Przykładowe bazy danych
[https://learn.microsoft.com/pl-pl/previous-versions/sql/sql-server-2008/ms124501\(v=sql.100\)](https://learn.microsoft.com/pl-pl/previous-versions/sql/sql-server-2008/ms124501(v=sql.100))
- b) Scenariusze biznesowe:
[https://learn.microsoft.com/pl-pl/previous-versions/sql/sql-server-2008/ms124825\(v=sql.100\)](https://learn.microsoft.com/pl-pl/previous-versions/sql/sql-server-2008/ms124825(v=sql.100))
- c) Schemat:
[https://learn.microsoft.com/pl-pl/previous-versions/sql/sql-server-2008/ms124894\(v=sql.100\)?redirectedfrom=MSDN](https://learn.microsoft.com/pl-pl/previous-versions/sql/sql-server-2008/ms124894(v=sql.100)?redirectedfrom=MSDN)
- d) Słownik danych:
[https://learn.microsoft.com/en-us/previous-versions/sql/sql-server-2008/ms124438\(v=sql.100\)?redirectedfrom=MSDN](https://learn.microsoft.com/en-us/previous-versions/sql/sql-server-2008/ms124438(v=sql.100)?redirectedfrom=MSDN)

7.2 Pobierz backup bazy danych:
<https://learn.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-ver16&tabs=ssms>

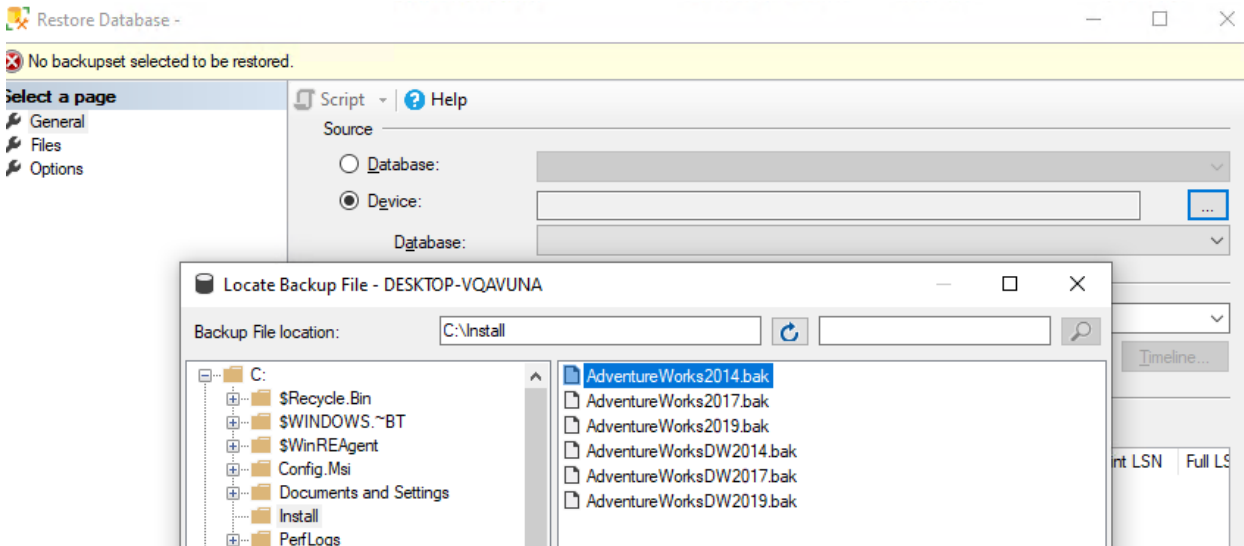
Sugerowana wersja to 2014, ale można pobrać także inne wersje dla celów porównawczych.

If you're not sure what you need, start with the 2014 version that matches your SQL Server version.

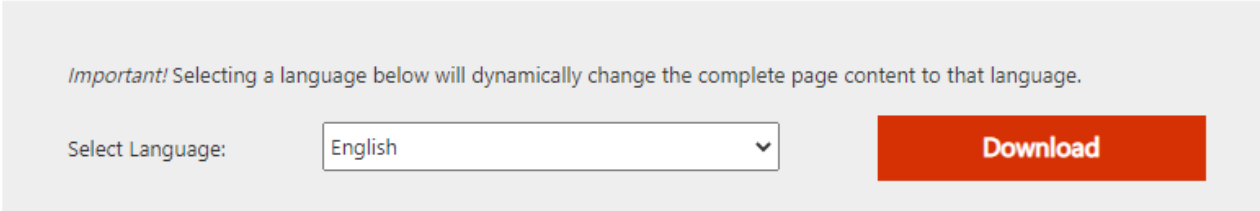
OLTP	Data Warehouse	Lightweight
AdventureWorks2019.bak	AdventureWorksDW2019.bak	AdventureWorksLT2019.bak
AdventureWorks2017.bak	AdventureWorksDW2017.bak	AdventureWorksLT2017.bak
AdventureWorks2016.bak	AdventureWorksDW2016.bak	AdventureWorksLT2016.bak
AdventureWorks2016_EXT.bak	AdventureWorksDW2016_EXT.bak	N/A
AdventureWorks2014.bak	AdventureWorksDW2014.bak	AdventureWorksLT2014.bak

7.3 Import bazy danych z backupu w Management Studio:

A screenshot of the Microsoft SQL Server Management Studio (SSMS) interface. The 'Object Explorer' pane on the left shows a server instance 'DESKTOP-VQAVUNA (SQL Server 15.0.2000.5 - AzureAD\artun)'. Under the 'Databases' folder, a right-click context menu is open. The menu options are: 'New Database...', 'Attach...', 'Restore Database...' (which is highlighted with a yellow background), 'Restore Files and Filegroups...', 'Filter', and 'Detach Database...'. The main window shows the 'Tools' menu and a toolbar with icons for 'New Query', 'Execute', and other database management functions.

7.4	<p>Wybierz plik zapisany w odpowiednim folderze (Device/Add) :</p> 
7.5	<p>Analogicznie postępujemy z innymi wersjami bazy danych.</p>

8. Instalacja Power BI Desktop

8.1	<p>Informacje dotyczące Power BI:</p> <ul style="list-style-type: none"> a) What is Power BI Desktop https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-what-is-desktop b) Get started with Power BI Desktop: https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-getting-started
8.2	<p>Pobierz Power BI Desktop: https://www.microsoft.com/en-us/download/details.aspx?id=58494 </p> <p>Microsoft Power BI Desktop</p>  <p>Microsoft Power BI Desktop is built for the analyst. It combines state-of-the-art interactive visualizations, with industry-leading data query and modeling built-in. Create and publish your reports to Power BI. Power BI Desktop helps you empower</p>

8.3 Wybierz odpowiednią wersję:

Choose the download you want

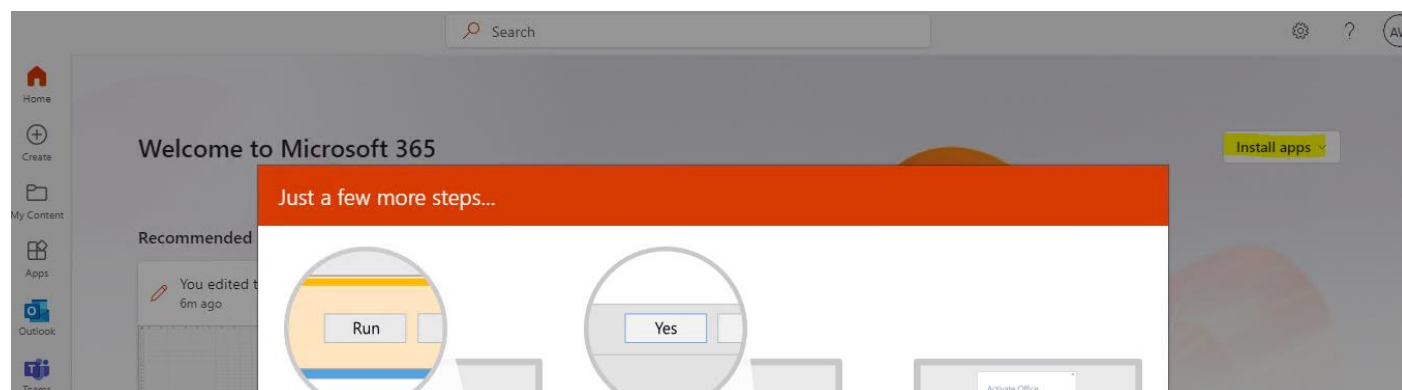
<input type="checkbox"/> File Name	Size
<input type="checkbox"/> PBIDesktopSetup.exe	418.6 MB
<input checked="" type="checkbox"/> PBIDesktopSetup_x64.exe	459.7 MB

8.4 Uruchom instalację:



9. Instalacja MS Office

9.1 W systemie Windows 10 Edu dostępny jest pakiet Microsoft Office 365, który umożliwia pobranie i zainstalowanie wersji desktopowych aplikacji pakietu (z konta w domenie pwr.edu.pl) .





**Please stay online while Office
downloads**

We'll be done in just a moment.

