

2022

Workshop: Business Central Excel Layout Reports Demystified

WORKSHOP

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Introduction

Learn in this workshop, using the Excel report layout, how you can create a report that generates a dataset and leave it up to the end-user to further modify it by using the full palette of capabilities in Excel such as sliders, diagrams, charts, pivot tables, and Power Query to design the report.

Discover how you can offer flexibility and freedom for the end-user, being able to change the look and feel of a report, adding additional views, filtering, and sorting on data, using the Excel Layout reports in Business Central.

This workshop will focus on the development of the ideal dataset and of course also the Excel layouts.

Environment setup

To be able to do the workshop you require a **Business Central Saas environment**. To be able to create the Business Central trial environment, you either require a **business email address** or you can create a new business email address by creating an **Office 365 trial**.

Once you have a BC Saas environment, you then need to create a **Sandbox**.

To develop new reports and datasets, you need Visual Studio Code and the AL extension.

If you already have the following:

- BC Saas Sandbox
- VSCode + AL Language

Then you can skip the following steps and start with **Developing AL Reports**.

To create an Office 365 trial, follow these steps:

Open your browser using an inprivate/incognito browser window.

Navigate to the following page: <https://www.microsoft.com/en-us/microsoft-365/enterprise/office-365-e5?activetab=pivot%3aoverviewtab>

Select **Free trial**:

Office 365 E5

Office 365 E5 is a cloud-based suite of productivity apps combined with advanced voice, analytics, security, and compliance services.

- Install Office for mobile on up to five PCs or Macs, five tablets, and five phones per user.
- Make, receive, and transfer business calls from anywhere, using any device.
- Make informed decisions with data analytics and visualization.
- Safeguard your organization against malicious threats posed by email messages, links (URLs), and collaboration tools.
- Assess your compliance risks, govern and protect sensitive data, and effectively respond to regulatory requirements.

Talk to an expert
To speak to a sales expert, call 1 855-270-0615. Available M-F 6:00AM to 6:00PM Pacific Time.

\$38.00 user/month
annual subscription-auto renews²

[Buy now](#)

[Free trial >³](#)

[Contact sales >](#)

Or

[Compare enterprise plans](#)

[Full comparison \(PDF\) >](#)

In the following window, enter your business email address, and click **Next**:



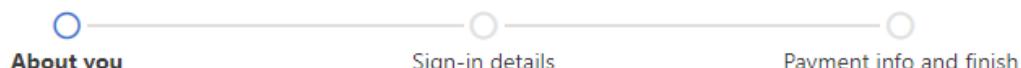
Let's get you started

Enter your work or school email address, we'll check if you need to create a new account for Office 365 E5 Trial.

Email

Next

The following is displayed:



Let's get you started

Looks like you need to create a new account. Let's get you started!
Continue as [redacted]

[Set up account](#)

[Change my email](#)

If you see the following message:



Let's get you started

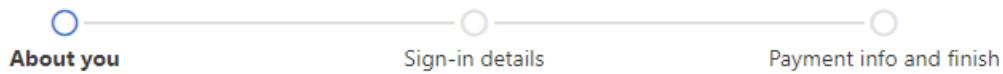
Looks like you're already using [REDACTED] with another Microsoft service. Sign in to use this account with this trial, or create a new account.

[Sign In](#) [Create a new account instead](#)



Then select: **Create a new account instead.**

On the next page, enter your information. The only thing that needs to be correct is your business **phone** number, because a confirmation **text message** will be sent to it in order to create the Office 365 trial.



Tell us about yourself

First name

Middle name (Optional)

Business phone number

Company name

Company size

Country or Region

I understand that Microsoft may contact me about my trial.

I will receive information, tips, and offers about solutions for businesses and organizations, and other Microsoft products and services. [Privacy Statement](#).

I would like Microsoft to share my information with select partners so I can receive relevant information about their products and services. To learn more, or to unsubscribe at any time, view the [Privacy Statement](#).

Next

Click **Next** to continue.

On the next page verify your phone number and country code, then click **Send verification code**:



Tell us about yourself

A text or phone call helps us make sure this is you.
Enter a number that isn't VoIP or toll free.

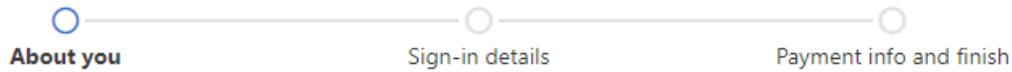
- Text me
 Call me

Country code	Phone number
(+32) Belgium	

We don't save this phone number or use it for any other purpose.

 **Send verification code** Back

Now enter the verification code you received:



Tell us about yourself

A text or phone call helps us make sure this is you.
Enter a number that isn't VoIP or toll free.

Text me

Call me

Country code

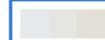
(+32) Belgium

Phone number

0473723499

We don't save this phone number or use it for any other purpose.

Enter your verification code



Didn't get it or need a new code? [Try again.](#)

 **Verify**

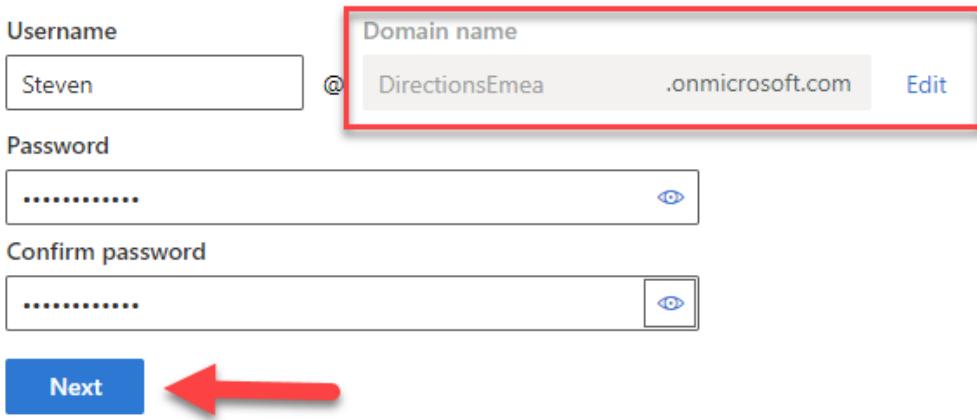
[Change my phone number](#)

On the next page, select a username, domain name and password. You might have to try different variations of the **domain name**, because it needs to be **unique**:



How you'll sign in

This **username** is what you'll use to sign in each time you use your apps. The domain name is a suggestion. You can change your domain now, or later at any time with your own custom domain.



Username
Steven

Domain name
DirectionsEmea @ .onmicrosoft.com Edit

Password
.....

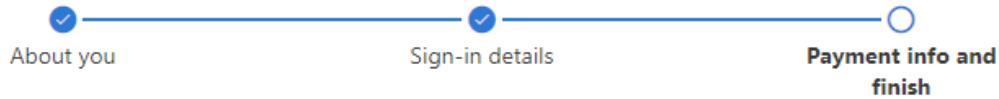
Confirm password
.....

Next ←

Make a note of the email address and password and then click **Next**.

Your account is now being created.

In the next page you are asked to enter **credit card information**:



Quantity and payment

First month is free

Product name	Price (USD)	Quantity	Subtotal (USD)
Office 365 E5 Trial	\$38.00 / Licenses / month	1 Maximum of 25 during trial	\$38.00

Yearly plan, paid monthly after trial (before tax): \$38.00
Total today: \$0.00

Add payment method



You do not need to enter any credit card information; you can simply **close** the browser window.
Make sure you have made a note of the **email/password** you have chosen.

You now have an Office 365 trial.

To create a Business Central SaaS trial, follow these steps:

Open your browser using an inprivate/incognito browser window.

Navigate to the following page: <https://dynamics.microsoft.com/en-us/dynamics-365-free-trial>

Select **Business Central trial**, then **Try for free**:

Finance and operations

Explore how to maximize financial visibility and monitor your operations in real time through a free ERP trial.

Dynamics 365 Finance

Optimize your financial operations and enhance your decision making to help protect revenue, mitigate risks, and reduce costs.

[Request a demo >](#)

Dynamics 365 Business Central

Connect and manage your small or medium-sized business to streamline processes, increase productivity, and improve customer interactions.

[Try for free >](#)



On the next page enter the **email** address. In case you created an Office 365 trial, it's the email address of the Office 365 trial you created earlier:

You've selected Dynamics 365 Business Central

1 Let's get you started

Enter your work or school email address, we'll check if you need to create a new account for Dynamics 365 Business Central.

By proceeding you acknowledge that if you use your organization's email, your organization may have rights to access and manage your data and account.

[Learn More](#)

[Next](#)



2 Create your account

3 Confirmation details



Connected business management

- Connect sales, service, finance, and operations in a single solution
- Edit and analyze your data in Excel
- Manage sales in Outlook and share data via Teams
- Extend your solution with industry-specific apps via AppSource

Click **Next**.

In the following page, select **Sign In**:

You've selected Dynamics 365 Business Central

1 Let's get you started

Looks like you're already a Microsoft customer. Sign in as steven@directionsemea.onmicrosoft.com to get Dynamics 365 Business Central with your account.

[Sign In](#)


2 Create your account

3 Confirmation details



Connected business management

- Connect sales, service, finance, and operations in a single solution
- Edit and analyze your data in Excel
- Manage sales in Outlook and share data via Teams
- Extend your solution with industry-specific apps via AppSource

When/if asked, enter the **credentials** (email/password) of the Office 365 trial.

On the next page:

You've selected Dynamics 365 Business Central

1 Let's get you started

2 Create your account

Hi **Steven**.

We need just a little more information before you get started

Email

Steven@DirectionsEmea.onmicrosoft.com

Country or Region

United States

I understand that Microsoft may contact me about my trial.

I will receive information, tips, and offers about solutions for businesses and organizations, and other Microsoft products and services. [Privacy Statement](#).

I would like Microsoft to share my information with select partners so I can receive relevant information about their products and services. To learn more, or to unsubscribe at any time, view the [Privacy Statement](#).

By choosing **Get Started**, you agree to our [terms and conditions](#) and [Privacy Statement](#).

[Get Started](#)


3 Confirmation details



Connected business management

- Connect sales, service, finance, and operations in a single solution
- Edit and analyze your data in Excel
- Manage sales in Outlook and share data via Teams
- Extend your solution with industry-specific apps via AppSource

Select a **country/region**, then **Get Started**.

The country/region is used to create a Business Central Production environment. You need to select a country from the list. If your country is not on the list, then select US or UK.

On the next page, select **Skip & go to Dynamics 365 Business Central**:

You've selected Dynamics 365 Business Central

- 1 Let's get you started
- 2 Create your account
- 3 Confirmation details

Thanks for signing up. Your user ID is **Steven@DirectionsEma.onmicrosoft.com**.

Dynamics 365 Business Central is built to collaborate with your co-workers. Let's invite them. It's free.

Username
Add more people

[Send Invitations](#)

[Skip & go to Dynamics 365 Business Central](#)



Connected business management

- Connect sales, service, finance, and operations in a single solution
- Edit and analyze your data in Excel
- Manage sales in Outlook and share data via Teams
- Extend your solution with industry-specific apps via AppSource

On the next page, select **Get Started**:

You've selected Dynamics 365 Business Central

- 1 Let's get you started
- 2 Create your account
- 3 Confirmation details

Thanks for signing up for Dynamics 365 Business Central

Your username is **Steven@DirectionsEma.onmicrosoft.com**

[Get Started](#)



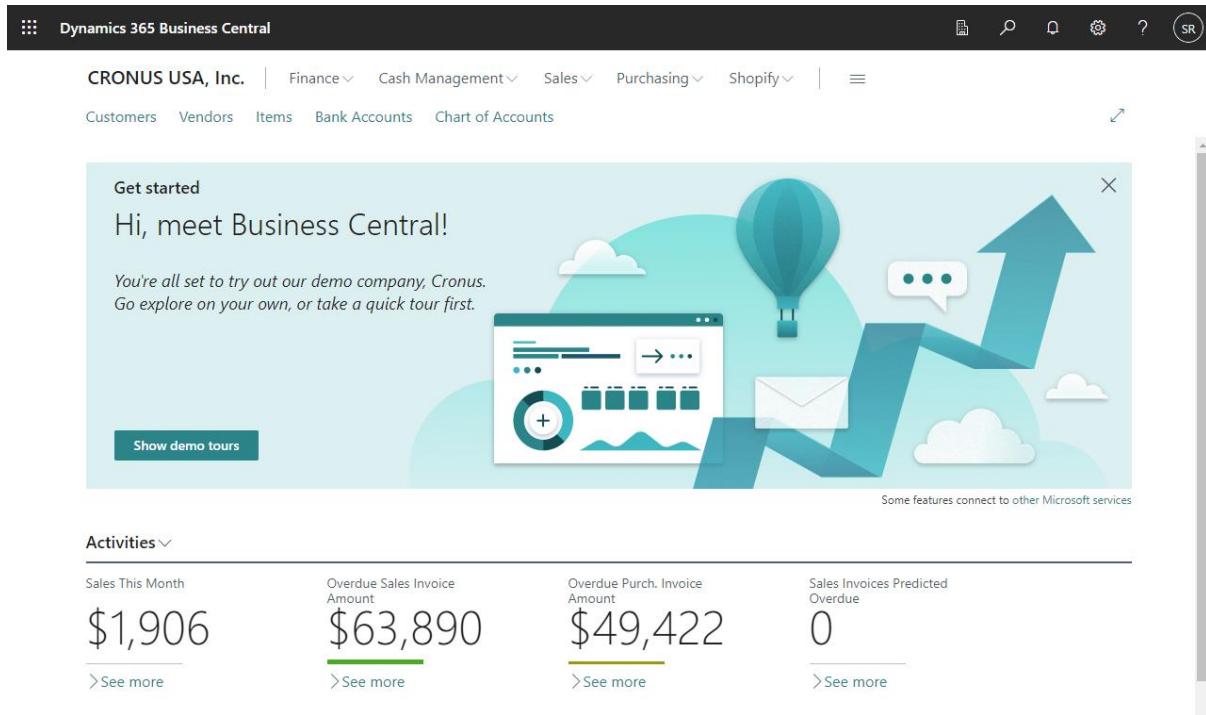
Connected business management

- Connect sales, service, finance, and operations in a single solution
- Edit and analyze your data in Excel
- Manage sales in Outlook and share data via Teams
- Extend your solution with industry-specific apps via AppSource

Now wait until your Business Environment is ready. This can take a few minutes.

When the BC environment is ready, your window will look similar to the following:

Workshop: Business Central Excel Layout Reports Demystified



Get started

Hi, meet Business Central!

You're all set to try out our demo company, Cronus. Go explore on your own, or take a quick tour first.

Show demo tours

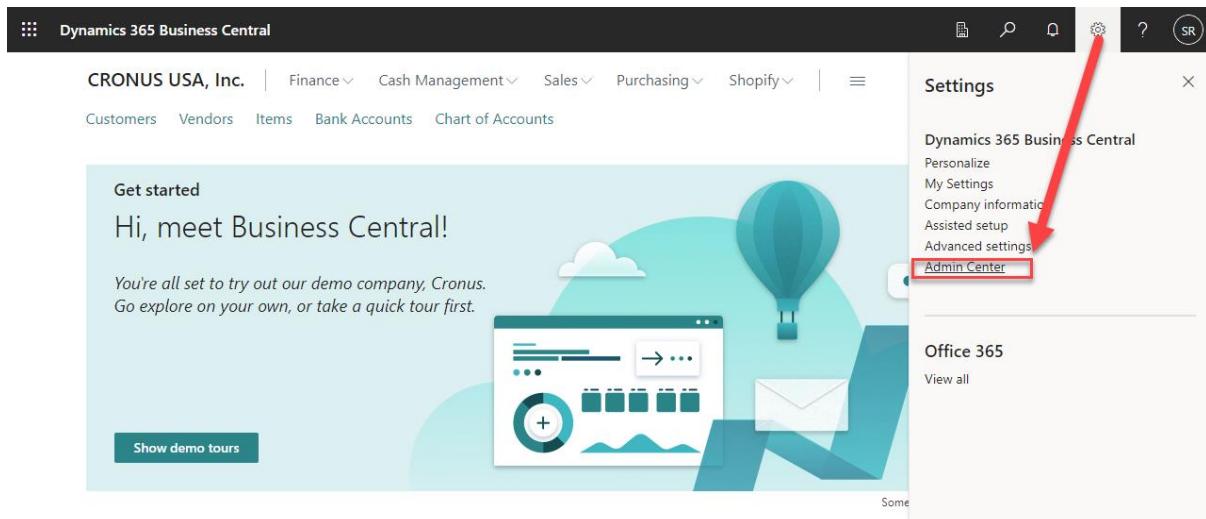
Some features connect to other Microsoft services

Activities

Sales This Month	Overdue Sales Invoice Amount	Overdue Purch. Invoice Amount	Sales Invoices Predicted Overdue
\$1,906	\$63,890	\$49,422	0
> See more	> See more	> See more	> See more

To create a Business Central SaaS Sandbox, follow these steps:

In Business Central, open the **Admin Center**, as follows:



Get started

Hi, meet Business Central!

You're all set to try out our demo company, Cronus. Go explore on your own, or take a quick tour first.

Show demo tours

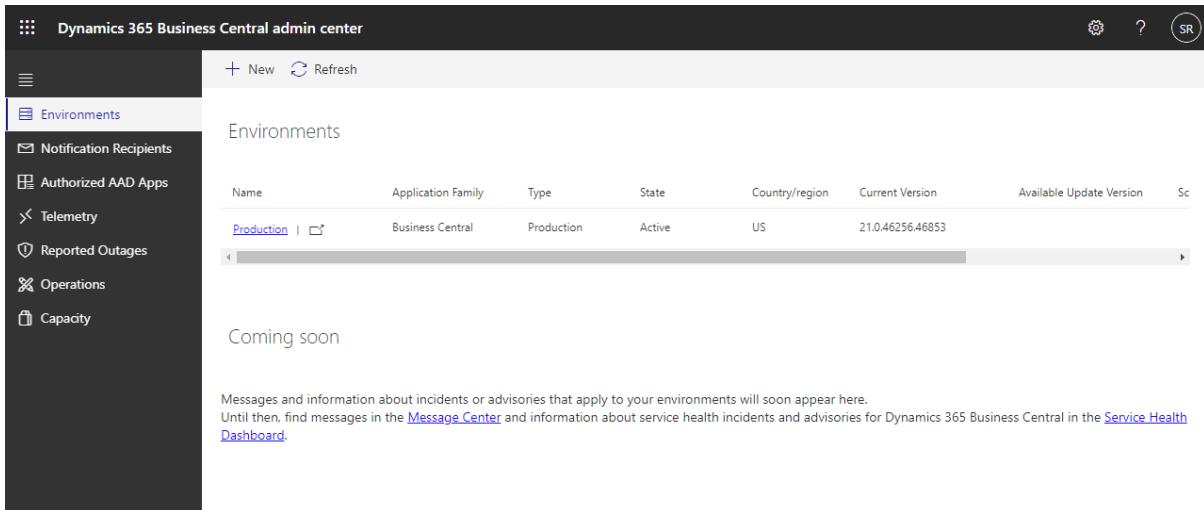
Settings

- Dynamics 365 Business Central
 - Personalize
 - My Settings
 - Company information
 - Assisted setup
 - Advanced settings
 - Admin Center**

Office 365

View all

The **Admin Center** now opens:

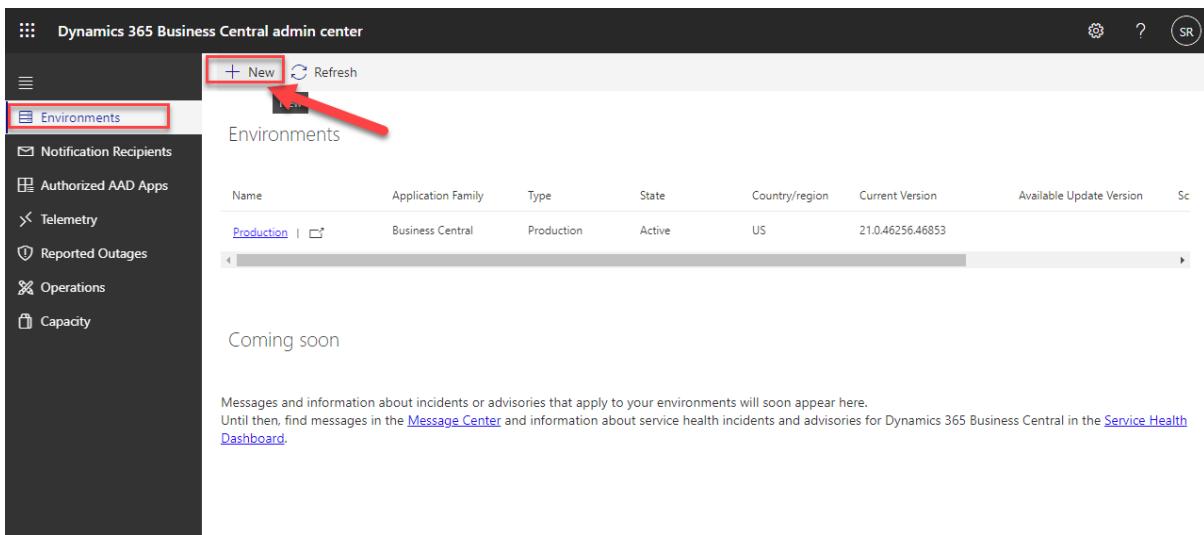


The screenshot shows the Dynamics 365 Business Central Admin Center interface. The left sidebar contains navigation links: Environments, Notification Recipients, Authorized AAD Apps, Telemetry, Reported Outages, Operations, and Capacity. The main content area is titled 'Environments' and displays a table with one row:

Name	Application Family	Type	State	Country/region	Current Version	Available Update Version	Sc
Production	Business Central	Production	Active	US	21.0.46256.46853		

Below the table, a message says 'Coming soon' and provides instructions for finding messages in the Message Center and Service Health Dashboard.

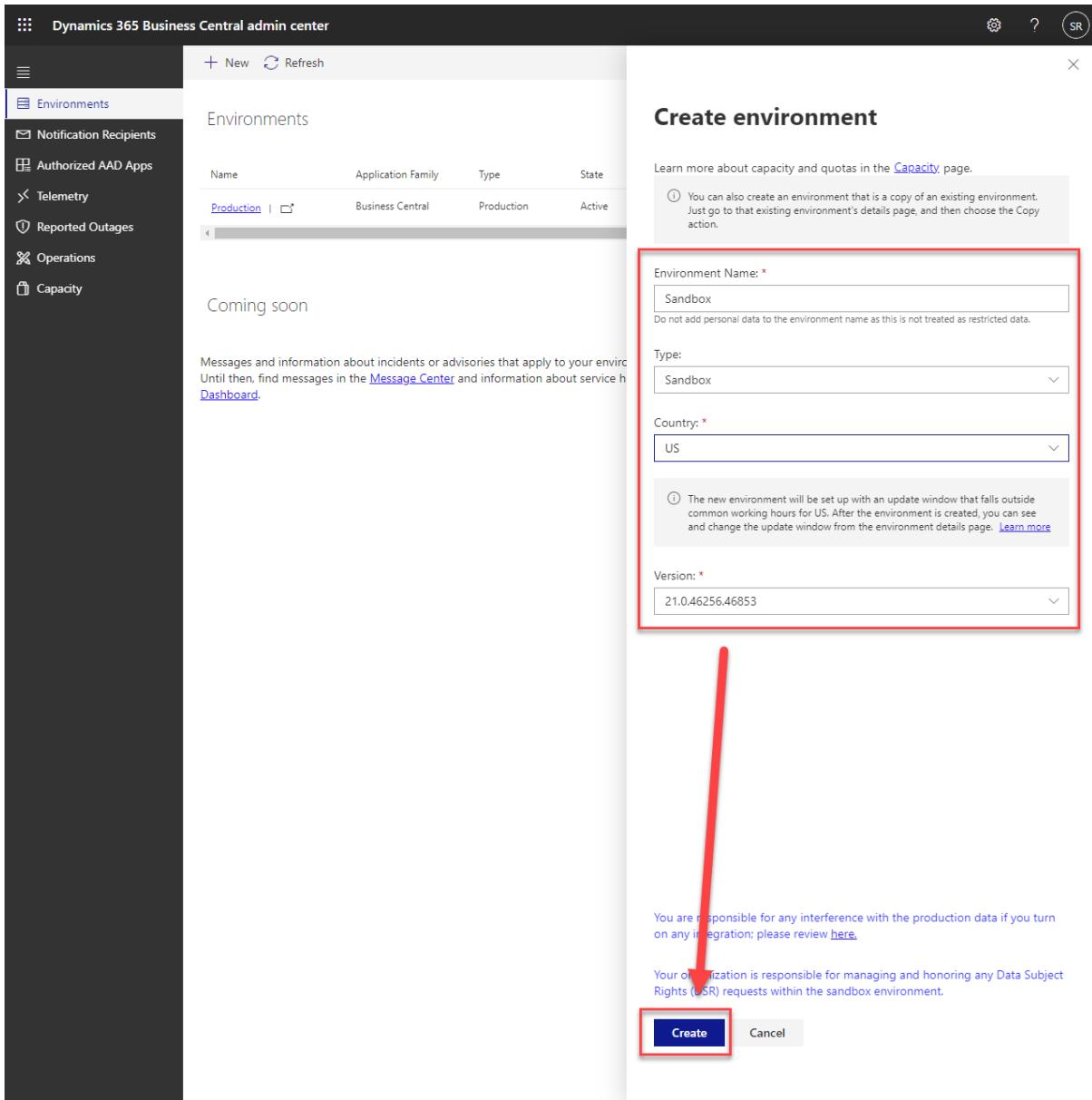
In the Admin Center, select **+New**, at the left top:



The screenshot shows the same Dynamics 365 Business Central Admin Center interface as the previous one, but with a red box highlighting the '+ New' button in the top navigation bar. A red arrow points from the text 'In the Admin Center, select +New, at the left top:' to this button.

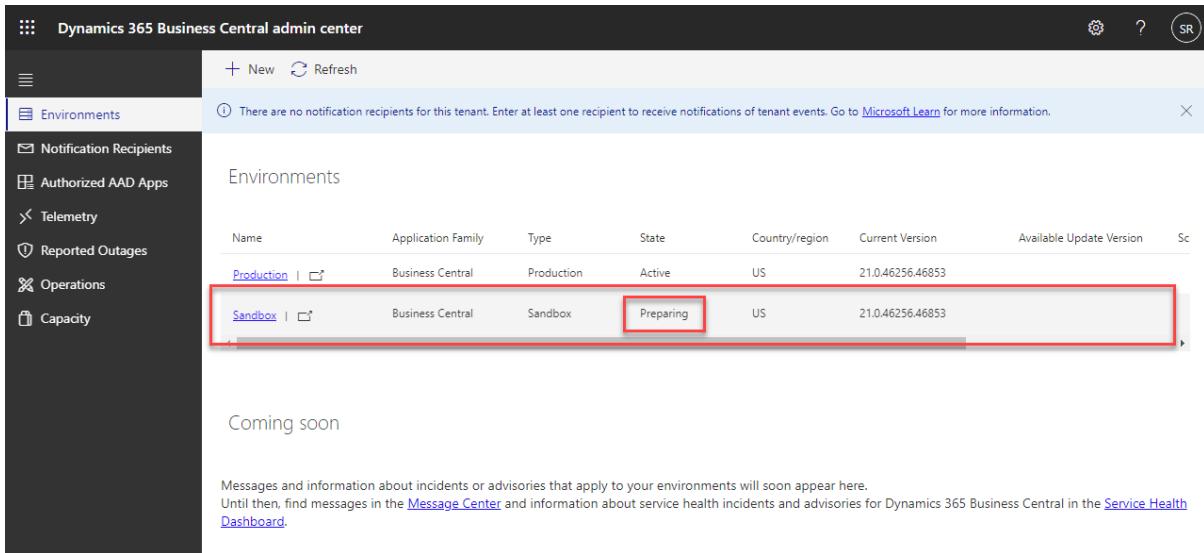
The main content area is titled 'Environments' and displays the same table as before. Below the table, a message says 'Coming soon' and provides instructions for finding messages in the Message Center and Service Health Dashboard.

A pane opens at the right side of the screen. Enter a name: Sandbox, type Sandbox and Country US, then **Create**:



The screenshot shows the Dynamics 365 Business Central admin center. On the left, the navigation bar includes 'Environments', 'Notification Recipients', 'Authorized AAD Apps', 'Telemetry', 'Reported Outages', 'Operations', and 'Capacity'. The main area displays the 'Environments' list with one entry: 'Production' (Business Central, Production, Active). Below the list, a message says 'Coming soon' and provides links to the 'Message Center' and 'Dashboard'. On the right, a modal window titled 'Create environment' is open, asking for 'Environment Name' (Sandbox), 'Type' (Sandbox), 'Country' (US), and 'Version' (21.0.46256.46853). A note at the bottom of the modal states: 'The new environment will be set up with an update window that falls outside common working hours for US. After the environment is created, you can see and change the update window from the environment details page.' At the bottom of the modal are 'Create' and 'Cancel' buttons. A red arrow points from the 'Create' button in the modal to the 'Create' button in the main interface.

The sandbox is now being created, it can take several minutes to complete:

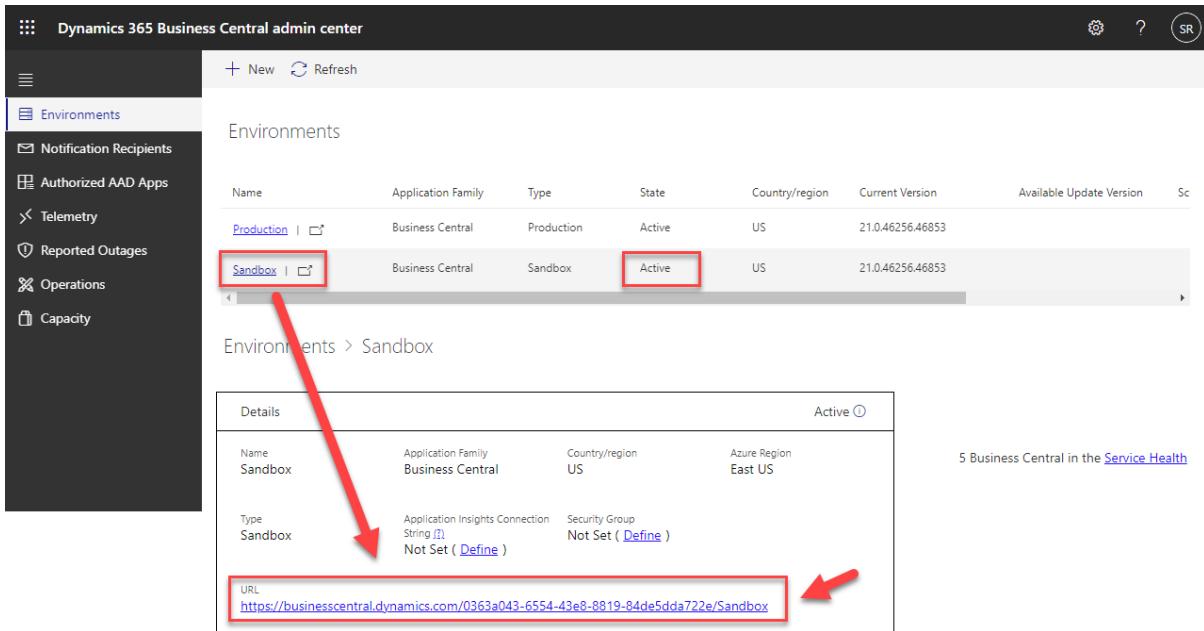


The screenshot shows the Dynamics 365 Business Central admin center. On the left, there's a navigation bar with various links like 'Notification Recipients', 'Authorized AAD Apps', 'Telemetry', 'Reported Outages', 'Operations', and 'Capacity'. The main area is titled 'Environments' and shows two entries:

Name	Application Family	Type	Status	Country/region	Current Version	Available Update Version	Sc
Production	Business Central	Production	Active	US	21.0.46256.46853		
Sandbox	Business Central	Sandbox	Preparing	US	21.0.46256.46853		

Below this, there's a section titled 'Coming soon' with a note about messages for incidents or advisories.

Once the Status changes to **Active**, then open the Sandbox:



The screenshot shows the Dynamics 365 Business Central admin center. The 'Environments' list now shows the 'Sandbox' entry with 'Active' status. The 'Details' page for the 'Sandbox' environment is displayed, showing the following information:

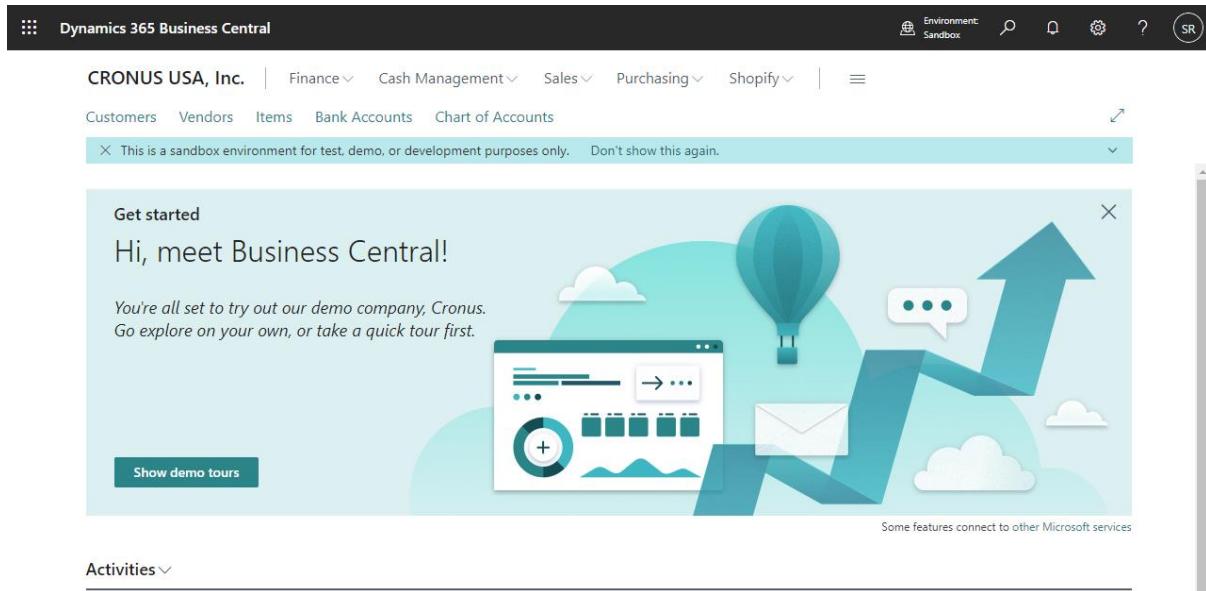
Details				Active
Name Sandbox	Application Family Business Central	Country/region US	Azure Region East US	
Type Sandbox	Application Insights Connection String [I] Not Set (Define)	Security Group Not Set (Define)		
URL https://businesscentral.dynamics.com/0363a043-6554-43e8-8819-84de5dda722e/Sandbox				

Red arrows point from the 'Active' status in the list to the 'Active' status in the details view, and another arrow points to the URL field in the details view.

Opening the sandbox, for the first time, activates the security (roles, permissions), and is required, before you use the sandbox for development.

Make a note (in notepad) of the EnvironmentName you have chosen, and the tenant URL.

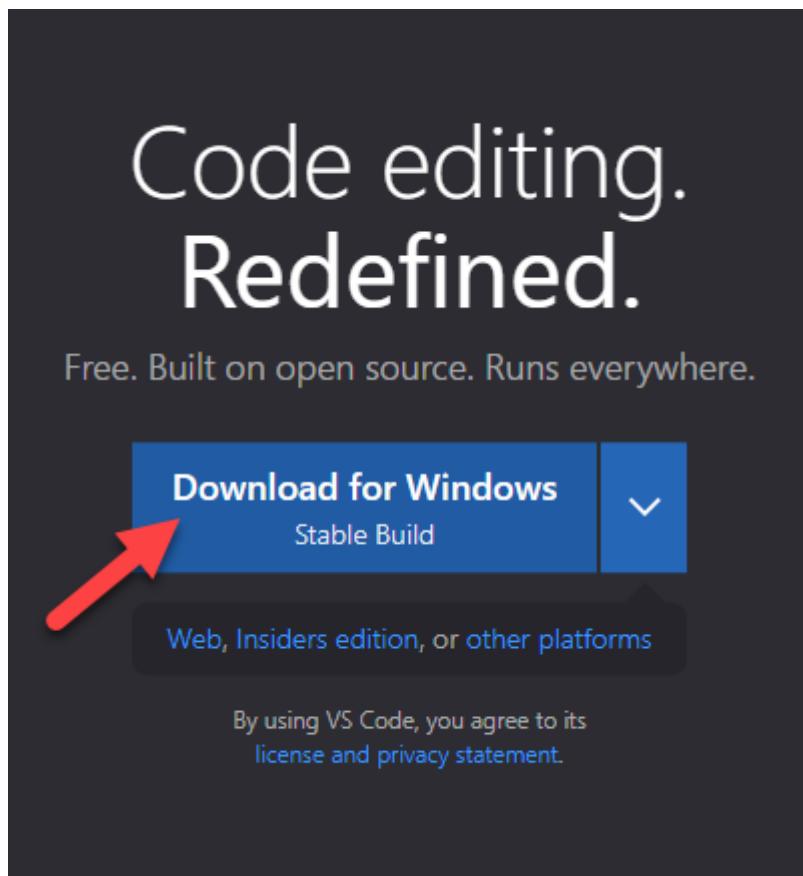
Your Business Central SaaS Sandbox is now ready:



The screenshot shows the Dynamics 365 Business Central interface. At the top, there are four icons: a person, a speech bubble, a group of people, and a checkmark. The title 'DIRECTIONS 4 PARTNERS' is displayed above the main menu bar. The menu bar includes 'CRONUS USA, Inc.' and various modules: Finance, Cash Management, Sales, Purchasing, Shopify, and a search bar. Below the menu, a navigation bar lists 'Customers', 'Vendors', 'Items', 'Bank Accounts', and 'Chart of Accounts'. A message at the top states 'This is a sandbox environment for test, demo, or development purposes only.' with a 'Don't show this again.' option. The main content area features a 'Get started' section with the heading 'Hi, meet Business Central!' and a sub-section 'You're all set to try out our demo company, Cronus. Go explore on your own, or take a quick tour first.' It includes a 'Show demo tours' button and a decorative graphic of a hot air balloon, a speech bubble, and a large arrow pointing upwards. At the bottom of the page, there's a 'Activities' section.

To install and configure Visual Studio Code, follow these steps:

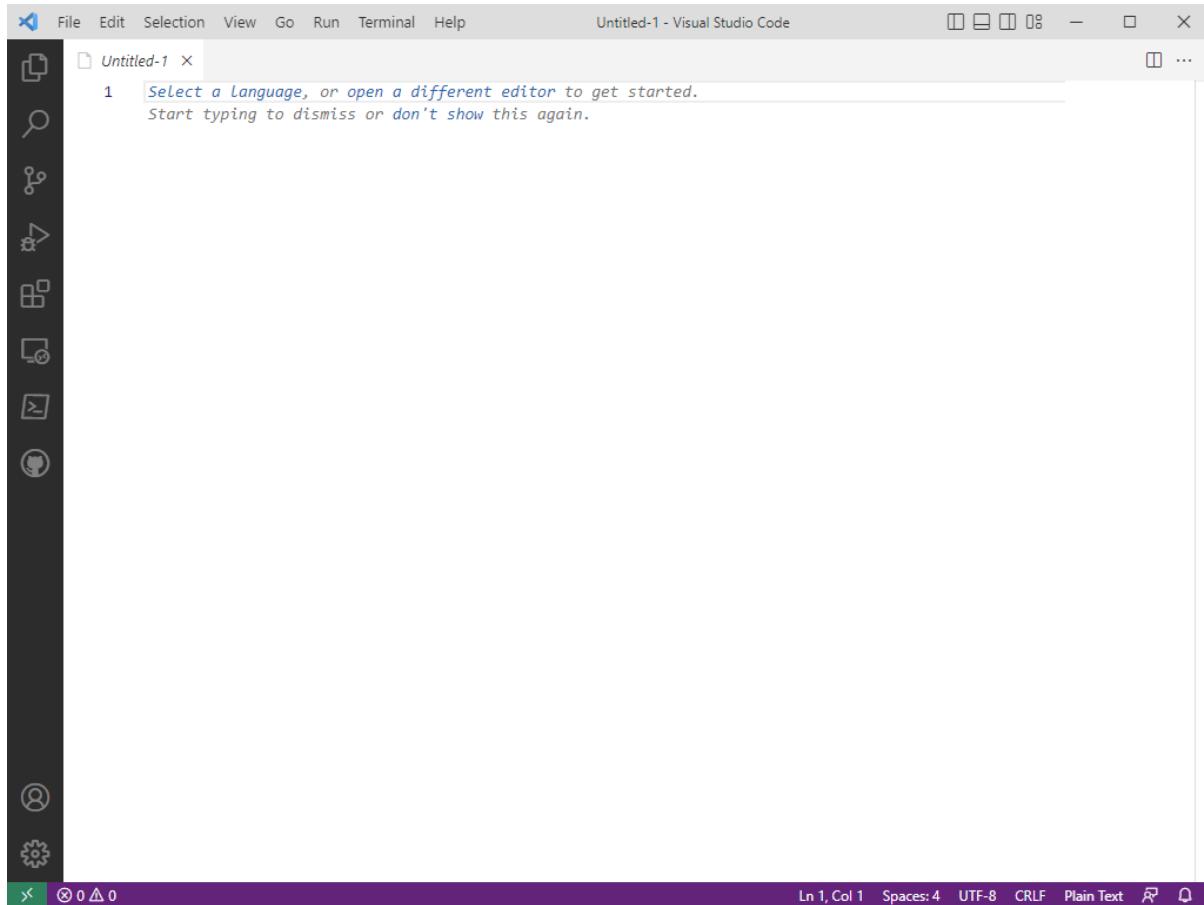
Download and Install Visual Studio Code, from the website: <https://code.visualstudio.com>



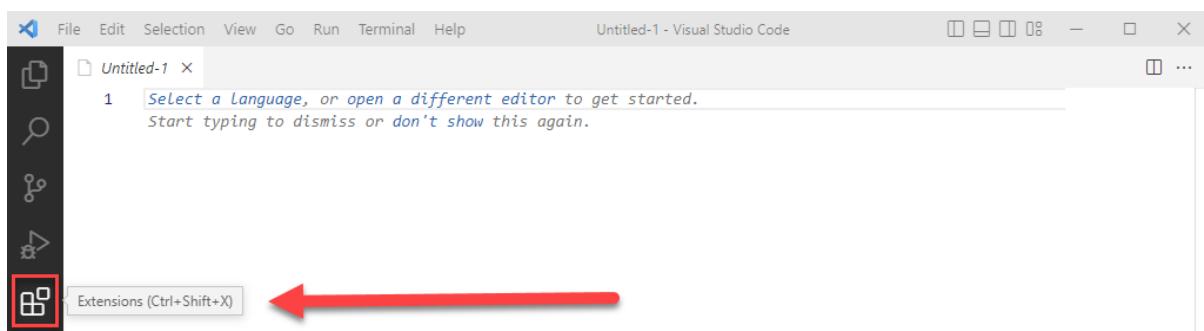
Click Download and install Visual Studio Code, using the default proposed settings.

Workshop: Business Central Excel Layout Reports Demystified

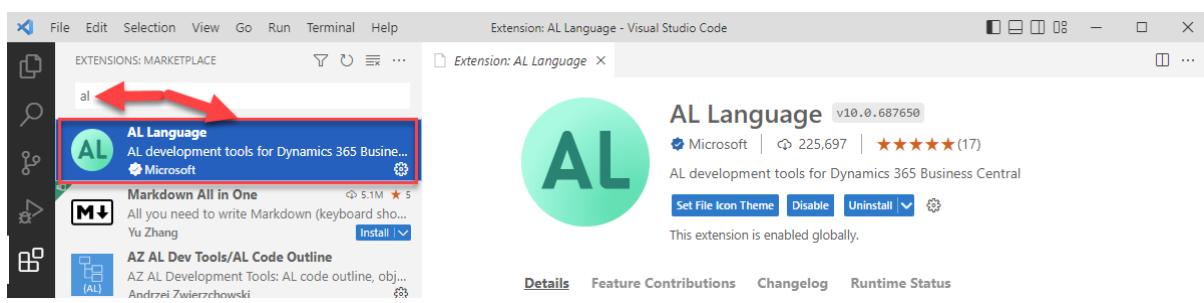
Once VScode is installed, open it:



In VScode, select the Extensions button:



Look for the AL Language extension from Microsoft and install it:



Workshop: Business Central Excel Layout Reports Demystified

Developing AL reports

We will create the following three new reports:

- Finance
- ItemAvailability
- Shipments

Excel layouts can be added to Business Central Report objects, so this means a developer can do it when creating/developing a new report, but also in Business Central a non-developer (user) can always add new layouts to existing reports.

The difference is that in Business Central, a user cannot change the dataset for a report. So, if you required a certain field in the dataset of a report, in order to create a new layout, you have to ask a developer to either extend the dataset of the existing report or to develop a new report.

Although extending the dataset of an existing report is possible, it is mostly not recommended. The reason is that the datasets of existing reports are not optimized to be consumed in an Excel layout. You would be able to add fields/tables to the dataset of an existing report, but it would, in many cases, still not be useful to be used in combination with an Excel layout.

For that reason, we will not extend the dataset of existing reports, but we will create new reports instead.

If you are interested to learn how to create a report extension, then ask one of the instructors of this workshop, and they will surely demo it.

To learn how to develop reports for Business central, there's a lot of documentation available:

- <https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/developer/devenv-reports>
- <https://learn.microsoft.com/en-us/training/paths/build-reports>

The above links are good starting places to learn more about report development.

In this workshop, we will guide you, step by step, how to create the 3 reports, but for more in depth information and documentation we recommend to have a look at the above documentation on Microsoft Docs and Microsoft Learn.

Besides that, we also offer other, in depth, training options:

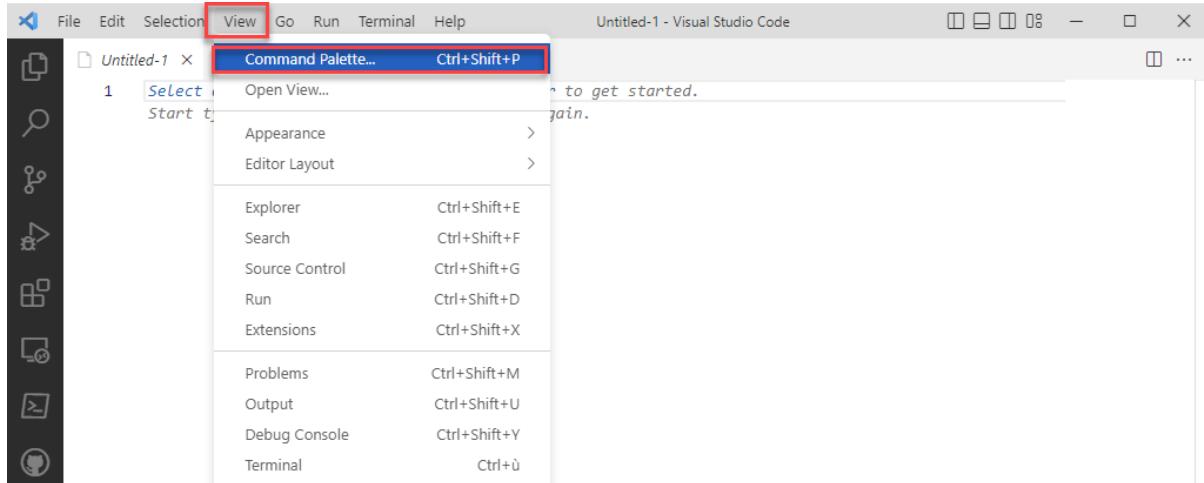
- <https://businesscentralbooster.com>
- <https://plataan.tv>

If you don't want to develop the extension in VSCode, but simply want to deploy the solution, the go to: **To import the extension in Business Central, follow these steps**

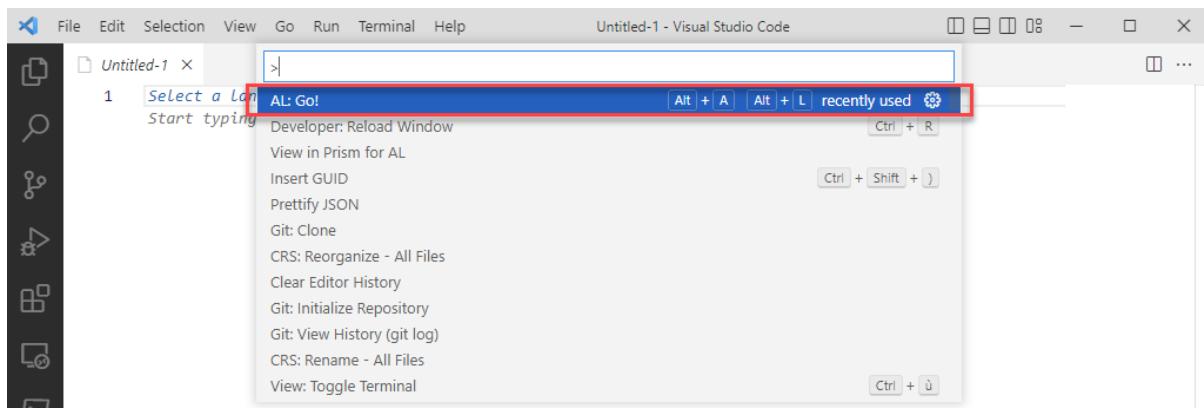
[To create a new extension \(app\), follow these steps:](#)

We will now create a new extension (app) in VScode, named: **WorkshopExcelLayouts**.

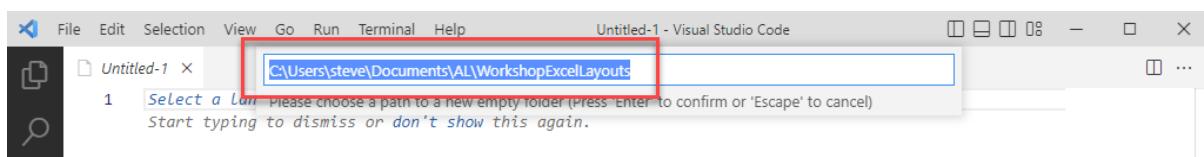
In Visual Studio Code (VSCode), open the Command Palette (F1):



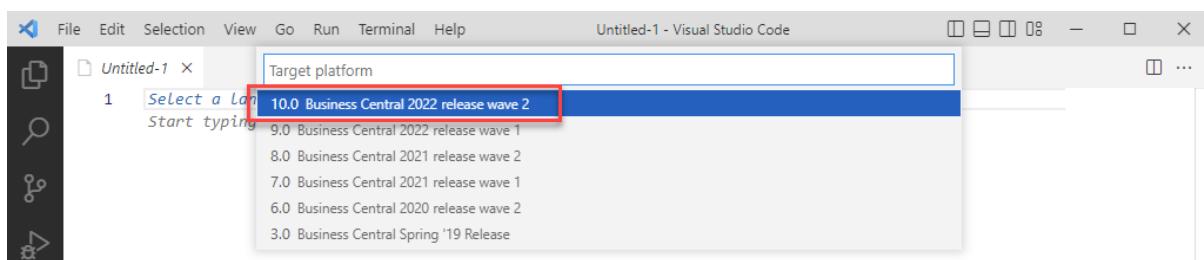
In the Command Palette select AI:Go!



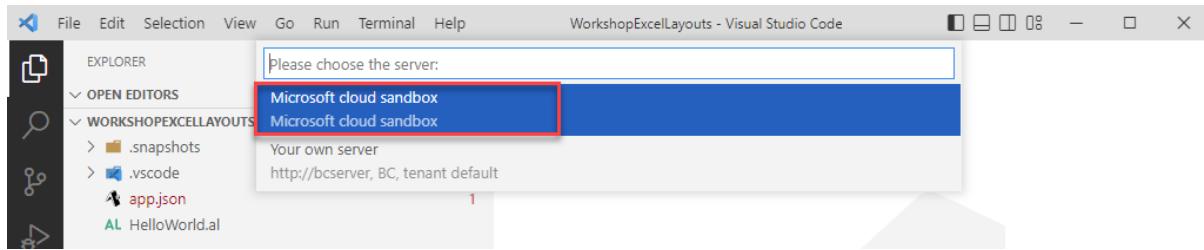
Now, enter a name (and path) for your app:



Hit enter, and then select the latest Target Platform (10):



Then select Microsoft cloud sandbox:

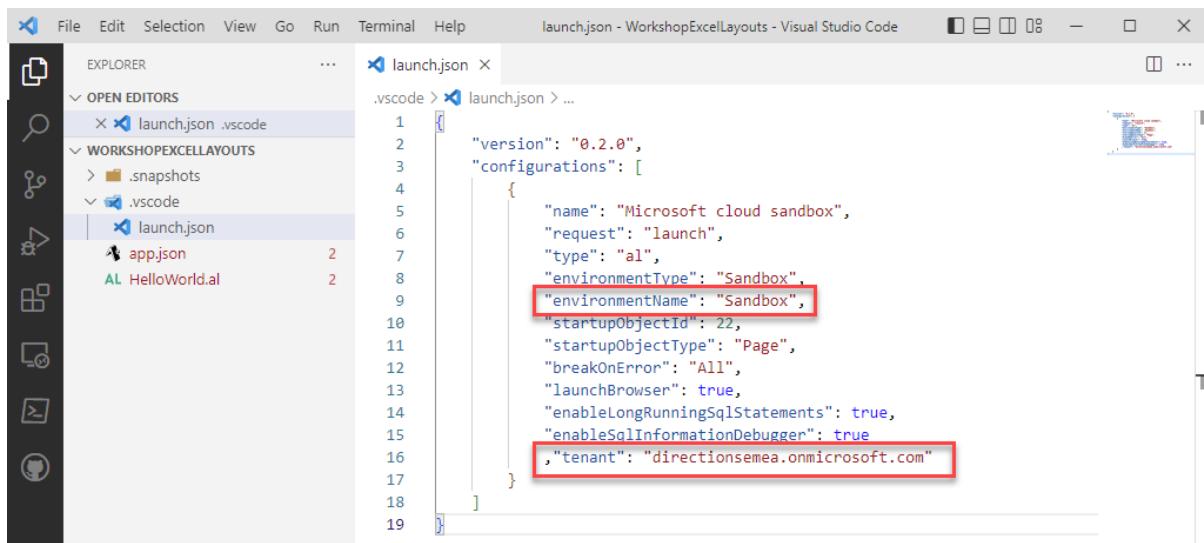


Some files are now created, and you might see some error messages. Ignore that.

Open the Launch.json, located in the .vscode folder.

In the launch.json, enter the exact name of the sandbox you created in the setting: environmentName. Be aware this setting is case sensitive.

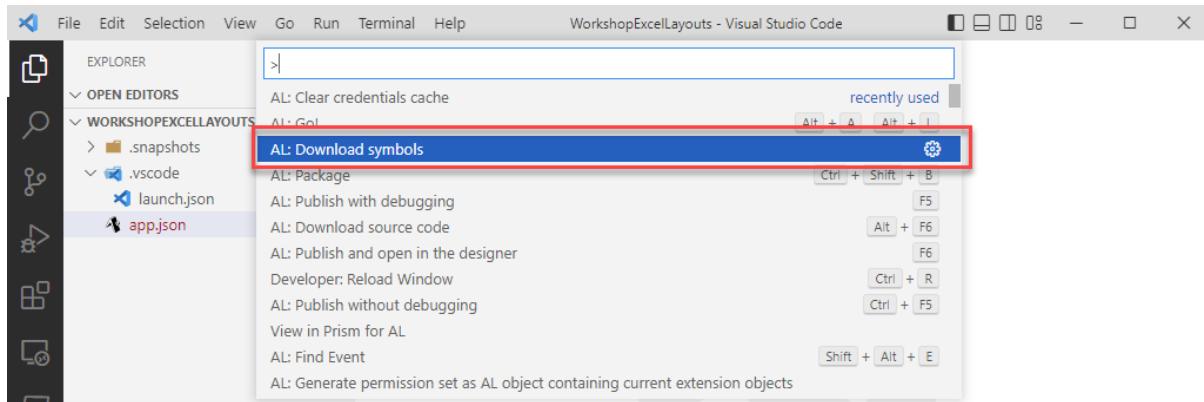
Then, add a tenant parameter, and in the tenant parameter enter your domain:



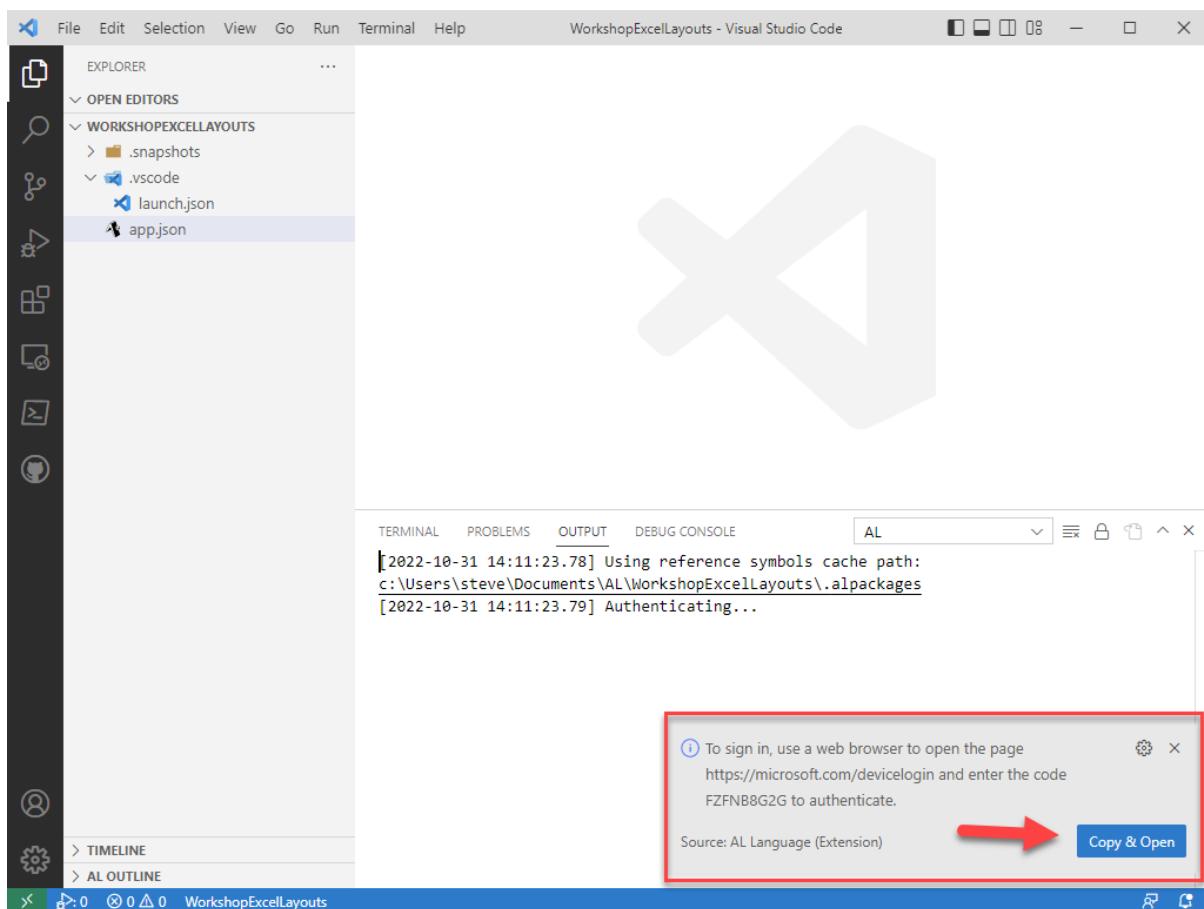
In the above example, I'm using the email steven@directionsemea.onmicrosoft.com to login to my BC trial, so my domain is: directionsemea.onmicrosoft.com

Now delete the **HelloWorld.al** file.

The next part is to connect VScode to Business Central and Download Symbols. This means the Base and System apps will be downloaded from BC into VScode. To do this, open the Command Palette again (F1) and select: **Download Symbols**:

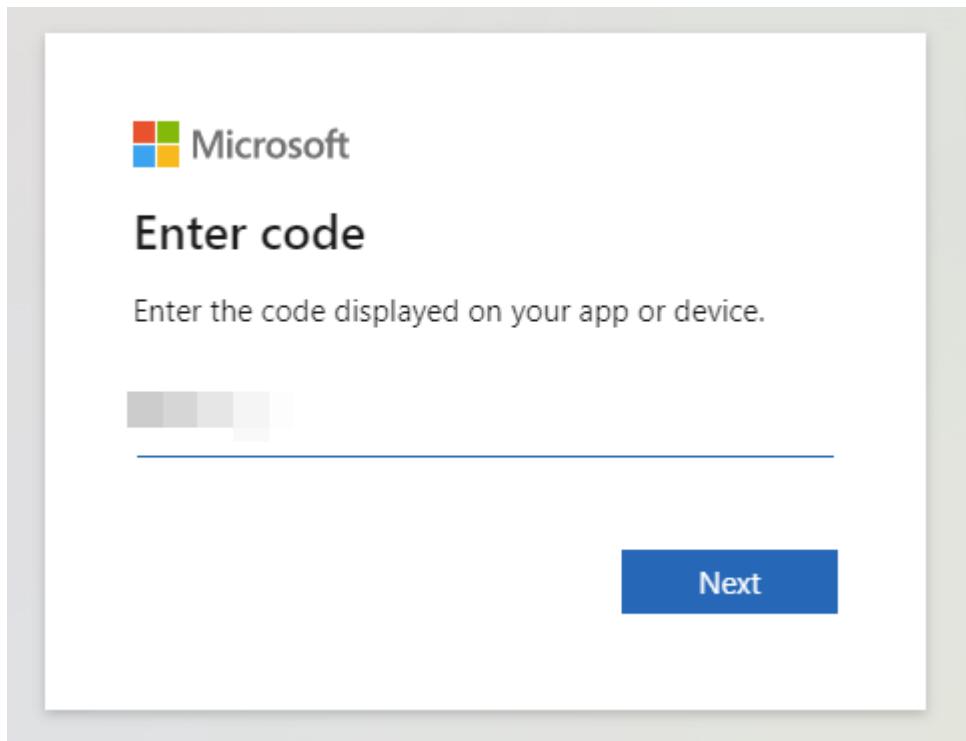


At the right bottom of VScode, a message appears:



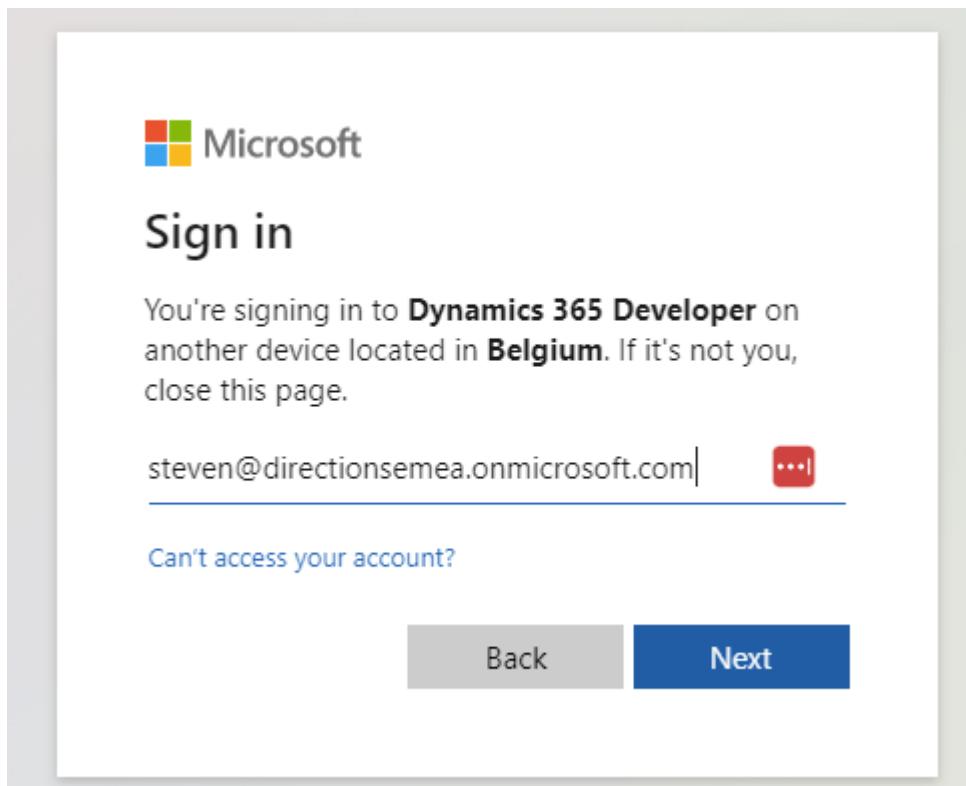
Click the **Copy & Open** button, to open your browser.

In the browser windows that opens, simply **paste** the code:



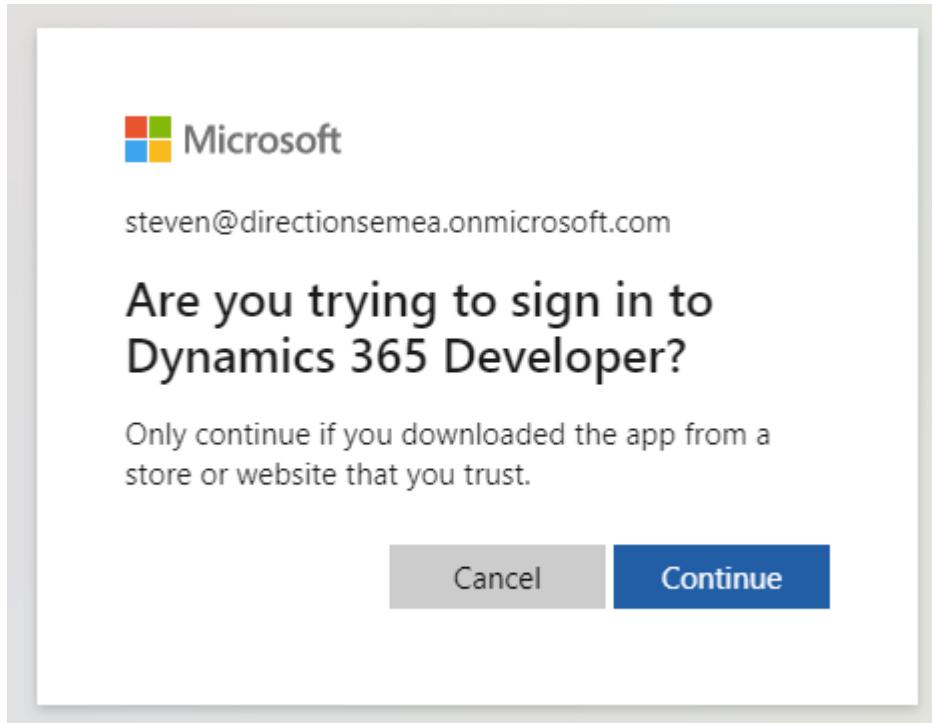
Then click **Next**.

Now authenticate (logon) using the same credentials you use to login to Business Central:

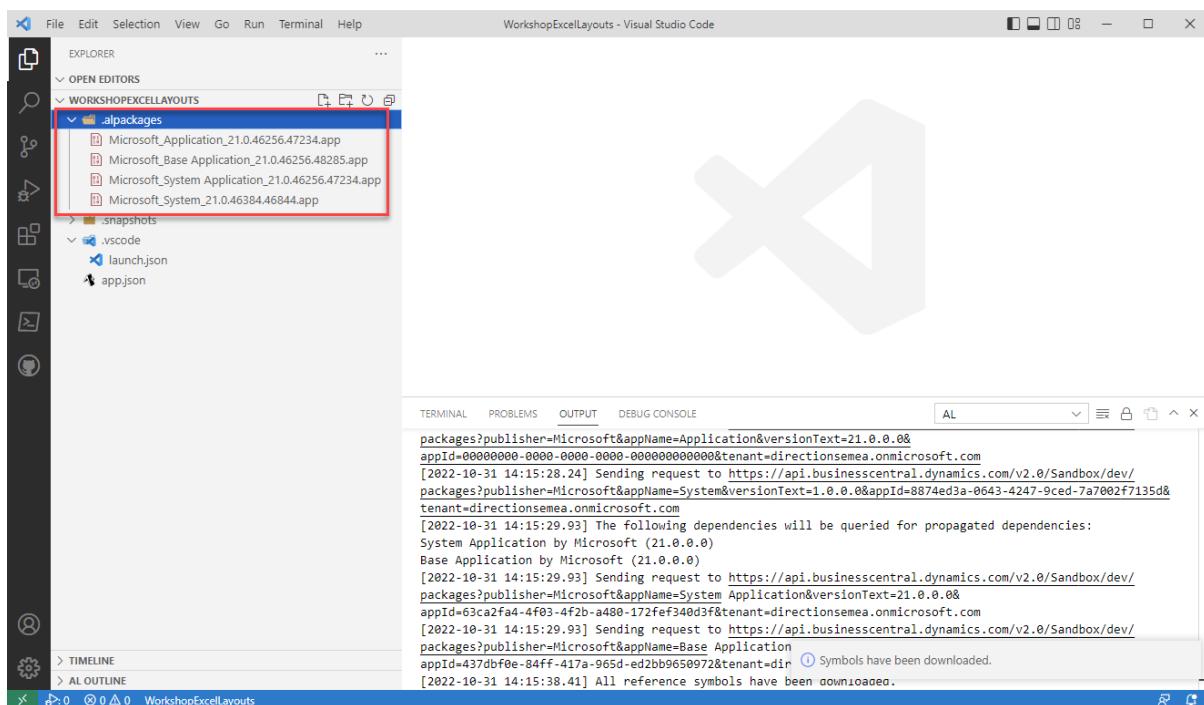


And, when asked, enter your password.

Then click **Continue**:



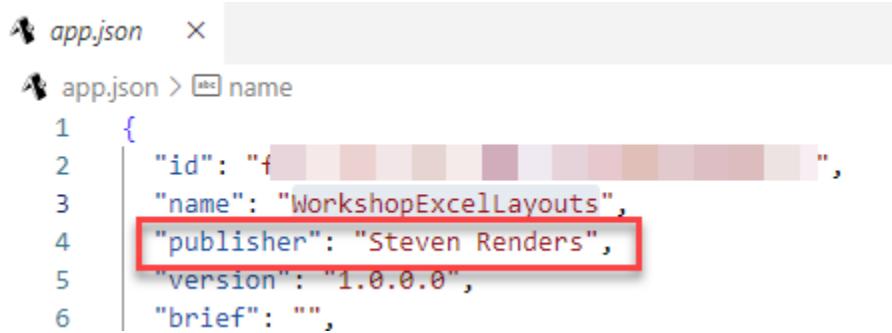
Close the browser window and return to VScode. In VScode, wait until all symbols are downloaded:



You should now have an **.alpackages** folder in VScode containing **4 apps**, like in the above screenshot.

If this is not the case, ask an instructor for help.

In the **app.json**, in the name setting, you can enter your name as the **publisher**:

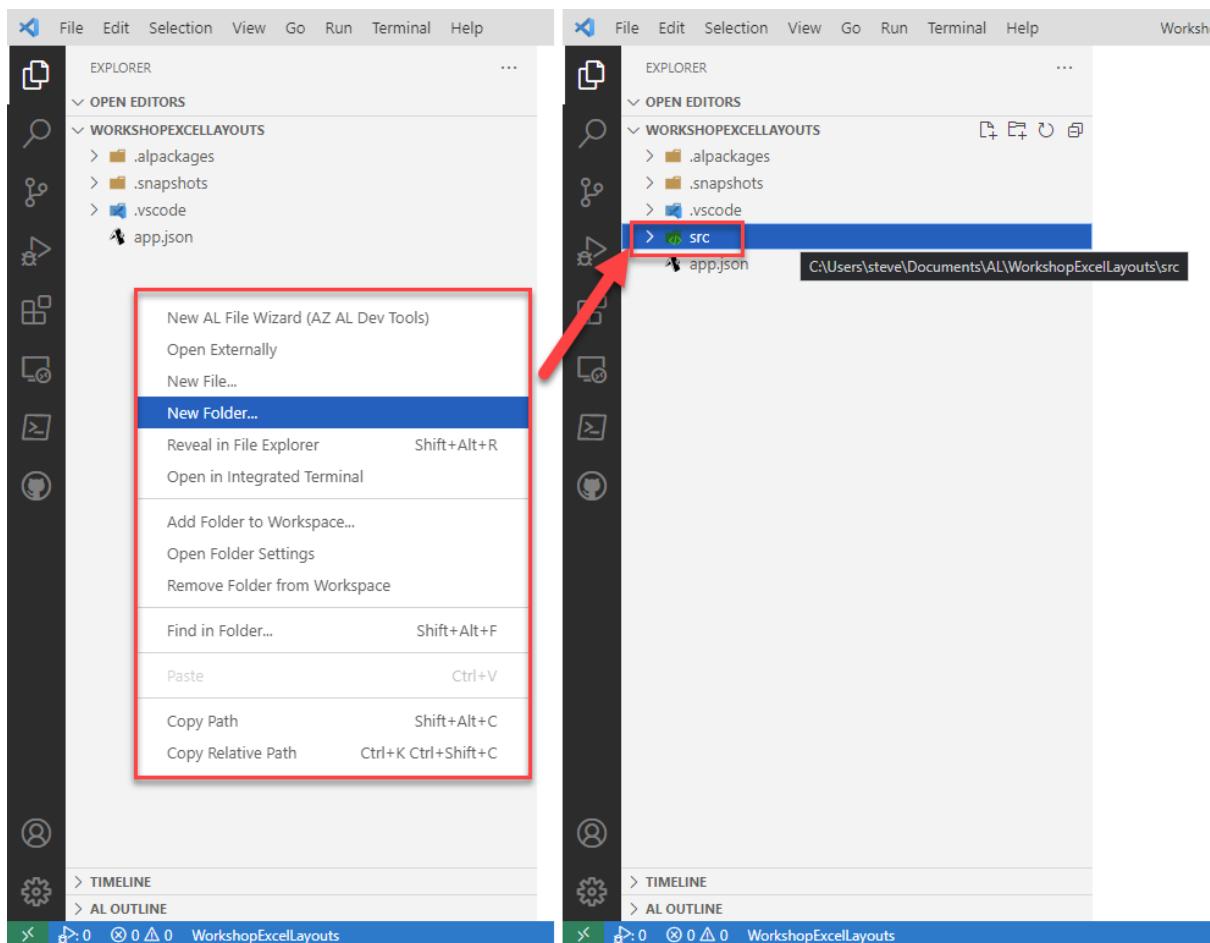


```

1  {
2      "id": "f...",
3      "name": "WorkshopExcelLayouts",
4      "publisher": "Steven Renders",
5      "version": "1.0.0.0",
6      "brief": ""

```

In the root folder in VScode, now create an **src** folder:



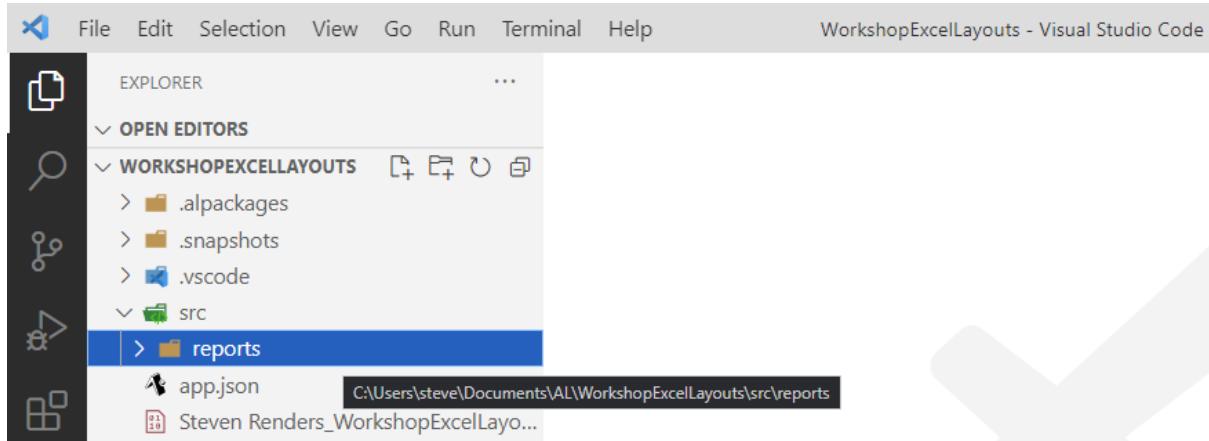
It is recommended to create an **src** folder, so it can hold the new objects you will develop. In the **src** folder you can then, later, create subfolders in order to organize your objects.

Your new extension (app), **WorkshopExcelLayouts**, is not created. Currently the app is 'empty' and does not contain any object(s) yet. In the next phase of the workshop, you will create new report objects, each of them with an Excel layout.

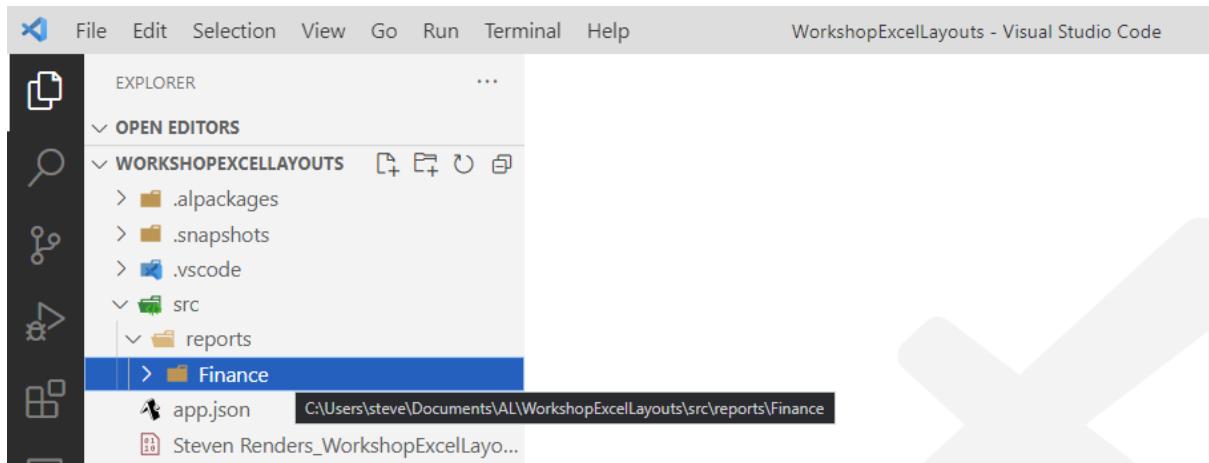
To create the Finance report, follow these steps:

Create the Dataset:

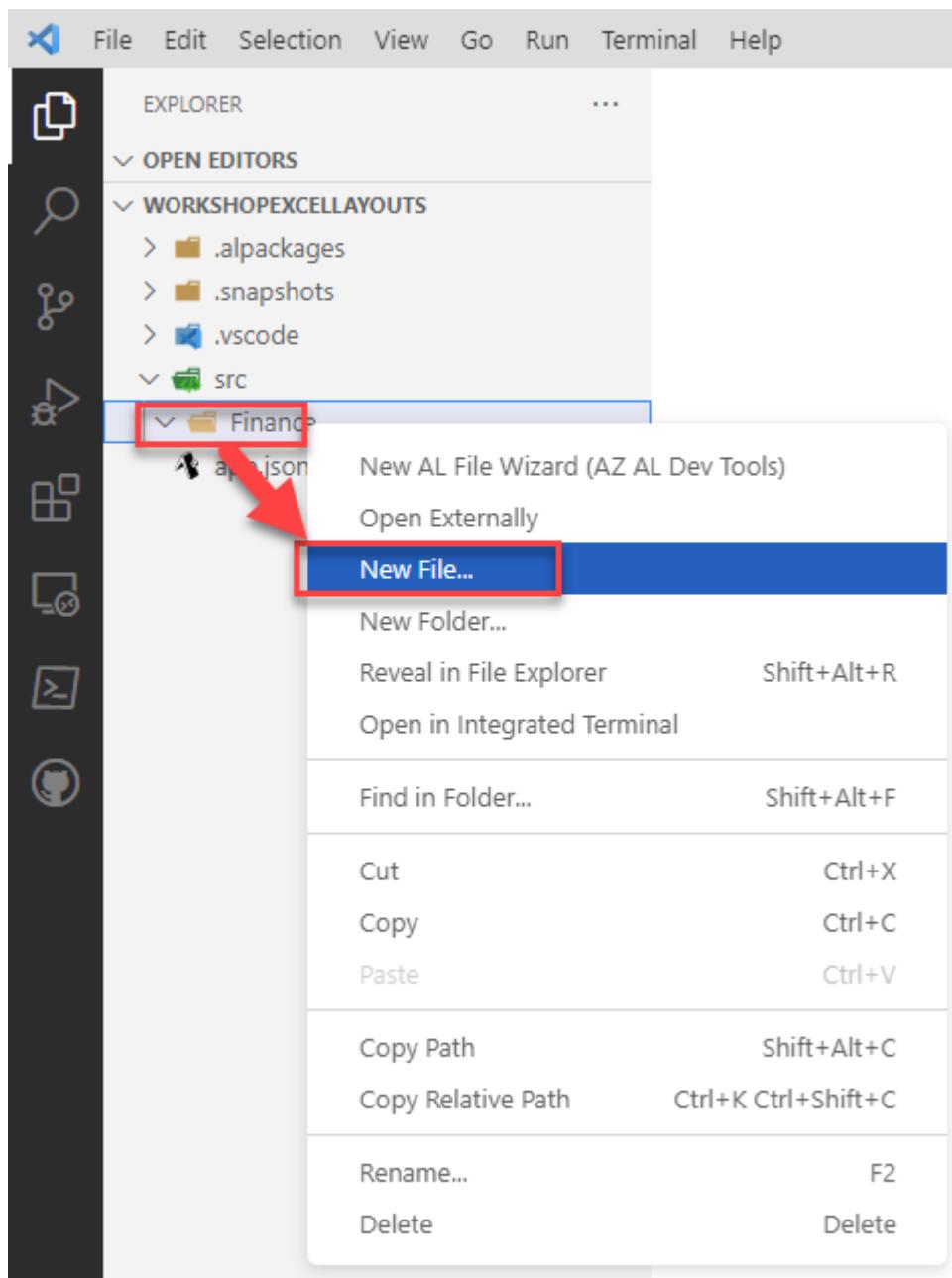
In the **src** folder, create a subfolder named: **reports**:



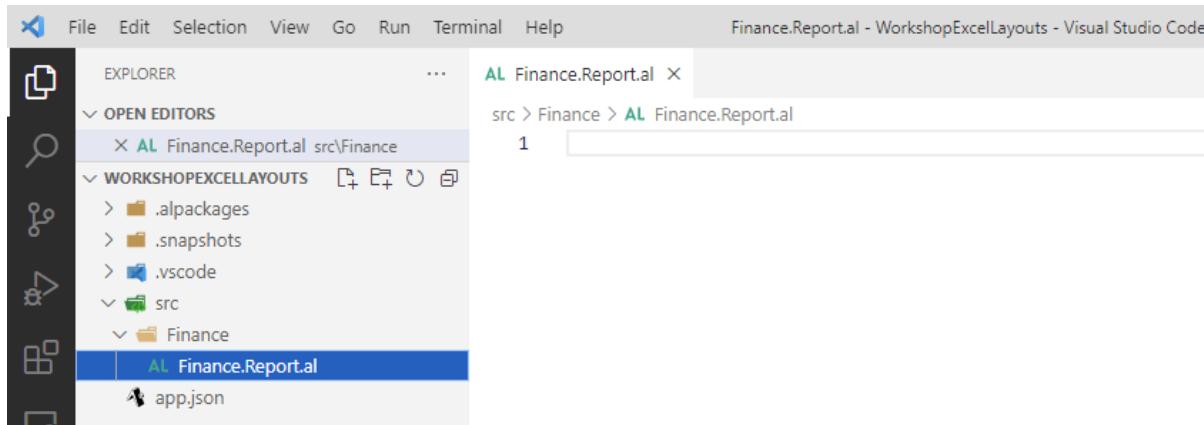
In the reports folder, create a subfolder named **Finance**:



On the **Finance** folder, right click and select **New File**:

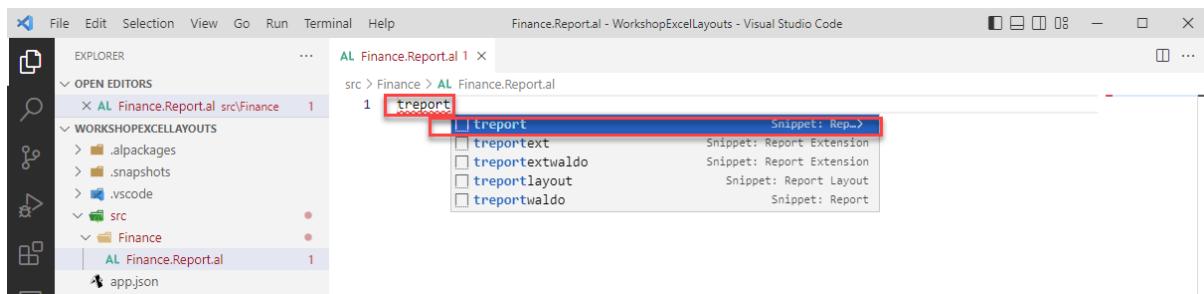


Use this as the name of the new file: **Finance.Report.al**



The file **Finance.Report.al** will be the container of the new Finance report object.

In the file, type: **treport**, and select treport from the dropdown:



The **treport** snippet created a new report object, where you can now edit the **id**, **name** and other elements.

Provide an id and name for the report, for example **50101 Finance**:

```
report 50101 Finance
{
```

Then add the following properties for the report:

```
Caption = 'Finance';
UsageCategory = ReportsAndAnalysis;
ApplicationArea = All;
DefaultRenderingLayout = Finance1;
```

Don't worry at this moment compilation errors might occur, since we are not yet ready with the development of the report. For the time being, ignore those errors.

When you create a new report, there are two main tasks to consider. First, you define the report **dataset** of data items and columns. Then, you design the report **layout(s)**.

Change the dataset part of the report, so that it looks as follows:

```

dataset
{
    0 references
    dataitem(GLAccount; "G/L Account")
    {
        0 references
        column(AccountCategory; "Account Category")
        { }
        0 references
        column(AccountSubcategory; "Account Subcategory Descript.")
        { }
        0 references
        column(AccountType; "Account Type")
        { }
        0 references
        column(AccountNo; "No.")
        { }
        0 references
        column(AccountName; Name)
        { }
        0 references
        column(AccountNameNo; Name + ' (' + "No." + ')')
        { }
        0 references
        dataitem(GLEntry; "G/L Entry")
        {
            DataItemLink = "G/L Account No." = field("No.");
            DataItemTableView = sorting("G/L Account No.");
            0 references
            column(Amount; Amount)
            { }
            0 references
            column(Year; System.Date2DMY("Posting Date", 3))
            { }
            0 references
            column(Month; System.Date2DMY("Posting Date", 2))
            { }
            0 references
            column(PostingDate; "Posting Date")
            {}
        }
    }
}
    
```

This means we will add 2 data items (tables) to the report: **G/L Account** and **G/L Entry**.

From those 2 data items (tables), we add the following fields:

- G/L Account:
 - Account Category
 - Account Subcategory Descript.
 - Account Type
 - No.
 - Name
 - Name + ' (' + "No." + ')'
- G/L Entry:
 - Amount
 - System.Date2DMY("Posting Date", 3)
 - System.Date2DMY("Posting Date", 2)
 - Posting Date

In a report column, you can select a field from the table, and perform calculations on the field. For example:

The column:

```
column(AccountNameNo; Name + ' (' + "No." + ')')
```

{ }

has the name **AccountNameNo** and contains the concatenation of the GL Account Name and No.

The column:

```
column(Year; System.Date2DMY("Posting Date", 3))
```

{ }

has the name **Year**, and the formula System.Date2DMY("Posting Date", 3) gets the year out of the Posting Date.

The column:

```
column(Month; System.Date2DMY("Posting Date", 2))
```

{ }

has the name **Month**, and the formula System.Date2DMY("Posting Date", 3) gets the month number out of the Posting Date.

When creating a dataset for a report that has an Excel layout, you need to consider which fields you need in Excel. The G/L Entry table contains a Posting Data field, but in Excel we want to be able to create a pivot table based on the years and months. So we can add those as columns in the dataset.

An alternative is to leave the Posting Date as a normal date in the dataset, and use **Power Query** in Excel to create columns for: Year, Month,... based on the Posting Date.

The 2 tables G/L Account and G/L Entry need to be **linked** correctly, that's why we have the following properties:

```
dataitem(GLEntry; "G/L Entry")
{
    DataItemLink = "G/L Account No." = field("No.");
    DataItemTableView = sorting("G/L Account No.");
    0 references
```

This means that when the report runs and the runtime dataset is generated, the **Ledger Entries** are linked correctly to the **Accounts**. The **DataItemLink** property of the indented data item is responsible for that: [DataItemLink Property - Business Central | Microsoft Learn](#)

The **DataItemTableView** is used to **sort** the G/L Entry data item, and that has the consequence that this data item will not be added to the **request page** of the report: [DataItemTableView Property - Business Central | Microsoft Learn](#) By default, for every data item in the report dataset, a tab is added to the runtime request page of the report, so a user can **filter** the data items. However, if you add a sorting to a data item, it is not added to the request page.

More information about defining a report dataset is available here: [Report Dataset - Business Central | Microsoft Learn](#)

In the **rendering** section of the report, create the following:

```
rendering
{
    1 reference
    layout(Finance1)
    {
        Type = Excel;
        LayoutFile = './src/reports/Finance/Finance1.xlsx';
        Summary = 'Finance layout, pivot.';
    }
}
```

This means we want to add one Excel layout, named **Finance1**.

More information about defining multiple report layouts is available here: [Defining Multiple Report Layouts - Business Central | Microsoft Learn](#)

Now delete the **requestpage** section from the report:

```

requestpage
{
    layout
    {
        0 references
        area(Content)
        {
            0 references
            group(GroupName)
            {
                0 references
                ld(Name; Sou
                lic
                }
            }
        }
    }
}

action
{
    0 references
    action(ActionName)
    {
        0 references
        ApplicationArea = All;
        ApplicationArea = All;
        ApplicationArea = All;
    }
}
}

```

Your report should now look as follows:

```

report 50101 Finance
{
    Caption = 'Finance';
    UsageCategory = ReportsAndAnalysis;
    ApplicationArea = All;
    DefaultRenderingLayout = Finance1;

    dataset
    {

```

```

dataitem(GLAccount; "G/L Account")
{
    column(AccountCategory; "Account Category")
    {
        column(AccountSubcategory; "Account Subcategory Descript.")
    }
    column(AccountType; "Account Type")
    {
        column(AccountNo; "No.")
    }
    column(AccountName; Name)
    {
        column(AccountNameNo; Name + ' (' + "No." + ')')
    }
    dataitem(GLEntry; "G/L Entry")
    {
        DataItemLink = "G/L Account No." = field("No.");
        DataItemTableView = sorting("G/L Account No.");
        column(Amount; Amount)
        {
            column(Year; System.Date2DMY("Posting Date", 3))
        }
        column(Month; System.Date2DMY("Posting Date", 2))
        {
            column(PostingDate; "Posting Date")
        }
    }
}
}

rendering
{
    layout(Finance1)
    {
        Type = Excel;
        LayoutFile = './src/reports/Finance/Finance1.xlsx';
        Summary = 'Finance layout, pivot.';
    }
}
}

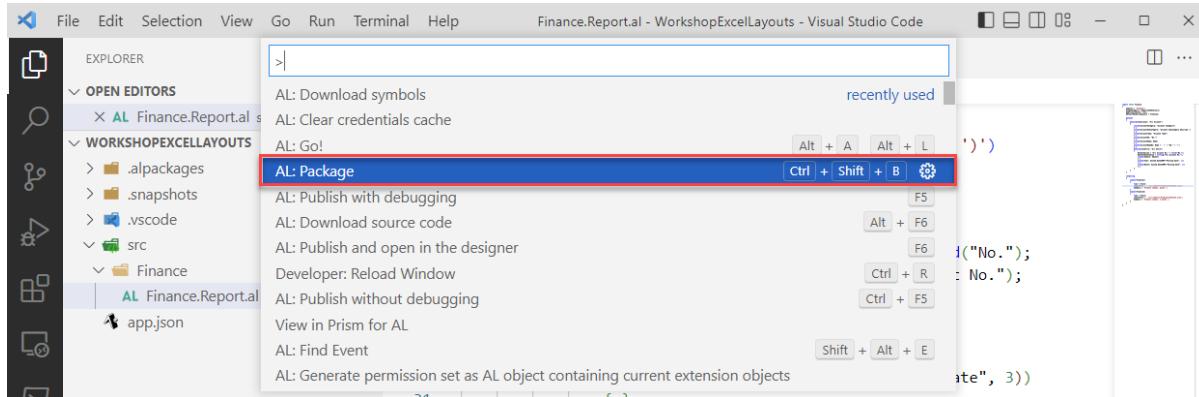
```

If you are unsure, copy/paste the code from this document to **replace** the code currently in your report file.

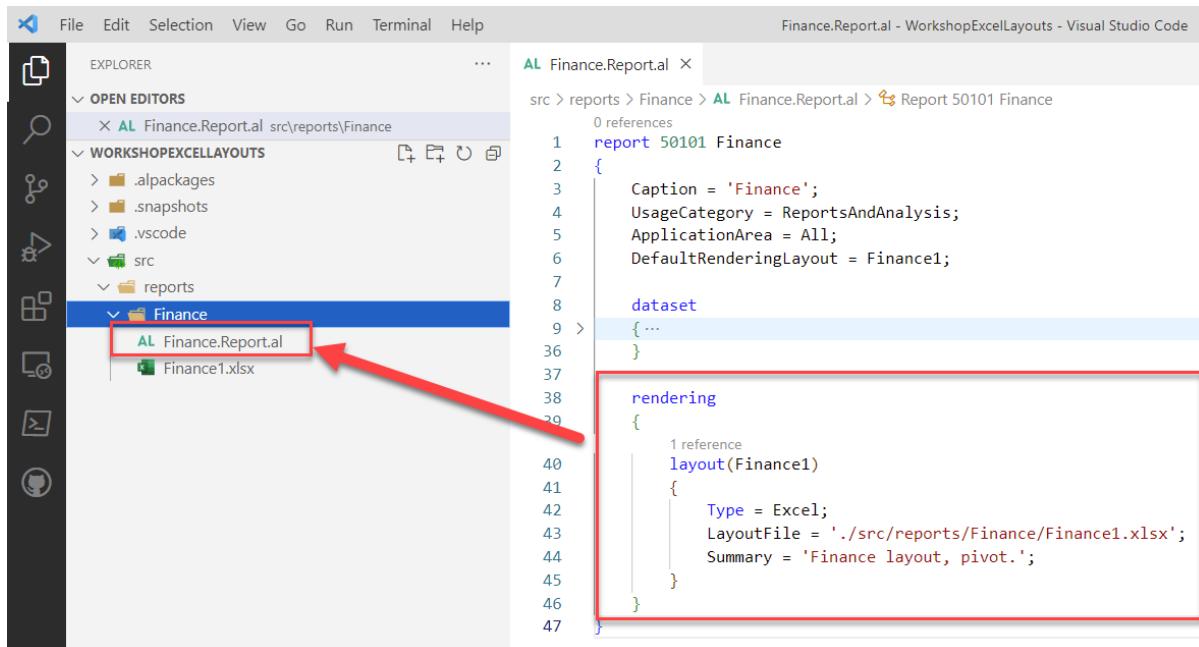
We have defined the report to have 2 data items and 1 layout. Now we will create the, empty, Excel layout.

Create the Excel layout:

To create the, empty, Excel layout you need to **Package** the report object. To package the report object, select **AL: Package** from the command palette, or simply use the shortcut: **Ctrl + Shift + B**:



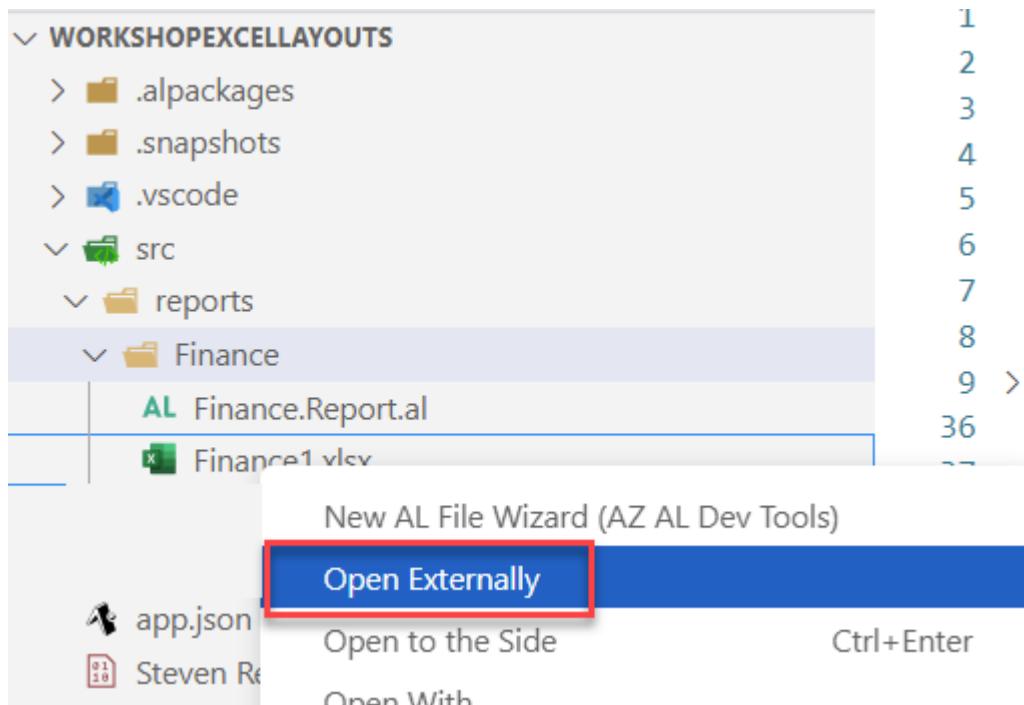
The Excel layout is added to the Finance folder:



Be aware that before you start to edit the Excel layout, you need to be 100% certain your dataset is ready. In case you need to make changes later to your report's dataset, you will have to delete and recreate the Excel layouts. Currently it is not possible to automatically update the Excel layout(s) with dataset changes. It is however possible to manually add a column to the Excel layout, but this is very error prone.

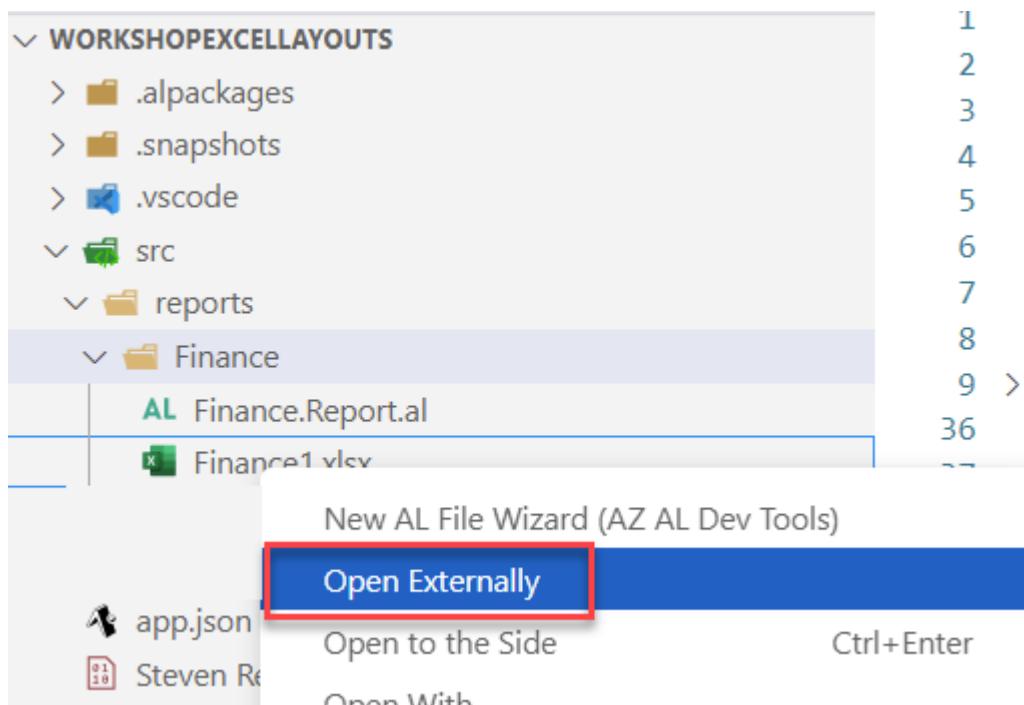
To **edit** the Excel layout, you can open them.

To open a layout, **right click** on it in VSCode and select **Open Externally**:



This of course requires you to have **Excel** installed on your machine.

Now open the **Finance1** excel layout, via the command (right click) open externally:



The Excel file looks as follows:

The screenshot shows a Microsoft Excel spreadsheet titled "Finance1.xlsx". The "Data" tab is selected in the ribbon. A table is displayed with the following columns: AccountCategory, AccountSubcategory, AccountType, AccountNo, AccountName, AccountNameNo, Amount, Year, Month, and PostingDate. The first row contains data labels, and the second row contains actual data. The "Data" tab is highlighted in the ribbon.

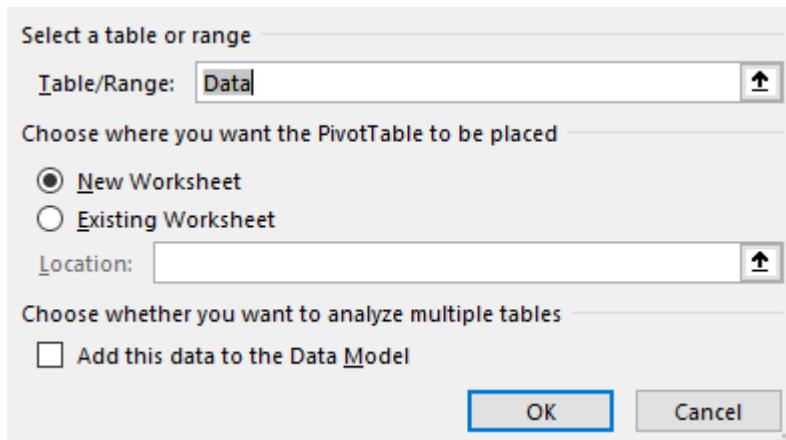
It's important you don't make any changes to the Data worksheet. Do not rename it, do not remove or rename any columns, and also do not add any columns.

The **Data** worksheet acts as the dataset of the report, and at runtime will be populated with data when you run the report. It acts as a contract with the .al file and should not be changed.

However, you can add new worksheets, and in the new worksheets for example create pivot tables.

Now add a **pivot table** to the Excel sheet:

The screenshot shows the Microsoft Excel ribbon with the "Insert" tab selected. The "PivotTable" icon in the "Tables" group is highlighted with a red box. A tooltip for "From Table/Range" is displayed, stating "PivotTable from table or range. Create a PivotTable using data in a table or range." The "From Table/Range" option is also highlighted with a red box.



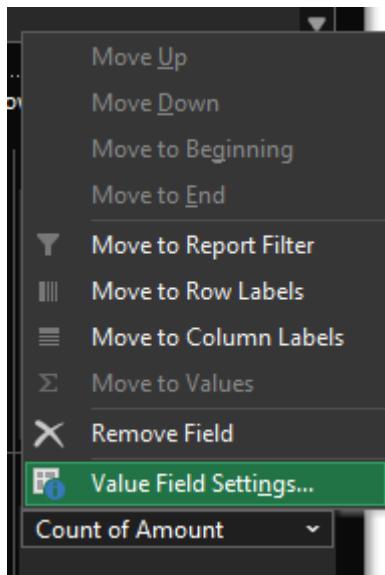
with the following properties:

The screenshot shows a Microsoft Excel spreadsheet titled "Finance.xlsx". The ribbon is set to "PivotTable Analyze" mode. A PivotTable is being created in the range A3:I9. The PivotTable Fields pane on the right shows the following fields assigned:

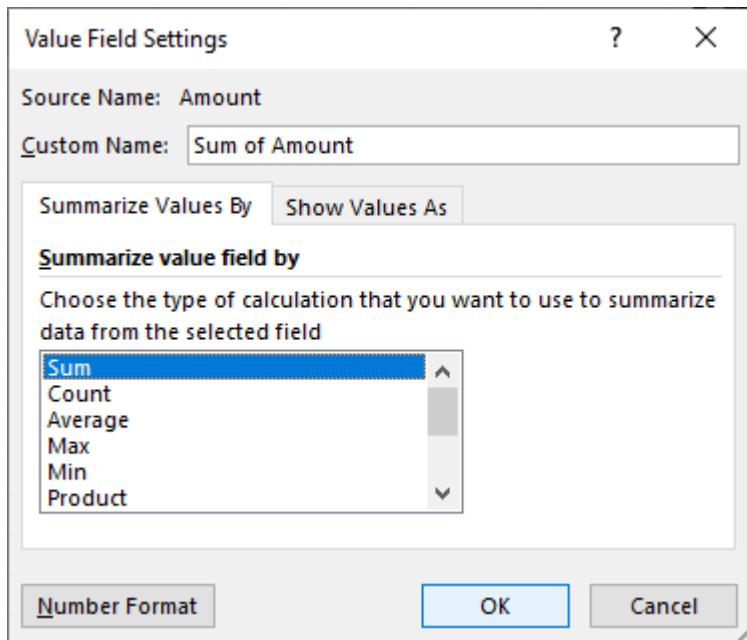
- Filters:** Year, Month
- Rows:** AccountCategory, AccountSubcategory, AccountNameNo
- Σ Values:** Sum of Amount

The PivotTable itself displays the sum of amounts for different account categories and subcategories. The formula bar shows "Sum of Amount" is selected.

By default, excel might propose the **Count** instead of the **Sum** method for the **Amount** field. To change that, click on the **Amount** field and select **Value Field Settings**:



Then in the popup select **Sum**:



You have now added a pivot table to the report, using the columns from the dataset, generated in Business Central.

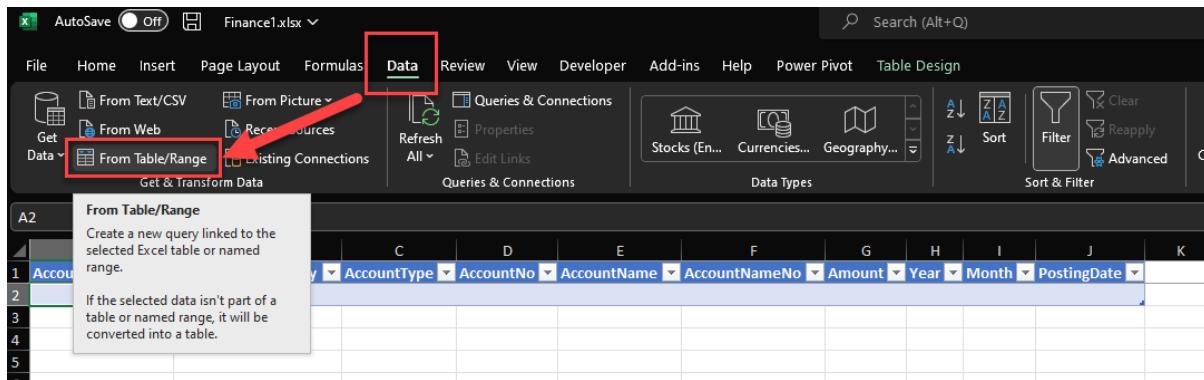
Now **close** and **save** the Finance1.xlsx file.

Let's now add a column, in Power Query.

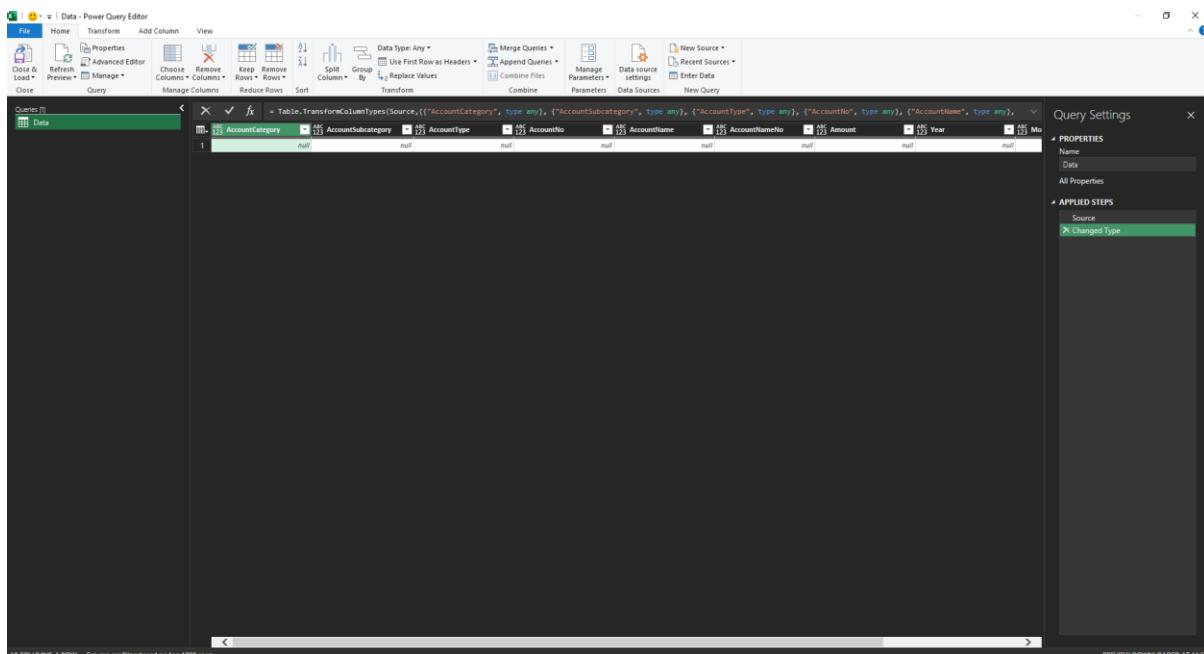
Reopen the **Finance1.xlsx** file.

Go back to the **Data** tab in the Excel layout.

In the menu, in **Data** tab in Excel, select **From Table/Range**:



Power Query opens:



However, since there's no data in the Excel file, Power Query does not recognize the data types. So, in order to work with Power Query in Excel, it's better to have an Excel layout with data.

For that reason, it's time now to deploy our app to Business Central, so then we can run the report, and generate the Excel file, with data.

Close the Power Query editor and then close the Excel file, without saving.

In Visual Studio Code, select **Publish without debugging**, in the Command Palette:



>|

- AL: Download symbols recently used
- AL: Clear credentials cache
- AL: Go! **Alt + A**
- AL: Package **Alt + L**
- AL: Publish with debugging **Ctrl + Shift + B**
- AL: Download source code **F5**
- AL: Publish and open in the designer **Alt + F6**
- Developer: Reload Window **Alt + F6**
- AL: Publish without debugging** **Ctrl + F5** 
- View in Prism for AL**
- AL: Find Event **Shift + Alt + E**
- AL: Generate permission set as AL object containing current extension objects
- Insert GUID **Ctrl + Shift + J**
- Prettify JSON

Your app is now published to your sandbox, after which your browser opens and Business Central.

In Business Central, open the **Report Layouts** page:

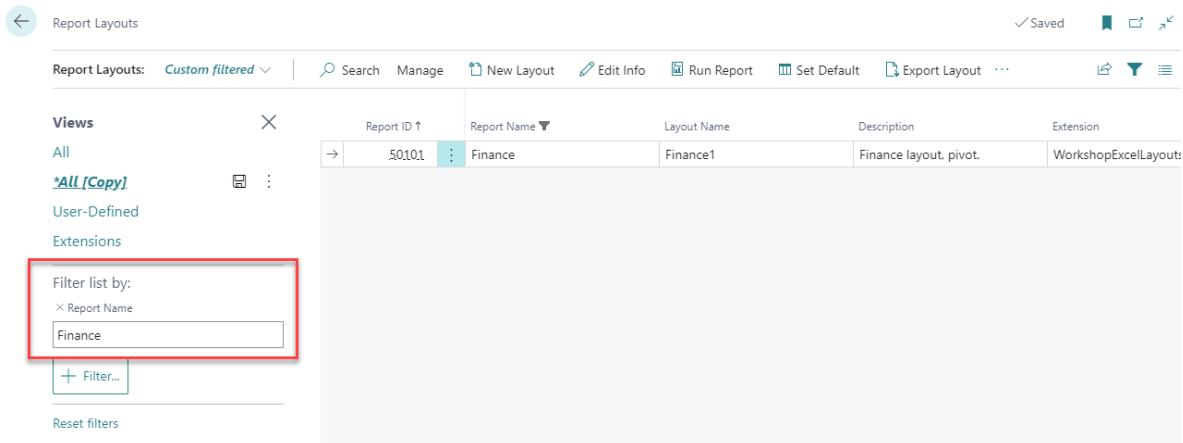
Tell me what you want to do ↗ X

report layout

[Go to Pages and Tasks](#) Show all (4)

- [Report Layouts](#) Administration Bookmark
- [Custom Report Layouts](#) Administration
- [Built-in Report Layouts](#) Administration

In this page, apply a **filter**:

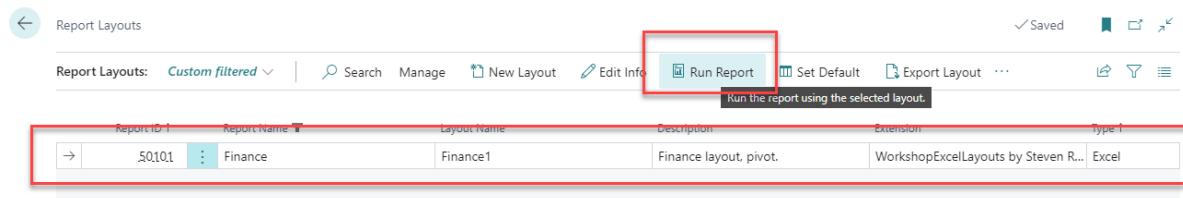


The screenshot shows the 'Report Layouts' page in Business Central. A filter dialog is open on the left, with 'Report Name' set to 'Finance'. The main grid shows one layout named 'Finance1' for report ID S0101. The 'Extension' column indicates it's a 'WorkshopExcelLayouts'.

Report ID ↑	Report Name ↓	Layout Name	Description	Extension
S0101	Finance	Finance1	Finance layout, pivot.	WorkshopExcelLayouts

Now you can see your Finance report layout in Business Central.

To run it, select the layout and then **Run Report**:



The screenshot shows the same 'Report Layouts' page. The 'Run Report' button in the toolbar is highlighted with a red box. A tooltip above the button says 'Run the report using the selected layout.' The layout row for 'Finance1' is also highlighted with a red box.

The request page opens:

Finance



Printer **(Handled by the browser)** ▾

Report Layout Finance1 ...

Filter: G/L Account

+ Filter...

Filter totals by:

+ Filter...

Advanced >



Send to... Download Cancel

Then click **Download** to generate and download the excel file.

Open the Excel file, to look at the data.

(You might have to click the Enable Data button, when asked.)

There should now be data in the **Data** tab:

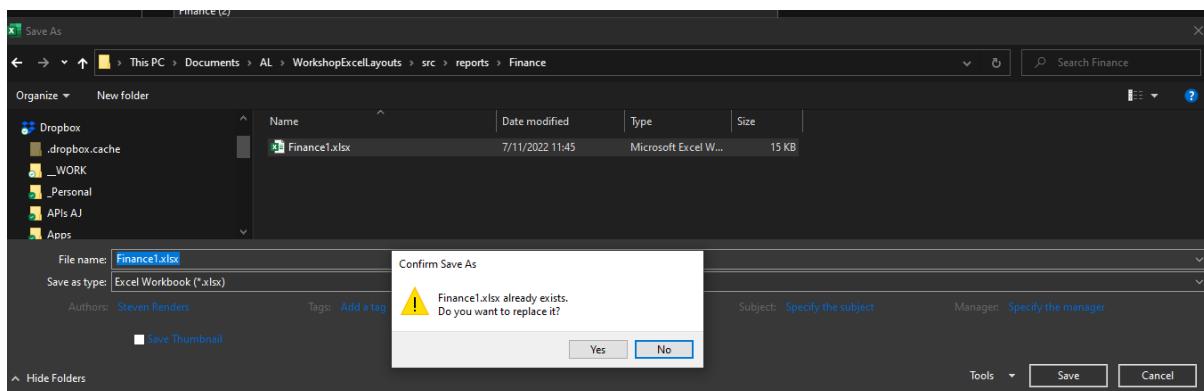
AccountCategory	AccountSubcategory	AccountType	AccountNo	AccountName	AccountNameNo	Amount	Year	Month	PostingDate
Assets	Assets	Heading	10000	BALANCE SHEET	BALANCE SHEET (100 NULL)	NULL	NULL	NULL	NULL
Assets	Assets	Begin-Total	10001	ASSETS	ASSETS (10001)	NULL	NULL	NULL	NULL
Assets	Cash	Posting	10100	Checking account	Checking account (1CNULL)	NULL	NULL	NULL	NULL
Assets	Cash	Posting	10200	Saving account	Saving account (1020 NULL)	NULL	NULL	NULL	NULL
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-3.310,17	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.792,46	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-470,96	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-362,94	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.593,18	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-318,64	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-637,27	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.569,86	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-296,20	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-444,30	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-740,50	2021	1	1/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.581,52	2021	1	10/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-2.678,62	2021	1	10/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.098,90	2021	1	11/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-941,92	2021	1	12/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.902,49	2021	1	13/01/2021
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1.274,54	2021	1	13/01/2021

And the pivot table also has data:

Now save the Excel file, in the layout directory of the extension in VSCode:

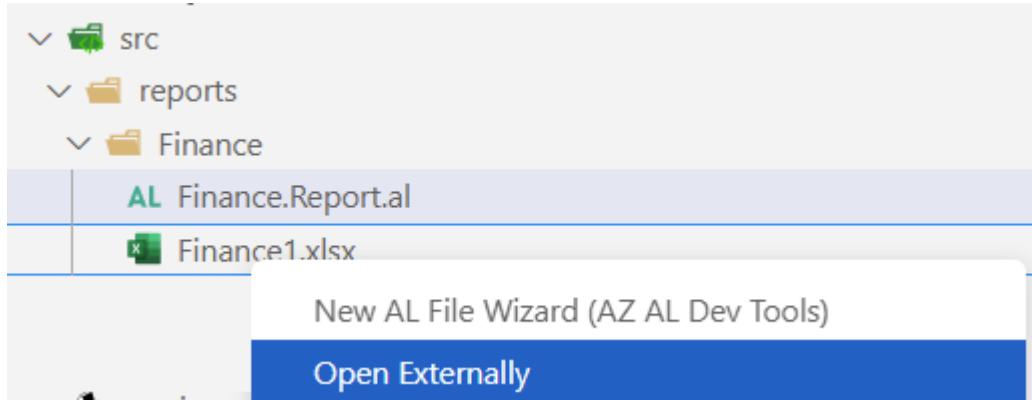
..\\WorkshopExcelLayouts\\src\\reports\\Finance

This will overwrite the currently existing **Finance1.xls** layout in that folder:



Now **close** and **save** the Finance1.xlsx file.

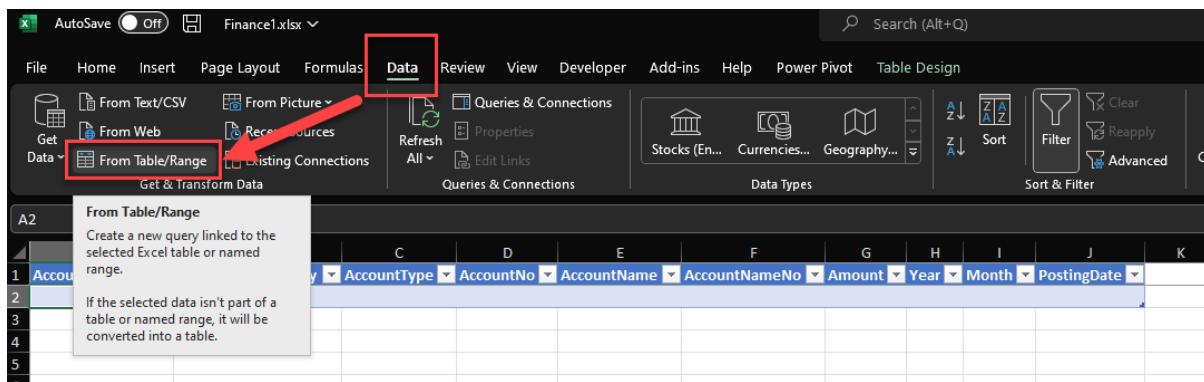
Go back to VSCode, right click on the Finance1.xlsx file in VSCode and select Open Externally:



The Finance1.xlsx layout opens and has data in it.

Go back to the **Data** tab in the Excel layout.

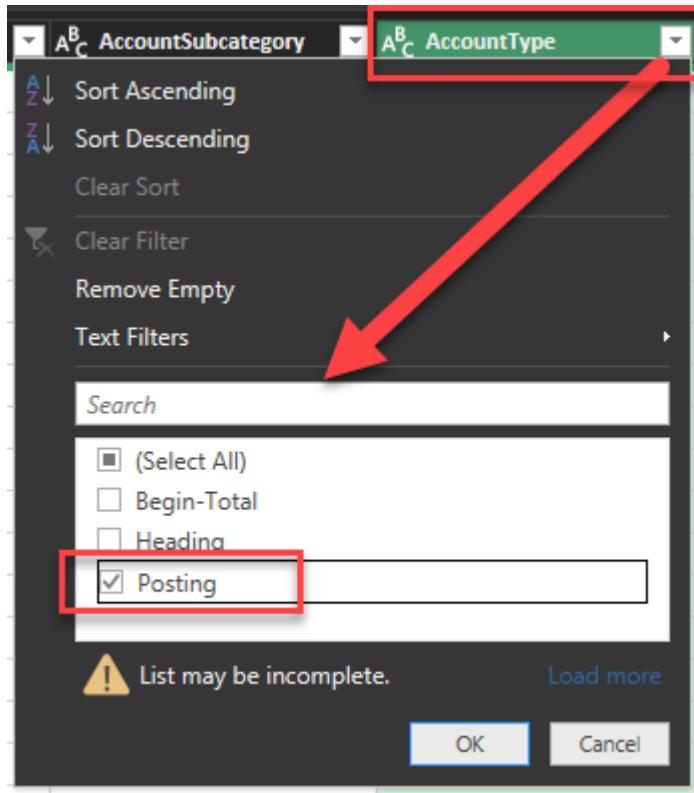
In the menu, in **Data** tab in Excel, select **From Table/Range**:



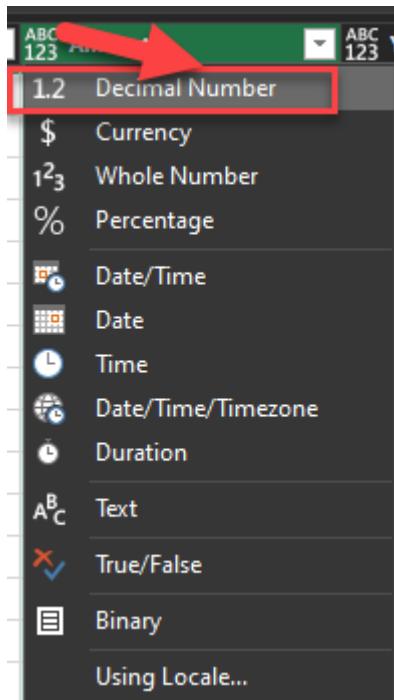
Power Query opens:

And this time, there's data in it, and column data types are recognized in Power Query.

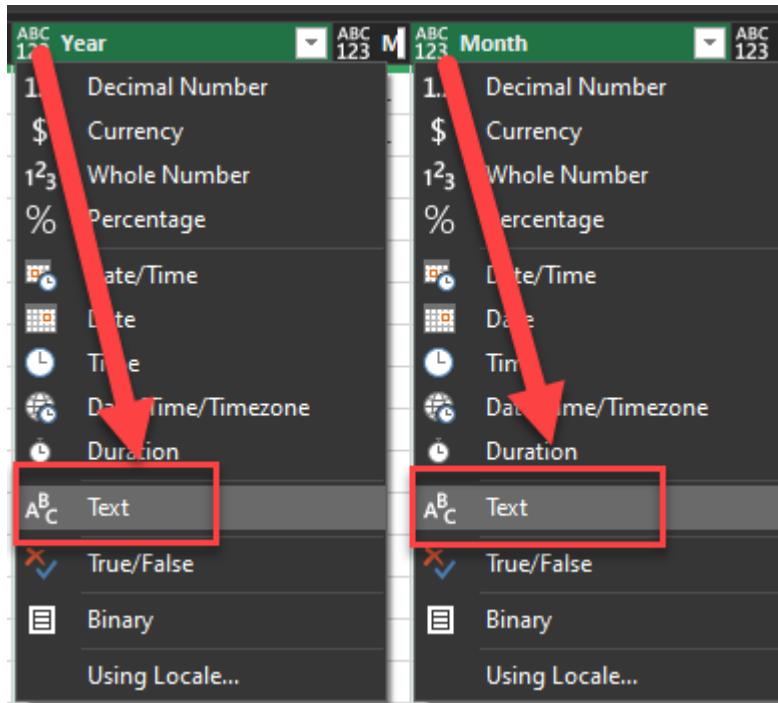
Let's first add a filter on the data, to only see **Posting** accounts:



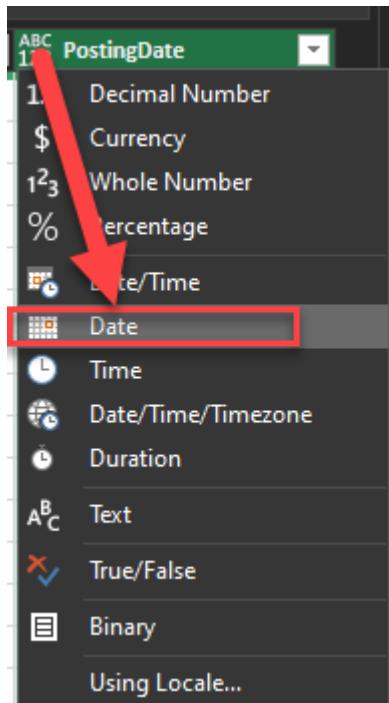
Now set the **Amount** as a **Decimal** datatype:



And the **Year** and **Month** as **Text**:



Then set the **Posting Date** as a **Date** datatype:



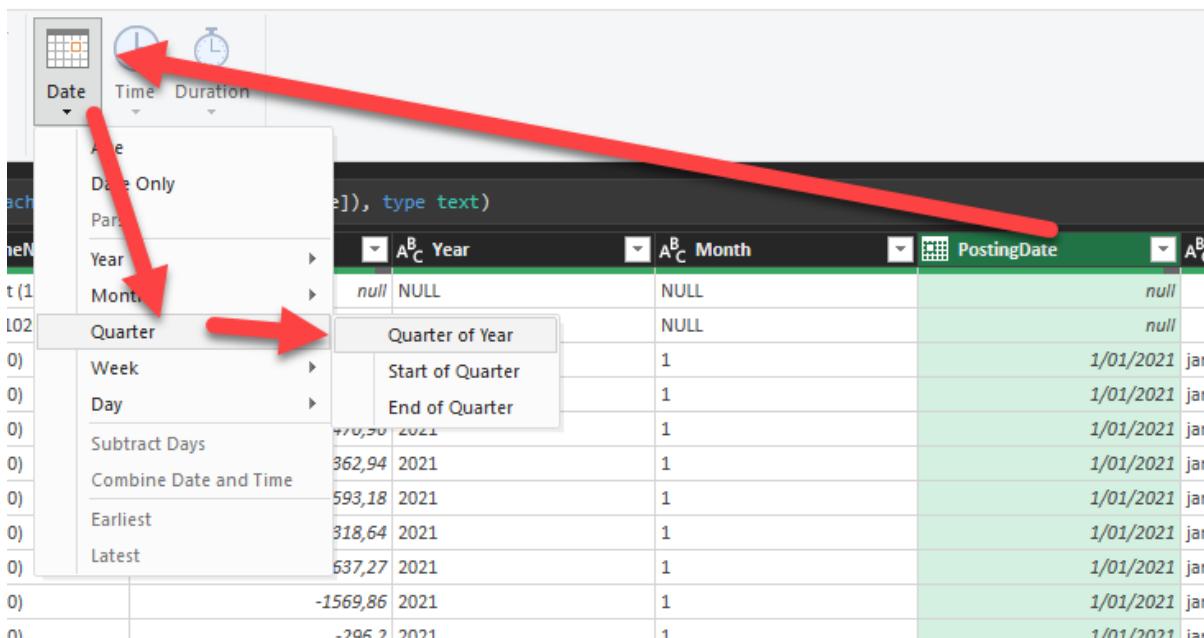
Select the **Posting Date** column, then, click **Add Column, Date, Month, Name of Month**:

The screenshot shows the Power Query Editor interface. The 'Add Column' ribbon tab is active. A dropdown menu is open under the 'Date' section, with 'Month' highlighted. Red arrows point from this selection to the 'Name of Month' column in the resulting table, indicating that a new column has been added.

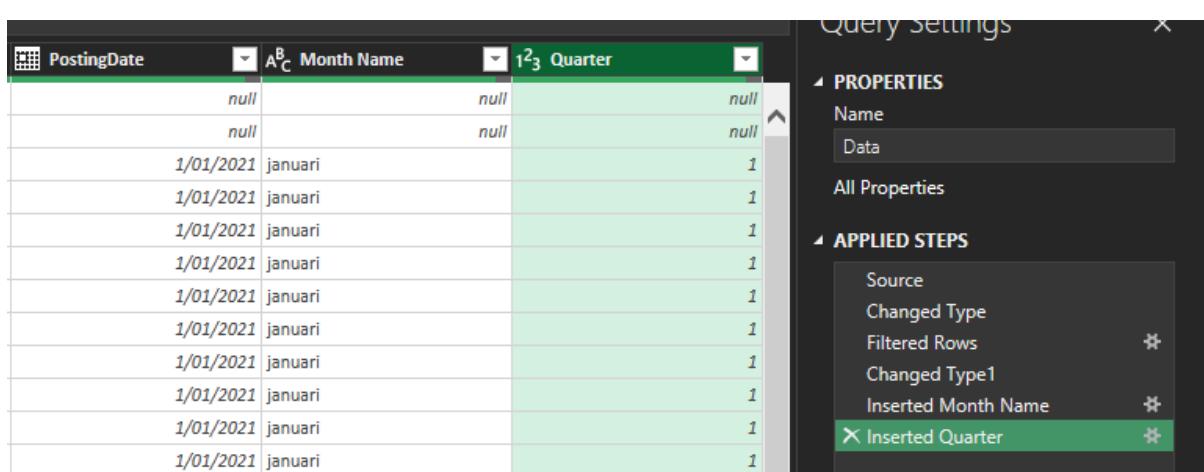
And the MonthName is added as a new column:

	A	B	C
1	Month	Name	
1		null	
1		null	
1	januari		

Similarly, we can now add:



	A ^B Year	A ^B Month	PostingDate
02	null	NULL	null
0)	362,94	2021	1/01/2021
0)	593,18	2021	1/01/2021
0)	818,64	2021	1/01/2021
0)	637,27	2021	1/01/2021
0)	-1569,86	2021	1/01/2021
0)	-296,2	2021	1/01/2021



	PostingDate	A ^B Month Name	Quarter
	null	null	null
	null	null	null
	1/01/2021	januari	1

Query Settings

PROPERTIES
Name: Data

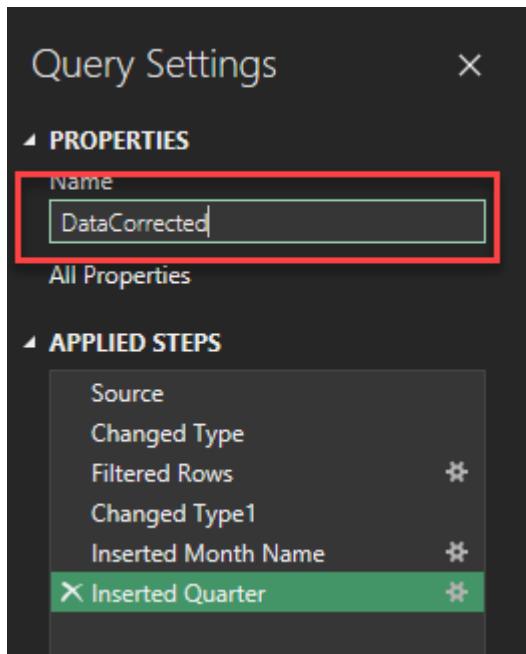
All Properties

APPLIED STEPS

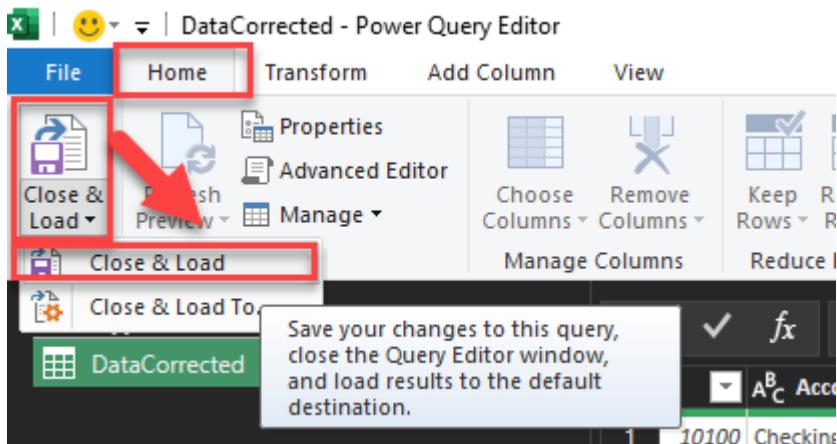
- Source
- Changed Type
- Filtered Rows
- Changed Type1
- Inserted Month Name
- Inserted Quarter**

At the right side in Power Query, you can see the changes you have made to the table.

You can change the name of the query to **DataCorrected**:



Then in the Home menu select **Close and Load**:



Now we get a new table in Excel:



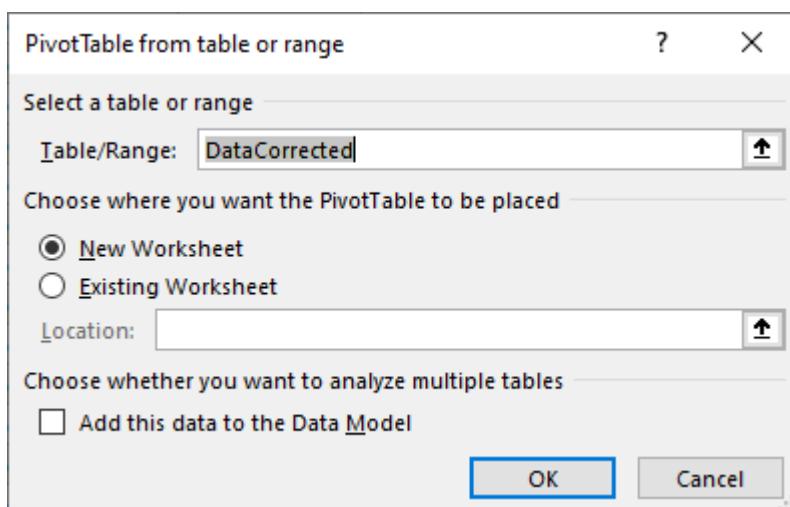
DIRECTIONS 4 PARTNERS

Page 50 of 88

AccountCategory	AccountSubcategory	AccountType	AccountNo	AccountName	AccountNameNo	Amount	Year	Month	PostingDate	Month Name	Quarter
Assets	Cash	Posting	10100	Cash account	Checking account (10100)	0				NULL	
Assets	Cash	Posting	10200	Saving account	Saving account (10200)	0				NULL	
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-330.17	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-172.46	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-470.96	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-362.94	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-159.18	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-318.64	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-637.27	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-159.18	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-296.2	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-444.3	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-740.5	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1581.52	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-2678.62	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1098.9	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-941.92	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1902.49	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-127.41	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-2647.49	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-1115.23	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-453.68	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-8087.06	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-796.59	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-784.93	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-2150.95	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	172.94	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	801.12	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	-200.02	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	403.01	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	404.34	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	2420.78	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	11399.16	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	2757.7	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	411.2	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	4031.24	2021	1	01/01/2021	januari	1
Assets	Cash	Posting	10300	Petty Cash	Petty Cash (10300)	80.38	2021	1	01/01/2021	januari	1

It's named **DataCorrected** and contains the columns we added.

You can use this table to create a new pivot table:



PivotTable Fields

Choose fields to add to report:

Search 

<input checked="" type="checkbox"/> AccountCategory
<input checked="" type="checkbox"/> AccountSubcategory
<input type="checkbox"/> AccountType
<input type="checkbox"/> AccountNo
<input type="checkbox"/> AccountName
<input checked="" type="checkbox"/> AccountNameNo
<input checked="" type="checkbox"/> Amount
<input checked="" type="checkbox"/> Year
<input type="checkbox"/> Month
<input type="checkbox"/> PostingDate
<input checked="" type="checkbox"/> Month Name
<input type="checkbox"/> Quarter
More Tables...

Drag fields between areas below:

Filters	Columns
	Year Month Name
Rows	Σ Values
AccountCategory AccountSubcategory AccountNameNo	Sum of Amount

And did you notice the Sum method was automatically selected for the Amount column? This is because we defined it as a Decimal datatype in Power Query.

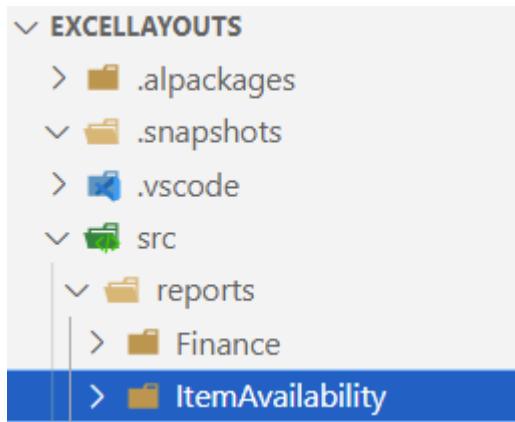
Now **Save** and **Close** the Finance1.xlsx file.

Later we might add other layouts to the report, as a user, in Business Central.

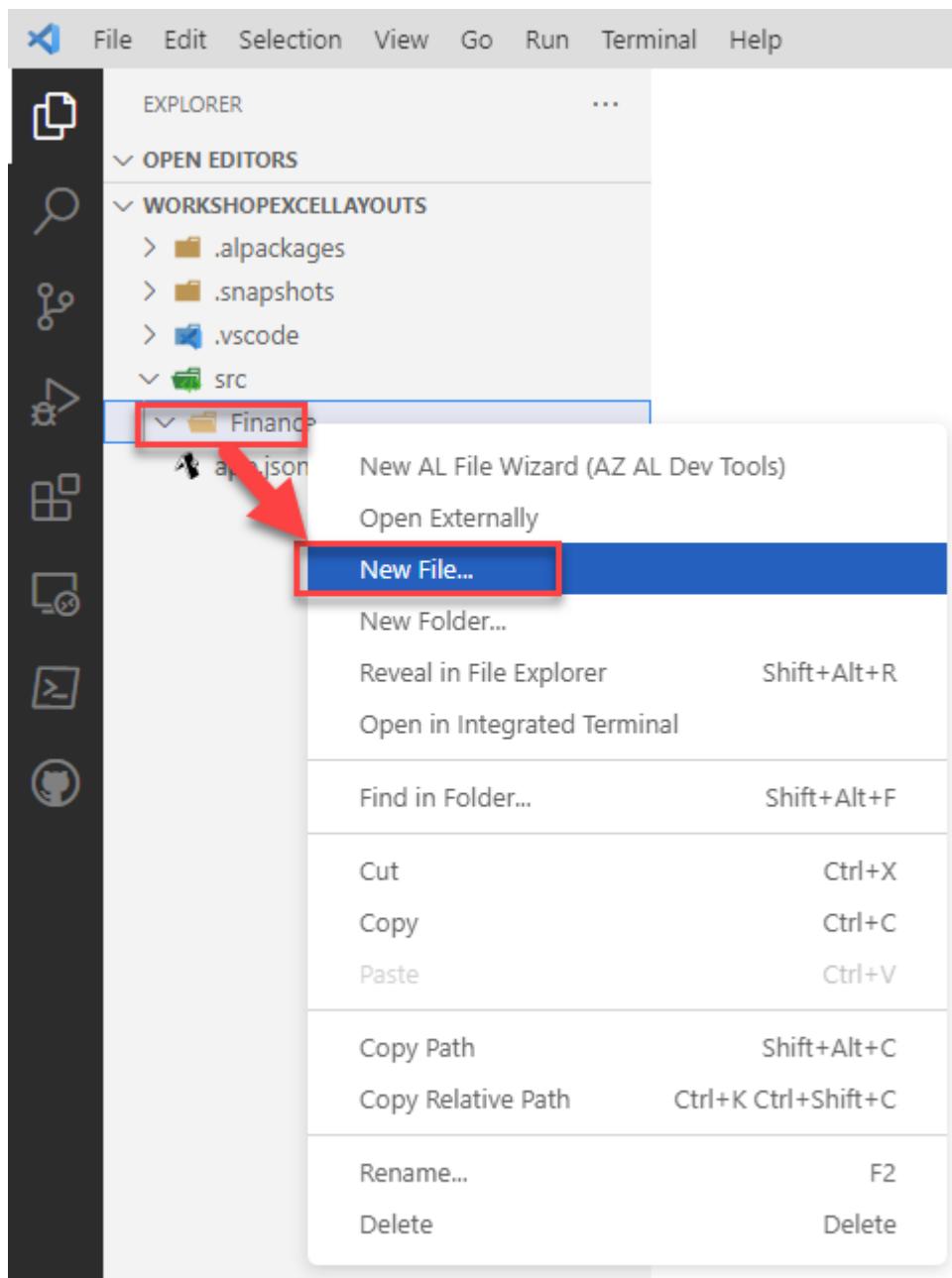
To create the ItemAvailability report, follow these steps:

Create the Dataset:

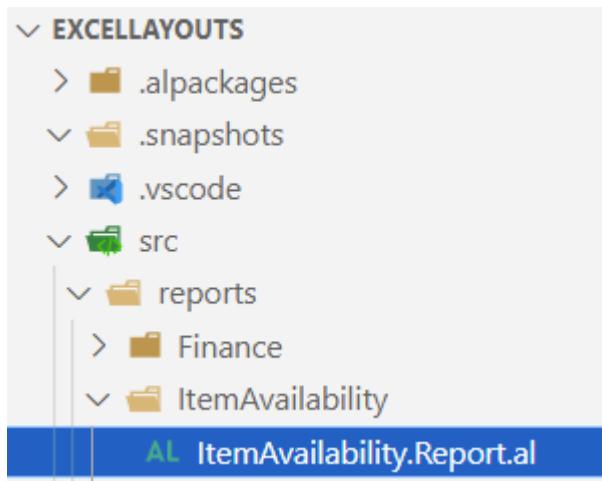
In the reports folder, create a subfolder named **ItemAvailability**:



On the **ItemAvailability** folder, right click and select **New File**:



Use this as the name of the new file: **ItemAvailability.Report.al**



The file **ItemAvailability.Report.al** will be the container of the new ItemAvailability report object.

Copy/paste the following code in the ItemAvailability report file:

```
report 50100 ItemAvailability
{
    ApplicationArea = All;
    Caption = 'ItemAvailability';
    UsageCategory = ReportsAndAnalysis;
    DefaultRenderingLayout = ItemAvailability1;

    dataset
    {
        dataitem(Item; Item)
        {
            column(ItemNo; "No.")
            {}
            column(ItemDescription; Description)
            {}
            column(itemName; Description + ' (' + Format("No.") + ')')
            {}
            dataitem(ItemLedger; "Item Ledger Entry")
            {
                DataItemLink = "Item No." = field("No.");
                DataItemTableView = sorting("Item No.");

                column(Year; System.Date2DMY("Posting Date", 3))
                {}
                column(Month; System.Date2DMY("Posting Date", 2))
                {}
                column(LocationCode; "Location Code")
                {}
                column(Quantity; Quantity)
```

```

        {
    }

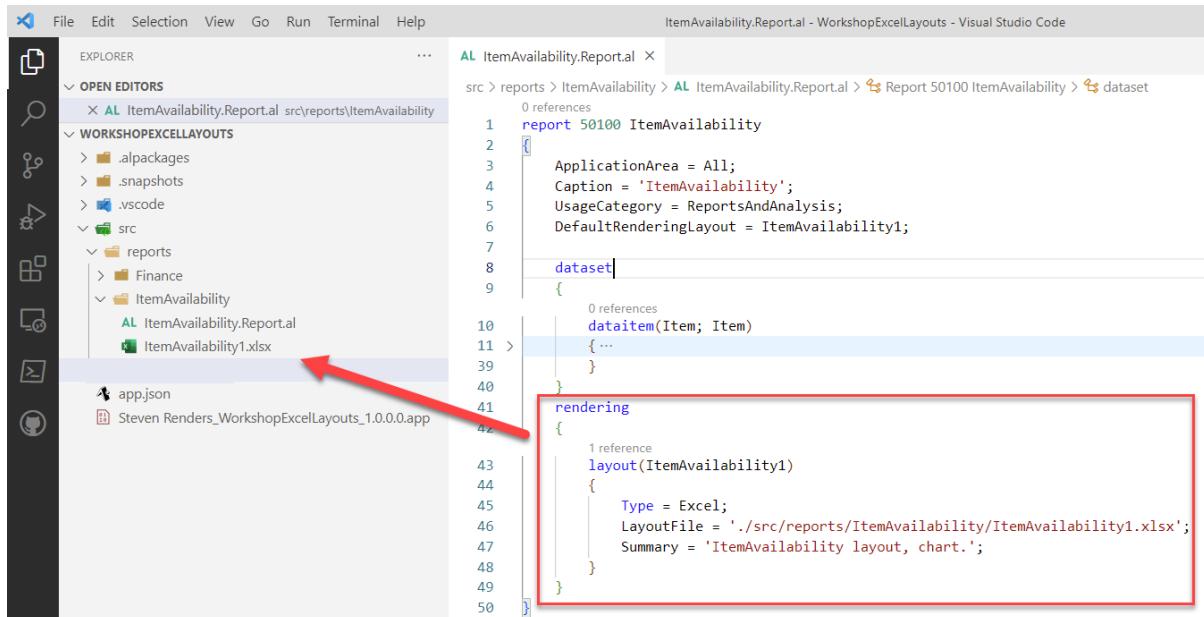
    dataitem(Location; Location)
    {
        DataItemTableView = sorting(Code);
        DataItemLink = Code = field("Location Code");
        column(LocationName; Name)
        {
        }
    }
}

rendering
{
    layout(ItemAvailability1)
    {
        Type = Excel;
        LayoutFile =
'./src/reports/ItemAvailability/ItemAvailability1.xlsx';
        Summary = 'ItemAvailability layout, chart.';
    }
}
}

```

Create the Excel layout:

Similar to how you did it in the previous report, now package the report to create the **Excel** layout:



```

File Edit Selection View Go Run Terminal Help ItemAvailability.Report.al - WorkshopExcelLayouts - Visual Studio Code

EXPLORER
OPEN EDITORS AL ItemAvailability.Report.al ×
src > reports > ItemAvailability > AL ItemAvailability.Report.al > Report 50100 ItemAvailability > dataset
WORKSHOPEXCELLAYOUTS
src
reports
Finance
ItemAvailability
AL ItemAvailability.Report.al
ItemAvailability1.xlsx

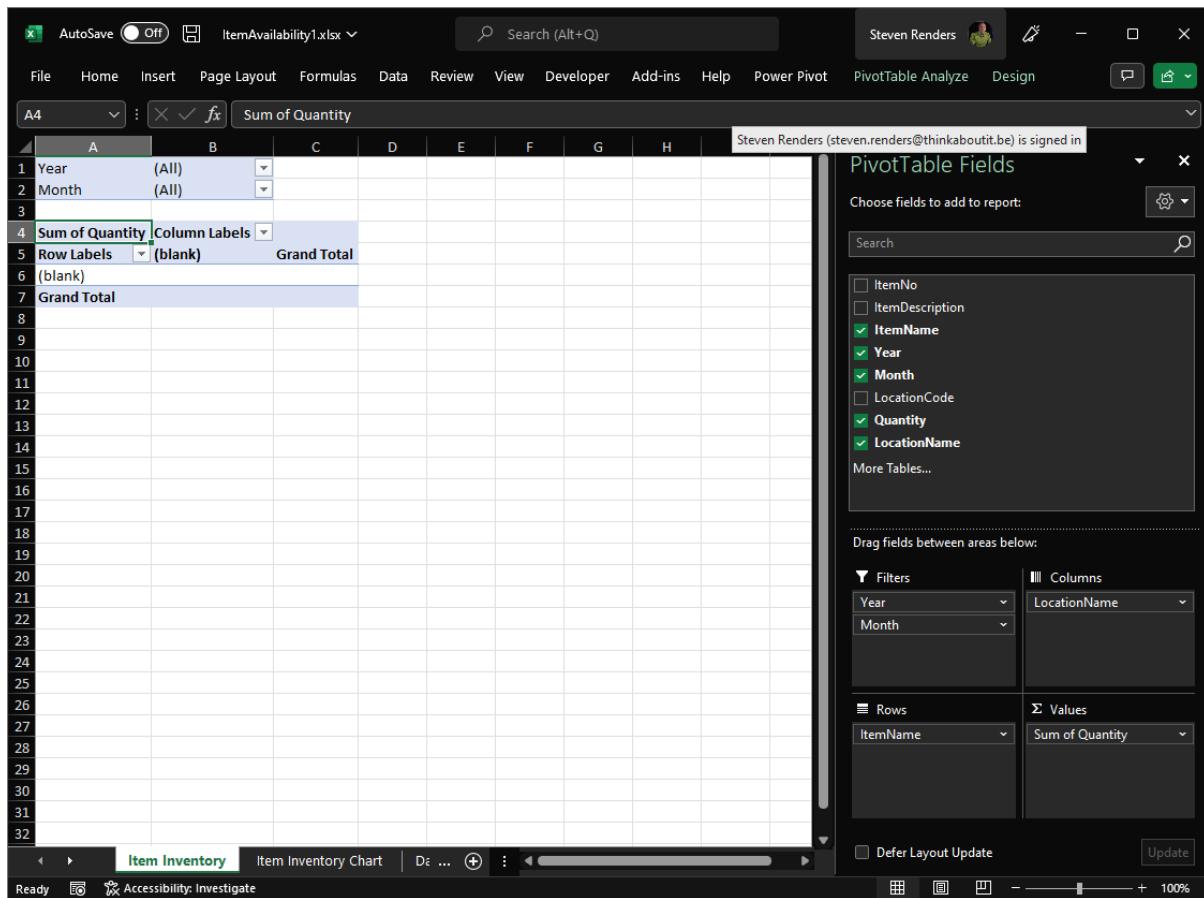
AL ItemAvailability.Report.al
ItemAvailability1.xlsx

app.json
Steven Renders_WorkshopExcelLayouts_1.0.0.app

AL ItemAvailability.Report.al
dataset
{
    report 50100 ItemAvailability
    [
        ApplicationArea = All;
        Caption = 'ItemAvailability';
        UsageCategory = ReportsAndAnalysis;
        DefaultRenderingLayout = ItemAvailability1;
    ]
    dataset
    {
        dataitem(Item; Item)
        {
        }
    }
    rendering
    {
        layout(ItemAvailability1)
        {
            Type = Excel;
            LayoutFile = './src/reports/ItemAvailability/ItemAvailability1.xlsx';
            Summary = 'ItemAvailability layout, chart.';
        }
    }
}

```

Then open the Excel file, and add a pivot tables to it:



PivotTable Fields

Choose fields to add to report:

Search

- ItemNo
- ItemDescription
- ItemName
- Year
- Month
- LocationCode
- Quantity
- LocationName

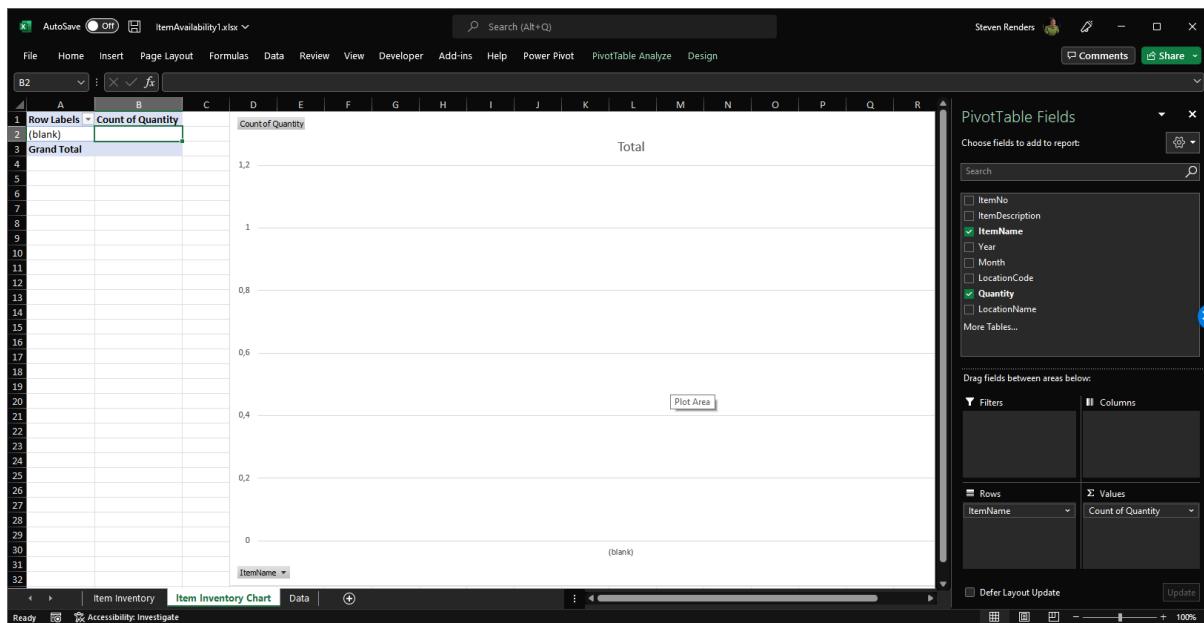
More Tables...

Drag fields between areas below:

Filters	Columns
Year	LocationName
Month	

Rows	Values
ItemName	Σ Values

Defer Layout Update Update



PivotTable Fields

Choose fields to add to report:

Search

- ItemNo
- ItemDescription
- ItemName
- Year
- Month
- LocationCode
- Quantity
- LocationName

More Tables...

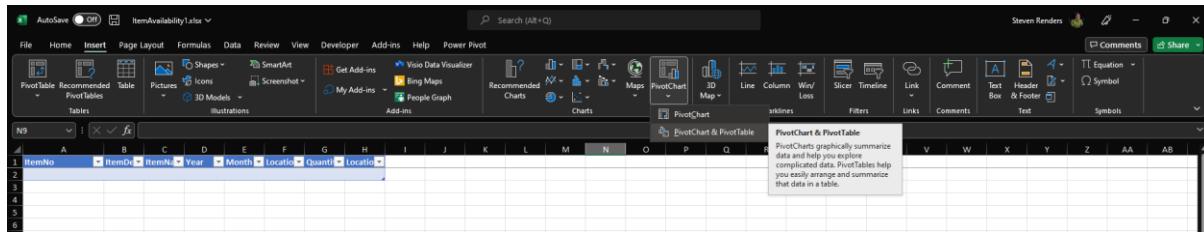
Drag fields between areas below:

Filters	Columns
---------	---------

Rows	Values
ItemName	Count of Quantity

Defer Layout Update Update

As you can see I added 2 new worksheets, one with a simple pivot table and another with a pivot table and a pivot chart.

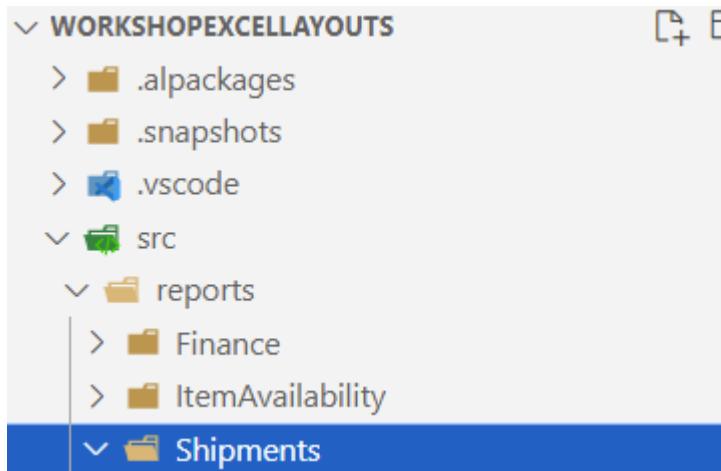


Now close and save the xlsx file.

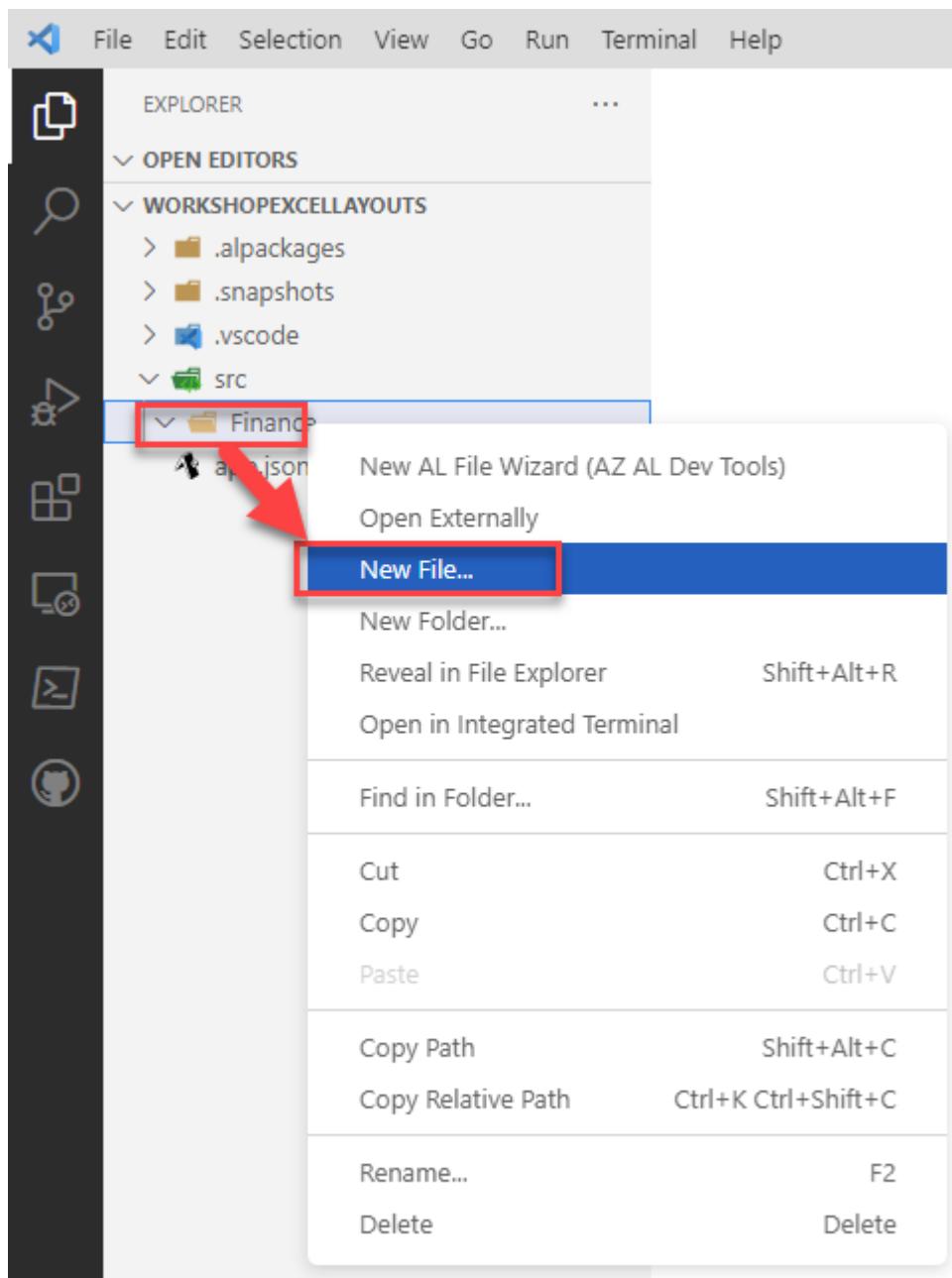
To create the Shipments report, follow these steps:

Create the Dataset:

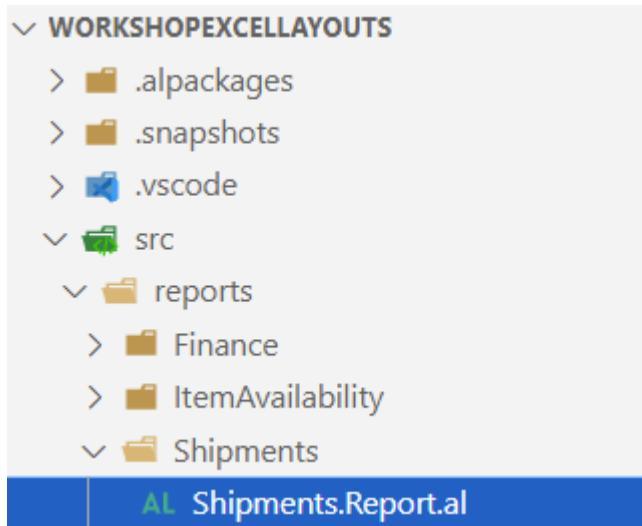
In the reports folder, create a subfolder named **Shipments**:



On the **Shipments** folder, right click and select **New File**:



Use this as the name of the new file: **Shipments.Report.al**



The file **Shipments.Report.al** will be the container of the new Shipments report object.

Copy/paste the following code in the **Shipments** report file:

```
report 50102 Shipments
{
    UsageCategory = ReportsAndAnalysis;
    ApplicationArea = All;
    Caption = 'Shipments';
    DefaultRenderingLayout = Shipments1;

    dataset
    {
        dataitem(SalesLine; "Sales Line")
        {
            DataItemTableView = where(Type = filter('Item'));

            column(DocumentNo; "Document No.")
            {}
            column(DocumentType; "Document Type")
            {}
            column(ItemNo; "No.")
            {}
            column(ShipmentDate; "Shipment Date")
            {}
            column(ShipmentYear; System.Date2DMY("Shipment Date", 3))
            {}
            column(ShipmentMonth; System.Date2DMY("Shipment Date", 2))
            {}
            column(QtytoShip; "Qty. to Ship")
            {}
            dataitem(Customer; Customer)
```

```

    }

        DataItemLink = "No." = field("Sell-to Customer No.");
        DataItemTableView = sorting("No.");

        column(CustomerNo; "No.")
        {
        }
        column(CustomerName; Name)
        {
        }
    }

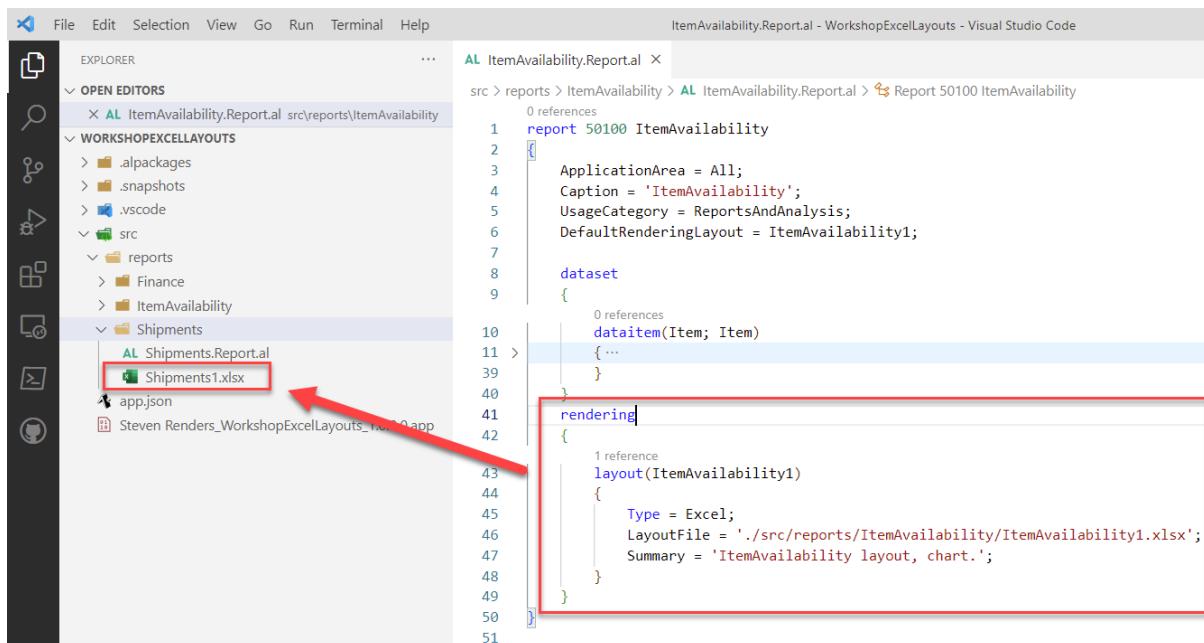
}

rendering
{
    layout(Shipments1)
    {
        Type = Excel;
        LayoutFile = './src/reports/Shipments/Shipments1.xlsx';
        Summary = 'Shipments layout, pivot and chart.';
    }
}
}

```

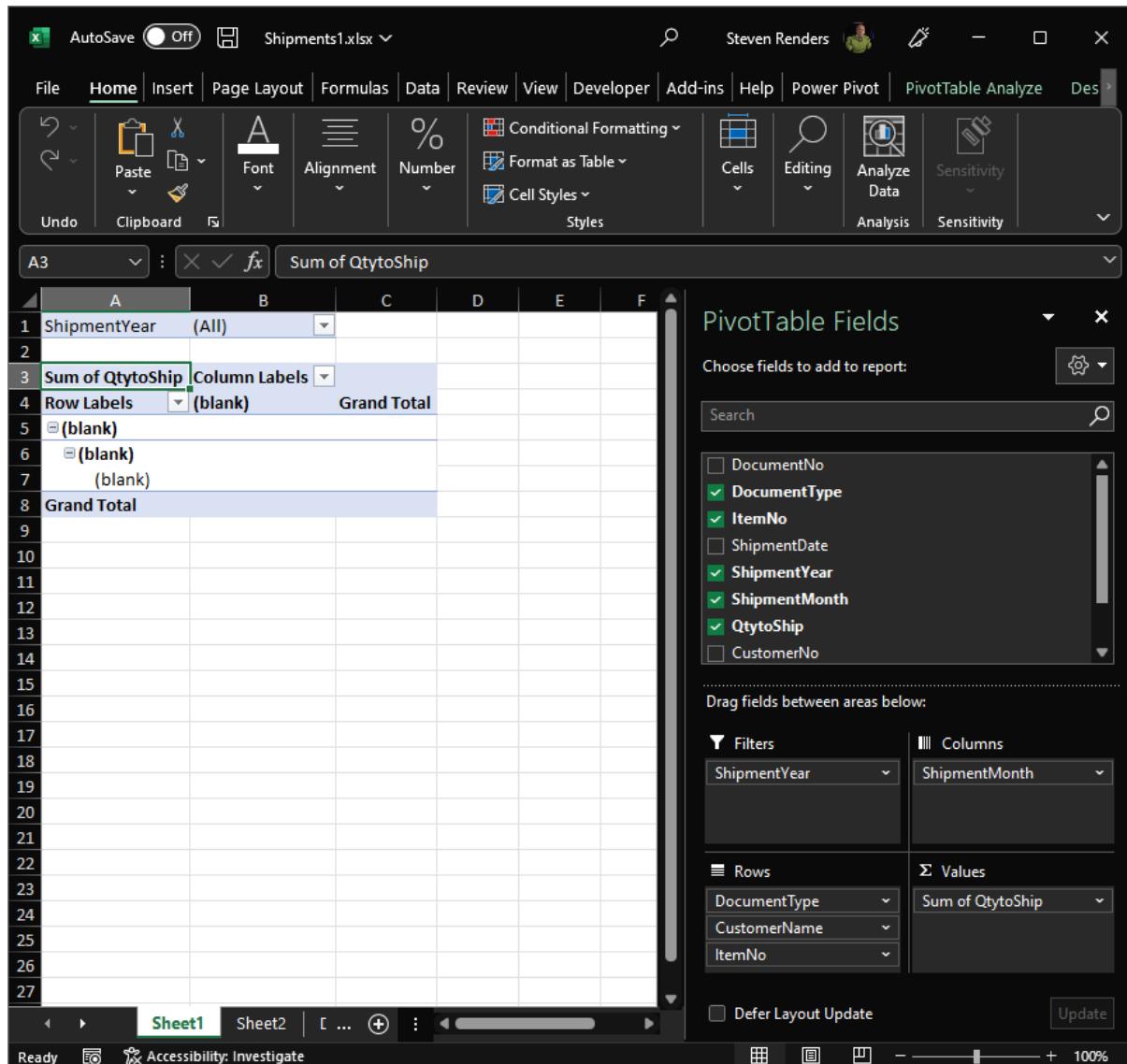
Create the Excel layout:

Like how you did it in the previous report, now package the report to create the **Excel** layout:



Then open the Excel file and add a pivot tables to it.

Here I added two different ones, a pivot table, and a pivot chart:



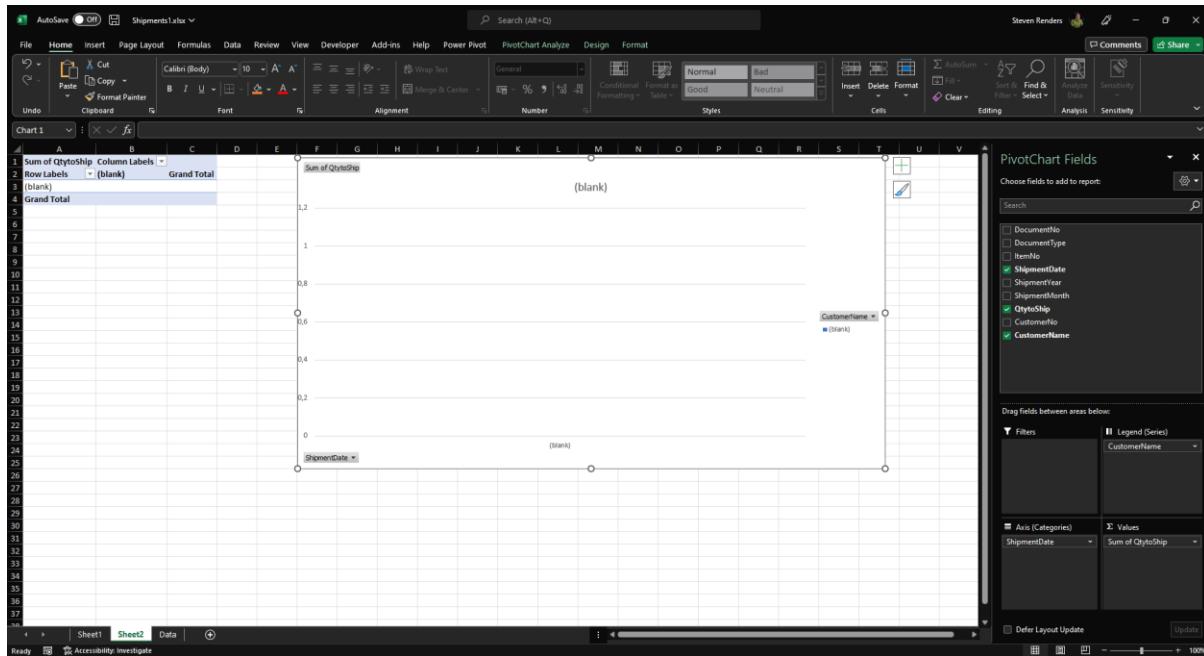
The screenshot shows a Microsoft Excel spreadsheet titled "Shipments1.xlsx". The PivotTable Fields pane is open on the right side, displaying the following fields:

- Choose fields to add to report:**
 - DocumentNo (unchecked)
 - DocumentType (checked)
 - ItemNo (checked)
 - ShipmentDate (unchecked)
 - ShipmentYear (checked)
 - ShipmentMonth (checked)
 - QtytoShip (checked)
 - CustomerNo (unchecked)
- Drag fields between areas below:**

Filters	Columns
ShipmentYear	ShipmentMonth
Rows	Σ Values
DocumentType	Sum of QtytoShip
CustomerName	
ItemNo	

The main worksheet contains a PivotTable with the following structure:

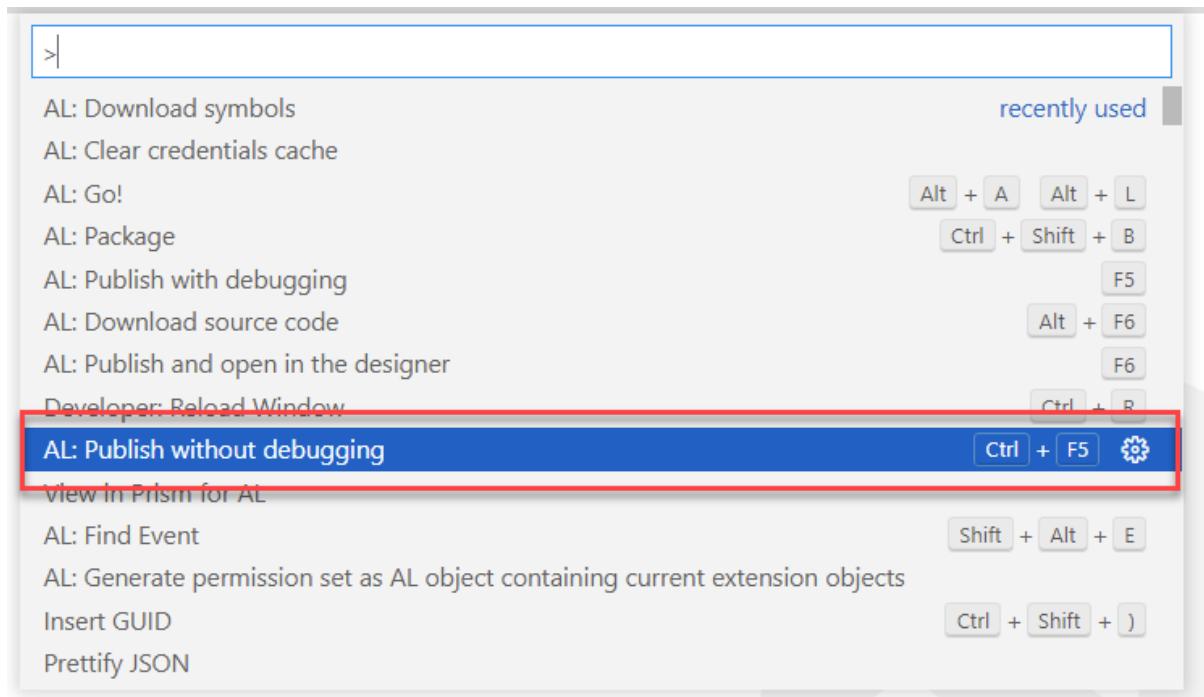
A	B	C	D	E	F
1	ShipmentYear (All)				
2					
3	Sum of QtytoShip	Column Labels			
4	Row Labels	(blank)	Grand Total		
5	(blank)				
6	(blank)				
7	(blank)				
8	Grand Total				
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					



Now **close** and **save** the xlsx file.

To re-deploy the extension, and run the reports, follow these steps:

In Visual Studio Code, select **Publish without debugging**, in the Command Palette:



Your app is now published to your sandbox, after which your browser opens and Business Central.

In Business Central, open the **Report Layouts** page:

Tell me what you want to do ✖️

report layout

Go to Pages and Tasks

Show all (4)

> Report Layouts

Administration



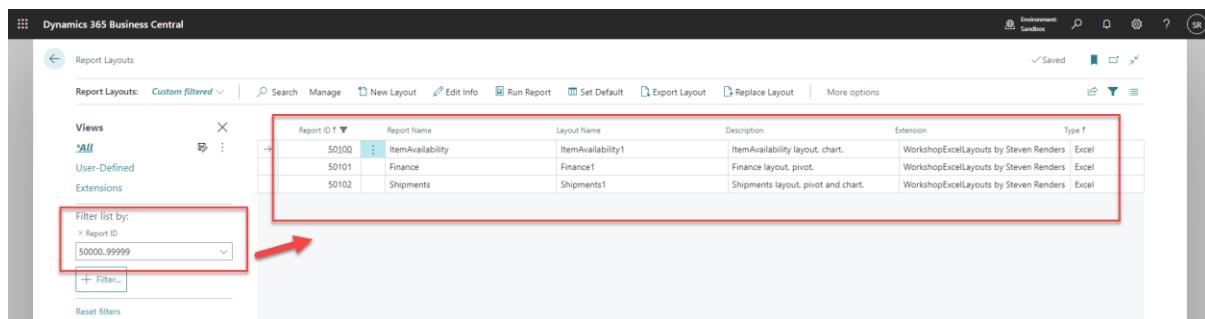
> Custom Report Layouts

Administration

> Built-in Report Layouts

Administration

In this page, apply a **filter**:

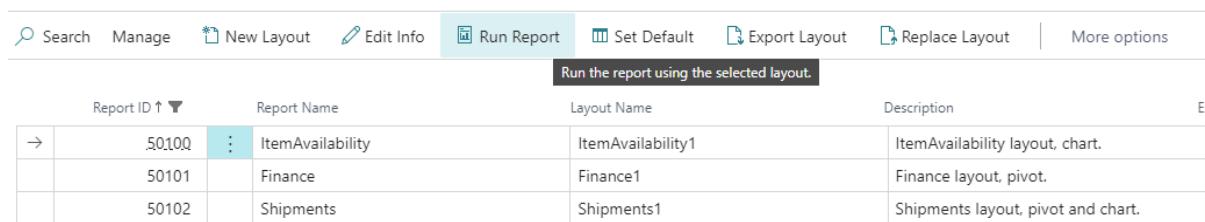


The screenshot shows the 'Report Layouts' page in Dynamics 365 Business Central. A red box highlights the 'Filter list by:' section on the left, which contains a dropdown menu set to 'Report ID' and a text input field containing '50000.99999'. An arrow points from this section to the main grid area. The main grid displays three report layouts with the following data:

Report ID	Report Name	Layout Name	Description	Extension	Type
50100	ItemAvailability	ItemAvailability1	ItemAvailability layout, chart.	WorkshopExcelLayouts by Steven Renders	Excel
50101	Finance	Finance1	Finance layout, pivot.	WorkshopExcelLayouts by Steven Renders	Excel
50102	Shipments	Shipments1	Shipments layout, pivot and chart.	WorkshopExcelLayouts by Steven Renders	Excel

Now you can see your 3 report layouts in Business Central.

To run them, select a layout and then Run Report:



The screenshot shows the 'Run Report' page in Dynamics 365 Business Central. A red box highlights the 'Run the report using the selected layout.' button at the top. Below it is a table listing the report layouts with their details. The layout 'ItemAvailability' is selected, indicated by a blue background in the 'Report Name' column. An arrow points from the 'Run Report' button to the 'ItemAvailability' row.

Report ID	Report Name	Layout Name	Description	Ex
50100	ItemAvailability	ItemAvailability1	ItemAvailability layout, chart.	
50101	Finance	Finance1	Finance layout, pivot.	
50102	Shipments	Shipments1	Shipments layout, pivot and chart.	

The request page opens:

ItemAvailability



Printer	(Handled by the browser)	▼
Report Layout	ItemAvailability1	...

Filter: Item

+ Filter...

Filter totals by:

+ Filter...

Advanced >

Send to...

Download

Cancel

Then click **Download** to generate and download the excel file.

Open the Excel file, to look at the data.

You now have three new reports in Business Central, with Excel layouts.

To import the extension in Business Central, follow these steps:

If you don't want to develop the extension in VScode, but only import the solution in Business Central, then follow these steps. If you have developed the extension in VScode, then you can skip this step, because you then have already published the extension to your sandbox.

If you however wish to deploy the extension to your production environment, you can follow these steps.

In Business Central open the **Extension Management** page:

Tell me what you want to do ✖

ext man

Go to Pages and Tasks

> Extension Management

Administration

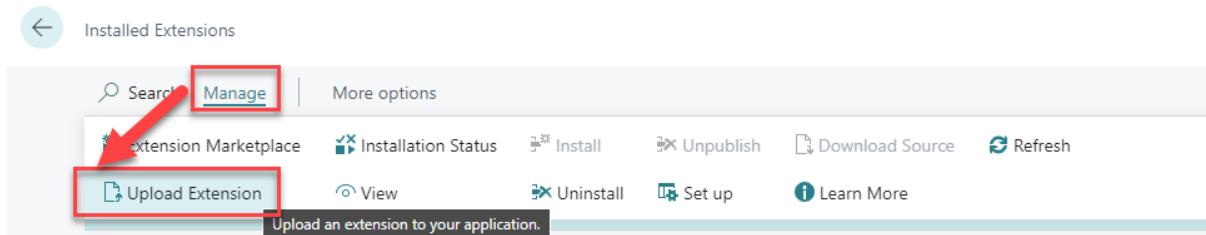


Documentation

② Search Help for "ext man"

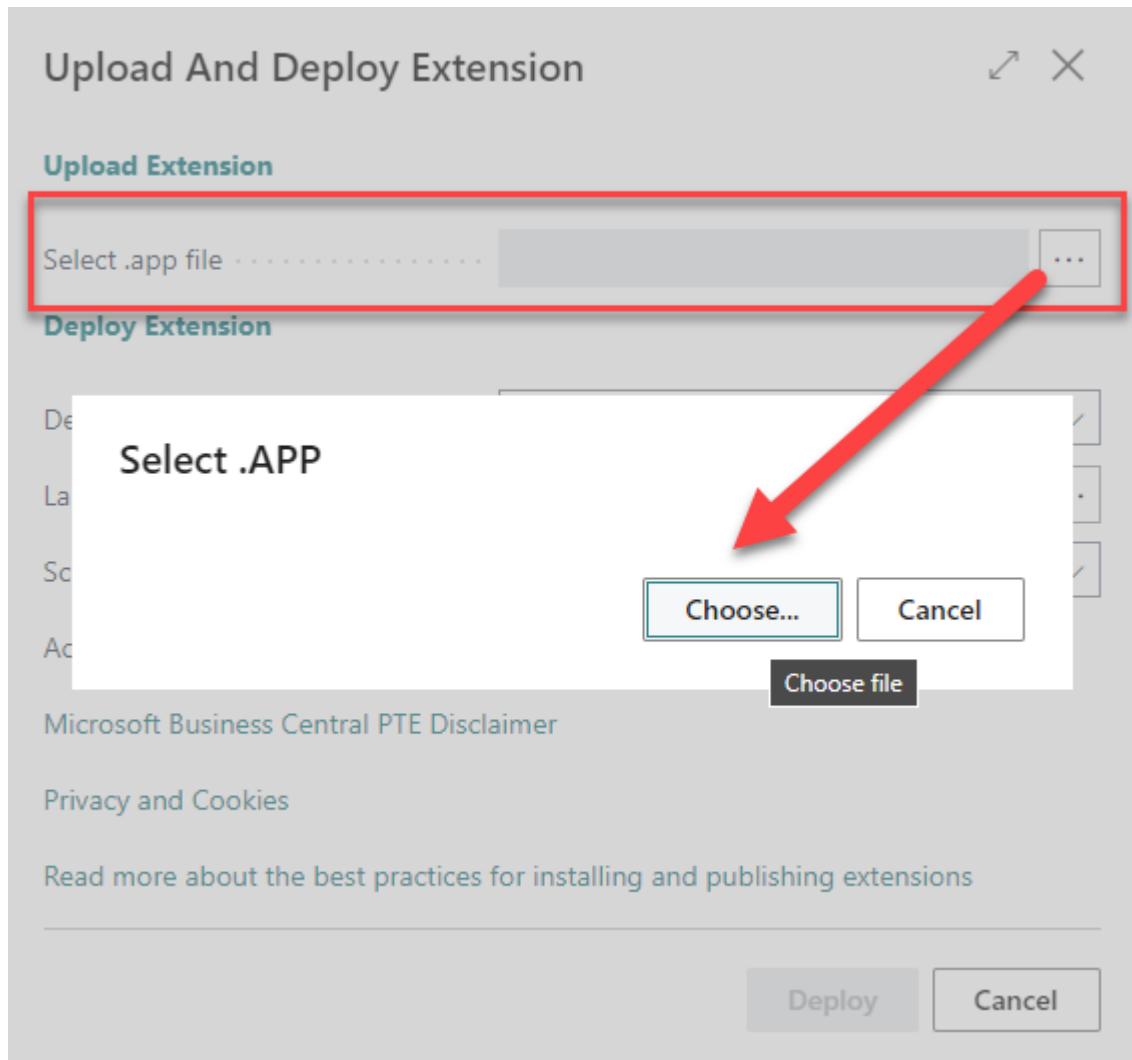
Didn't find what you were looking for? Try [exploring pages and reports](#)

Select, Manage, Upload Extension:

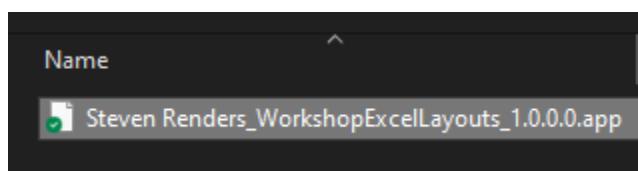


The screenshot shows the 'Installed Extensions' page. At the top, there's a search bar and a 'Manage' button. Below that is a toolbar with several icons: 'Extension Marketplace', 'Installation Status', 'Install', 'Unpublish', 'Download Source', 'Refresh', 'Upload Extension' (which has a red box and arrow), 'View', 'Uninstall', 'Set up', and 'Learn More'. A tooltip below the 'Upload Extension' button says 'Upload an extension to your application.'

Select the app file:



Then select the app file in the handouts folder:



Accept the privacy policy and click **Deploy**:

Upload And Deploy Extension



Upload Extension

Select .app file Steven Renders_WorkshopExcelLayouts...

Deploy Extension

Deploy to Current version

Language English (United States)

Schema Sync Mode Add

Accept the privacy policy and terms of service

[Microsoft Business Central PTE Disclaimer](#)

[Privacy and Cookies](#)

[Read more about the best practices for installing and publishing extensions](#)

Click **OK**:

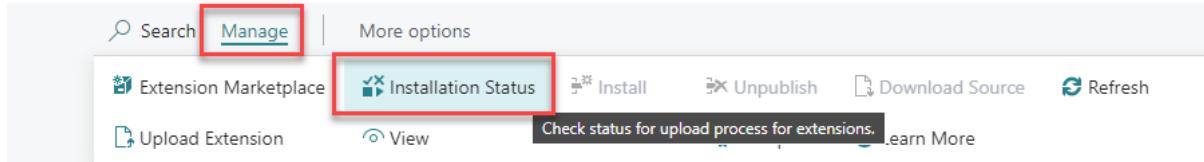


Extension installation is in progress. Please check the Extension Installation Status page for updates.

Select **Manage, Installation Status**:

[Workshop: Business Central Excel Layout Reports Demystified](#)

Installed Extensions

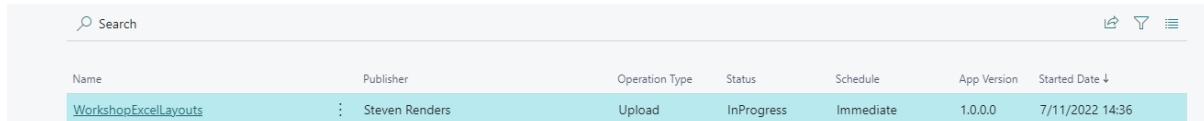


Search **Manage** More options

Extension Marketplace **Installation Status** Install Unpublish Download Source Refresh

Upload Extension View Check status for upload process for extensions Learn More

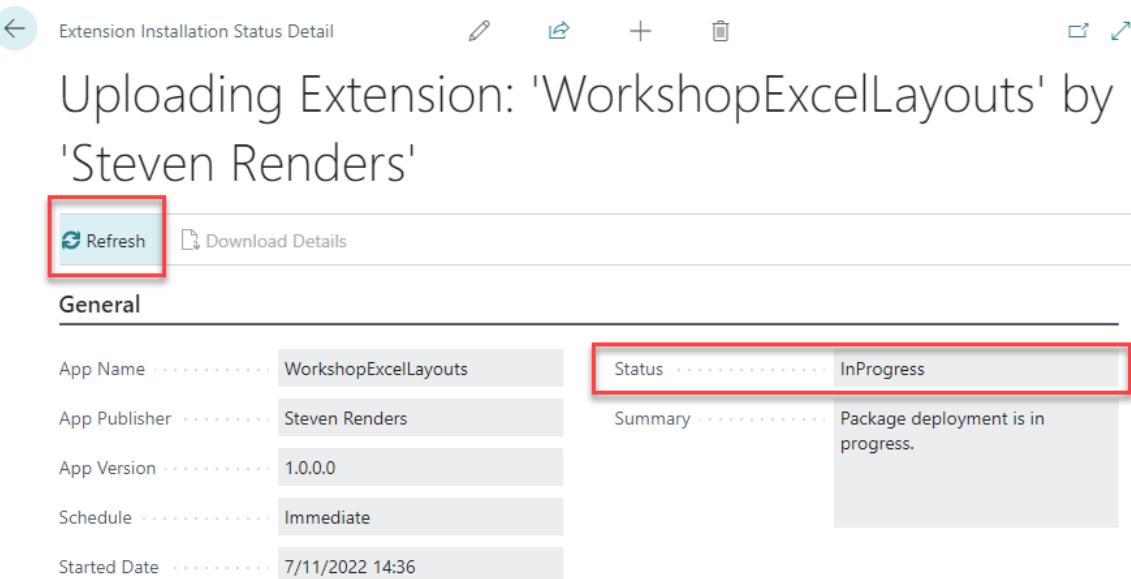
Extension Installation Status



Name	Publisher	Operation Type	Status	Schedule	App Version	Started Date
WorkshopExcelLayouts	Steven Renders	Upload	InProgress	Immediate	1.0.0.0	7/11/2022 14:36

Click on the extension name:

Extension Installation Status Detail



Uploading Extension: 'WorkshopExcelLayouts' by 'Steven Renders'

General

App Name	WorkshopExcelLayouts	Status	InProgress
App Publisher	Steven Renders	Summary	Package deployment is in progress.
App Version	1.0.0.0		
Schedule	Immediate		
Started Date	7/11/2022 14:36		

Click on **Refresh**, until the status changes to **Completed**:

Extension Installation Status Detail

Uploading Extension: 'WorkshopExcelLayouts' by 'Steven Renders'

[Refresh](#) [Download Details](#)

General	
App Name	WorkshopExcelLayouts
Status	Completed
App Publisher	Steven Renders
Summary	Publish operation completed successfully.
App Version	1.0.0.0
Schedule	Immediate
Started Date	7/11/2022 14:36

The app is installed now, and the reports should be available in the **Report Layouts** page:

Report Layouts: All [Copy] Search Delete New Layout Edit Info Run Report Set Default Export Layout ...						
Report ID	Report Name	Layout Name	Description	Extension	Type	
50100	ItemAvailability	ItemAvailability1	ItemAvailability layout. chart.	WorkshopExcelLayouts by Steven Rend...	Excel	
50101	Finance	Finance1	Finance layout. pivot.	WorkshopExcelLayouts by Steven Rend...	Excel	
50102	Shipments	Shipments1	Shipments layout. pivot and chart.	WorkshopExcelLayouts by Steven Rend...	Excel	

Consuming Excel layouts

Now when initial reports and report layouts are developed by developers, we can use them within Dynamics 365 Business Central.

Enhance the Shipments layout

To consume developed reports in Dynamics 365 Business Central search for one of them using the **Tell me** functionality. For example: **Shipments**

Tell me what you want to do ↗ X

Shipments

Go to Pages and Tasks Show all (7)

- > Combine Shipments Tasks
- > Inventory Shipments Lists
- > Warehouse Shipments Lists

Go to Reports and Analysis Show all (10)

Shipments Reports and Analysis

- Posted Invt. Shipments Archive
- Posted Sales Shipments Archive

Documentation

⌚ Search Help for "Shipments"

Get from Microsoft AppSource Show all (38)

- Container Shipment With Container Shipments, you get detailed insights in your container shipments.
- Combine Warehouse Shipment Create shipments combining orders according to grouping criteria
- Combine Warehouse Shipment for Italy Create shipments combining orders according to grouping criteria

Didn't find what you were looking for? Try [exploring pages and reports](#)

When the Shipments report request page opens you will can select the one of the existing layouts.

Shipments □ ↗ X

Printer (Handled by the browser) ▼

Report Layout Shipments1 ...

Filter: Sales Line

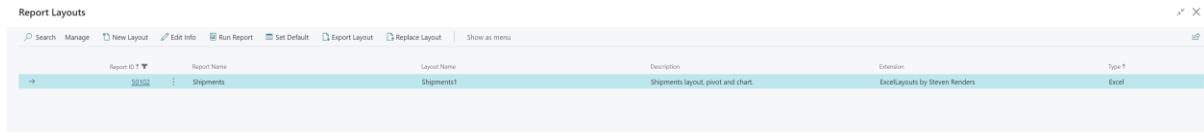
+ Filter...

Advanced >

Send to... Download Cancel

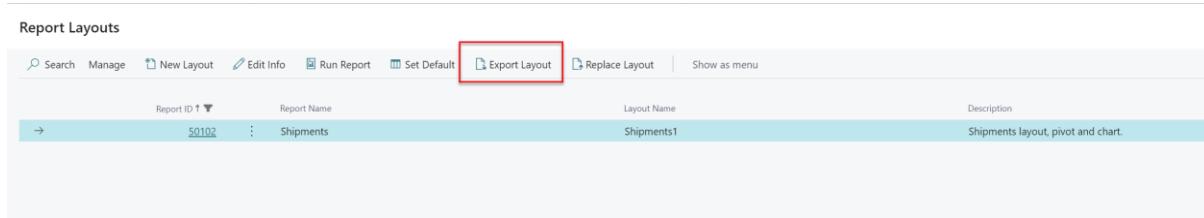
Click Assist edit (...) action.

As we developed only one Excel layout, we have the possibility only to select one Excel layout in the **Report Layouts** screen.

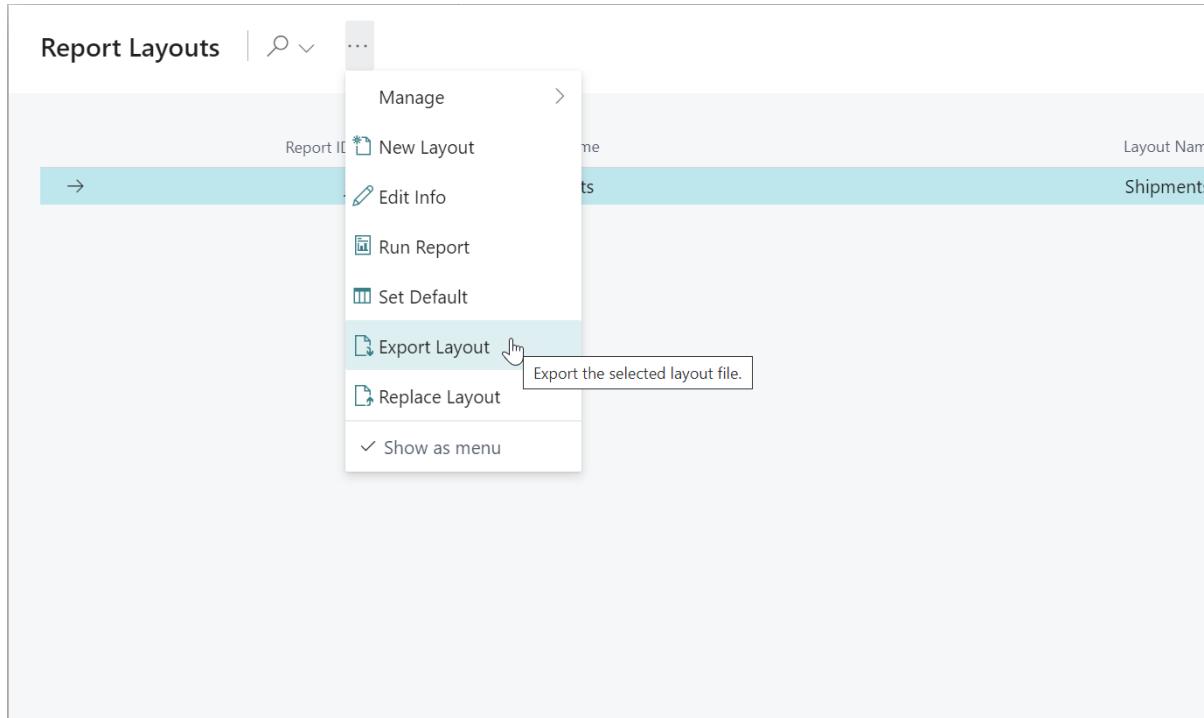


To create a new Excel layout first we need to use one of the existing Excel layouts.

Click **Export Layout** action in action menu.

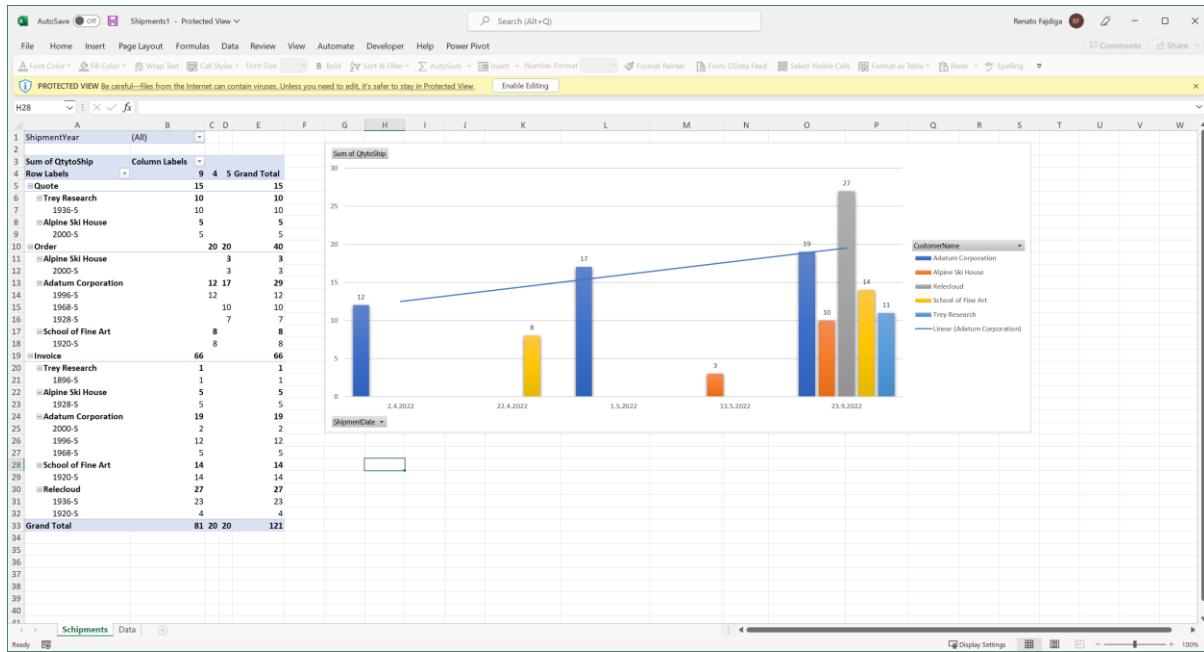


Or if you don't see Action menu, click **Show the rest (...)** action and then click **Export Layout**.



Dynamics 365 Business Central will download Excel file with Layout Name to your PC.

Open the Excel layout.



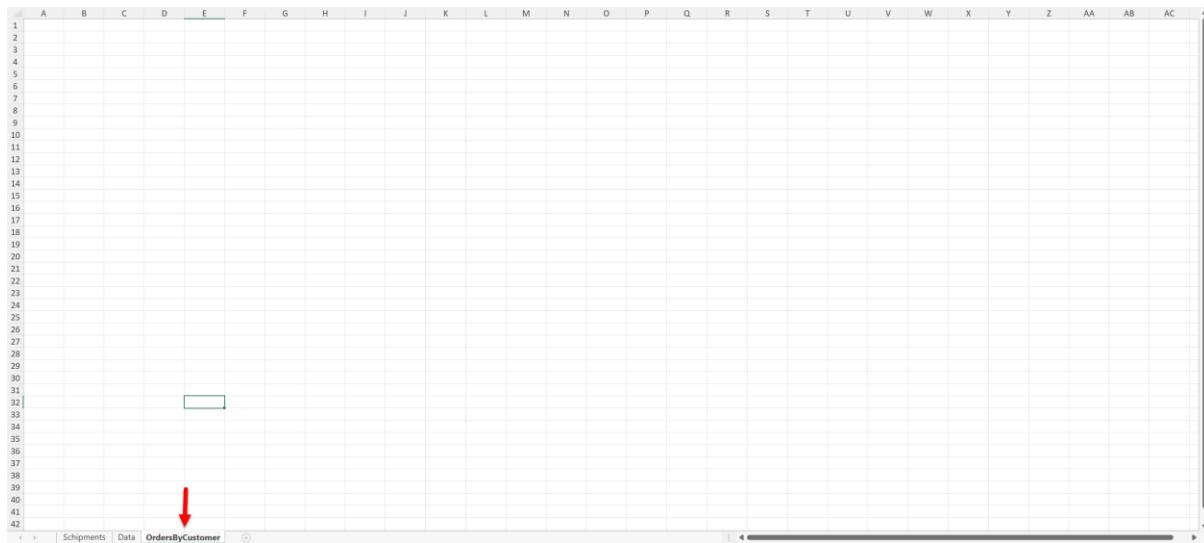
You will see two tabs:

1. Schipments – contains pivot table based on Data and some chart
2. Data – contains raw data from Dynamics 365 Business Central

Click **Enable Editing**.

Click + to add a new Excel workbook sheet

Rename Sheet2 (or Sheet1) to **OrdersByCustomer**

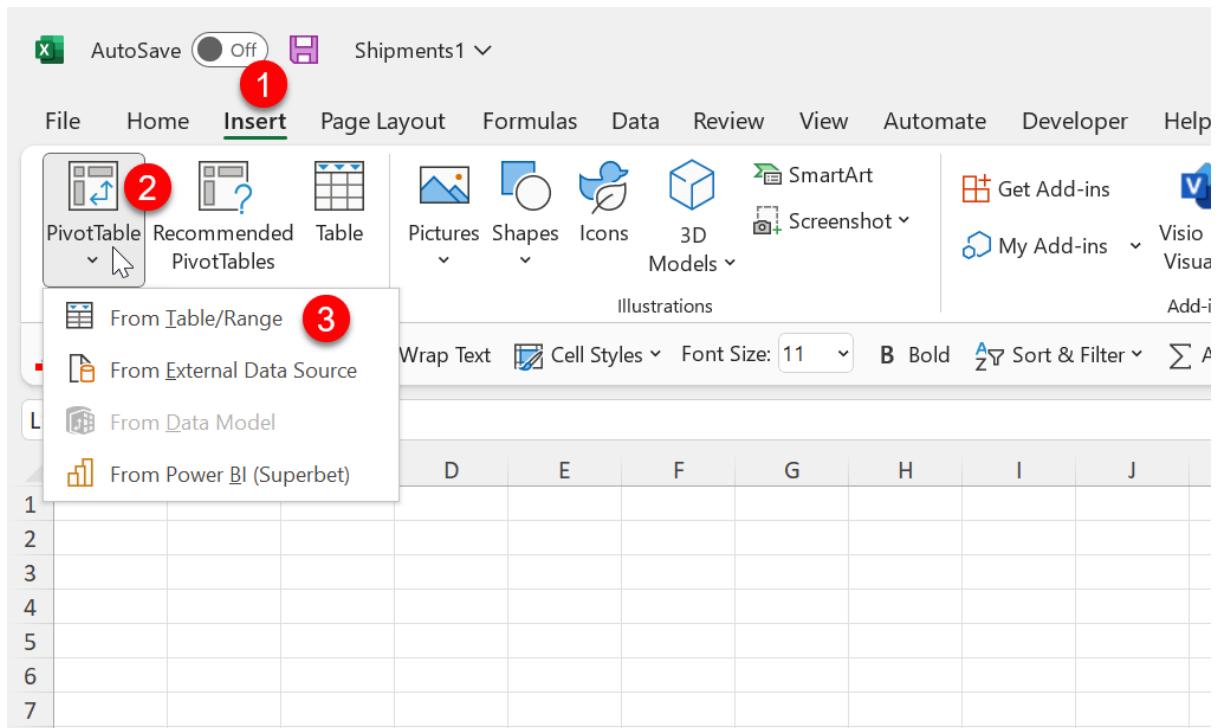


In the Action Menu click **Insert -> Pivot table -> From Table/Range**

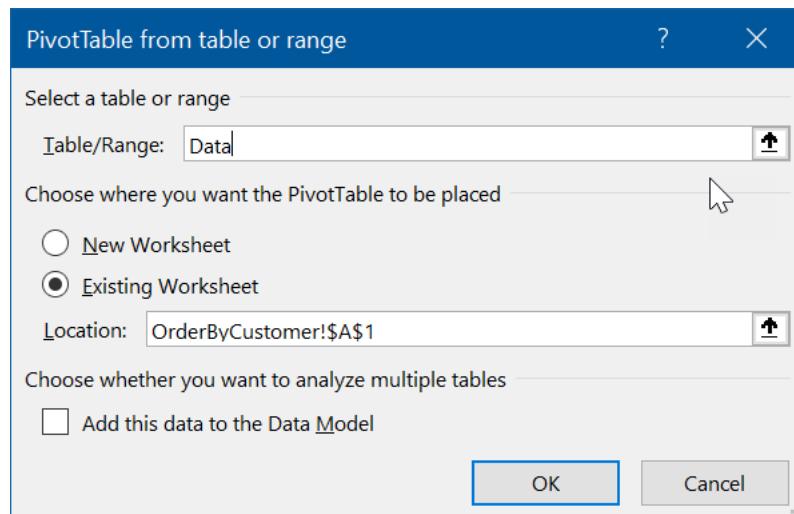


DIRECTIONS 4 PARTNERS

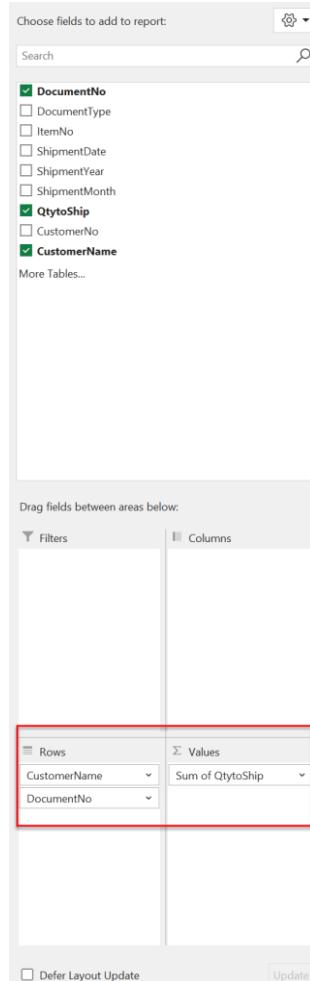
Page 73 of 88



In **PivotTable from table or range** window, in field **Table/Range** write **Data**. This will point to our raw export table from Dynamics 365 Business Central that is available in the Data sheet.



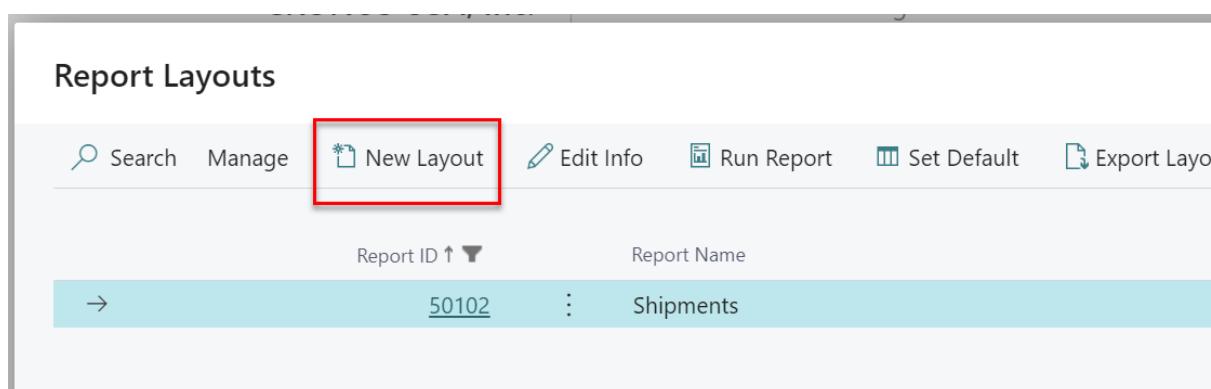
Select **CustomerName** and **DocumentNo** as **Rows** and **QtytoShip** as **Values**. Make sure that you are summing up **QtytoShip**.



Save and close the Excel file.

In order to use the new layout you have to upload it into **Report layouts** inside Dynamics 365 Business Central.

Return to **Report Layouts** screen in Dynamics 365 Business Central and click **New Layout**.



In **Edit – Add New Layout for a Report** screen select following

Report ID and Report Name leave as it is.

Layout **Name** and **Description** write **New Shipments Layout**. **Format Options** choose **Excel**. If you want that this layout is available only for current company **disable Available in All Companies**.

I will leave **Available in All** companies to **Yes**.

Click OK.

Edit - Add New Layout for a Report

Report ID	50102
Report Name	Shipments
Layout Name	New Shipments Layout
Description	New Shipments Layout
Format Options	Excel
Available in All Companies	<input checked="" type="checkbox"/>

In **Choose Excel layout files** choose Excel file saved before.

Report Layouts						
Report ID ↑		Report Name	Layout Name	Description	Extension	Type ↑
→	50102	Shipments	New Shipments Layout	New Shipments Layout	ExcelLayouts by Steven Renders	Excel
	50102	Shipments	Shipments1	Shipments layout, pivot and chart		Excel

Now you will have 2 Excel layouts for the same report. To test the layout click **Run Report** action in action menu.

Report Layouts						
Report ID ↑		Report Name	Layout Name	Action		
→	50102	Shipments	New Shipments Layout			
	50102	Shipments	Shipments1			

If you run **Shipments** report from **Tell me** you can now also choose **New Shipments Layout** that we developed.

Shipments

Printer (Handled by the browser) ▾

Report Layout New Shipments Layout ⋮

Filter: Sales Line

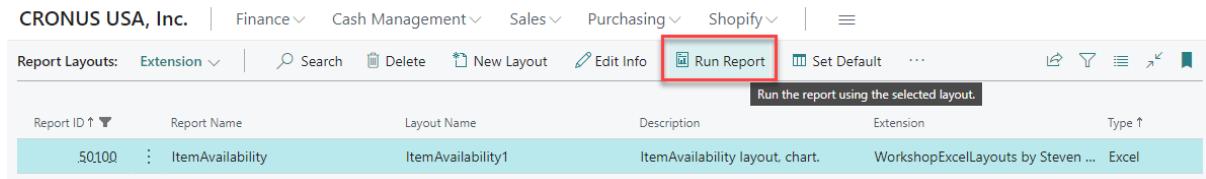
+ Filter...

Advanced >

Send to... Download Cancel

Enhance the ItemAvailability layout

In the Report Layouts page, run the **ItemAvailability** report and download the runtime layout:



Report ID ↑	Report Name	Layout Name	Description	Extension	Type ↑
50100	ItemAvailability	ItemAvailability1	ItemAvailability layout, chart.	WorkshopExcelLayouts by Steven ...	Excel

Open the layout in Excel.

In the **Data** worksheet, click: **Analyze Data**:



The screenshot shows a Microsoft Excel spreadsheet titled "ItemAvailability.xlsx". The spreadsheet contains a table with columns: ItemNo, ItemName, Location, Year, Month, LocationCode, Quantity, and LocatedIn. The "Analyze" ribbon tab is highlighted with a red arrow. An "Analyze Data" pane is open on the right side of the screen, displaying various insights and charts. One chart shows the sum of quantity by year, with data points for 2021 (195), 2022 (-138), and NULL (0). Another chart shows the percentage distribution of location names.

Select one of the insights and click **Insert**:

Analyze Data

Ask a question about your data

Suggested questions

- How many different 'LocationCode' are there?
- Percentage distribution of 'LocationName'

Discover insights

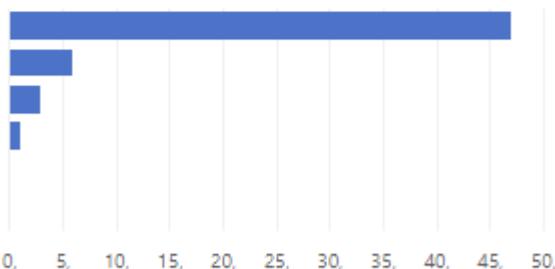
'Quantity' by 'Year'

Row Labels	Sum of Quantity
2021	195,
2022	-138,
NULL	0,
Grand Total	57,

+ Insert PivotTable Is this helpful?

'Quantity' by 'LocationCode'

Sum of Quantity



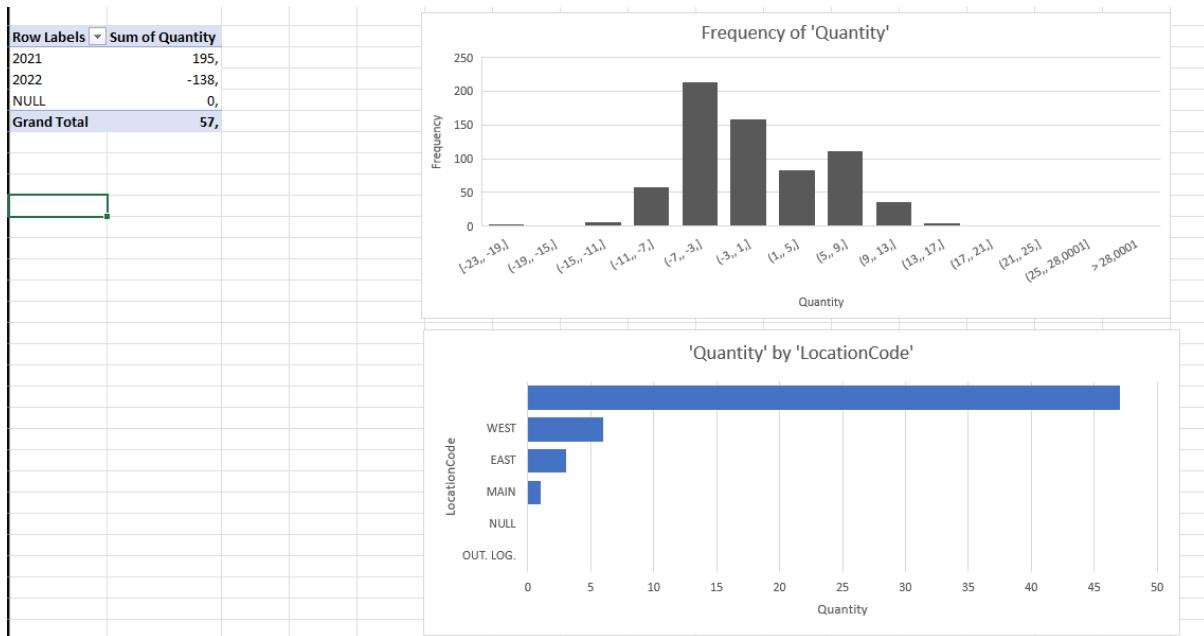
0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50.

+ Insert PivotChart Is this helpful?

'Month': 2 has noticeably lower 'Quantity'.

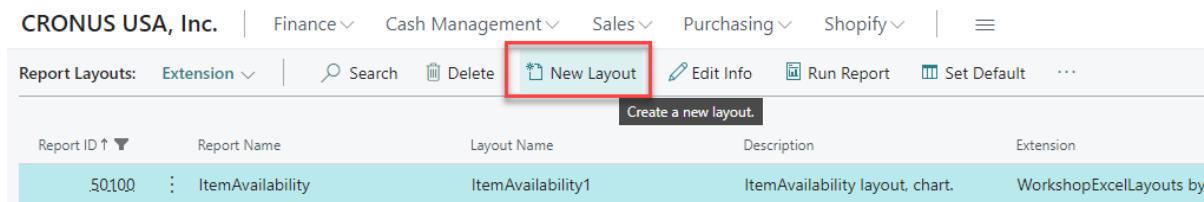
Sum of Quantity





Save the ItemAvailability.xlsx file.

In the Report Layouts page, create a **new Excel layout** for the **ItemAvailability** report:

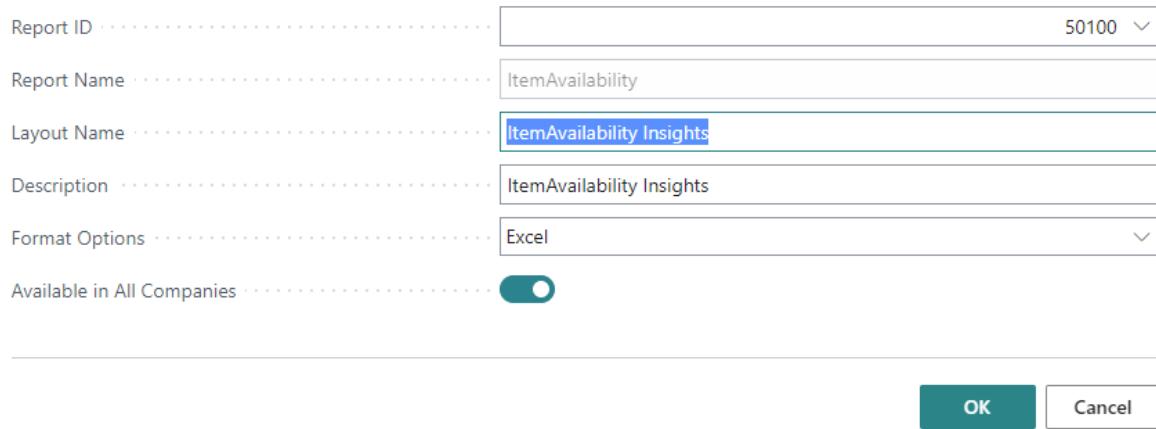


Report Layouts: Extension ▾ | Search | Delete | **New Layout** | Edit Info | Run Report | Set Default | ...

Create a new layout.

Report ID ↑	Report Name	Layout Name	Description	Extension
.50100	ItemAvailability	ItemAvailability1	ItemAvailability layout, chart.	WorkshopExcelLayouts by

Edit - Add New Layout for a Report



Report ID 50100

Report Name ItemAvailability

Layout Name **ItemAvailability Insights**

Description ItemAvailability Insights

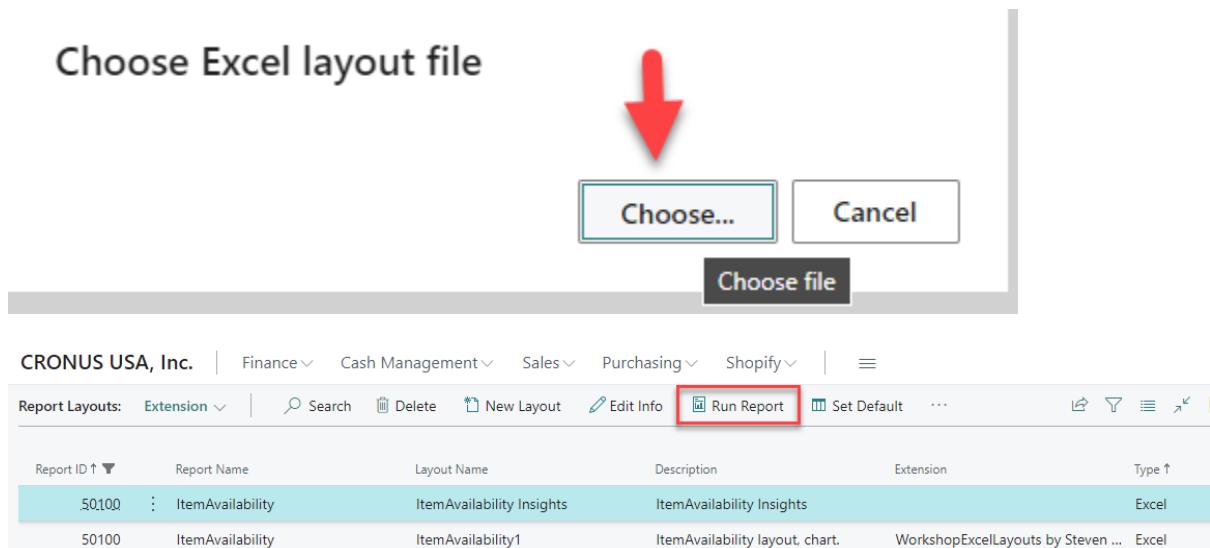
Format Options Excel

Available in All Companies

OK Cancel

Select the excel file you saved earlier:

Choose Excel layout file



Report ID ↑	Report Name	Layout Name	Description	Extension	Type ↑
50100	ItemAvailability	ItemAvailability Insights	ItemAvailability Insights		Excel
50100	ItemAvailability	ItemAvailability1	ItemAvailability layout, chart.	WorkshopExcelLayouts by Steven ...	Excel

You now have a new layout, with some interesting insights.

Connecting Excel to Odata (and APIs)

Another option to get data from Dynamics 365 Business Central to the Excel is via **OData** connector in Excel.

With Odata connected we can consume Odata web services and APIs developed by Microsoft or by developers.

To get list of all Web services in **Tell me** type web services and open page with all web services.

Tell me what you want to do X

Go to Pages and Tasks Show all (5)

- > Web Services Lists
- > PAC Web Services Lists
- > Web Service Access Key Administration

Documentation

[Search Help for "web services"](#)

Get from Microsoft AppSource Show all (141)

-  [DS365 E-Services](#)
Empower Employees to Request Services Required in an Organization
-  [Advania Banking Services](#)
With Advania Banking Services you'll be able to manage your bank connections.
-  [Professional Services](#)
Enhanced time-sheet entry, review, and invoice process built upon existing jobs and cus...

Didn't find what you were looking for? Try [exploring pages and reports](#)

Web Services

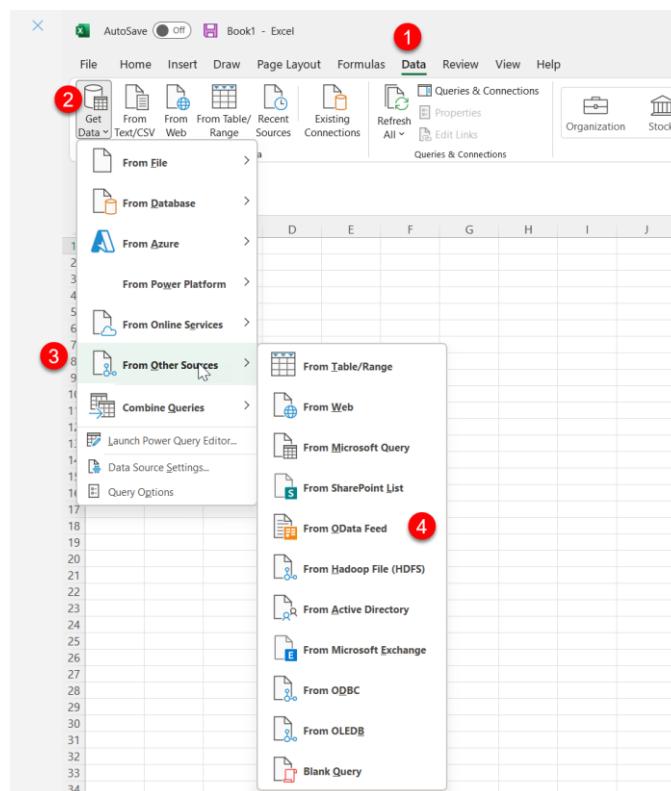
If you want to set up an OData connection, for performance and stability reasons consider using an API page instead. Don't show again | API documentation

Object Type	Object ID	Object Name	Service Name	All Tenants	Published	OData V4 URL	SOAP URL
Query	102	Item Sales by Customer	ItemsSalesByCustomer	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	268	Job Ledger Entries	JobLedgerEntries	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	61	Power BI Cust. Item Ledg. Ent.	Power BI Cust. Item Ledg. Ent.	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	62	Power BI Cust. Ledger Entries	Power BI Cust. Ledger Entries	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	50	Power BI Customer List	Power BI Customer List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	53	Power BI GL Account List	Power BI GL Account List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	58	Power BI GL Budgeted Amount	Power BI GL BudgetedAmount	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	52	Power BI Item Purchase List	Power BI Item Purchase List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	57	Power BI Sales List	Power BI Sales List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	54	Power BI Jobs List	Power BI Jobs List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	64	Power BI Purchase Hdr. Vendor	Power BI Purchase Hdr. Vendor	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	56	Power BI Purchase List	Power BI Purchase List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	60	Power BI Sales Hdr. Cust.	Power BI Sales Hdr. Cust.	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	55	Power BI Sales List	Power BI Sales List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	59	Power BI Top Cust. Overview	Power BI Top Cust. Overview	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	65	Vendor Item Ledger Entries	Power BI Vend. Item Ledg. Ent.	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	63	Power BI Vendor Ledger Entries	Power BI Vendor Ledger Entries	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	51	Power BI Vendor List	Power BI Vendor List	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	269	Res Ledger Entries	ResLedgerEntries	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	101	Sales Dashboard	SalesDashboard	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	105	Sales Opportunities	SalesOpportunities	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	104	Sales Orders by Sales Person	SalesOrdersBySalesPerson	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	106	Segment Lines	SegmentLines	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	100	Top Customer Overview	TopCustomerOverview	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	266	Value Entries	ValueEntries	<input type="checkbox"/>	<input type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable
Query	263	Vendor Ledger Entries	VendorLedgerEntries	<input type="checkbox"/>	<input checked="" type="checkbox"/>	https://api.businesscentral.dynamics.com/v2.0/...	Not applicable

You can copy each published **OData V4 URL**. For this lab, please copy **VendorLedgerEntries** OData V4 URL. [https://api.businesscentral.dynamics.com/v2.0/05e59192-a893-44fd-a840-39ca32acace0/DirectionsEmea/ODataV4/Company\('CRONUS%20USA%2C%20Inc.+\)/VendorLedgerEntries](https://api.businesscentral.dynamics.com/v2.0/05e59192-a893-44fd-a840-39ca32acace0/DirectionsEmea/ODataV4/Company('CRONUS%20USA%2C%20Inc.+)/VendorLedgerEntries)

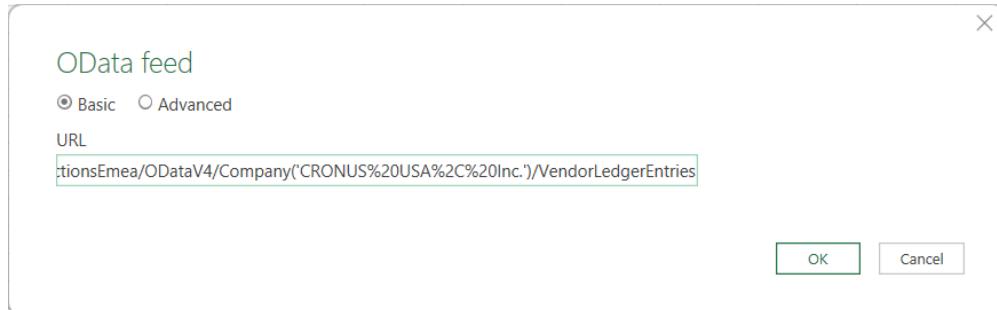
Each OData V4 URL contains path to the Dynamics 365 Business Central tenant/environment/company and each specific query or web service.

Now open Excel and click Data -> Get Data -> From Other Sources -> From OData Feed

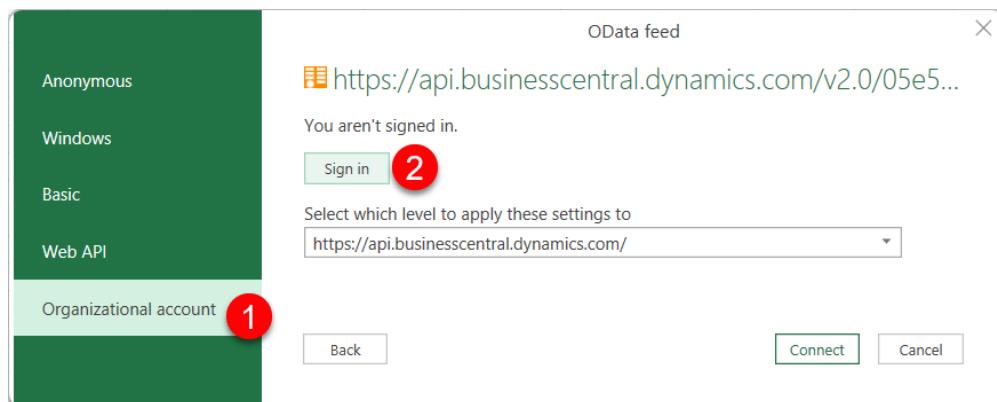


Workshop: Business Central Excel Layout Reports Demystified

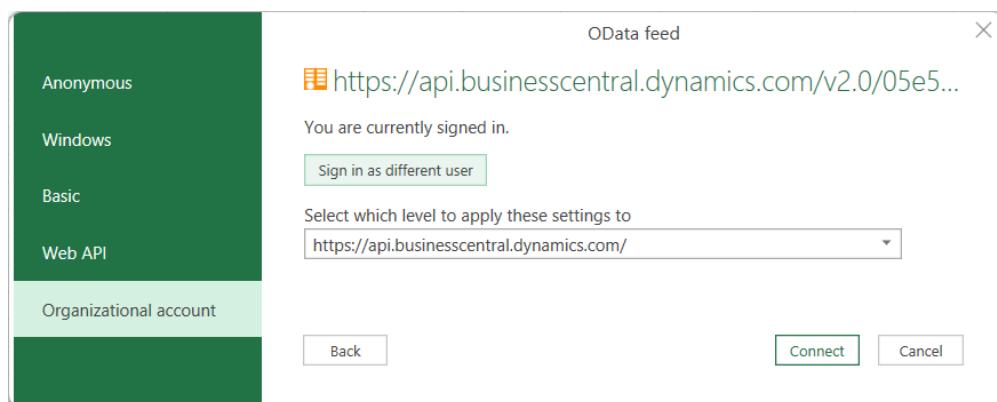
Paste your OData V4 URL into URL field and click OK



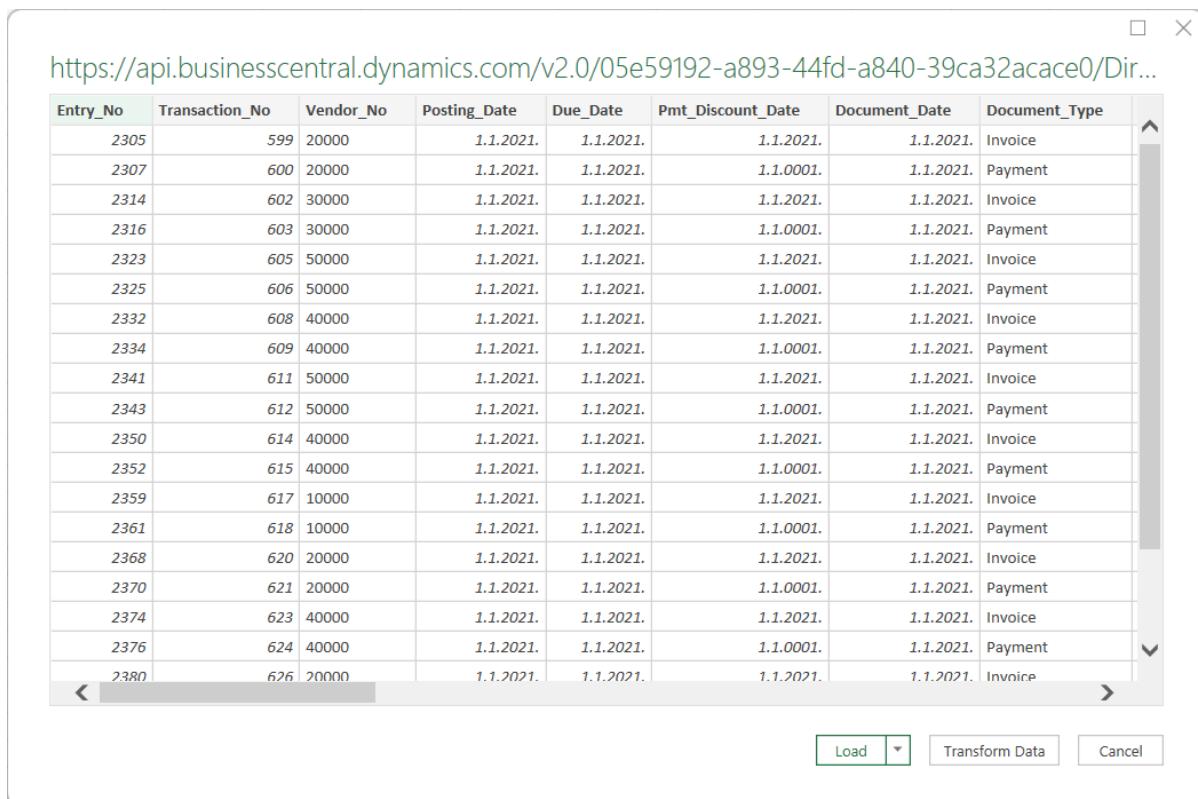
In OData feed window, select **Organization account** and then click **Sign in**. Use your demo credentials that you are using for demo Dynamics 365 Business Central environment.



After successfully signed in, click **Connect**.



In a few seconds you will get **VendorLedger** entries. Now you can either **Load** or **Transform** data.



The screenshot shows a Microsoft Power BI Excel data viewer. At the top, the URL is https://api.businesscentral.dynamics.com/v2.0/05e59192-a893-44fd-a840-39ca32acace0/Dir... . Below the URL is a table with the following data:

Entry_No	Transaction_No	Vendor_No	Posting_Date	Due_Date	Pmt_Discount_Date	Document_Date	Document_Type
2305	599	20000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2307	600	20000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2314	602	30000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2316	603	30000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2323	605	50000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2325	606	50000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2332	608	40000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2334	609	40000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2341	611	50000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2343	612	50000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2350	614	40000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2352	615	40000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2359	617	10000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2361	618	10000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2368	620	20000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2370	621	20000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2374	623	40000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice
2376	624	40000	1.1.2021.	1.1.2021.	1.1.0001.	1.1.2021.	Payment
2380	626	20000	1.1.2021.	1.1.2021.	1.1.2021.	1.1.2021.	Invoice

At the bottom of the viewer are buttons for Load, Transform Data, and Cancel.

Click **Load** and in few seconds in Excel you will have all Vendor Ledger Entries for Cronus USA company.

With Dynamics 365 Business Central 2022 release wave 2, Microsoft published new APIs that are optimized for reporting in Power BI and Excel.

For more info follow this url: <https://learn.microsoft.com/en-us/dynamics365-release-plan/2022wave2/smb/dynamics365-business-central/excel-layouts--new-report-datasets-excel-reporting>

To be able to connect to Dynamics 365 Business Central APIs first we need to **combine** and **create API url**.

API URL is similar to OData V4 URL but instead of OData V4 we will point to APIs.

Tenant: M365B667194.onmicrosoft.com, **replace** with your tenant that you can find within your demo account

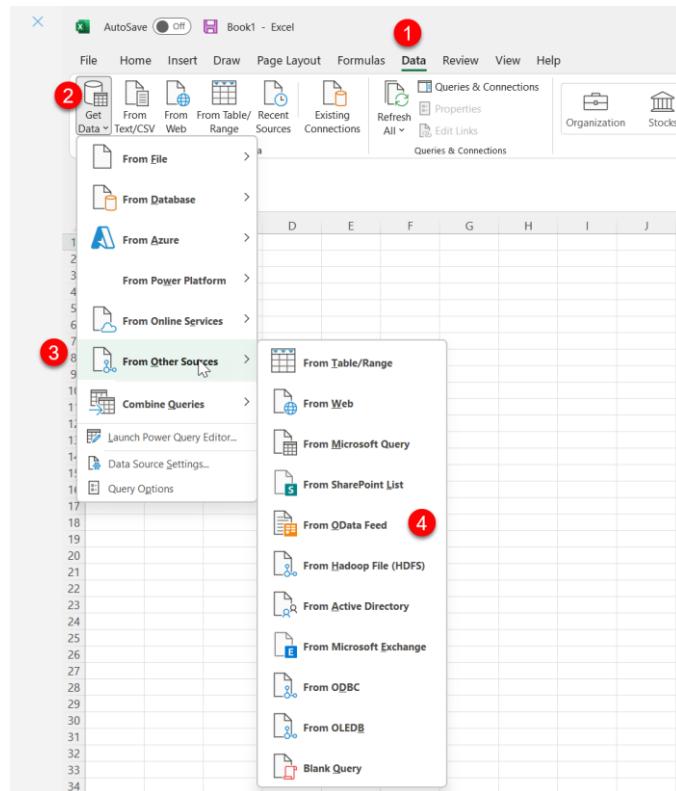
Environment: DirectionsEMEA, or one that you created in our first steps of that lab

microsoft/reportsFinance/beta: path for Microsoft APIs, it is usually <API publisher>/<API group>/<API version>

<https://api.businesscentral.dynamics.com/v2.0/TENANT/ENVIRONMENT/api/<API PUBLISHER>/<API GROUP>/<API VERSION>>

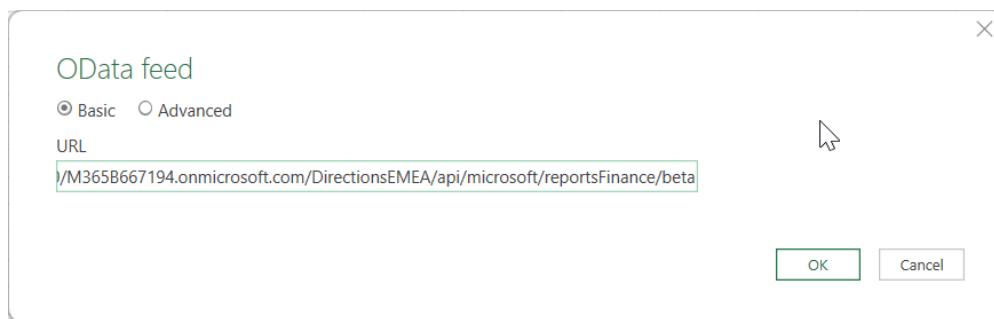
<https://api.businesscentral.dynamics.com/v2.0/M365B667194.onmicrosoft.com/DirectionsEMEA/api/microsoft/reportsFinance/beta>

Now when we know how to form URL, lets open **Excel** and click **Data -> Get Data -> From Other Sources -> From OData Feed**

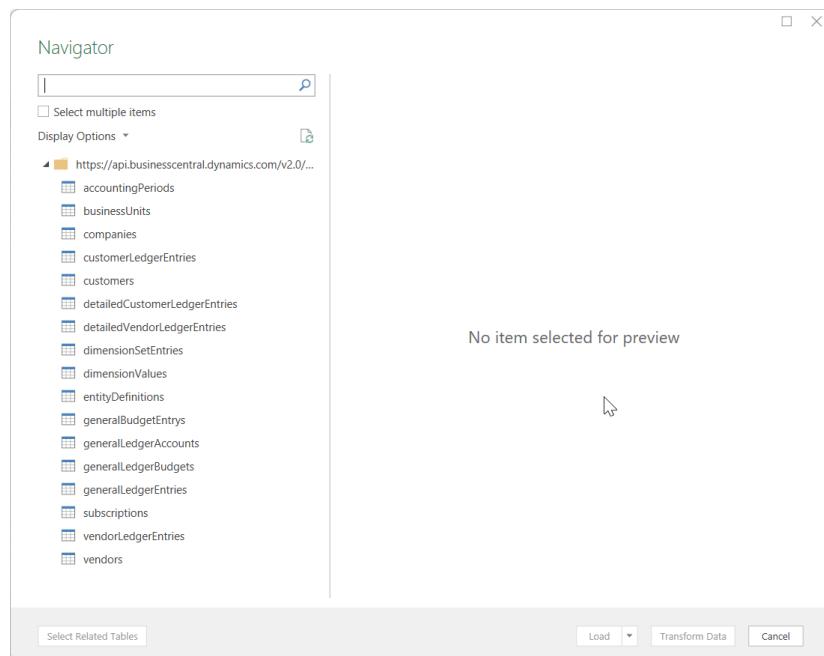


In OData feed window in URL field paste the API url.

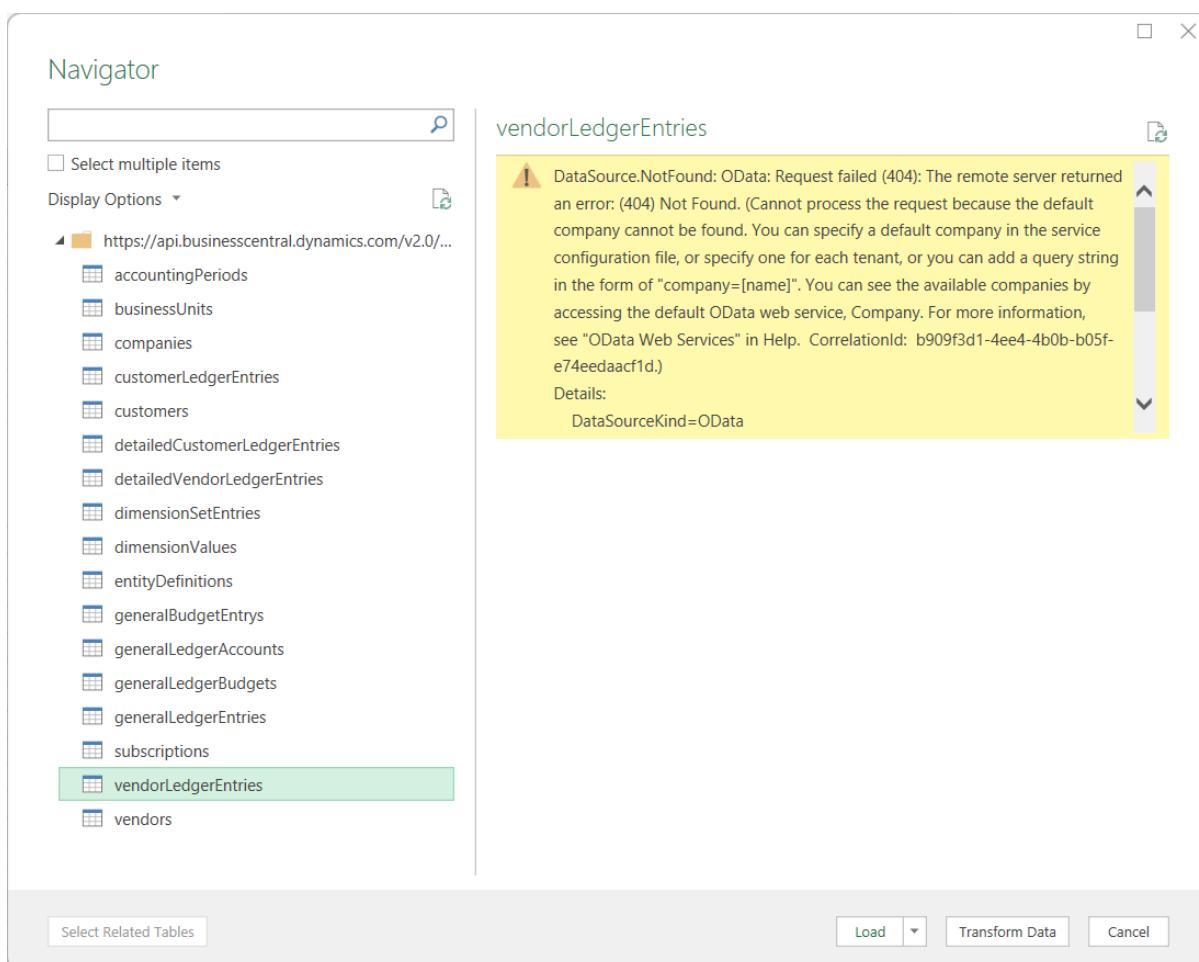
<https://api.businesscentral.dynamics.com/v2.0/M365B667194.onmicrosoft.com/DirectionsEMEA/api/microsoft/reportsFinance/beta> and click **OK**



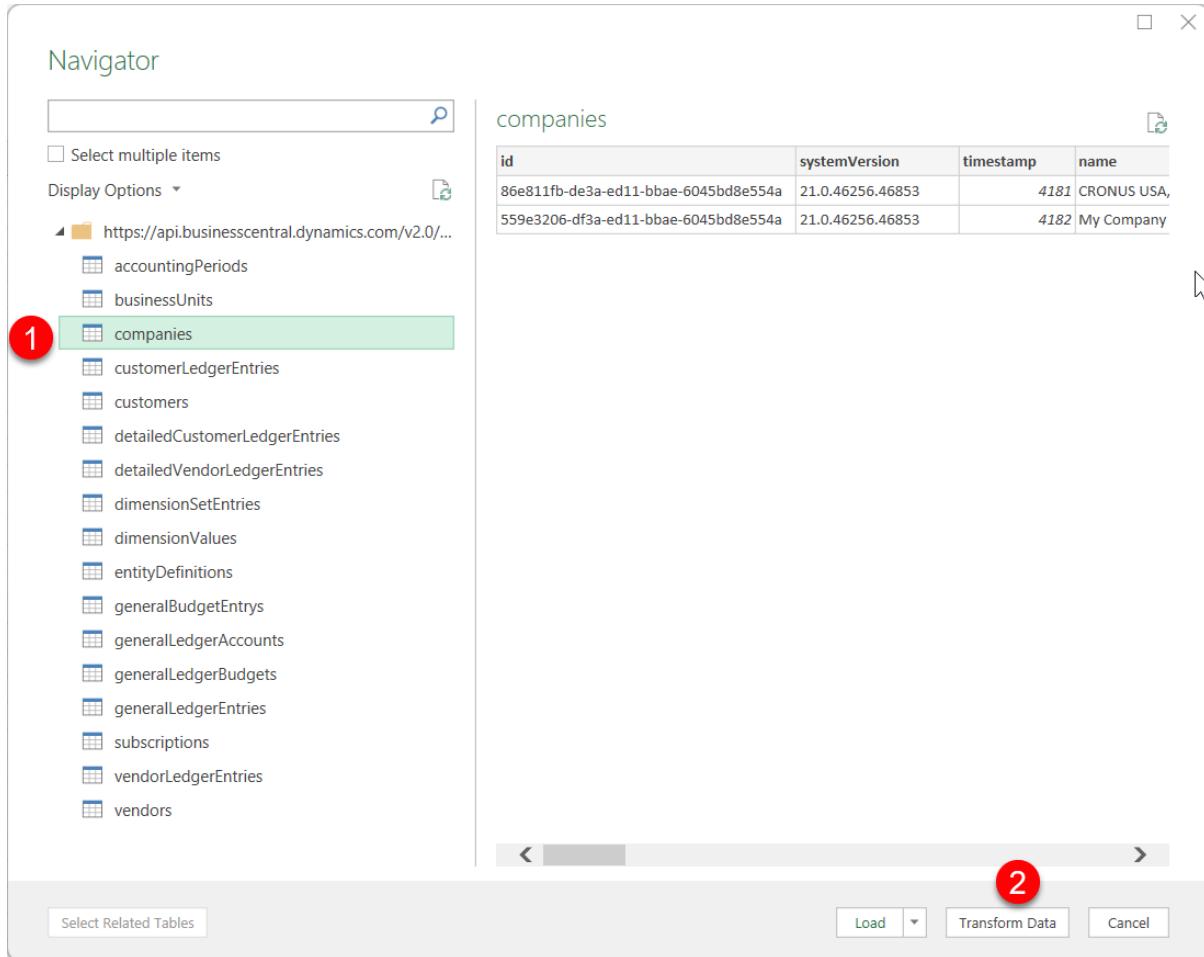
In few seconds you will get all APIs for financial reporting developed by Microsoft.



If you select one of the existing APIs like **VendorLedgerEntries** you will get an error that Odata cant find information about the company.



To work around that problem, select **companies API** and click **Transform data**.



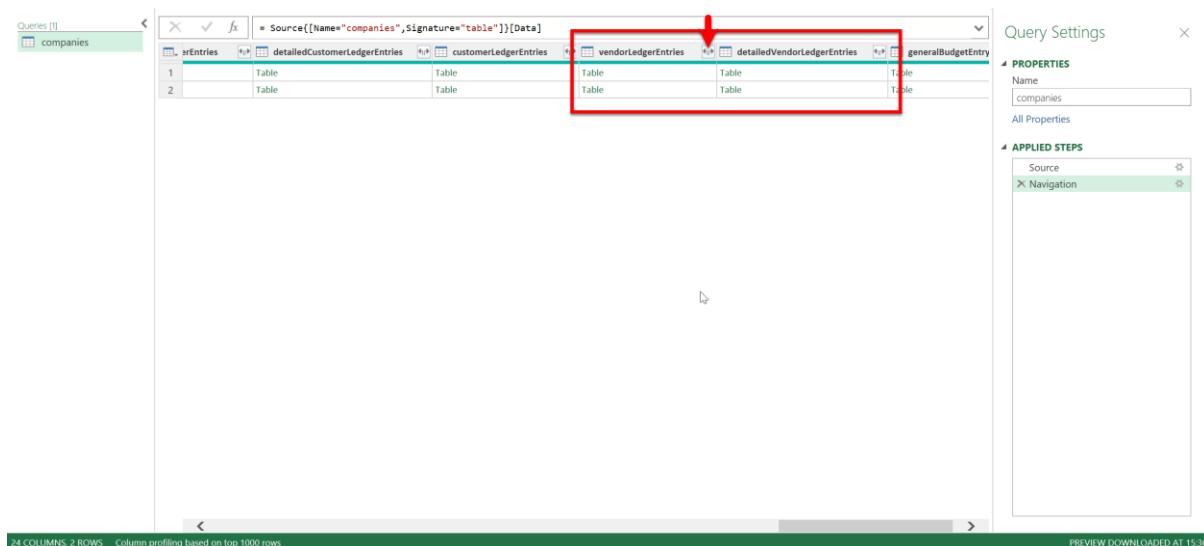
The screenshot shows the Power Query Editor interface. On the left, the **Navigator** pane lists various API endpoints under the **companies** category, which is highlighted with a red circle labeled '1'. Other listed items include accountingPeriods, businessUnits, customerLedgerEntries, customers, detailedCustomerLedgerEntries, detailedVendorLedgerEntries, dimensionSetEntries, dimensionValues, entityDefinitions, generalBudgetEntries, generalLedgerAccounts, generalLedgerBudgets, generalLedgerEntries, subscriptions, vendorLedgerEntries, and vendors. On the right, the main area displays the **companies** table with two rows of data:

id	systemVersion	timestamp	name
86e811fb-de3a-ed11-bbae-6045bd8e554a	21.0.46256.46853		4181 CRONUS USA,
559e3206-df3a-ed11-bbae-6045bd8e554a	21.0.46256.46853		4182 My Company

At the bottom right of the main area, there are **Select Related Tables**, **Load**, **Transform Data**, and **Cancel** buttons. A red circle labeled '2' is positioned over the **Transform Data** button.

In Power Query Editor you can now manipulate with data from companies API and other APIs, as now we have information about company.

Scroll to the right and find **vendorLedgerEntries** table.



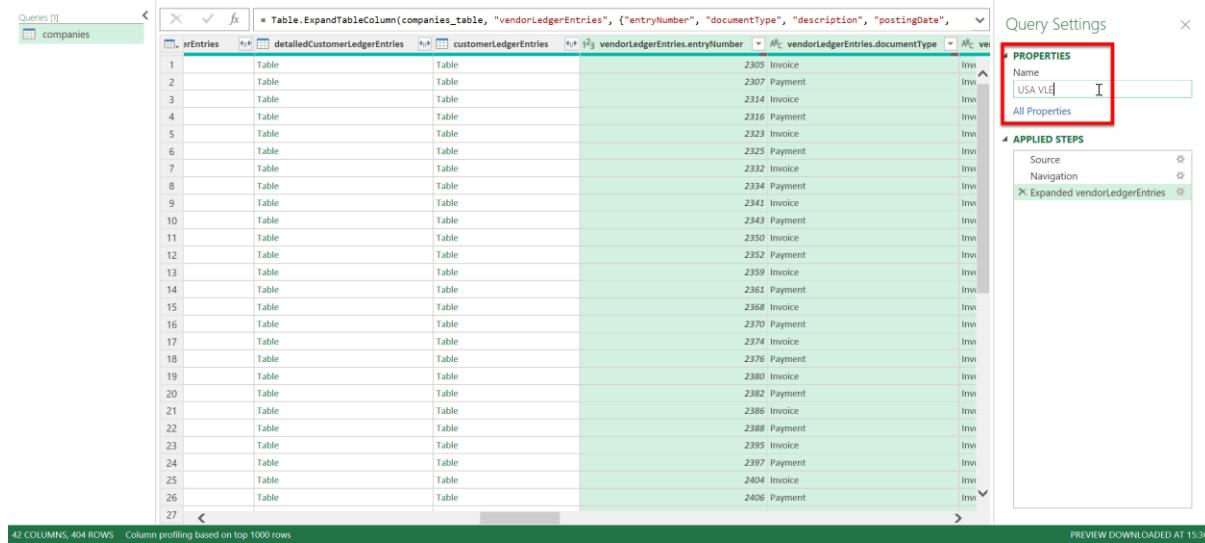
The screenshot shows the Power Query Editor interface with the 'companies' query selected in the Queries list. The 'vendorLedgerEntries' table is highlighted with a red box. The 'Applied Steps' pane on the right shows a single step named 'Navigation'.

Workshop: Business Central Excel Layout Reports Demystified

Select the row for Cronus USA and click Table for vendorLedgerEntries.

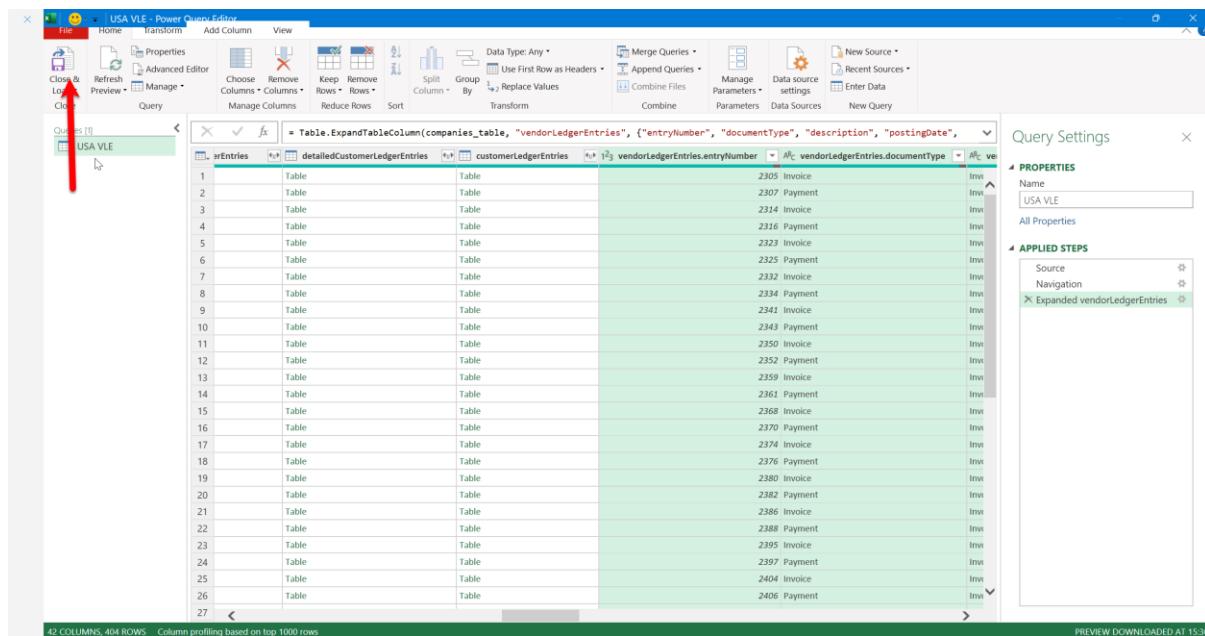
In a few seconds you will get all vendor ledger entries from Cronus USA company but this time using APIs.

You can now remove tables and columns from the **companies** table and rename it to for example USA VLE



The screenshot shows the Power Query Editor interface. The main area displays a table with 404 rows, representing expanded vendor ledger entries. The 'Properties' section in the Query Settings pane is highlighted with a red box, showing the name 'USA VLE' has been assigned. The 'Applied Steps' pane also lists the step 'Expanded vendorLedgerEntries'.

The last step is to load data into Excel by clicking on Close & Load



The screenshot shows the Power Query Editor interface. The main area displays the same table of expanded vendor ledger entries. A red arrow points to the 'Close & Load' button in the ribbon. The 'Properties' section in the Query Settings pane is highlighted with a red box, showing the name 'USA VLE' has been assigned. The 'Applied Steps' pane lists the step 'Expanded vendorLedgerEntries'.



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	entryNumber	documentType	description	postingDate	documentNumber	externalDocumentNumber	balancingAccountNumber	balancingAccountType	vendorNumber	open	dimensionSetID	currencyCode	lastModifiedDateTime
2	2303	Invoice	Invoice 107001	1.1.2021 108001	108001		G/L Account	20000	FALSE	1		23.9.2022 1:31	
3	2307	Payment	Invoice 107001	1.1.2021 108001	108001	10300	G/L Account	20000	FALSE	1		23.9.2022 1:31	
4	2311	Invoice	Invoice 107002	1.1.2021 108002	108002		G/L Account	30000	FALSE	1		23.9.2022 1:31	
5	2315	Payment	Invoice 107002	1.1.2021 108002	108002	10300	G/L Account	30000	FALSE	1		23.9.2022 1:31	
6	2323	Invoice	Invoice 107003	1.1.2021 108003	108003		G/L Account	50000	FALSE	1		23.9.2022 1:31	
7	2325	Payment	Invoice 107003	1.1.2021 108003	108003	10300	G/L Account	50000	FALSE	1		23.9.2022 1:31	
8	2332	Invoice	Invoice 107004	1.1.2021 108004	108004		G/L Account	40000	FALSE	8		23.9.2022 1:31	
9	2334	Payment	Invoice 107004	1.1.2021 108004	108004	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
10	2341	Invoice	Invoice 107005	1.1.2021 108005	108005		G/L Account	50000	FALSE	1		23.9.2022 1:31	
11	2343	Payment	Invoice 107005	1.1.2021 108005	108005	10300	G/L Account	50000	FALSE	1		23.9.2022 1:31	
12	2350	Invoice	Invoice 107006	1.1.2021 108006	108006		G/L Account	40000	FALSE	8		23.9.2022 1:31	
13	2352	Payment	Invoice 107006	1.1.2021 108006	108006	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
14	2359	Invoice	Invoice 107007	1.1.2021 108007	108007		G/L Account	10000	FALSE	17		23.9.2022 1:31	
15	2361	Payment	Invoice 107007	1.1.2021 108007	108007	10300	G/L Account	10000	FALSE	17		23.9.2022 1:31	
16	2368	Invoice	Invoice 107008	1.1.2021 108008	108008		G/L Account	20000	FALSE	1		23.9.2022 1:31	
17	2370	Payment	Invoice 107008	1.1.2021 108008	108008	10300	G/L Account	20000	FALSE	1		23.9.2022 1:31	
18	2374	Invoice	Invoice 107009	1.1.2021 108009	108009		G/L Account	40000	FALSE	8		23.9.2022 1:31	
19	2375	Payment	Invoice 107009	1.1.2021 108009	108009	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
20	2380	Invoice	Invoice 107010	1.1.2021 108010	108010		G/L Account	20000	FALSE	1		23.9.2022 1:31	
21	2382	Payment	Invoice 107010	1.1.2021 108010	108010	10300	G/L Account	20000	FALSE	1		23.9.2022 1:31	
22	2386	Invoice	Invoice 107011	1.1.2021 108011	108011		G/L Account	10000	FALSE	17		23.9.2022 1:31	
23	2388	Payment	Invoice 107011	1.1.2021 108011	108011	10300	G/L Account	10000	FALSE	17		23.9.2022 1:31	
24	2395	Invoice	Invoice 107012	1.1.2021 108012	108012		G/L Account	50000	FALSE	1		23.9.2022 1:31	
25	2397	Payment	Invoice 107012	1.1.2021 108012	108012	10300	G/L Account	50000	FALSE	1		23.9.2022 1:31	
26	2404	Invoice	Invoice 107013	1.8.2021 108013	108013		G/L Account	40000	FALSE	8		23.9.2022 1:31	
27	2405	Payment	Invoice 107013	1.8.2021 108013	108013	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
28	2413	Invoice	Invoice 107014	1.12.2021 108014	108014		G/L Account	40000	FALSE	8		23.9.2022 1:31	
29	2415	Payment	Invoice 107014	1.12.2021 108014	108014	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
30	2422	Invoice	Invoice 107015	1.12.2021 108015	108015		G/L Account	40000	FALSE	8		23.9.2022 1:31	
31	2424	Payment	Invoice 107015	1.12.2021 108015	108015	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
32	2431	Invoice	Invoice 107016	1.12.2021 108016	108016		G/L Account	30000	FALSE	1		23.9.2022 1:31	
33	2433	Payment	Invoice 107016	1.12.2021 108016	108016	10300	G/L Account	30000	FALSE	1		23.9.2022 1:31	
34	2442	Invoice	Invoice 107017	16.1.2022 108017	108017		G/L Account	20000	FALSE	1		23.9.2022 1:31	
35	2443	Payment	Invoice 107017	16.1.2022 108017	108017	10300	G/L Account	20000	FALSE	1		23.9.2022 1:31	
36	2451	Invoice	Invoice 107018	10.1.2021 108018	108018		G/L Account	40000	FALSE	8		23.9.2022 1:31	
37	2453	Payment	Invoice 107018	10.1.2021 108018	108018	10300	G/L Account	40000	FALSE	8		23.9.2022 1:31	
38	2460	Invoice	Invoice 107019	11.1.2021 108019	108019		G/L Account	30000	FALSE	1		23.9.2022 1:31	
39	2462	Payment	Invoice 107019	11.1.2021 108019	108019	10300	G/L Account	30000	FALSE	1		23.9.2022 1:31	
40	2469	Invoice	Invoice 107020	12.1.2021 108020	108020		G/L Account	20000	FALSE	1		23.9.2022 1:31	
41	2471	Payment	Invoice 107020	12.1.2021 108020	108020	10300	G/L Account	20000	FALSE	1		23.9.2022 1:31	

If you need you can always develop your own custom query API and publish it to be visible in API connector for Dynamics 365 Business Central.