

POWERDINGS

POWER BI & POWER AUTOMATE

Ynte Jan Kuindersma



Nürnberg, 2.10.2021

WER BIN ICH?



- Niederländer
- Seit 1986 selbständiger Entwickler in Access, Excel, Outlook und Word VBA
- Viele Projekte in VB.NET und ASP.NET
- Arbeite seit 2015 mit Power Platform / Azure
 - Viele Power BI Projekte
 - Microsoft Certified Data Analyst (DA-100)
- Viele Power Platform Aufträge und vor allem Kurse
 - Forms > SharePoint > Power Automate > Access Frontend
 - Unterstütze „Citizen Developer“ ;-)

HEUTE IN DIESEM THEATER

Power BI

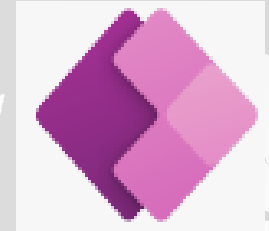
~Berichte

Power Automate

~VBA & Daten Makros

Power Automate Desktop

~VBA & Makros online lokal



ANLASS?

- Kunden wechseln zu Office 365 & OneDrive
- Access funktioniert nicht mehr...

Verzonden: dinsdag 28 september 2021 16:49

Aan: Ynte Jan Kuindersma <yntejan@birdautomation.onmicrosoft.com>

Onderwerp: Kwis aanpassing - webbased maken

Beste Ynte Jan,


Hoe gaat het met je?

We hebben elkaar voor het laatst in 2020 gesproken via de mail.

Er is veel gebeurd. Corona binnen de [REDACTED] maar ook veel projecten op ICT gebied (gelukkig) die doorgang konden vinden.

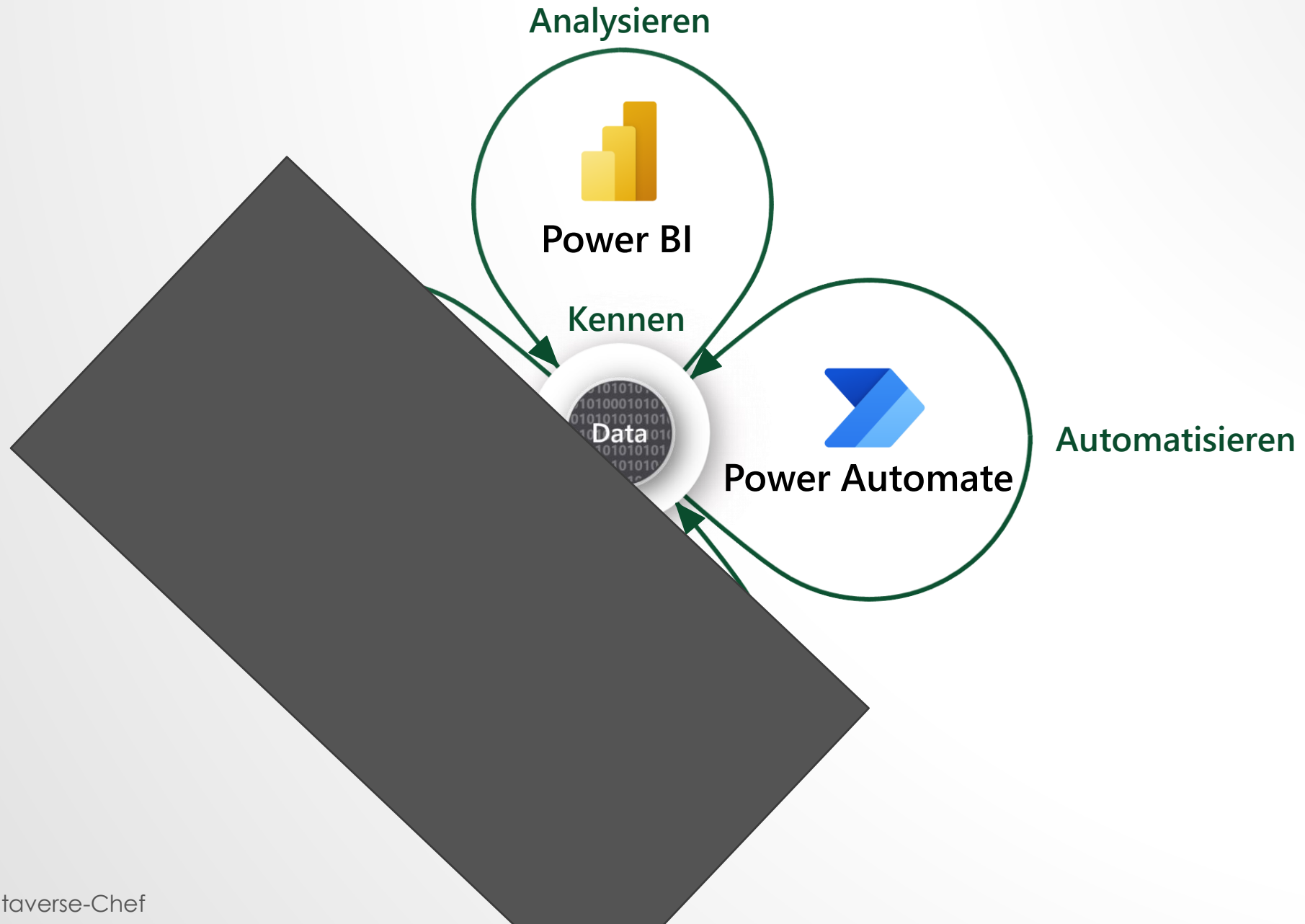
Nu wil het geval dat we op 6 oktober versneld naar de cloud omgeving gaan van Microsoft. De Terminal Server omgeving wordt dan uitgefaseerd, waardoor we een probleem met Kwis gaan krijgen, want die werkt binnen dat systeem.

De vraag is eigenlijk heel 'open': is het voor jou erg ingewikkeld om de database en de structuur van Kwis aan te passen naar een webbased variant, die we dan ook zo kunnen aanbieden? Zo ja, wat kost dat aan tijd en natuurlijk geld. Kun je daar een inschatting voor maken?

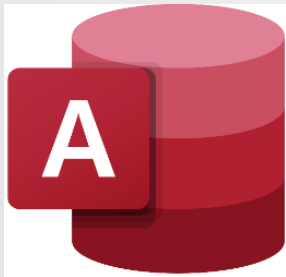


Kannst du schnell die Access Anwendung "webbased" machen, weil wir nächste Woche Terminal Server abschaffen

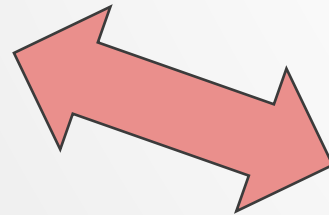
POWER PLATFORM



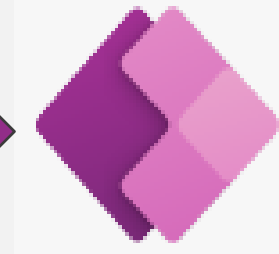
Hybride Anwendungen



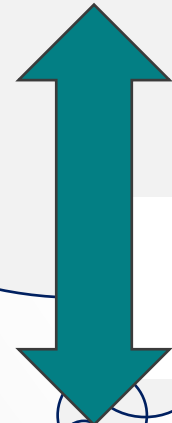
Backend 1
lokal



Backend 2
online
SQL, SharePoint



Power BI &
Power
Automate



Frontend 1
lokal

HYBRID

1. Teile der Daten auf Online-DB; mit Konnektor auslagern und einbinden
2. Power BI-Berichte entwickeln & veröffentlichen.
Einbinden in Access möglich
3. Power Automate & Online-BE
4. Daten mit Power Automate Desktop lokal in Online DB importieren oder Mails schicken usw. usw.

Speichern

Start

Einfügen

Modellierung

Anzeigen

Hilfe

Externe Tools

Einfügen

Ausschneiden

Kopieren

Format übertragen

Klembrett

Daten abrufen

Excel-Arbeitsmappe

Power BI-Datasets

SQL Server

Daten eingeben

Dataverse

Zuletzt verwendete Quellen

Daten

Daten transformieren

Aktualisieren

Abfragen

Neues visuelles Element

Textfeld

Weitere Visuals

Einfügen

Neues Measure

Quickmeasure

Berechnungen

Vertraulichkeit

Vertraulichkeit

Veröffentlichen

Freigeben

487

Opportunity Co...

Upcoming Opportunities Bv Month

M...

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

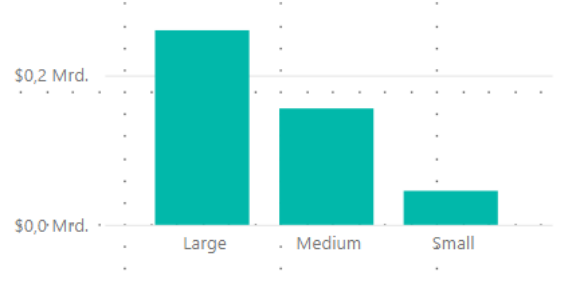
Sep

Oct

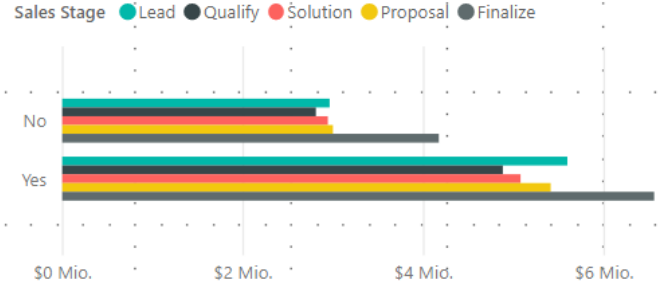
Nov

Dec

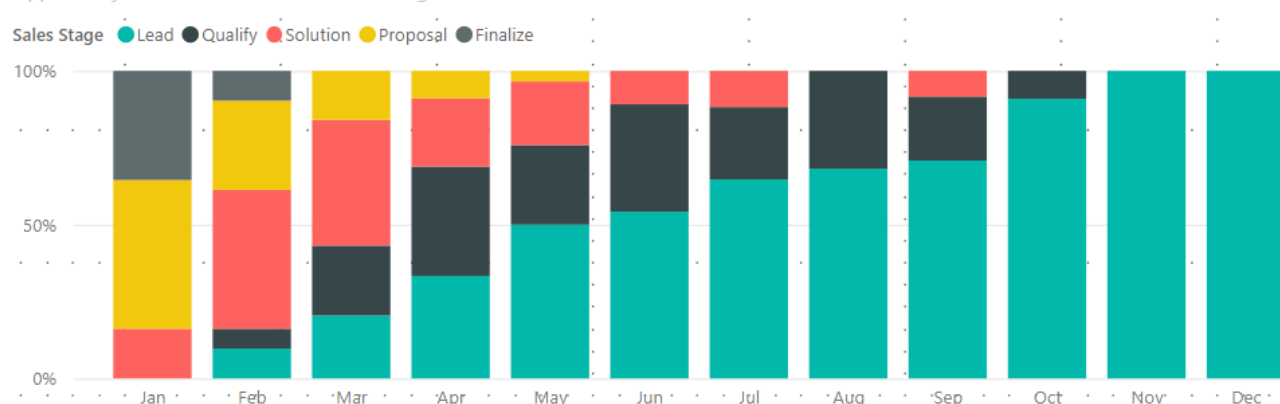
Factored Revenue nach Opportunity Size



Avg Revenue nach Partner Driven und Sales Stage



Opportunity Count nach Month und Sales Stage



Filter

Suchen

Filter für diese Seite

Month ist (alle)

Opportunity Size ist (alle)

Partner Driven ist (alle)

Probability ist (alle)

Sales Stage ist (alle)

Year ist 2015

Filter für alle Seiten

Visualisierungen

Hier Datenfelder hinzufügen

Drillthrough ausfü...

Alle Filter beibehalten

Drillthroughfelder hier hinz...

Felder

Suchen

Account

Fact

Opportunity

Partner

Product

SalesStage

Opportunity Count

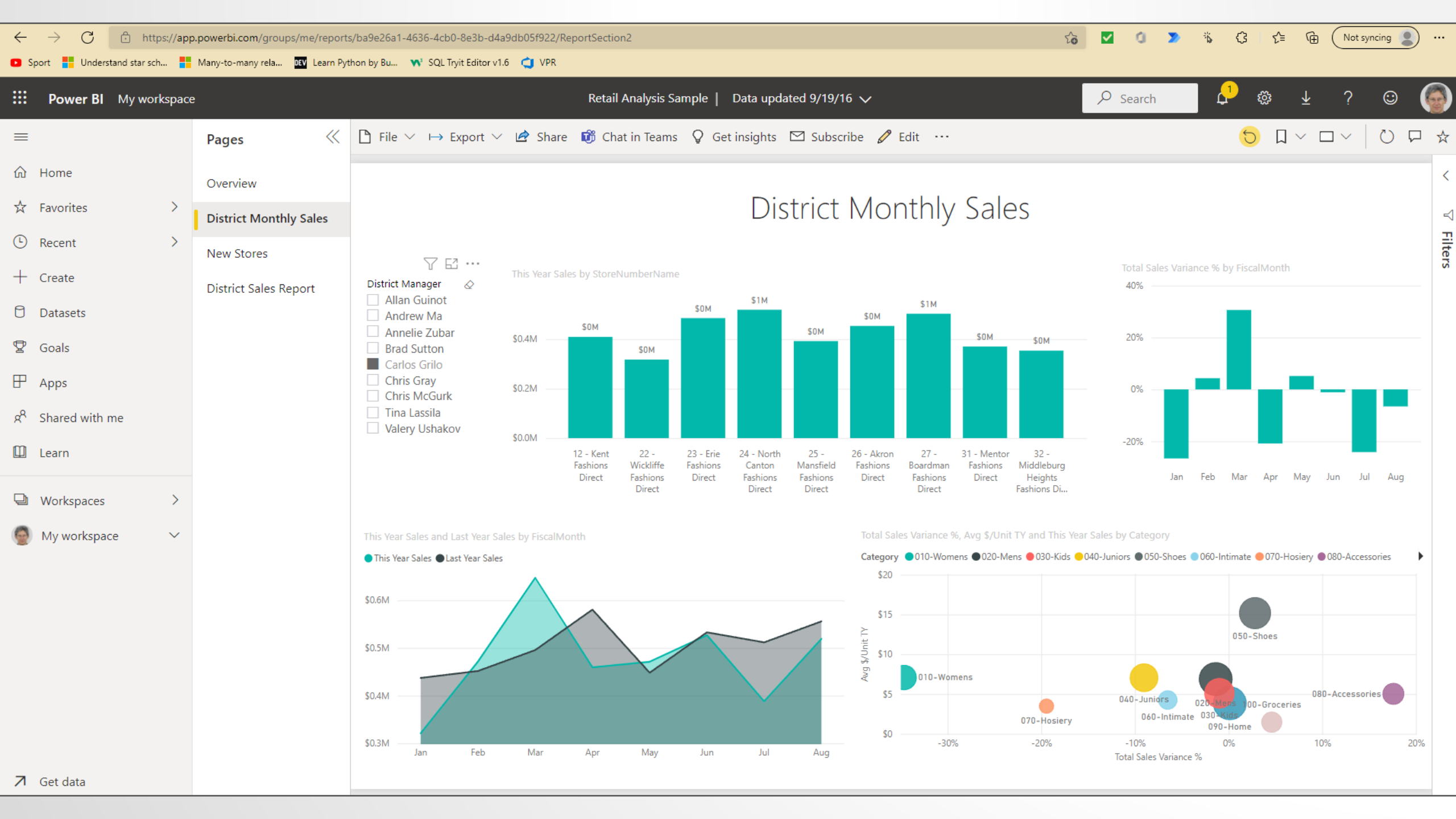
Revenue Overview

Upcoming Opportunities x

Region Stage Counts

Info

+



Access

ynte jan kuindersma

Bestand

Start

Maken

Externe gegevens

Hulpmiddelen voor databases

AccessUI Tools

Help

Vertel wat u wilt doen

?

Help

😊

Feedback

🎓

Training

🔔

Nieuwe weergeven functies

Help

Formulieren

Zoeken...

Active Orders Subform for Home

Customer Details

Customer List

Customer Orders Subform

Employee Details

Employee List

Employee Orders Subform

Form1

Home

Inventory List

Inventory to reorder Subform for Home

Login Dialog

Order Details

Order List

Order Subform for Order Details

Product Category Sales by Month

Product Details

Product Sales by Category Chart

Product Sales by Total Revenue Chart

Product Sales Qty by Employee Chart

Product Transactions Subform for Product Details

Purchase Order Details

Purchase Order List

Purchases Subform for Purchase Order Details

Receiving Subform for Purchase Order Details

Form1

Margin by Geo

€ 38.26K

Bing

© 2021 TomTom, © 2021 Microsoft Corporation

Turnover by YearQuarter and Category

Category

● Baked Goods & ...

● Beverages

● Candy

● Canned Fruit & ...

● Canned Meat

● Condiments

2021/Q1

2021/Q2

2020/Q4

Record: 1 van 1

Geen filter

Zoeken

Baked Goods & Mixes

€ 982.00

Turnover

Beverages

€ 38,260.25

Turnover

Candy

€ 2,550.00

Turnover

Canned Fruit & Vegetables

€ 1,560.00

Turnover

Canned Meat

€ 2,208.00

Turnover

Condiments

€ 1,380.00

Turnover

Dairy Products

€ 3,132.00

Turnover

Dried Fruit & Nuts

€ 3,782.50

Turnover

RowMargin by Category and Last Name

Last Name ● Cencini ● Freehafer ● Giussani ● Hellung-Larsen ● Kotas

€ 5K

€ 0K

Baked Good... Beverages Candy Canned Frui... Canned Meat Condiments Dairy Produ... Dried Fruit ... Grains Jams, Preser... Oil Pasta Sauces Soups

Category

☐ Baked Goods & Mixes

☐ Beverages

☐ Candy

☐ Canned Fruit & Vegetables

☐ Canned Meat

OrderDate

Last 24 Months

9/30/2019 - 9/29/2021

Last Name

All

Company

☐ Company A

☐ Company AA

☐ Company B

☐ Company BB

☐ Company C

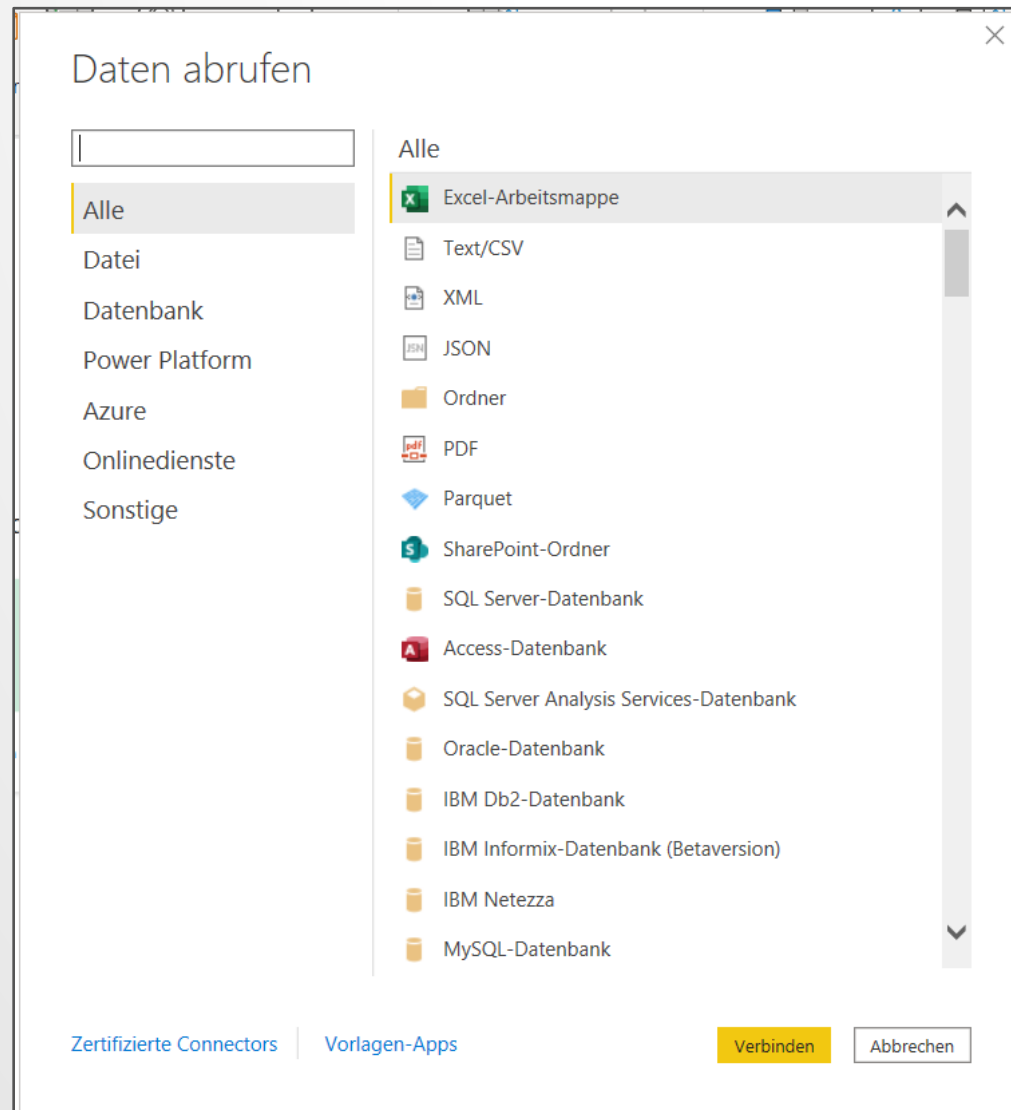
☐ Company CC

☐ Company D

☐ Company F

Formulierweergave

POWER BI DATENQUELLEN



DAX

- Umsatz = sum(InvoiceLines[SalePrice])
- UmsatzAll = CALCULATE([Umsatz],ALL(InvoiceLines))
- UmsatzVorMonat = CALCULATE([Umsatz],
PREVIOUSMONTH(DateDimension[DateKey]))

POWER BI-TARIFE

- <https://powerbi.microsoft.com/de-de/pricing/>

Power BI Pro	
Pro Benutzer	
8,40 €	
Pro Benutzer/Monat	

Power BI Premium	
Pro Benutzer	Pro Kapazität
16,90 €	von 4.212,30 €
Pro Benutzer/Monat ²	Pro Kapazität/Monat

DEMO

- Access-Daten einbinden mit Power Query
- Visualisierung + Datenschnitt
- 1 Dax Measure
- Veröffentlichen
- Anschauen und Teilen

POWER AUTOMATE ONLINE

- „Power Automate ist ein Dienst, mit dem man automatisierte Workflows zwischen bevorzugten Apps und Diensten erstellen kann, um z. B. Dateien zu synchronisieren, Benachrichtigungen zu erhalten und Daten zu sammeln.“

<https://docs.microsoft.com/de-de/power-automate>

- Triggers
 - Email, Forms, neuer Datensatz, Neue Datei, Power App Button, HTTP Anfrage (VBA!)
- Actions
 - Daten ändern, SMS/E-Mail/ Teams-Updates schicken, Power BI erneuern, Zustimmung fragen

Power Automate

Search for helpful resources

Environments

BIRD Automation (defa...

Home

Action items

My flows

Create

Templates

Connectors

Data

Monitor

AI Builder

Process advisor


Solutions

Learn


Search connectors...

All connectors


Popular connectors




Office 365 Outl...




OneDrive for B...



Office 365 Users




SharePoint




Microsoft Data...


PREMIUM



Twitter




Notifications




RSS

Recently added connectors




d.velop

PREMIUM




IA-Connect Java

PREMIUM




Integration Too...

PREMIUM




Farsight DNSDB

PREMIUM




Almabase

PREMIUM




IA-Connect Ses...

PREMIUM



IA-Connect SA...


PREMIUM





IA-Connect Mic...


PREMIUM


Independent Publisher connectors














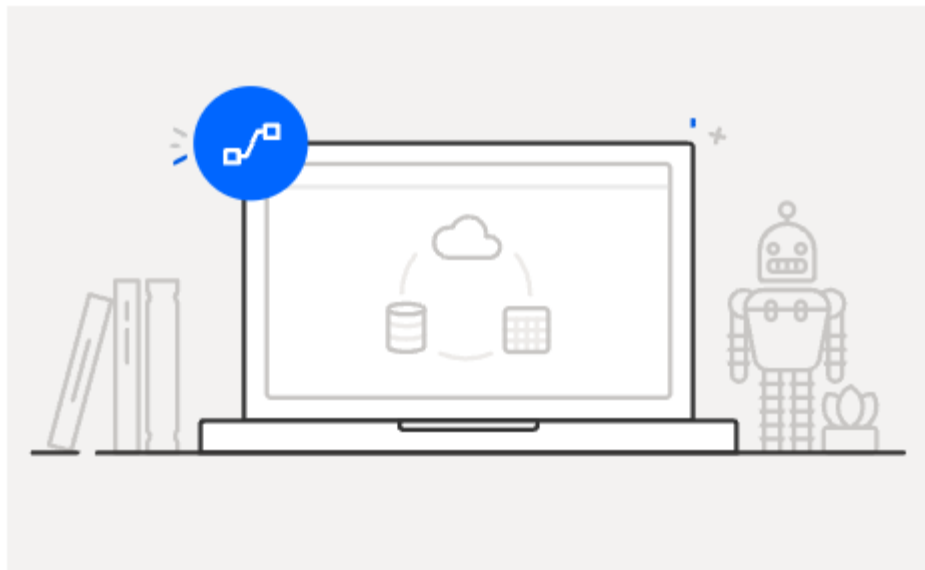






Chat with a bot

Build an automated cloud flow



Free yourself from repetitive work just by connecting the apps you already use—automate alerts, reports, and other tasks.

Examples:







- Automatically collect and store data in business solutions
- Generate reports via custom queries on your SQL database

Flow name

Add a name or we'll generate one

Choose your flow's trigger * ⓘ


🔍 Search all triggers

- | | |
|---|---|
|  | When a new response is submitted
Microsoft Forms ⓘ |
|  | When an item is created
SharePoint ⓘ |
|  | When an item is created or modified
SharePoint ⓘ |
|  | When a file is created in a folder
SharePoint ⓘ |
|  | When a file is created
OneDrive for Business ⓘ |
|  | When a task is assigned to me
Planner ⓘ |


[Skip](#)


Create

Cancel

 When a new email arrives (V3) ? ...



 Choose an operation ×

 Search connectors and actions

All Built-in Standard Premium Custom My clipboard



Control



AI Builder



Desktop
flows



Excel Online
(Business)



MSN
Weather



Mail



Microsoft
Dataverse



Triggers

Actions

See more



Condition
Control






Analyze positive or negative sentiment in text
AI Builder






Classify text into categories with one of your custom models
AI Builder



 PowerApps  



 Get item  






 Initialize variable  



 Set variable  



 Update item  

+ New step

Save

Details

Edit

Flow

Weer

Status

On

Owner

Ynte Jan Kuindersma

Created

Feb 11, 09:20 PM

Modified

Jul 15, 05:45 PM

Type

Scheduled

Plan

Per-user plan


28-day run history ⓘ

All runs

Start	Duration	Status
Sep 29, 10:00 AM (6 h ago)	00:00:04	Succeeded
Sep 28, 09:59 AM (1 d ago)	00:00:04	Succeeded
Sep 27, 10:00 AM (2 d ago)	00:00:03	Succeeded
Sep 26, 10:00 AM (3 d ago)	00:00:05	Succeeded
Sep 25, 10:00 AM (4 d ago)	00:00:02	Succeeded


Connections


Edit



MSN Weather


MSN Weather






Mail

Mail



Owners

Edit



Ynte Jan Kuindersma

BEISPIEL: SQL SERVER

SQL

Get rows

...

* Table name

VacationDB

Aggregation transformation

A sequence of OData aggregation transformations

Filter Query

Title eq 'S' Title x

Order By

An ODATA orderBy query for specifying the order of entries.

Skip Count

The number of entries to skip (default = 0).

Top Count

Total number of entries to retrieve (default = all).

Select Query

Specific fields to retrieve from entries (default = all).

Hide advanced options ^

✓ If yes

+

SQL

Insert row

i ...

* Table name

VacationDB

▼

* FullName

S Author.DisplayName x

* Title

S Title x

* StartTime

S Leave_x0020_SG_x00... x

* Department

The Department

Add dynamic content +

POWER AUTOMATE CLOUD: TARIFE



Trick...

- <https://docs.microsoft.com/de-de/power-platform/admin/powerapps-flow-licensing-faq>
- Office 365
- Automate
 - Per Benutzer
 - Per Flow

Power Automate-Pläne:

- **Power Automate-Pro-Benutzer-Plan** ermöglicht Benutzern das Ausführen beliebig vieler Flows (innerhalb der Service-Einschränkungen) mit den vollständigen Funktionen von Power Automate anhand ihrer individuellen Bedürfnisse für \$15/Benutzer/Monat.
- **Power Automate-Pro-Flow-Plan** ermöglicht Organisationen das Implementieren von Flows mit reservierter Kapazität für Teams, Abteilungen oder die gesamte Organisation, ohne dass eine Lizenz für jeden Endbenutzer erforderlich ist. Dieser Plan startet bei \$500/Monat für 5 Flows.

DEMO

- Flow
 - Trigger: E-Mail
 - Attachment?
 - Speichern auf OneDrive

WAS IST POWER AUTOMATE DESKTOP?







- Ein Tool zur Automatisierung von Aufgaben auf eurem PC:
 - Öffnen von Fenstern und Webanwendungen und Ausführen von Aufgaben dort
 - Testen...
 - Verschieben von Daten
 - Transformieren/Konvertieren von Daten
- Kann all die mühsamen Arbeiten erledigen, die ihr normalerweise selbst erledigt, aber mit mehr Geduld
- Konkurrenz für Access-Entwickler?
 - Statt VBA....
- Power Automate Desktop (PAD) ist jetzt kostenlos in Windows 10 enthalten.



ES IST NICHT POWER AUTOMATE, WIE MAN ES AUS DER CLOUD KENNT....

- Keine automatischen „Trigger“
 - Kann jedoch von Power Automate Web Flows ausgelöst werden, wenn ihr
 - eine Lizenz kauft: Bis jetzt würde eine Pro-Benutzer-Lizenz für Power Automate Desktop mindestens \$ 15 pro Monat kosten.
 - Ein „Gateway“ auf Ihrem lokalen PC installiert oder Machine Management einschaltet
 - May 6, 2021 „We have also introduced new machine-management capabilities to help scale your robotic process automation (RPA). “
- Andere ‚actions‘ als das Web Power Automate
 - Keine einfache Integration mit Office 365 usw.
 - Aber viele (370) lokale Aktionen auf dem PC










Actions

 Save  Run  Stop  Run next action  Web recorder  Desktop recorder Subflows ▾

Main

Search actions

- > Variables
- > Conditionals
- > Loops
- > Wait
- > System
- > File
- > Folder
- > Compression
- > UI automation
- > Web
- > Web automation
- > Excel
- > Database
- > Email
- > Exchange
- > Outlook
- > Message boxes
- > Mouse and keyboard
- > Clipboard
- > Text
- > Datetime
- > PDF
- > CMD session
- > Terminal emulation
- > OCR

- 1  **Get files in folder**
Retrieve the files in folder 'C:\Users\yntej\OneDrive - B.i.r.d Automation\getresponsive\cursusmateriaal_powerautomate\module_0' that match '*.csv' and store them into **Files**
- 2  **Open SQL connection**
Open SQL connection 'Provider=Microsoft.ACE.OLEDB.12.0;Data Source=C:\Users\yntej\OneDrive - B.i.r.d Automation\accesdevcon4_online\POWERAUTOMATE_2021\access_bulkinsert\bitcoin.accdb; Persist Security Info=False;' and store it into **SQLConnection**
- 3  **Execute SQL statement**
Execute SQL statement 'delete from tblbitcoins' on **SQLConnection** and store the query result into **QueryResult**
- 4  **For each** **CurrentItem** in **Files**
 - 5  **Copy file(s)**
Copy the file(s) **CurrentItem** into 'C:\Users\yntej\OneDrive - B.i.r.d Automation\accesdevcon4_online\POWERAUTOMATE_2021\access_bulkinsert'
 - 6  **Rename file(s)**
Rename the file(s) **CopiedFiles** to 'import'
 - 7 Executing an Action query in Access
 - 8  **Execute SQL statement**
Execute SQL statement 'exec qryInsert' on **SQLConnection** and store the query result into **QueryResult**
 - 9 Using SQL
 - 10  **Execute SQL statement**
Execute SQL statement 'INSERT INTO tblBitcoins (Name, Bitcoins, Source) SELECT Import.Name, Import.Bitcoins, "**CurrentItem**" as Source FROM Import;' on **SQLConnection** and store the query result into **QueryResult**
 - 11  **End**

Variables

 Search variables

Input / output variables 0

There aren't any input or output variables here yet



Flow variables 6

(x) CopiedFiles

(x) CurrentItem

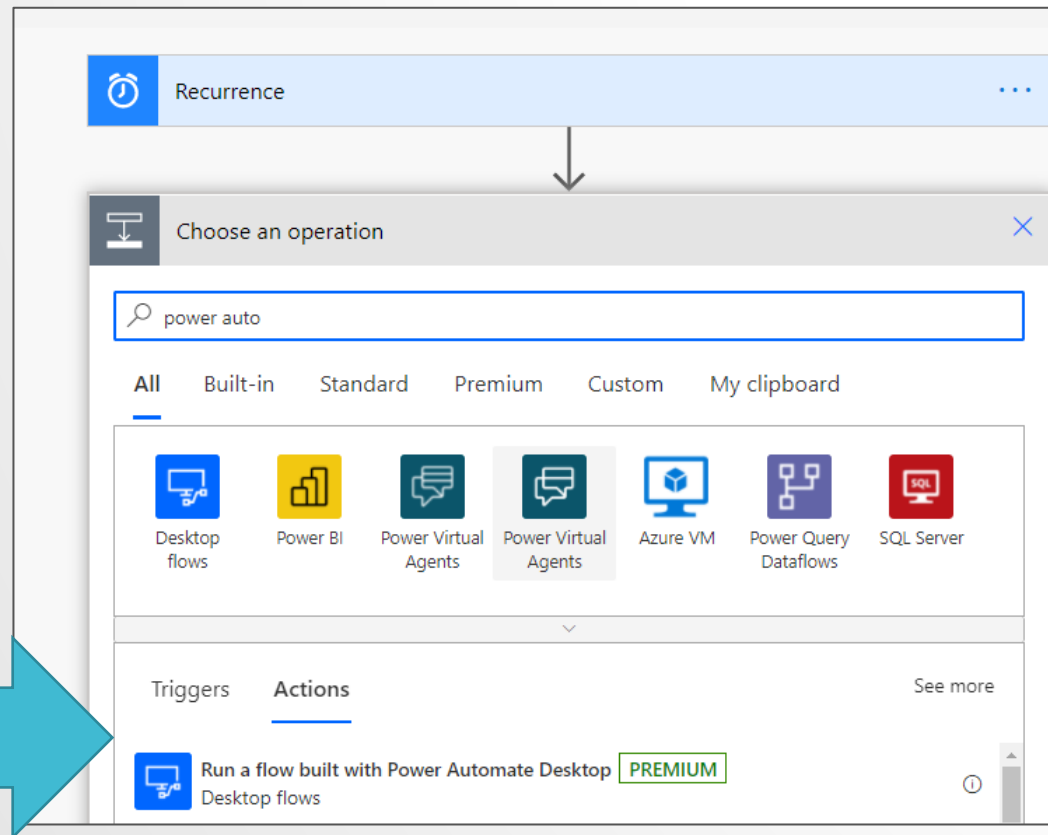
(x) Files

(x) QueryResult

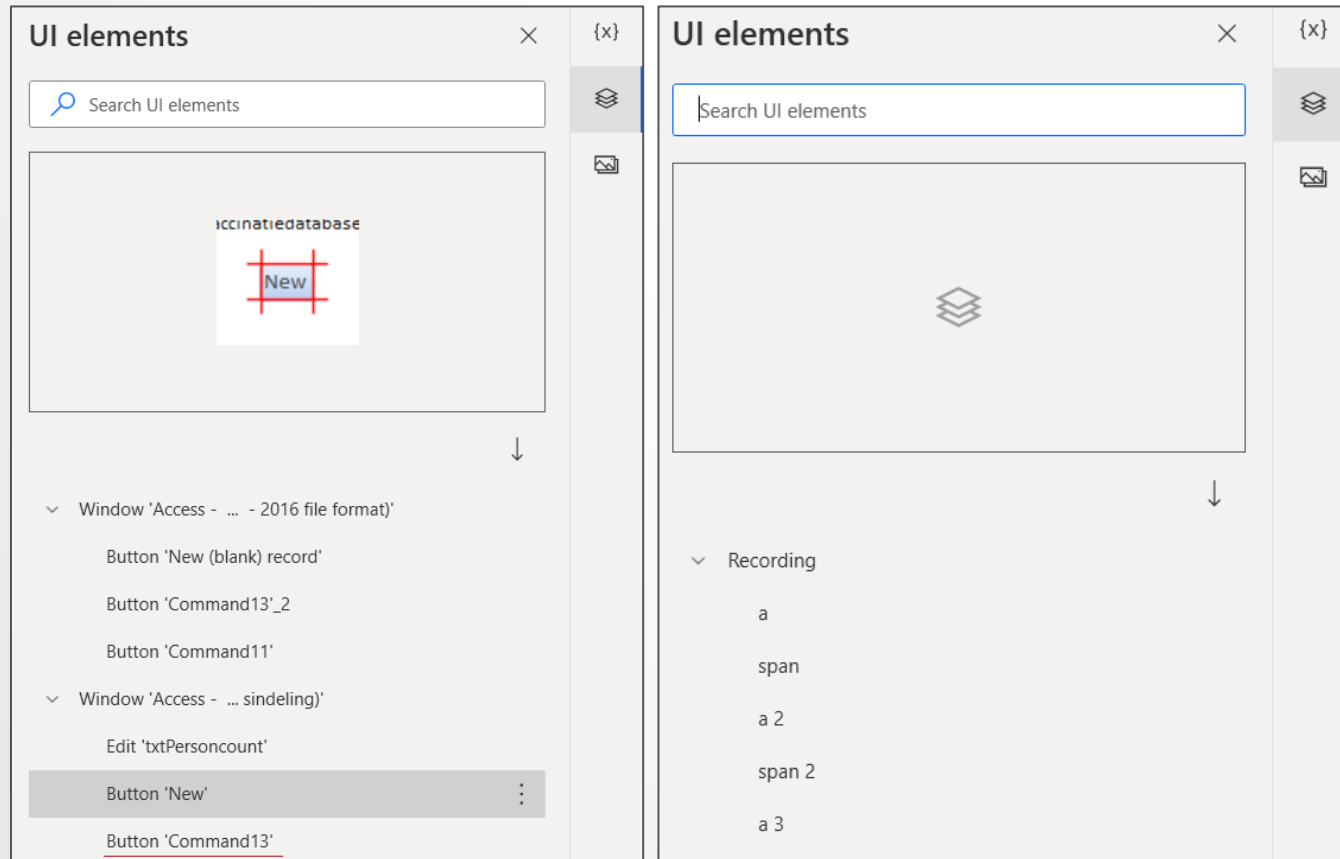
(x) RenamedFiles

(x) SQLConnection

EIN DESKTOP-FLOW KANN UNBEAUF SICHTIGT GESTARTET WERDEN



UI-ELEMENTS AUFNEHMEN



KANN PAD ÜBER COMMAND LINE GESTARTET WERDEN?

- <https://powerusers.microsoft.com/t5/Power-Automate-Desktop/Start-and-control-flow-from-command-line/td-p/760897>
- <https://docs.winautomation.com/en/controlling-winautomation-from-the-command-line.html#controlling-winautomation-from-the-command-line>
- Nein!

PREISE EXTRA-LIZENZEN POWER AUTOMATE DESKTOP

Explore Power Automate add-ons

AI Builder

\$500

per unit/month⁷

Infuse AI into your processes.

- Requires access to the Microsoft 365 admin center with [global administrator or billing administrator roles](#)
- Add AI Builder to an existing Power Automate, Power Apps, or Dynamics 365 paid plan subscription

Unattended RPA add-on

\$150

per bot/month

Automate back-end processes through robotic process automation (RPA)—without requiring interaction from a person.

- Includes 5,000 [AI Builder](#) service credits per month
- Requires access to the Microsoft 365 admin center with [global administrator or billing administrator roles](#)

DEMO

FRAGEN?



LAUNCHING AN APPLICATION

The image displays three overlapping screenshots of the 'Actions' panel in an IDE, illustrating how to find and launch applications.

Left Screenshot: The search bar contains the text 'launch'. The results are categorized into 'Web automation', 'Excel', and 'Outlook'. Under 'Web automation', there are four options: 'Launch new Internet Explorer', 'Launch new Firefox', 'Launch new Chrome', and 'Launch new Edge'. Under 'Excel', 'Launch Excel' is highlighted. Under 'Outlook', 'Launch Outlook' is listed.

Middle Screenshot: The search bar contains the text 'app'. The results are categorized into 'System', where 'Run application' is highlighted.

Right Screenshot: The search bar contains the text 'open'. The results are categorized into 'Database' (with 'Open SQL connection'), 'CMD session' (with 'Open CMD session' highlighted), 'Terminal emulation' (with 'Open terminal session'), and 'FTP' (with 'Open FTP connection' and 'Open secure FTP connection').


WORKING WITH FILES

Actions


file



Conditionals


 If file exists


Wait


 Wait for file


File

 Copy file(s)

 Move file(s)

 Delete file(s)


 Rename file(s)


 Read text from file

 Write text to file


Aa Read from CSV file

Aa Write to CSV file

 Get filepath part


 Get temporary file

Folder

 Get files in folder

Compression


 ZIP files


 Unzip files


Message boxes


 Display select file dialog

Cryptography

 Encrypt from file with AES

 Decrypt to file with AES

 Hash from file

 Hash from file with key


THE WEB

Actions


 web




Conditionals


 If web page contains

Wait

 Wait for web page content


Web


 Download from web


 Invoke web service


Web automation

Web data extraction


 Extract data from web page


 Get details of web page


 Get details of element on web page


 Take screenshot of web page


Web form filling


 Focus text field on web page


 Populate text Field on web page


 Set check box state on web page


 Select radio button on web page


 Set drop-down list value on web page


 Press button on web page


 Go to web page

 Click link on web page

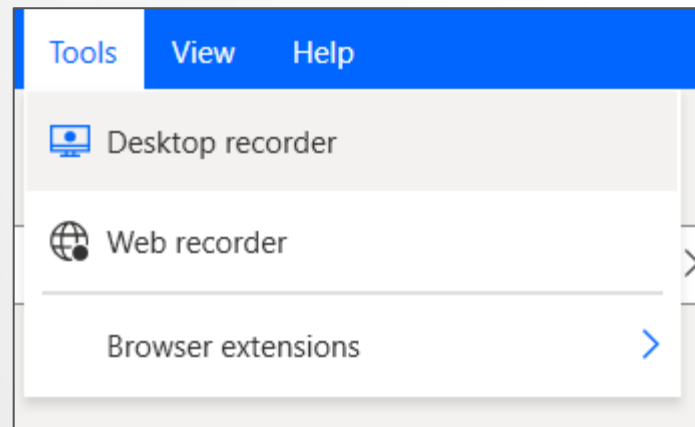
 Click download link on web page

 Run JavaScript function on web page

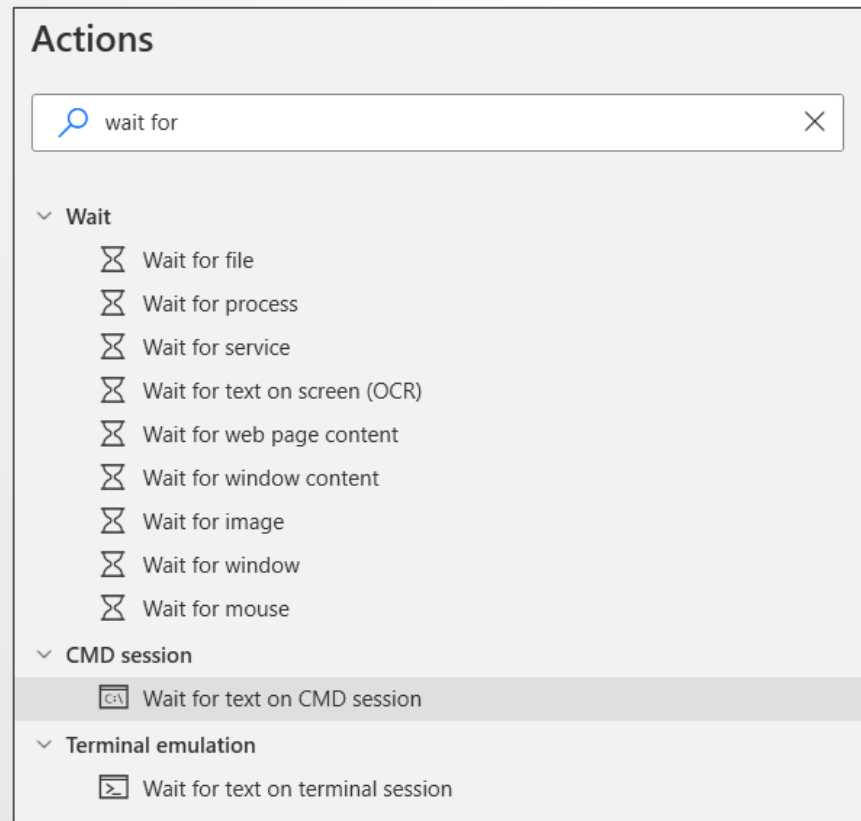
 Hover mouse over element on web page

 Close web browser

RECORD YOUR STEPS



WAIT FOR THINGS TO HAPPEN



VARIABLES

Variables

Search variables

Input / output variables 0

There aren't any input or output variables here yet

+

Flow variables 3

(x) Browser

(x) DownloadedFile

(x) HREF

Variables

① Truncate number

A1, A2

Generate random number

☒

Clear list

☒

Remove item from list

⇓

Sort List

↻

Shuffle list

⤴

Merge lists

◀

Reverse list

☒

Remove duplicate items from list

☒

Find common list items

☒

Subtract lists

📄

Retrieve data table column into list

☒

Convert JSON to custom object

JS

Convert custom object to JSON

+=

Add item to list

+

Create new list

↗

Increase variable

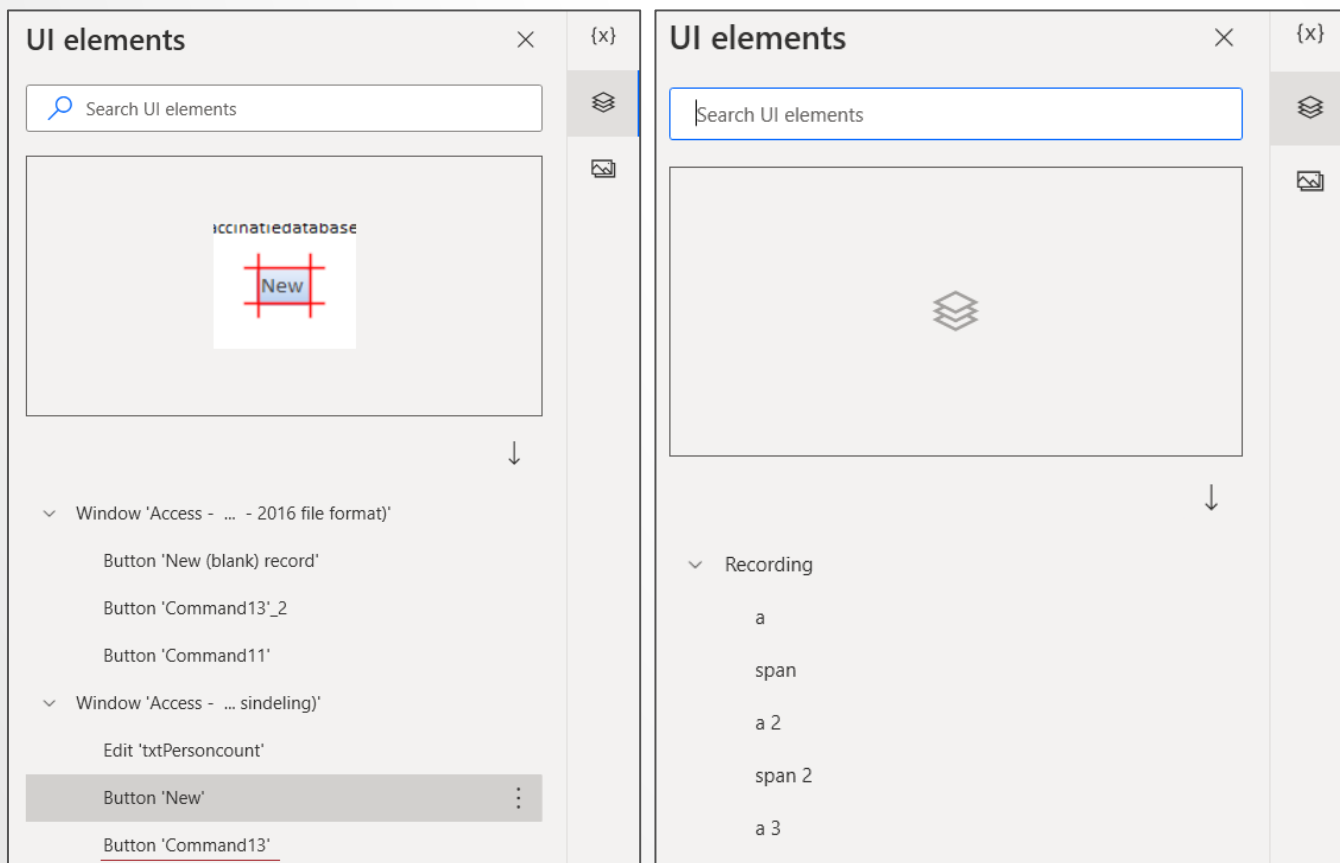
↘

Decrease variable

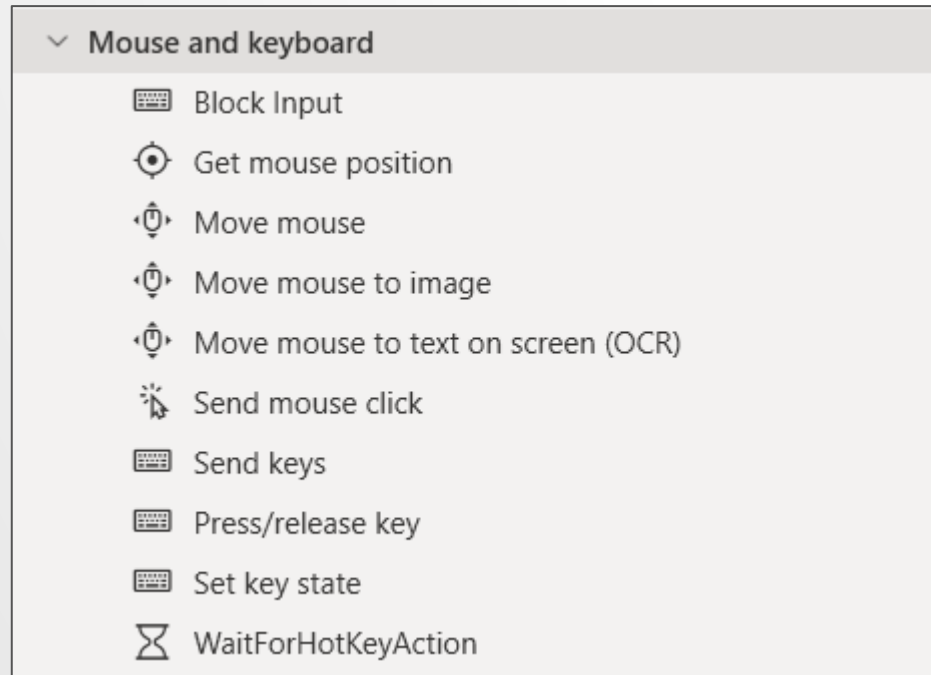
{x}

Set variable

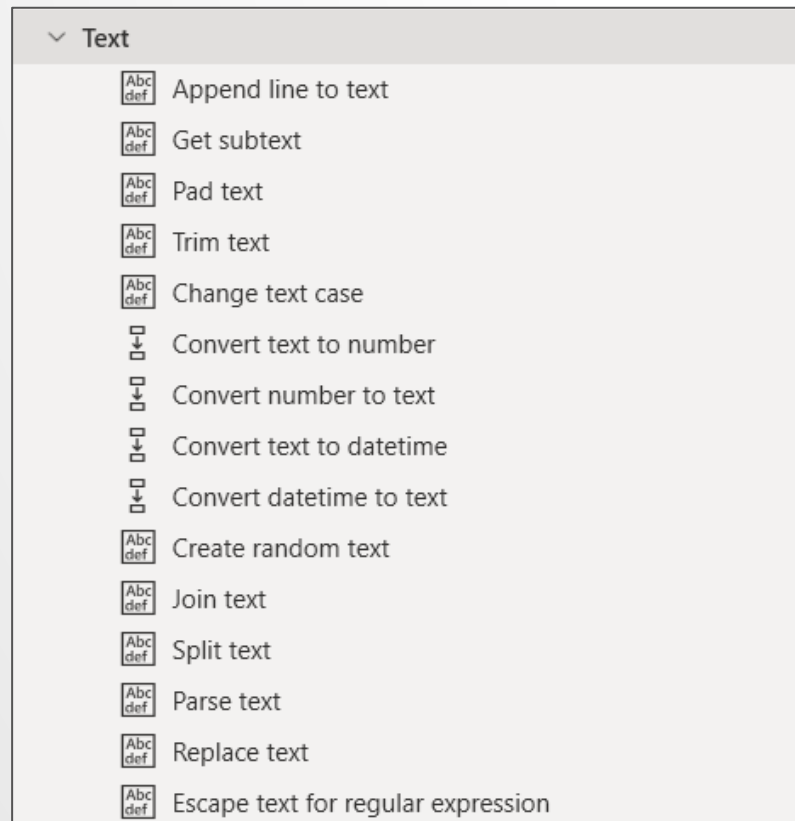
UI ELEMENTS



USE YOUR MOUSE AND KEYBOARD



DO SOME TEXT PROCESSING



DO SOME PROGRAMMING

Actions



> Variables

▼ Conditionals

- If file exists
- If folder exists
- If process
- If service
- If text on screen (OCR)
- If web page contains
- If window contains
- If image
- If window
- Case
- Default case
- Else
- Else if
- If
- Switch

▼ Loops

- Exit loop
- For each
- Loop
- Loop condition
- Next loop

SOME KEYWORDS

- Compression
- Cryptography
- CMD session
- Terminal emulation
- OCR
- AZURE / AWS / COGNITIVE
- FTP
- JSON / XML / CSV

CAN YOU USE A COMMAND LINE?

- <https://powerusers.microsoft.com/t5/Power-Automate-Desktop/Start-and-control-flow-from-command-line/td-p/760897>
- <https://docs.winautomation.com/en/controlling-winautomation-from-the-command-line.html#controlling-winautomation-from-the-command-line>
- The answer is No! Not yet?

CAN BE STARTED UNATTENDED

