

What's new: Designing and developing generative AI experiences for your extensions



Dynamics 365 Copilot

Dynamics 365 Copilot

In Business Central:
Marketing text suggestions

Introducing: Developer tools for Copilot in Business Central



Agenda

- Example use case
- User experience
- AI Module
- Tips and tricks
- Engineering for safety

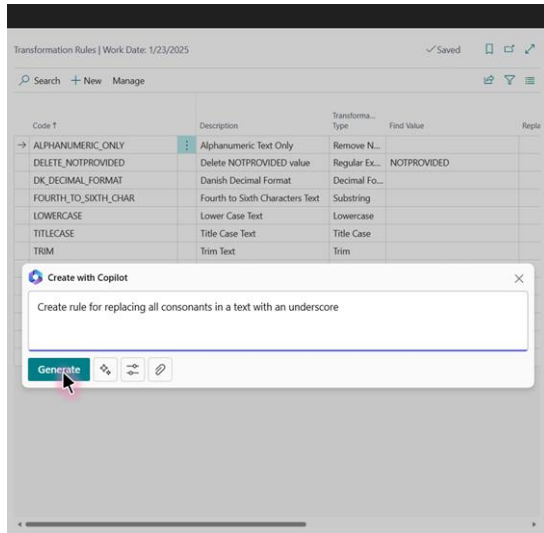
Why

- Prototype with less code
- Consistency of experience
- Common guard rails
- Quicker to market

Intended for

Deployment types	Business Central online
AI	Generative AI assists humans with complex cognitive tasks
Interaction mode	Non-conversational Integrated into business functionality with concrete input and output Human review

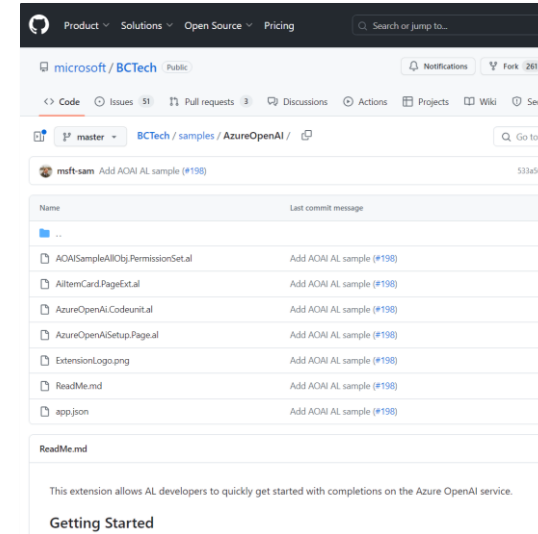
What's in the box



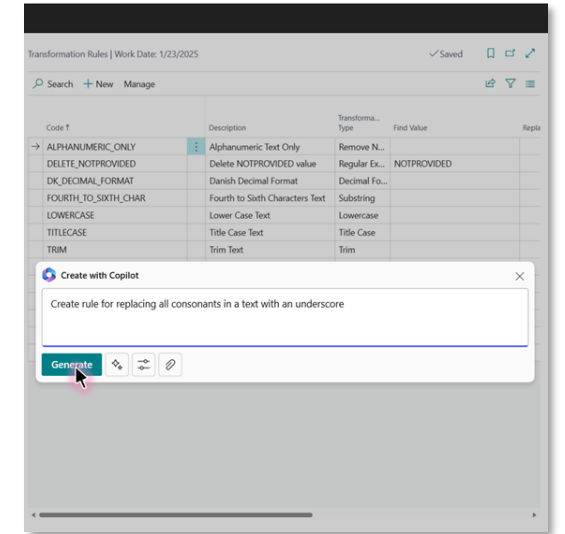
Signature Copilot UI



AI module



Guides and samples



Common functions

Timeline

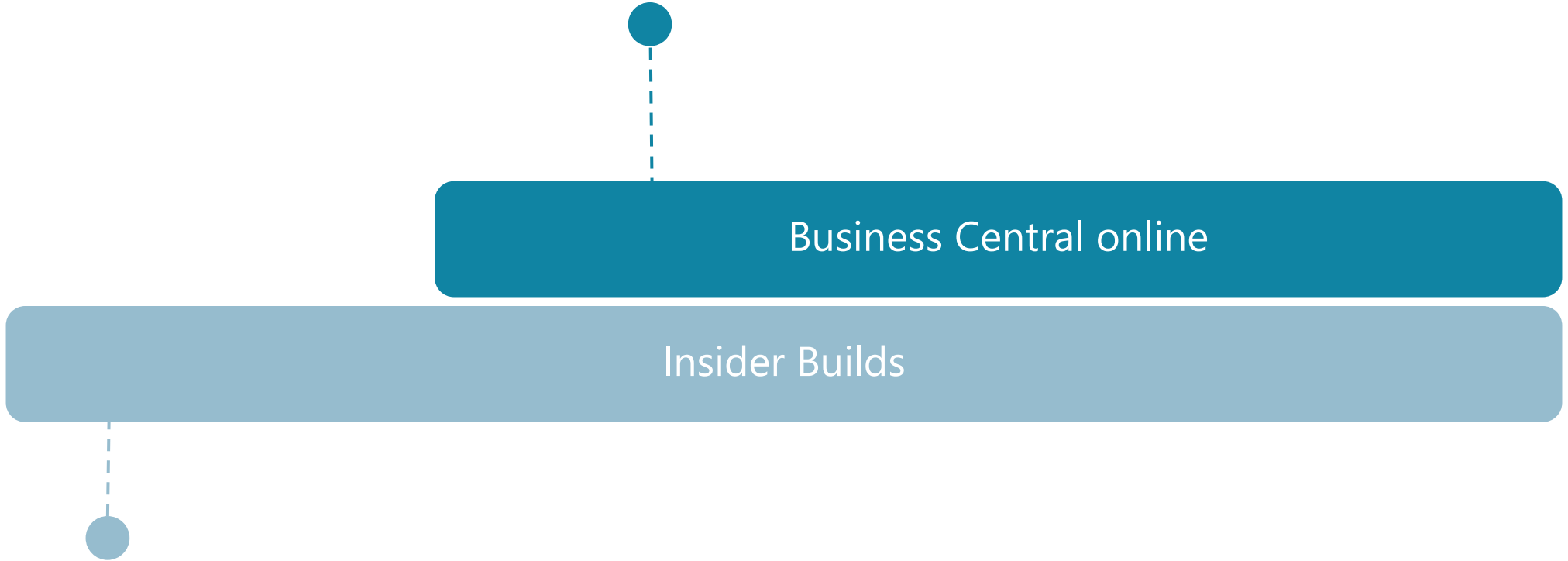
**Available with Wave 2
minor update (23.X)**
Deploy and run online

Business Central online

Insider Builds

**Available to insiders
today**

Compile, run, test offline

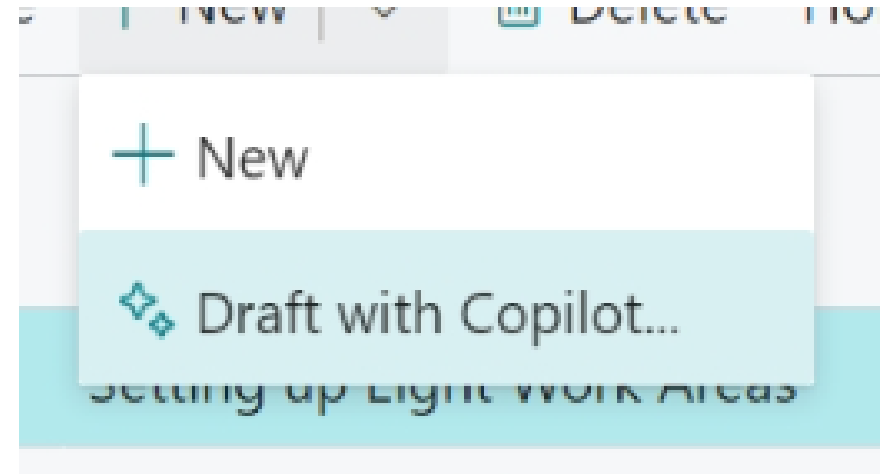


Example use case

PromptDialog page type

No. ↑		Bill-to Customer No.		Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	40000		Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000		Open	SETTING UP TEN CONFERENCE R...

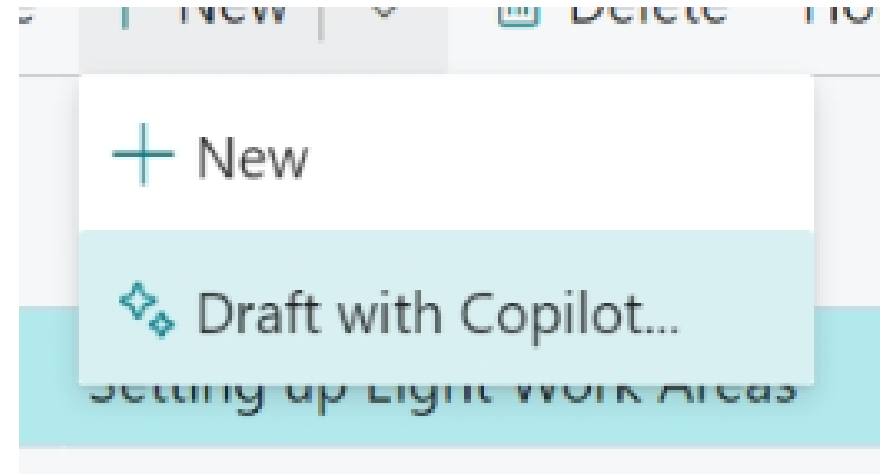
Launch your experience



Launch your experience

```
action(GenerateCopilot)
{
    Caption = 'Describe To Copilot';
    Image = Sparkle;

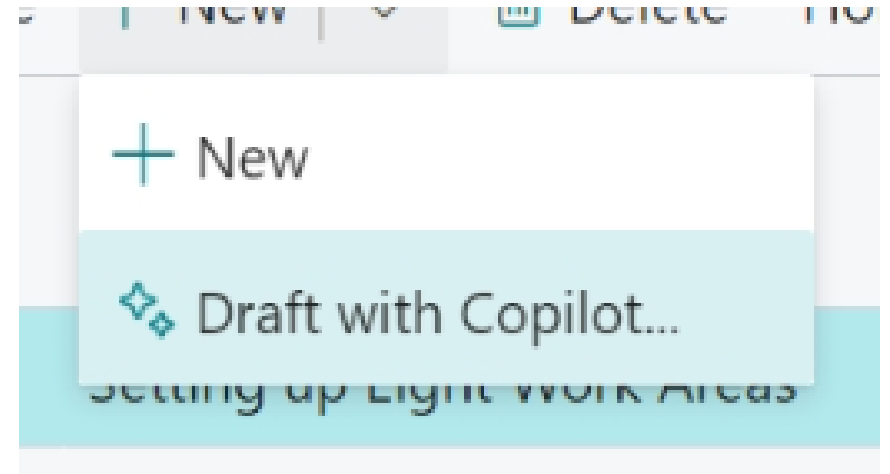
    trigger OnAction()
    begin
        Page.RunModal(Page::"Copilot Job Proposal");
    end;
}
```



Launch your experience


```
action(GenerateCopilot)
{
    Caption = 'Describe To Copilot';
    Image = Sparkle;

    trigger OnAction()
    begin
        Page.RunModal(Page::"Copilot Job Proposal");
    end;
}
```



No. ↑		Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	40000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...


 Draft new job with Copilot

Preview

Terms of use | Learn more | X

Generate

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

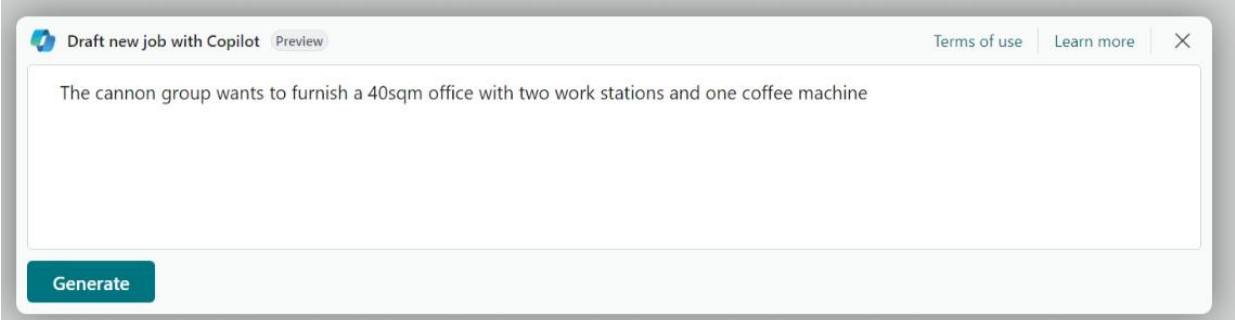
 Draft new job with Copilot Preview

[Terms of use](#) | [Learn more](#) | ✕

The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine

Generate

Build your experience



The screenshot shows a web interface for 'Draft new job with Copilot'. The title bar includes the Copilot logo, the text 'Draft new job with Copilot', a 'Preview' button, and links for 'Terms of use' and 'Learn more'. The main text area contains the prompt: 'The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine'. Below this is a teal 'Generate' button.

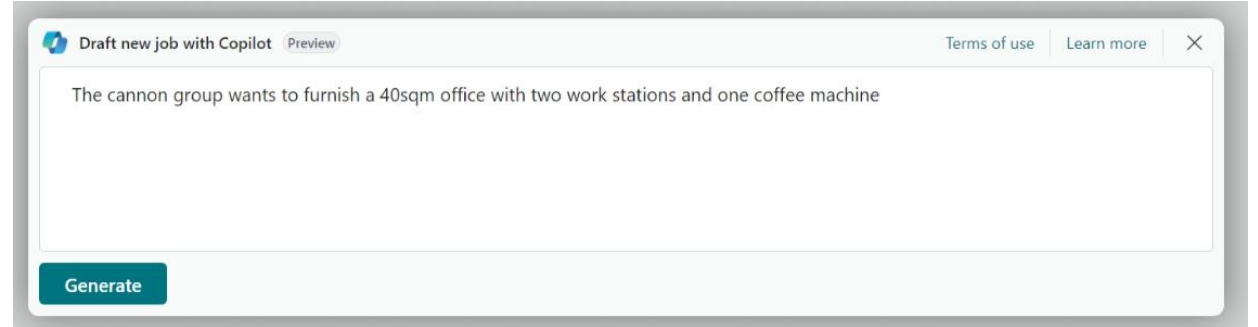
Draft new job with Copilot [Preview](#) [Terms of use](#) [Learn more](#) [X](#)

The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine

[Generate](#)

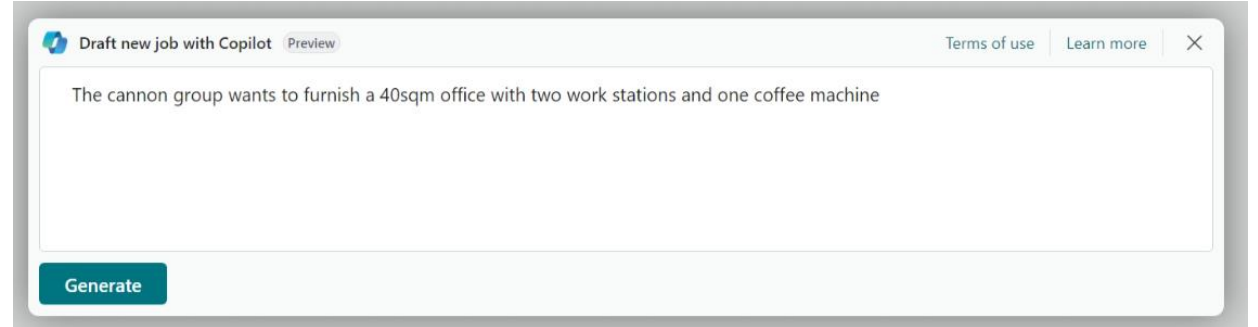
Build your experience: PromptDialog PageType

```
page 54320 "Copilot Job Proposal"  
{  
    Caption = 'Draft new job with Copilot';  
    PageType = PromptDialog;  
    Extensible = false;  
    IsPreview = true;  
    ...  
}
```

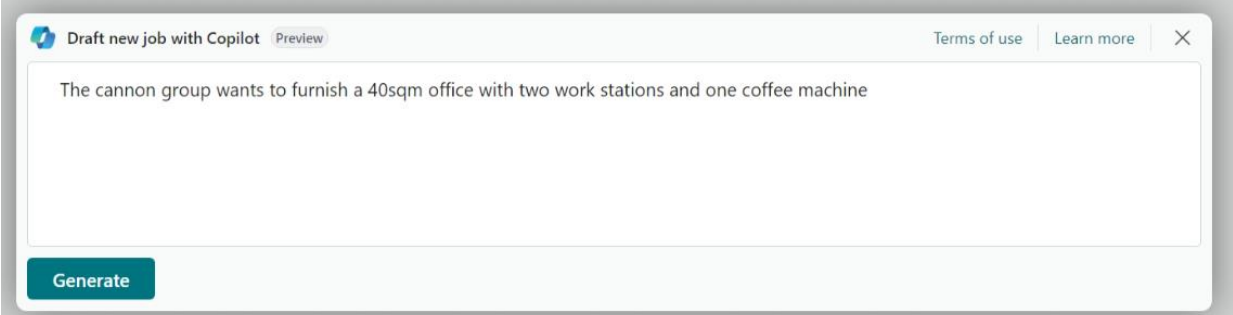


Build your experience: PromptDialog PageType

```
page 54320 "Copilot Job Proposal"
{
    Caption = 'Draft new job with Copilot';
    PageType = PromptDialog;
    Extensible = false;
    IsPreview = true;
    . . .
}
```



Build your experience: Prompt Area



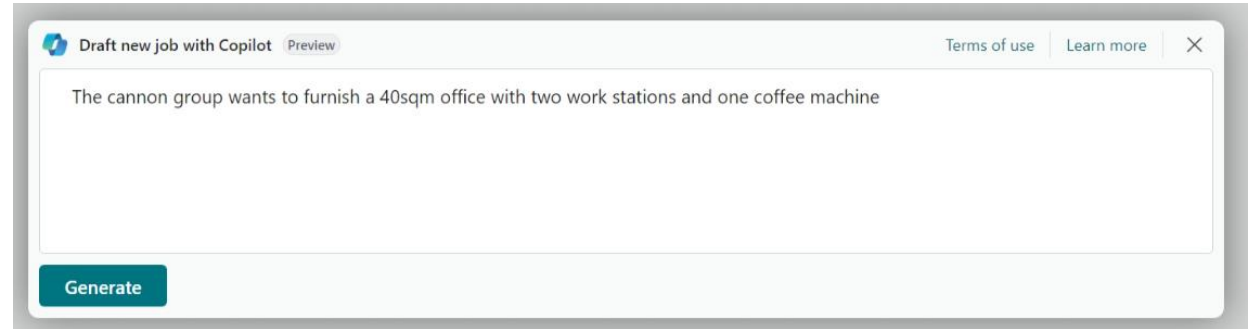
The screenshot shows a web interface for drafting a new job with Copilot. The header includes the Copilot logo, the text "Draft new job with Copilot", a "Preview" button, and links for "Terms of use" and "Learn more". The main area is a large text input field containing the prompt: "The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine". Below the input field is a teal "Generate" button.

Draft new job with Copilot [Preview](#) [Terms of use](#) [Learn more](#) [X](#)

The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine

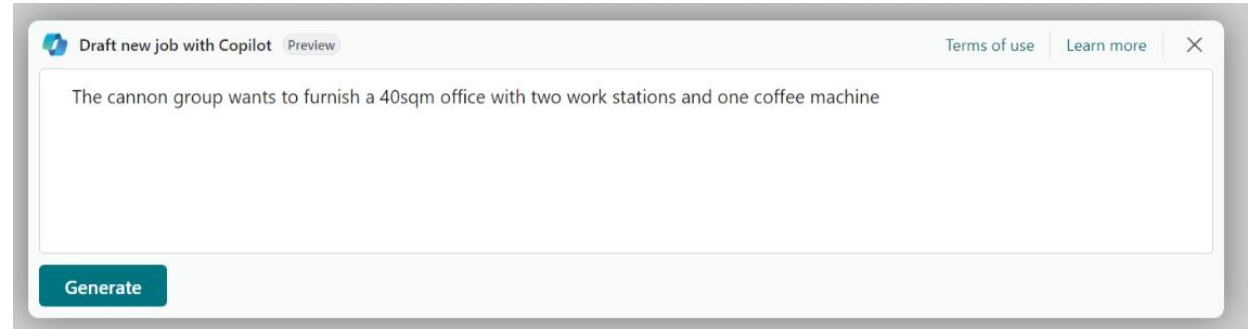
Generate

Build your experience: Prompt Area




```
layout
{
    area(Prompt)
    {
        field(ProjectDescription; UserInput)
        {
            ShowCaption = false;
            MultiLine = true;
        }
    }
    area(Content) {...}
}
```

Build your experience: Prompt Area



```
layout
{
    area(Prompt)
    {
        field(ProjectDescription; UserInput)
        {
            ShowCaption = false;
            MultiLine = true;
        }
    }
    area(Content) {...}
}
```


No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

 Draft new job with Copilot Preview

[Terms of use](#) [Learn more](#) ✕

The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine

Generate

Build your experience: Generate SystemAction



Generate


Build your experience: Generate SystemAction

```
actions
{
    area(SystemActions)
    {
        systemaction(Generate)
        {
            Caption = 'Generate';
            trigger OnAction()
            begin
                RunGeneration();
            end;
        }
    }
}
```



Generate

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

 Draft new job with Copilot Preview


[Terms of use](#) [Learn more](#) ✕

The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine

Generate

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	⋮ Setting up Eight Work Areas	40000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

 Generating...

 Stop generating ESC

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms			SETTING UP TEN CONFERENCE R...

The cannon group wants to furnish a 40sqm office with two work statio... [Preview](#) AI-generated content may be incorrect [Terms of use](#) [Learn more](#)

Project/Job Short Description

Furnishing 40sqm Office for The Cannon Group

Details

The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name

The Cannon Group PLC

...

Project/Job structure | New Line Delete Line

Job Task No.	Task Description	Action Description	Resource Role Description	Start Date
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			
→				

Keep it

Design your experience: Content Area

The cannon group wants to furnish a 40sqm office with two work statio...

Preview

AI-generated content may be incorrect

Terms of use

Learn more

Project/Job Short Description

Furnishing 40sqm Office for The Cannon Group

Details

The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name

The Cannon Group PLC

...

Project/Job structure

New Line

Delete Line

Job Task No.	Task Description	Action Description	Resource Role Description	Start D
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			
→				

✓ Keep it

Design your experience: Content Area

layout

```
{
  area(Prompt) {...}
  area(Content)
  {
    field("Job Short Description"; JobDescription) {...}
    field("Job Full Details"; JobFullDescription) {...}
    field(CustomerNameField; CustomerName) {...}
    part(ProposalDetails; "Copilot Job Proposal Subpart") {...}
  }
}
```

The screenshot shows a software interface for managing job proposals. At the top, there's a header bar with a title "The cannon group wants to furnish a 40sqm office with two work station...", a "Preview" button, and a disclaimer "AI-generated content may be incorrect". Below the header, there are several input fields: "Project/Job Short Description" (containing "Furnishing 40sqm Office for The Cannon Group"), "Details" (containing "The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine."), and "Customer Name" (containing "The Cannon Group PLC"). Below these fields is a section titled "Project/Job structure" with buttons for "New Line" and "Delete Line". This section contains a table with columns: "Job Task No.", "Task Description", "Action Description", "Resource Role Description", and "Start Date". The table lists various tasks for furnishing an office, including planning, procurement, assembly, installation, decoration, and final inspection, each assigned to a specific resource role. At the bottom of the table is a summary row for "Total Furnishing 40sqm Offi...". Below the table is a "Keep it" button and a trash icon.

Job Task No.	Task Description	Action Description	Resource Role Description	Start Date
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			

Design your experience: Content Area

layout

{

area(Prompt) {...}

area(Content)

{

field("Job Short Description"; JobDescription) {...}

field("Job Full Details"; JobFullDescription) {...}

field(CustomerNameField; CustomerName) {...}

part(ProposalDetails; "Copilot Job Proposal Subpart") {...}

}

}

The cannon group wants to furnish a 40sqm office with two work stations... [Preview](#) AI-generated content may be incorrect [Terms of use](#) [Learn more](#)

Project/Job Short Description Furnishing 40sqm Office for The Cannon Group

Details The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name The Cannon Group PLC ...

Project/Job structure [New Line](#) [Delete Line](#)

Job Task No.	Task Description	Action Description	Resource Role Description	Start Date
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			

[Keep it](#) [Delete](#)

Design your experience: DataCaptionExpression

The cannon group wants to furnish a 40sqm office with two work statio...

Preview

AI-generated content may be incorrect

Terms of use

Learn more

Project/Job Short Description

Furnishing 40sqm Office for The Cannon Group

Details

The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name

The Cannon Group PLC

...

Project/Job structure

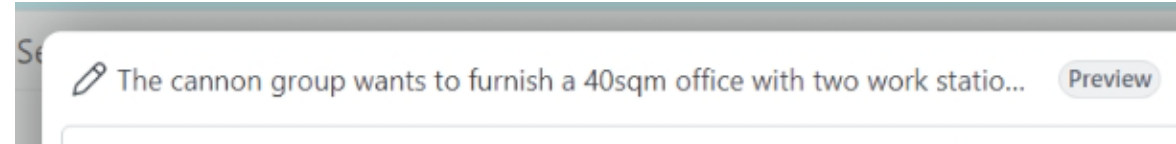
New Line

Delete Line

Job Task No.	Task Description	Action Description	Resource Role Description	Start D
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			
→				

✓ Keep it

Design your experience: DataCaptionExpression



Design your experience: DataCaptionExpression



```
page 54320 "Copilot Job Proposal"
{
    Caption = 'Draft new job with Copilot';
    DataCaptionExpression = UserInput;
    PageType = PromptDialog;
    Extensible = false;

    layout
    {
        area(Prompt)
        {
            field(ProjectDescription; UserInput) {}
        }
    }
}
```

Design your experience: Respect the user's choice

The cannon group wants to furnish a 40sqm office with two work statio...

Preview

AI-generated content may be incorrect

Terms of use

Learn more

Project/Job Short Description

Furnishing 40sqm Office for The Cannon Group

Details

The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name

The Cannon Group PLC

...

Project/Job structure

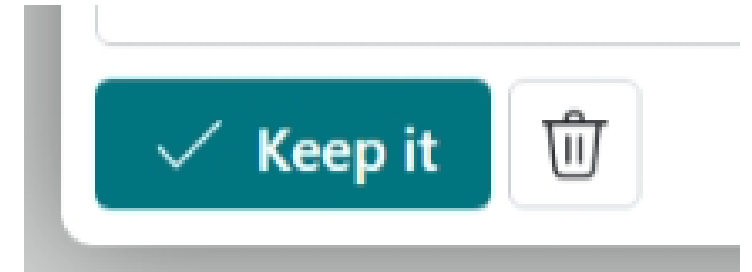
New Line

Delete Line

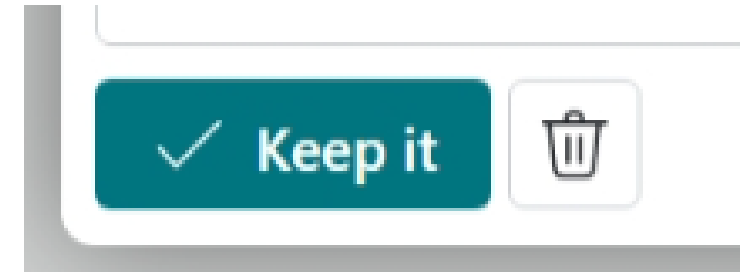
Job Task No.	Task Description	Action Description	Resource Role Description	Start D
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			
→				

✓ Keep it

Design your experience: Respect the user's choice

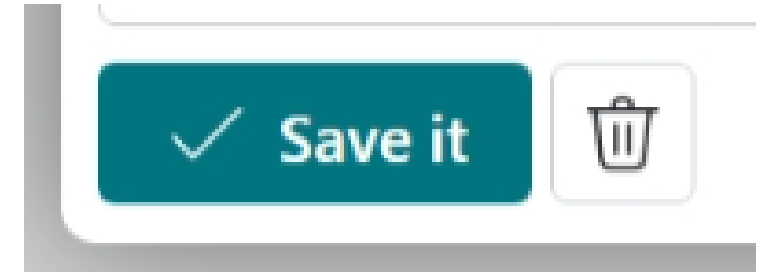


Design your experience: Respect the user's choice



```
trigger OnQueryClosePage(CloseAction: Action): Boolean
var
    SaveCopilotJobProposal: Codeunit "Save Copilot Job Proposal";
begin
    if CloseAction = CloseAction::OK then
        SaveCopilotJobProposal.Save(CustomerNo, CopilotJobProposal);
end;
```

Design your experience: Respect the user's choice



```
systemaction(OK)
{
    Caption = 'Save it';
    ToolTip = 'Save the proposed Job.';
}
systemaction(Cancel)
{
    Caption = 'Throw it away';
    ToolTip = 'Throw away the proposed Job.';
}
```


No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms			SETTING UP TEN CONFERENCE R...

The cannon group wants to furnish a 40sqm office with two work statio... [Preview](#) AI-generated content may be incorrect [Terms of use](#) [Learn more](#)

Project/Job Short Description

Furnishing 40sqm Office for The Cannon Group

Details

The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name

The Cannon Group PLC

...

Project/Job structure | New Line Delete Line

Job Task No.	Task Description	Action Description	Resource Role Description	Start Date
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			
→				

Keep it

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms			SETTING UP TEN CONFERENCE R...

The cannon group wants to furnish a 40sqm office with two work statio... [Preview](#) [AI-generated content may be incorrect](#) [Terms of use](#) [Learn more](#)

Project/Job Short Description

Furnishing 40sqm Office for The Cannon Group

Details

The Cannon Group requires the furnishing of a 40sqm office space with two work stations and one coffee machine.

Customer Name

The Cannon Group PLC

Project/Job structure

[New Line](#) [Delete Line](#)

Job Task No.	Task Description	Action Description	Resource Role Description	Start Date
10000	Furnishing 40sqm Office for ...			
10100	Office Space Planning	Plan the layout and design of th...	Interior Designer	10/...
10200	Procure Furniture	Source and purchase furniture fo...	Purchasing Specialist	10/...
10300	Assemble Work Stations	Assemble and set up two work s...	Assembly Technician	10/...
10400	Install Coffee Machine	Install and set up the coffee mac...	Installation Specialist	11/...
10500	Decorate Office Space	Add decorative elements to enh...	Interior Decorator	11/...
10600	Final Inspection and Handover	Conduct a final inspection of the...	Project Manager	11/...
99990	Total Furnishing 40sqm Offi...			
→				

✓ Keep it

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	⋮ Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

< Edit prompt Preview

Terms of use Learn more

The cannon group wants to furnish a 40sqm office with two work stations and one coffee machine

Generate

No. ↑		Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	⋮	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR		Setting up Ten Conference Rooms	50000	Open	SETTING UP TEN CONFERENCE R...

< Edit prompt Preview

Terms of use Learn more

The cannon group wants to furnish an 80sqm office with four work stations and two coffee machines

Generate

No. ↑	Description	Bill-to Customer No.	Status	Search Description
DEERFIELD, 8 WP	Setting up Eight Work Areas	400000	Open	SETTING UP EIGHT WORK AREAS
GUILDFORD, 10 CR	Setting up Ten Conference Rooms			SETTING UP TEN CONFERENCE R...

The cannon group wants to furnish an 80sqm office with four work stat... [Preview](#) AI-generated content may be incorrect [Terms of use](#) [Learn more](#)

Project/Job Short Description

Furnishing 80sqm Office for The Cannon Group

Details

The Cannon Group wants to furnish an 80sqm office with four work stations and two coffee machines.

Customer Name

The Cannon Group PLC

...

Project/Job structure | New Line Delete Line

Job Task No.	Task Description	Action Description	Resource Role Description	Start Date
10000	Furnishing 80sqm Office for ...			
10100	Measure office space	Measure the dimensions of the 8...	Project Manager	10/...
10200	Design office layout	Create a layout plan for the offic...	Interior Designer	10/...
10300	Procure furniture and equip...	Source and purchase four workst...	Purchasing Specialist	10/...
10400	Assemble workstations	Assemble and set up the four w...	Assembly Technician	10/...
10500	Install coffee machines	Install and set up the two coffee ...	Installation Technician	10/...
10600	Finalize office setup	Arrange and organize the office ...	Office Manager	11/...
99990	Total Furnishing 80sqm Offi...			
→				

Keep it

Additional Features

✓ Saved

[Home](#)
[Request Approval](#)
[Item](#)
[Prices & Discounts](#)
[More options](#)

 Copy Item
 Adjust Inventory
 Create Stockkeeping Unit
 Apply Template

3

[Show more](#)

Details

📎 Attachments (0)

No.	1896-S
Description	ATHENS Des
Blocked	<input checked="" type="checkbox"/>
Type	Inventory

Describe 'ATHENS Desk' by 'Office Desk: Mountable cable trunk i... < 3 of 3 AI-generated content may be incorrect   [Terms of use](#) [Learn more](#)

Elevate your workspace with the sleek and sustainable ATHENS Desk.

The ATHENS Desk is not your average office desk - it's a stylish and sustainable addition to your workspace. Crafted with FSC-certified solid oak and polished stainless steel legs, this desk exudes elegance and durability. The desk's cable management system ensures a clutter-free workspace, with a mountable cable trunk included for added convenience. Measuring 200cm in width, 95cm in height, and 100cm in depth, the ATHENS Desk offers ample space for your work essentials. Whether you're working from home or in the office, this desk is the perfect choice for those who want to elevate their workspace. With the ATHENS Desk, you can enjoy a functional and fashionable workspace that inspires productivity and creativity.

A_A
A[◊]
B
/
U

A

X²
X₂

...

✓ Keep it Tone ▾ Format ▾ Emphasis ▾

Inventory

Shelf No.

Quantity on Hand

Qty. on Purch. Order

Qty. on Sales Order

Costs & Posting

Cost Details

Costing Method	FIFO
Standard Cost	780.70
Unit Cost	780.70
Net Invoiced Qty.	4
Cost is Adjusted	<input checked="" type="checkbox"/>

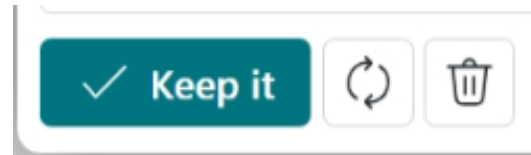
Posting Details

Gen. Prod. Posting Group	RETAIL
Tax Group Code	FURNITURE
Inventory Posting Group	RESALE
Default Deferral Template	
Foreign Trade	

Item Attributes

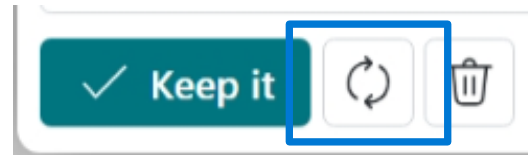
Attribute	Value
Material (Legs)	Polished stainless steel
Adjustable height	No
Assembly required	No
Cable management	Mountable
Certifications	FSC

Additional Features: Regenerate

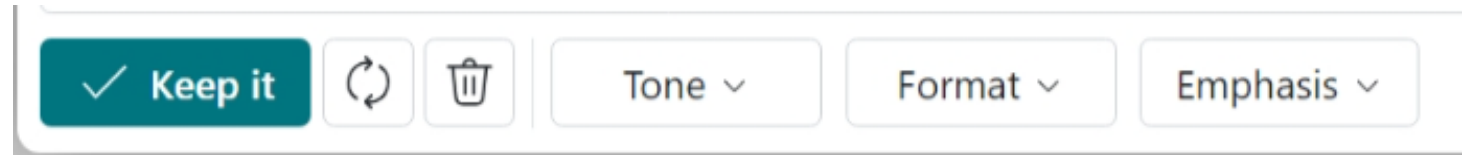


Additional Features: Regenerate

```
systemaction(Regenerate)
{
    Caption = 'Regenerate';
    ToolTip = 'Regenerate the Job proposed by
Dynamics 365 Copilot.';
    trigger OnAction()
    begin
        RunGeneration();
    end;
}
```



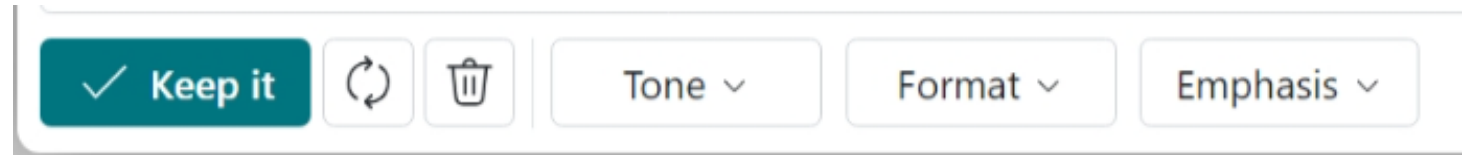
Additional Features: PromptOptions Area



Additional Features: PromptOptions Area

layout

```
{  
  area(Prompt) {...}  
  area(Content) {...}  
  area(PromptOptions)  
  {  
    field(Tone; Tone) {}  
    field(TextFormat; TextFormat) {}  
    field(Emphasis; Emphasis){}  
  }  
}
```



Additional Features: History



Describe 'ATHENS Desk' by 'Office Desk: Mountable cable trunk i...

< 3 of 3

Additional Features: History

page 54320 "Marketing Text"

{


Caption = 'Draft Marketing text';

PageType = PromptDialog;

Extensible = false;

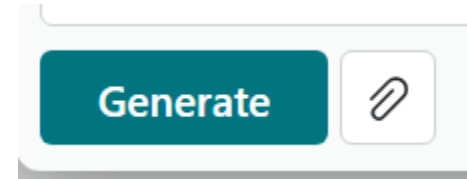
SourceTable = "Marketing Text";

SourceTableTemporary = true;

 Describe 'ATHENS Desk' by 'Office Desk: Mountable cable trunk i...

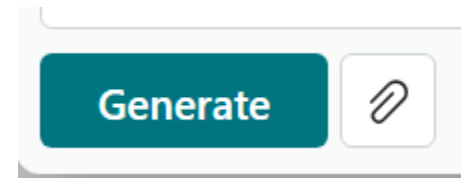
< 3 of 3

Additional Features: Attach SystemAction



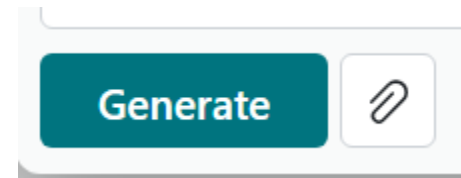
Additional Features: Attach SystemAction

```
systemaction(Attach)
{
    Caption = 'Attach a file';
    ToolTip = 'Attach a file describing the job.';
    trigger OnAction()
    var
        InStr: InStream;
        Filename: Text;
    begin
        UploadIntoStream('Select a file...', '', 'All files (*.*)|*.*', Filename, InStr);
        if not (Filename = '') then begin
            ...
        end;
    end;
}
```

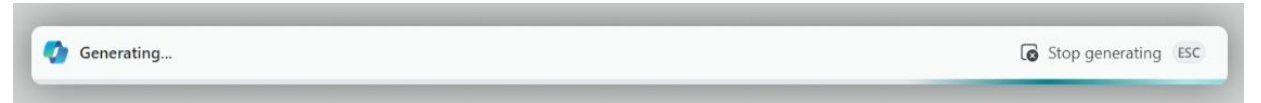


Additional Features: Attach SystemAction

```
systemaction(Attach)
{
    Caption = 'Attach a file';
    ToolTip = 'Attach a file describing the job.';
    trigger OnAction()
    var
        InStr: InStream;
        Filename: Text;
    begin
        UploadIntoStream('Select a file...', '', 'All files (*.*)|*.*', Filename, InStr);
        if not (Filename = '') then begin
            ...
        end;
    end;
}
```

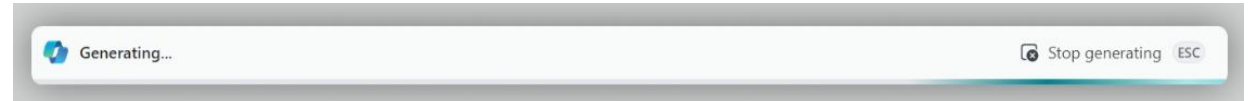


Additional Features: Initial PromptMode



Additional Features: Initial PromptMode

```
trigger OnOpenPage()  
begin  
    CurrPage.PromptMode = PromptMode::Generate;  
end;
```



AI Module

- Overview of the module
 - What it can (not) do
 - Prerequisites
- Building your experience
 - Capability registration
 - Authorization
 - Generation
- Optional parameters

Overview of the module

Overview of the module

- Supports Azure OpenAI Service
 - Specifically for LLMs like Text, Chat and Embeddings generations
 - Not image generation like DALL-E or transcribing speech to text like Whisper
- Ease of control and viewing the copilot capabilities in the environment
- Telemetry
 - Allows you to track a capability's registration/usages/errors...

Overview of the module

- The module is in the System Application
- All objects of the developer toolkit can be found in
 - System.AI namespace

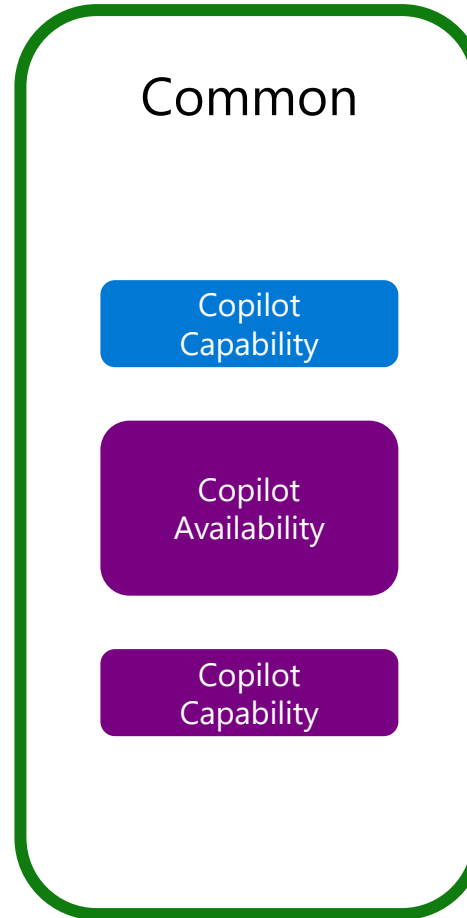
Prerequisites

Prerequisites

- Azure OpenAI Resource URL
 - [https://\[resourcename\].openai.azure.com/](https://[resourcename].openai.azure.com/)
- Deployment Name
 - MyGPT3.5
- Azure OpenAI API key

Module objects

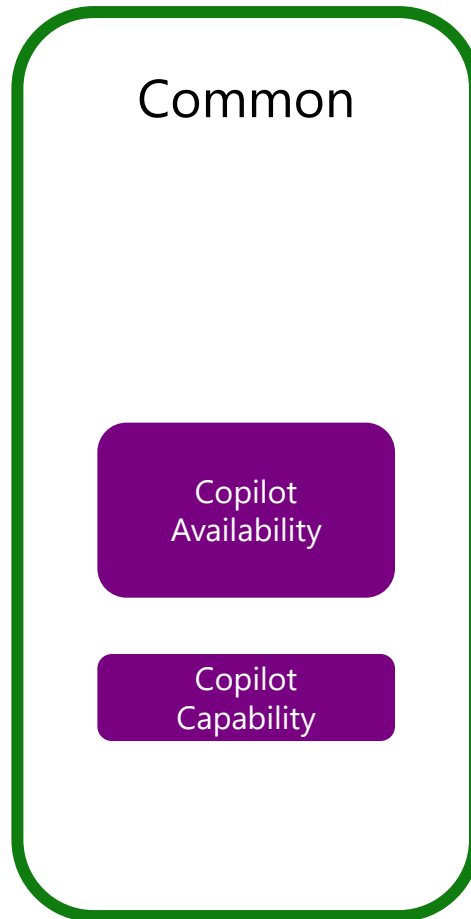
Overview of the module



- Codeunit
- Enum

*All names are exact AL object names

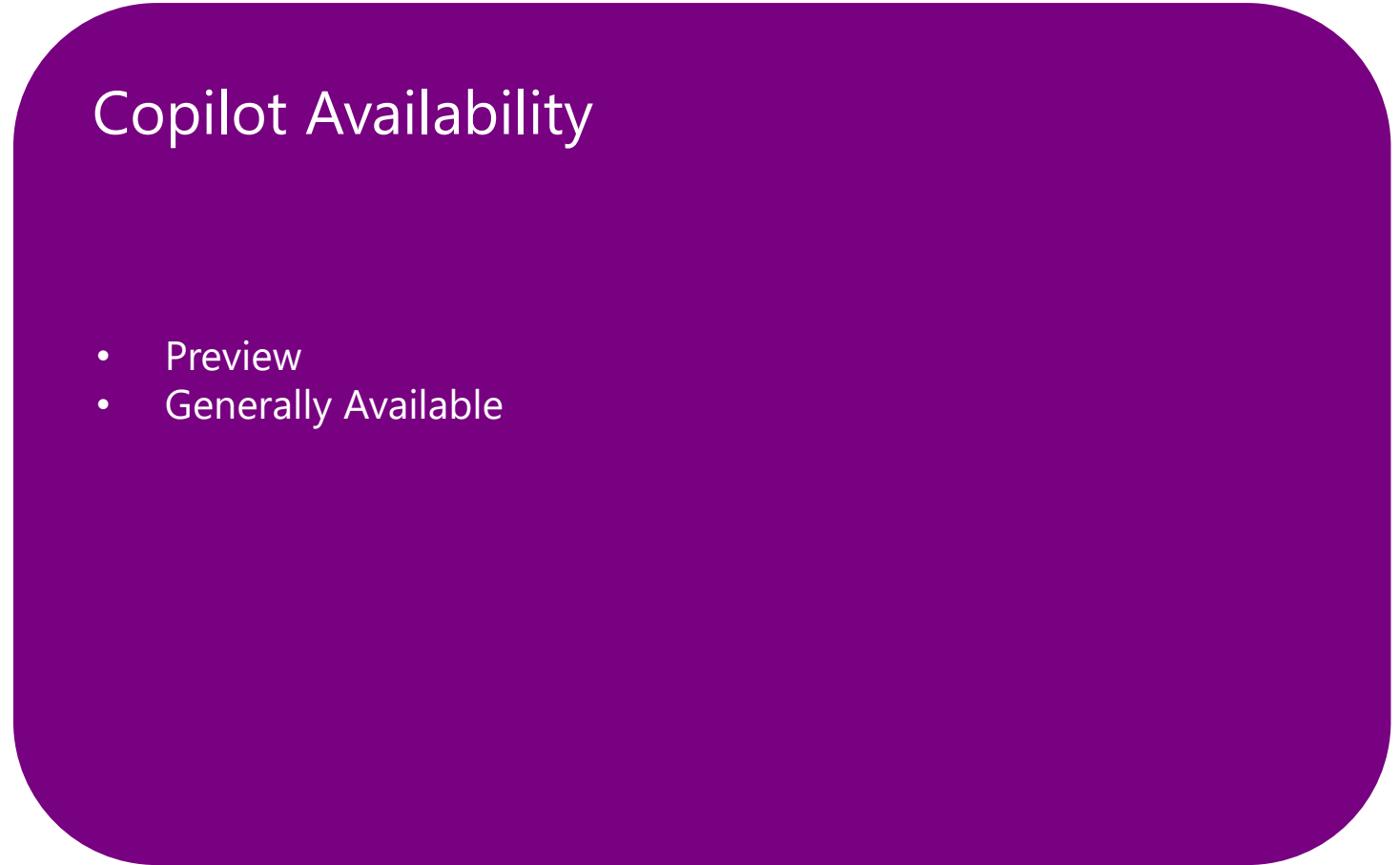
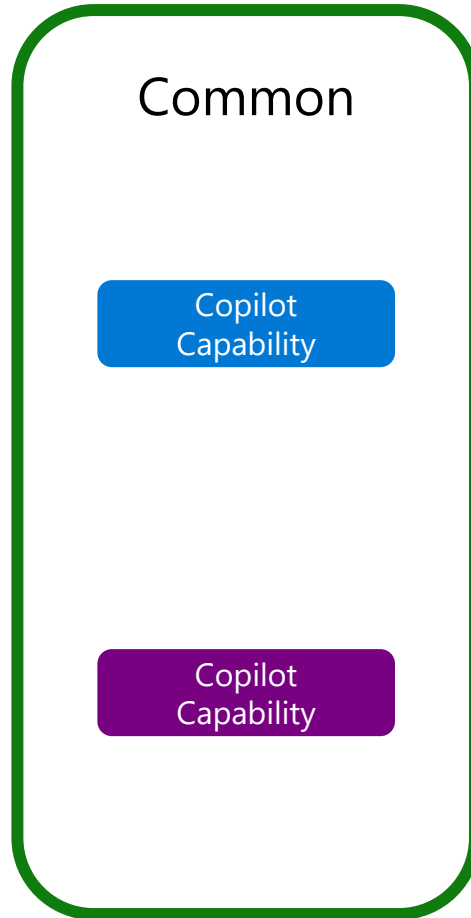
Overview of the module



- Codeunit
- Enum

*All names are exact AL object/function names

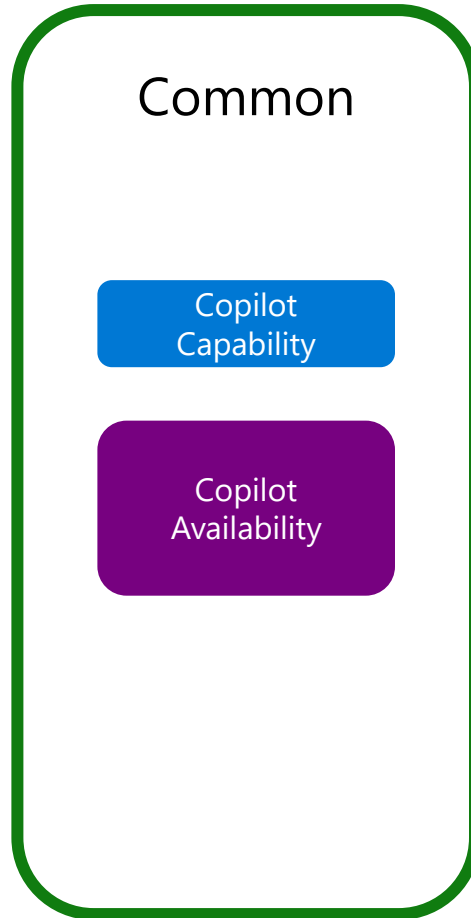
Overview of the module



- Codeunit
- Enum

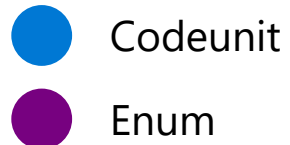
*All names are exact AL object/function names

Overview of the module



Copilot Capability

- <Your capability>



*All names are exact AL object/function names

Overview of the module

Extension A

Capability 1

Registered Capabilities

Overview of the module

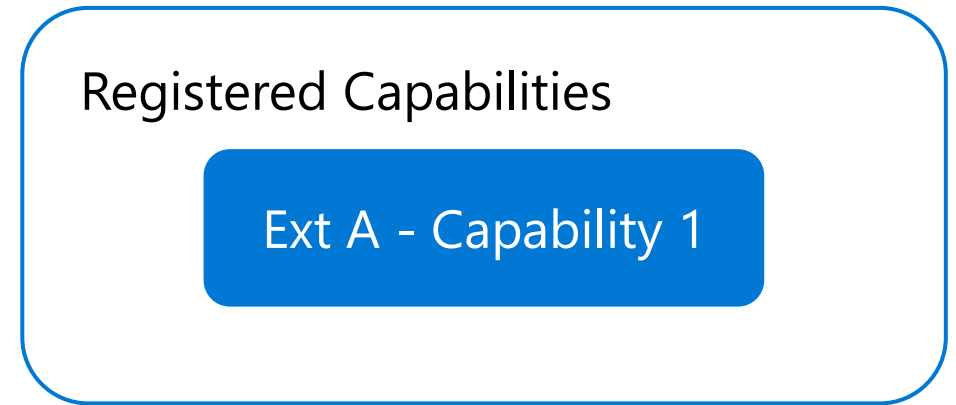
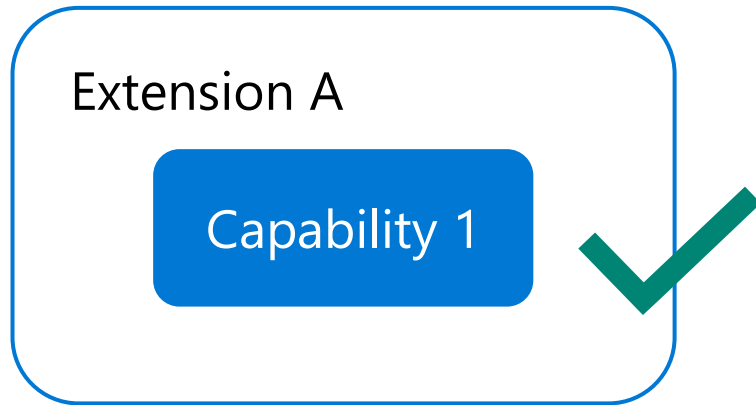
Extension A

Capability 1

Registered Capabilities

Ext A - Capability 1

Overview of the module



Overview of the module

Extension A

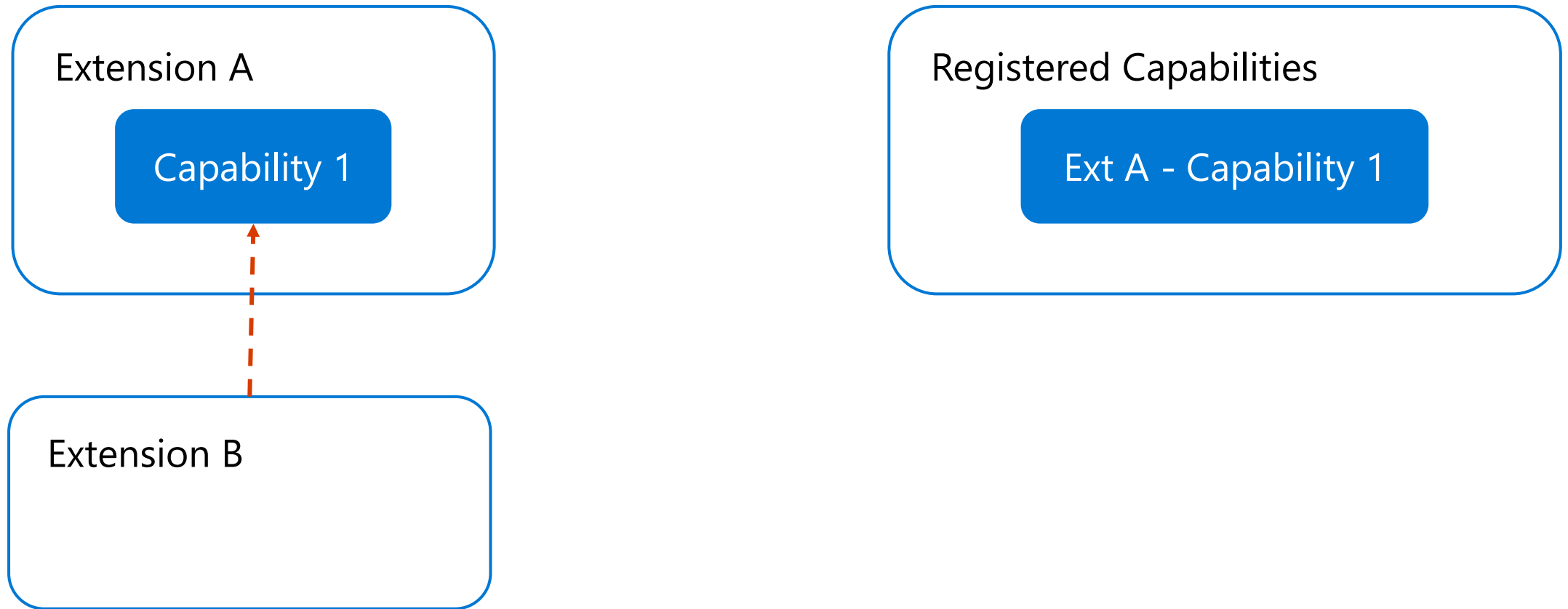
Capability 1

Extension B

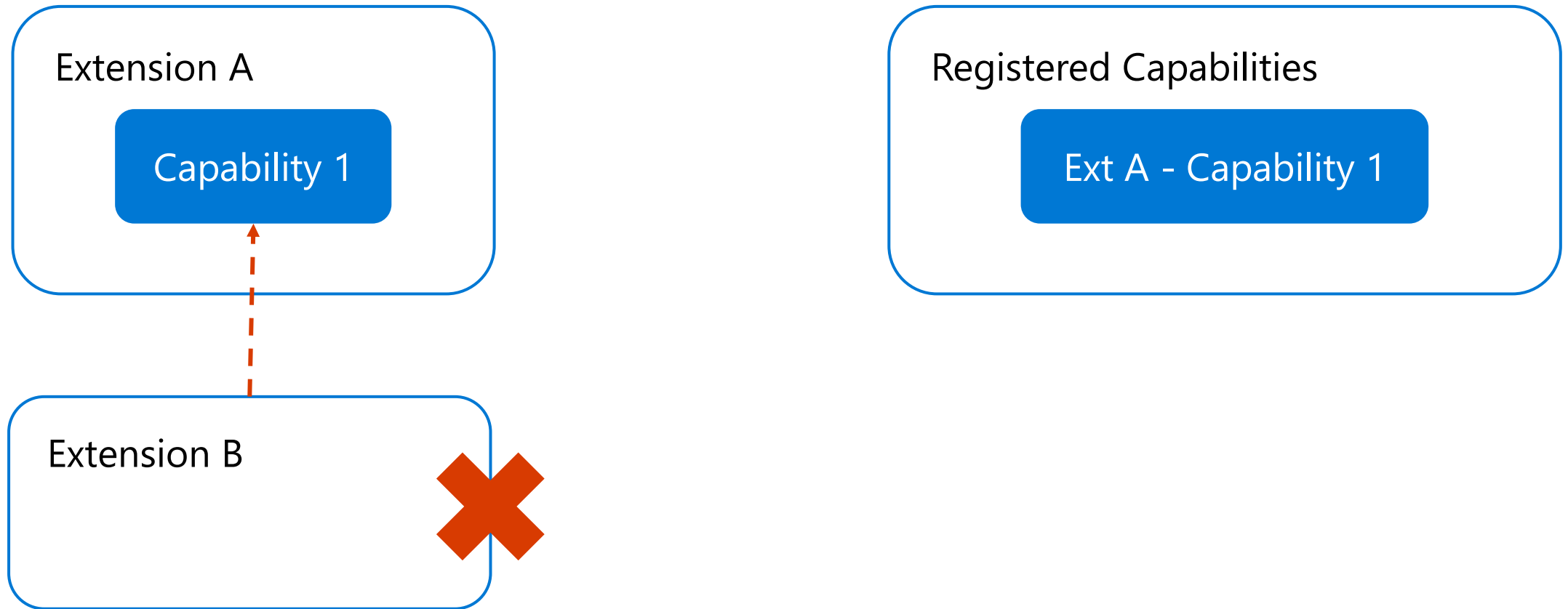
Registered Capabilities

Ext A - Capability 1

Overview of the module



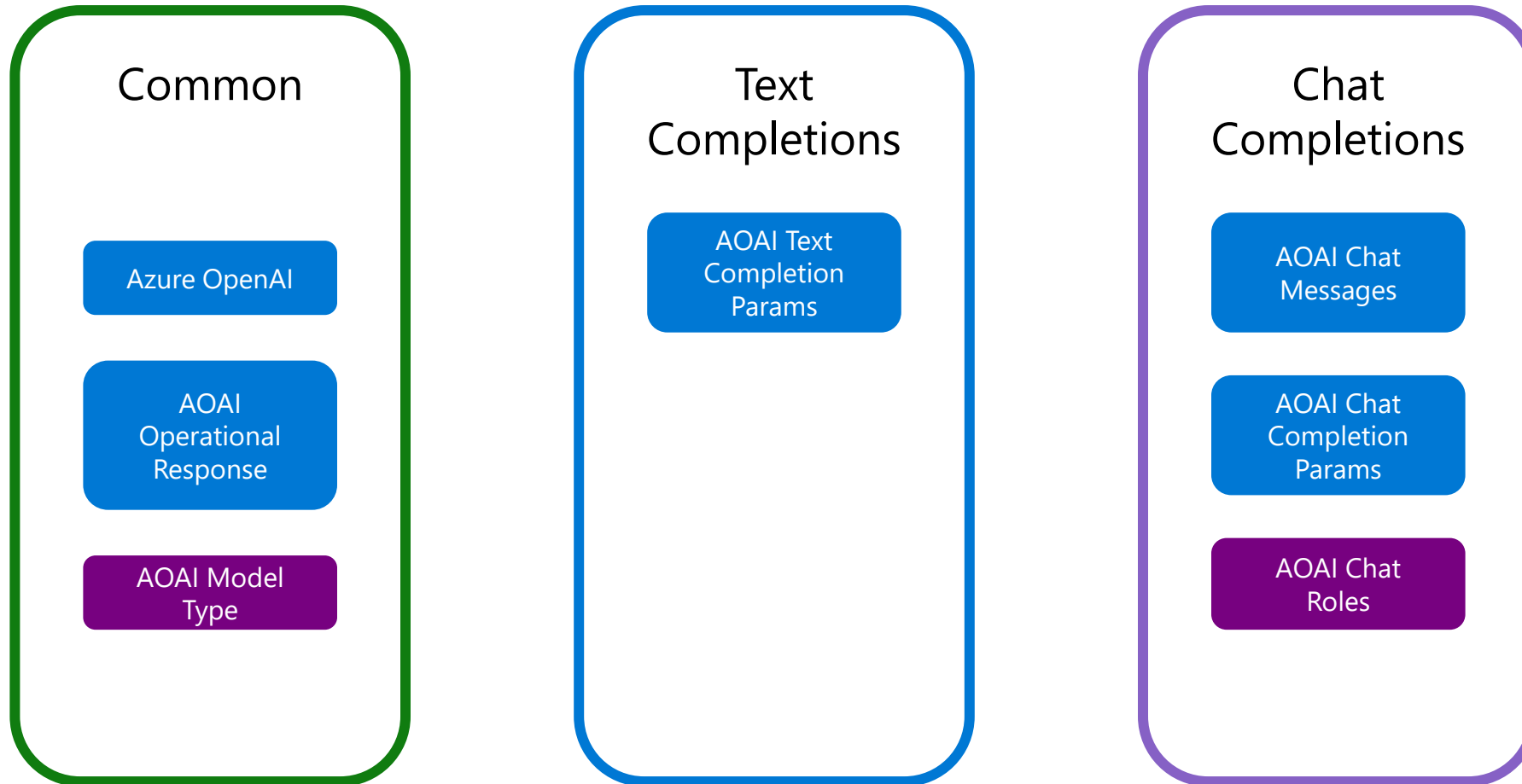
Overview of the module



Overview of the module

- Each extension must register with the Copilot Capability codeunit
- An error will be thrown if the capability enum used isn't registered with the extension using it

Overview of the module



- Codeunit
- Enum

*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module

Common

AOAI
Operational
Response

AOAI Model
Type

Azure OpenAI

- IsEnabled: Boolean
- SetAuthorization
- SetCopilotCapability
- GenerateTextCompletion: Text
- GenerateEmbeddings: List of [Decimal]
- GenerateChatCompletion

● Codeunit

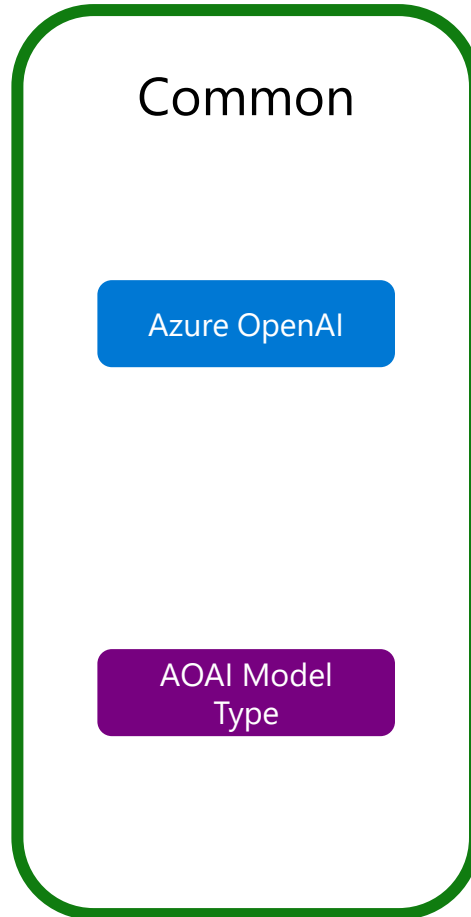
● Enum

*All names are exact AL object/function names

**Embeddings has no specific objects to it



***AOAI is Azure OpenAI

Overview of the module



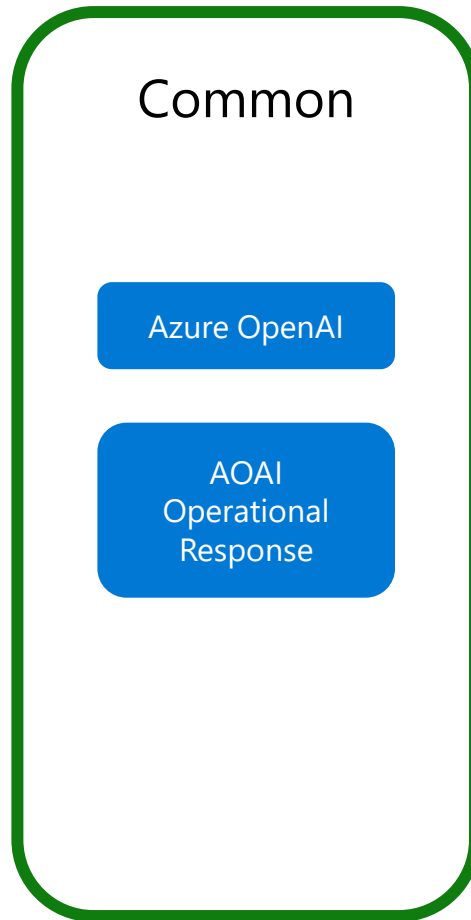
AOAI Operational Response

- IsSuccess: Boolean
- GetStatusCode: Integer
- GetResult: Text
- GetError: Text

-  Codeunit
-  Enum

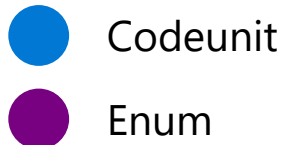
*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module



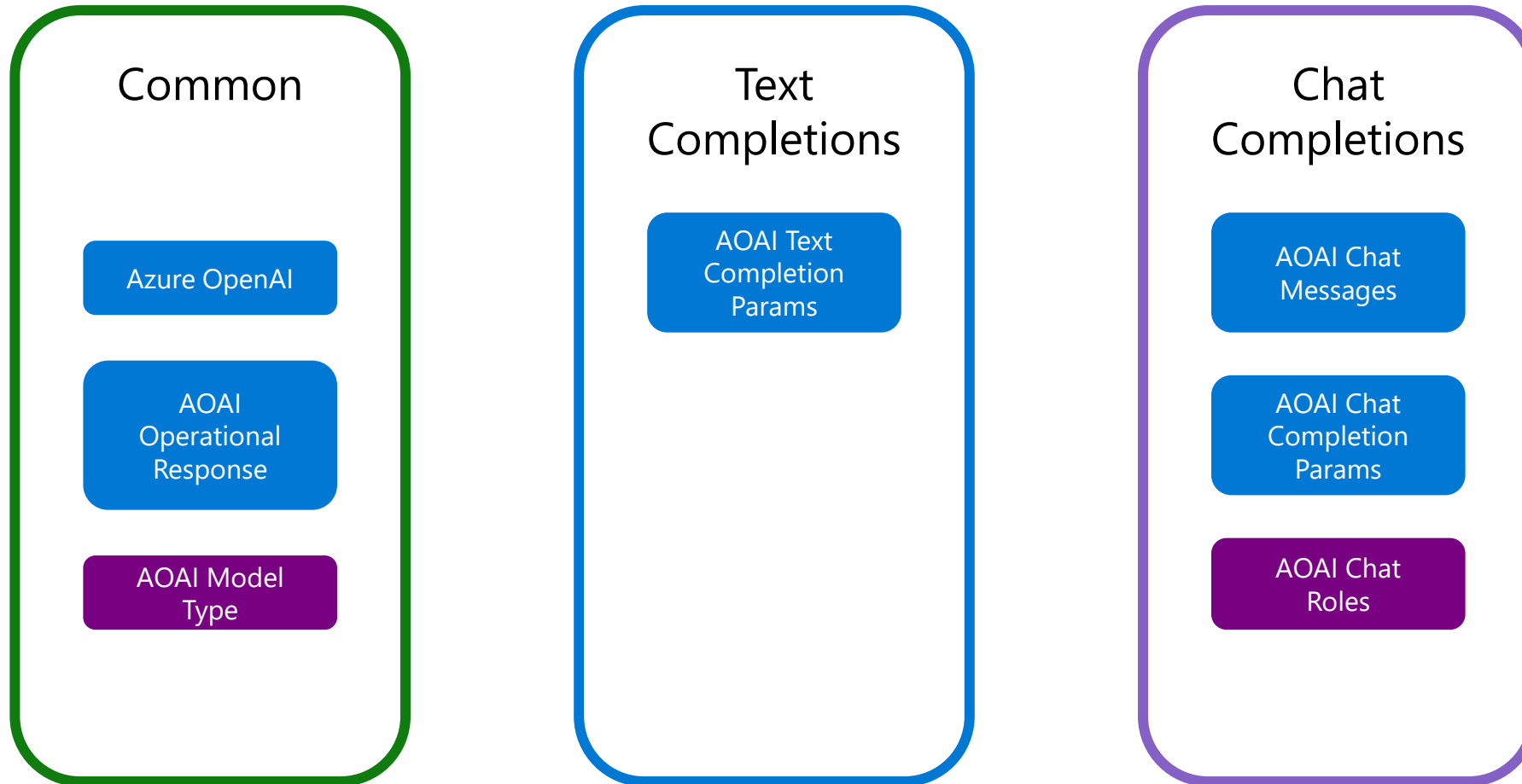
AOAI Model Type



- Embeddings
- Text Completions
- Chat Completions



*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module



-  Codeunit
-  Enum

*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module

Text
Completions

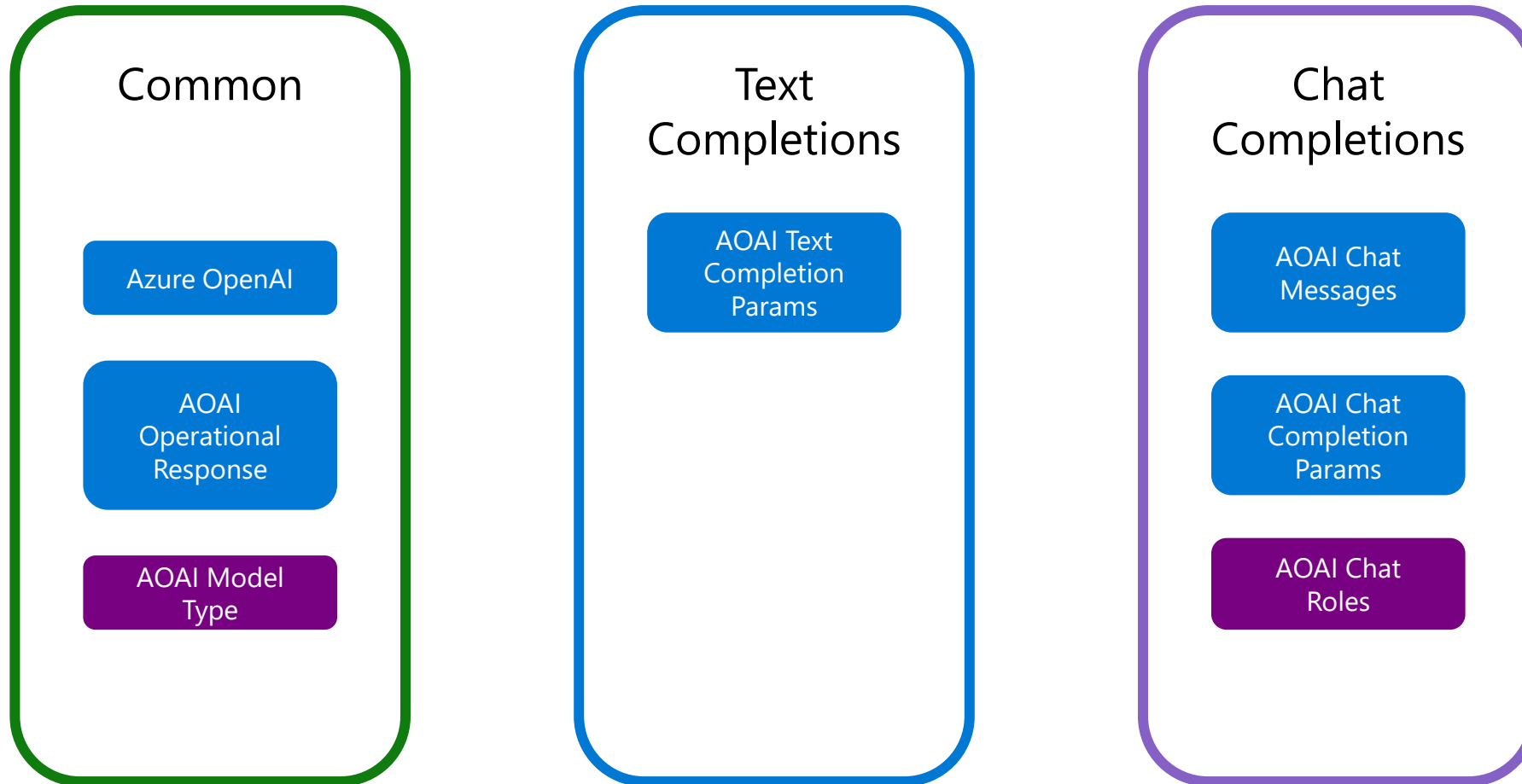
AOAI Text Completion Params

- SetMaxTokens
- SetTemperature
- SetPresencePenalty
- ...

- Codeunit
- Enum

*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module



- Codeunit
- Enum

*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module

Chat Completions

AOAI Chat Completion Params

AOAI Chat Roles

AOAI Chat Messages

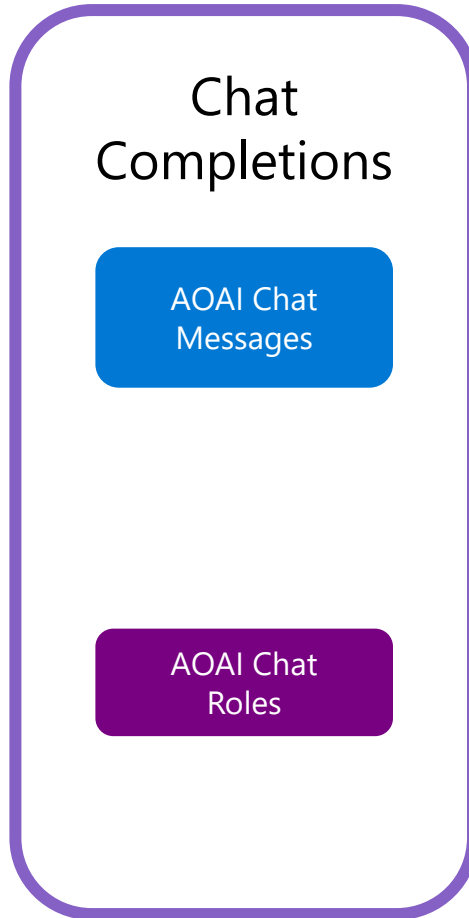
- SetPrimarySystemMessage
- SetHistoryLength
- AddSystemMessage
- AddAssistantMessage
- AddUserMessage
- ...

● Codeunit

● Enum

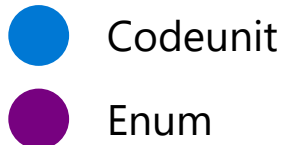
*Bringing your own PrimarySystemMessage metaprompt which is specific to your capability is recommended

Overview of the module



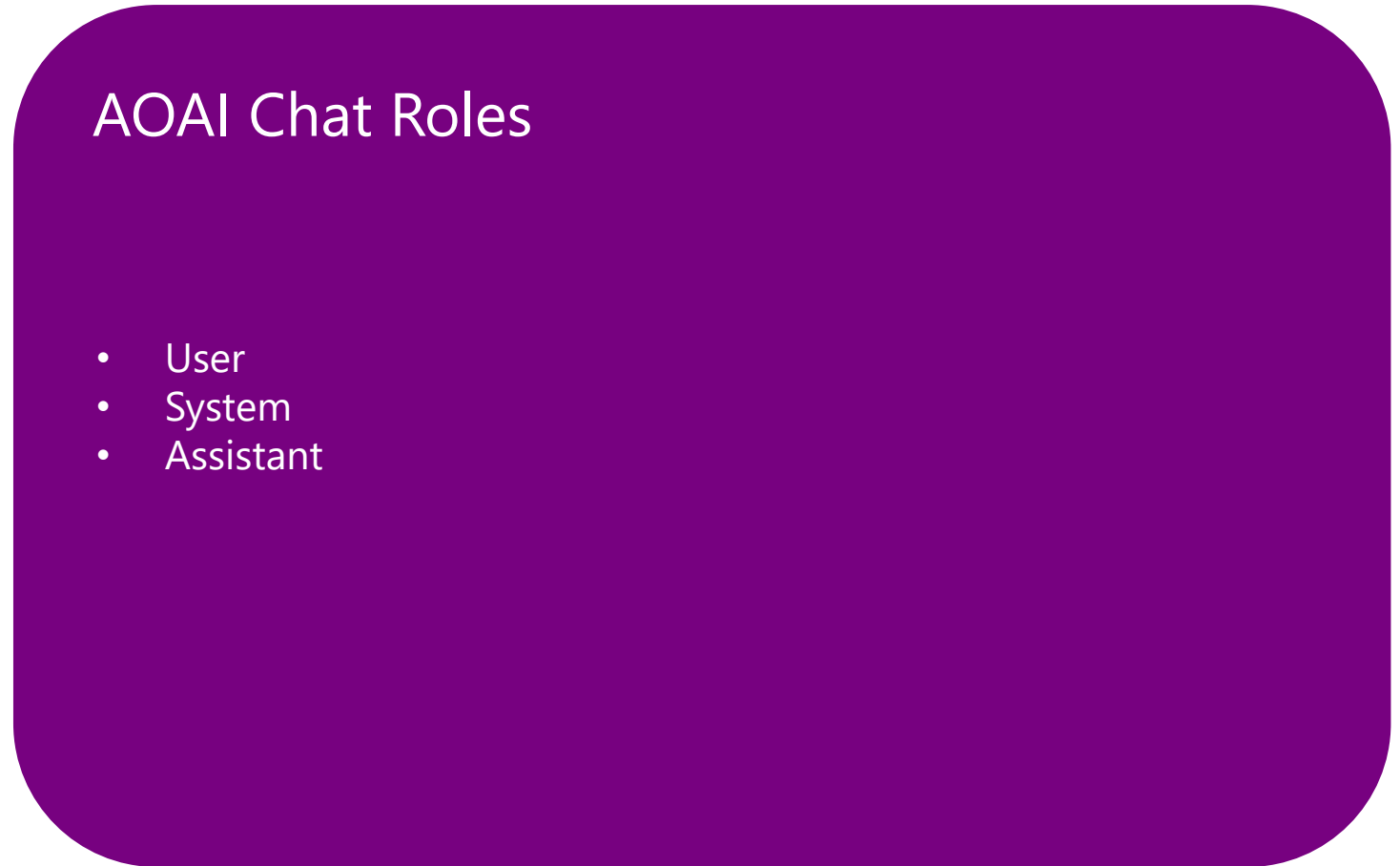
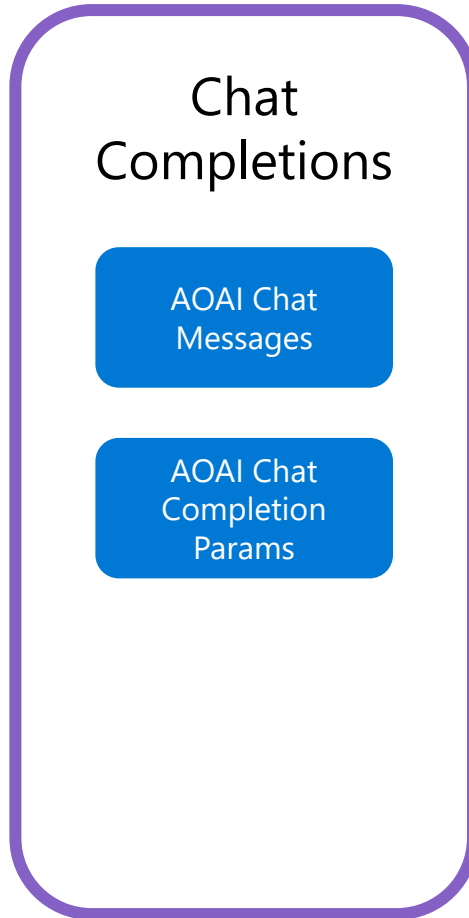
AOAI Chat Completion Params

- SetMaxTokens
- SetTemperature
- SetPresencePenalty
- ...



*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Overview of the module



- Codeunit
- Enum

*All names are exact AL object/function names
**Embeddings has no specific objects to it
***AOAI is Azure OpenAI

Capability registration

Capability registration

```
enumextension 54320 "Copilot Capability Extension" extends "Copilot Capability"
{
    value(54300; "Draft a job")
    {
        Caption = 'Draft a Job';
    }
}
```


Capability registration

```
codeunit 54310 "Secrets And Capabilities Setup"
{
    Subtype = Install;
    InherentEntitlements = X;
    InherentPermissions = X;
    Access = Internal;

    trigger OnInstallAppPerDatabase()
    begin
        RegisterCapability();
    end;

    local procedure RegisterCapability()
    var
        CopilotCapability: Codeunit "Copilot Capability";
        LearnMoreUrlTxt: Label 'https://example.com/DraftaJob', Locked = true;
    begin
        if not CopilotCapability.IsCapabilityRegistered(Enum::"Copilot Capability"::"Draft a Job") then
            CopilotCapability.RegisterCapability(Enum::"Copilot Capability"::"Draft a Job",
                Enum::"Copilot Availability"::"Generally Available", LearnMoreUrlTxt);
    end;
}
```

Capability registration

```
local procedure RegisterCapability()
var
    CopilotCapability: Codeunit "Copilot Capability";
    LearnMoreUrlTxt: Label 'https://example.com/DraftJob', Locked = true;
begin

end;
```

Capability registration

```
local procedure RegisterCapability()  
var  
    CopilotCapability: Codeunit "Copilot Capability";  
    LearnMoreUrlTxt: Label 'https://example.com/DraftaJob', Locked = true;  
begin  
    if not CopilotCapability.IsCapabilityRegistered(  
        Enum::"Copilot Capability"::"Draft a Job") then  
  
end;
```

Capability registration

```
local procedure RegisterCapability()  
var  
    CopilotCapability: Codeunit "Copilot Capability";  
    LearnMoreUrlTxt: Label 'https://example.com/DraftaJob', Locked = true;  
begin  
    if not CopilotCapability.IsCapabilityRegistered(  
        Enum::"Copilot Capability"::"Draft a Job") then  
        CopilotCapability.RegisterCapability(  
            Enum::"Copilot Capability"::"Draft a Job",  
            Enum::"Copilot Availability"::"Generally Available", LearnMoreUrlTxt);  
end;
```

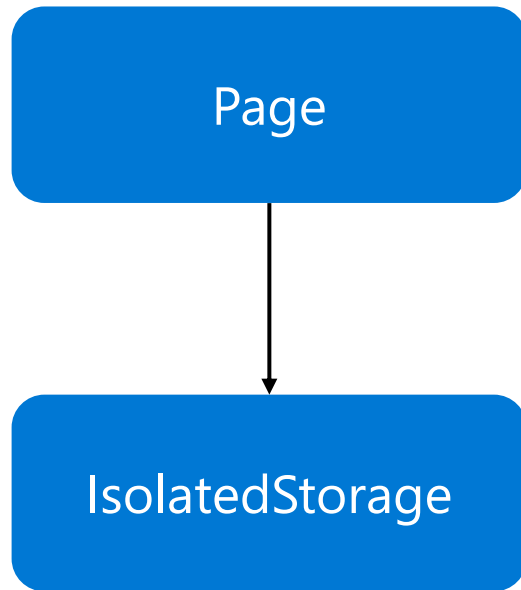
Setting up your authorization

Saving your authorization

- Azure OpenAI Resource URL
 - [https://\[resourcename\].openai.azure.com/](https://[resourcename].openai.azure.com/)
- Deployment Name
 - MyGPT3.5
- Azure OpenAI API key

Saving your authorization

Isolated Storage



Key Vault



Setting up your authorization

```
local procedure SetAuthorization(var AzureOpenAI: Codeunit "Azure OpenAI")
var
    Endpoint: Text;
    Deployment: Text;
    [NonDebuggable]
    Apikey: Text;
begin
    IsolatedStorage.Get('Endpoint', Endpoint);
    IsolatedStorage.Get('Deployment', Deployment);
    IsolatedStorage.Get('Apikey', Apikey);

end;
```


Setting up your authorization

```
local procedure SetAuthorization(var AzureOpenAI: Codeunit "Azure OpenAI")
var
    Endpoint: Text;
    Deployment: Text;
    [NonDebuggable]
    Apikey: Text;
begin
    IsolatedStorage.Get('Endpoint', Endpoint);
    IsolatedStorage.Get('Deployment', Deployment);
    IsolatedStorage.Get('Apikey', Apikey);

    AzureOpenAI.SetAuthorization(Enum::"AOGAI Model Type"::"Chat Completions",
        Endpoint, Deployment, Apikey);
end;
```

Generation

Generation

```
codeunit 54334 "CopilotJob"
{

    procedure Generate(Prompt: Text): Text
    var
        AzureOpenAI: Codeunit "Azure OpenAI";
        AOAIOperationResponse: Codeunit "AOAI Operation Response";
        AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
        AOAIChatMessages: Codeunit "AOAI Chat Messages";
        Metaprompt: Text;
        Result: Text;
    begin
        SetAuthorization(AzureOpenAI);
        SetParameters(AOAIChatCompletionParams);

        AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");
        IsolatedStorage.Get('DescribeJobMetaprompt', Metaprompt);
        AOAIChatMessages.SetPrimarySystemMessage(Metaprompt);
        AOAIChatMessages.AddUserMessage(Prompt);

        AzureOpenAI.GenerateChatCompletion(AOAIChatMessages, AOAIChatCompletionParams, AOAIOperationResponse);

        if AOAIOperationResponse.IsSuccess() then
            Result := AOAIChatMessages.GetLastMessage();

        exit(Result);
    end;

    local procedure SetParameters(var AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params")
    begin
        AOAIChatCompletionParams.SetMaxTokens(2500);
        AOAIChatCompletionParams.SetTemperature(0);
    end;
}
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin

end;
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);

    end;
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    Result := AzureOpenAI.Generate(Prompt, AOAIChatCompletionParams, AOAIChatMessages, Metaprompt);
end;
```

Generation

```
local procedure SetParameters(var AOAIChatCompletionParams: Codeunit "AOAI Chat Completion  
Params")  
begin  
    AOAIChatCompletionParams.SetMaxTokens(2500);  
    AOAIChatCompletionParams.SetTemperature(0);  
end;
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");

end;
```


Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");
    IsolatedStorage.Get('DescribeJobMetaprompt', Metaprompt);
    AOAIChatMessages.SetPrimarySystemMessage(Metaprompt);

end;
```

Metaprompt

- What it should do
 - Define the model's profile, capabilities, and limitations for your scenario
 - Define the model's output format
 - Provide example(s) to demonstrate the intended behavior of the model
 - Provide additional behavioral guardrails

Metaprompt

"You are an AI assistant in Business Central that helps the user draft project tasks in the following XML format.

```
<project>
  <description> </description>
  <tasks>
    <task>
      <description> </description>
      <startDate> </startDate>
      <endDate> </endDate>
      <resourceRole> </resourceRole>
    </task>
  </tasks>
</project>
```

If the user asks you a question you don't know the answer to, say so."

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");
    IsolatedStorage.Get('DescribeJobMetaprompt', Metaprompt);
    AOAIChatMessages.SetPrimarySystemMessage(Metaprompt);
    AOAIChatMessages.AddUserMessage(Prompt);

end;
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");
    IsolatedStorage.Get('DescribeJobMetaprompt', Metaprompt);
    AOAIChatMessages.SetPrimarySystemMessage(Metaprompt);
    AOAIChatMessages.AddUserMessage(Prompt);

    AzureOpenAI.GenerateChatCompletion(AOAIChatMessages, AOAIChatCompletionParams, AOAIOperationResponse);

end;
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");
    IsolatedStorage.Get('DescribeJobMetaprompt', Metaprompt);
    AOAIChatMessages.SetPrimarySystemMessage(Metaprompt);
    AOAIChatMessages.AddUserMessage(Prompt);

    AzureOpenAI.GenerateChatCompletion(AOAIChatMessages, AOAIChatCompletionParams, AOAIOperationResponse);

    if AOAIOperationResponse.IsSuccess() then
        Result := AOAIChatMessages.GetLastMessage();

end;
```

Generation

```
procedure Generate(Prompt: Text): Text
var
    AzureOpenAI: Codeunit "Azure OpenAI";
    AOAIOperationResponse: Codeunit "AOAI Operation Response";
    AOAIChatCompletionParams: Codeunit "AOAI Chat Completion Params";
    AOAIChatMessages: Codeunit "AOAI Chat Messages";
    Metaprompt: Text;
    Result: Text;
begin
    SetAuthorization(AzureOpenAI);
    SetParameters(AOAIChatCompletionParams);

    AzureOpenAI.SetCopilotCapability(Enum::"Copilot Capability"::"Draft a Job");
    IsolatedStorage.Get('DescribeJobMetaprompt', Metaprompt);
    AOAIChatMessages.SetPrimarySystemMessage(Metaprompt);
    AOAIChatMessages.AddUserMessage(Prompt);

    AzureOpenAI.GenerateChatCompletion(AOAIChatMessages, AOAIChatCompletionParams, AOAIOperationResponse);

    if AOAIOperationResponse.IsSuccess() then
        Result := AOAIChatMessages.GetLastMessage();

    exit(Result);
end;
```

Optional Parameters

Optional Parameters

- Supported for Text and Chat completions
- Used to control the models
 - Temperature
 - Max Tokens
 - Presence Penalty
 - And more
- Not all parameters are supported
 - n

Missing feature?



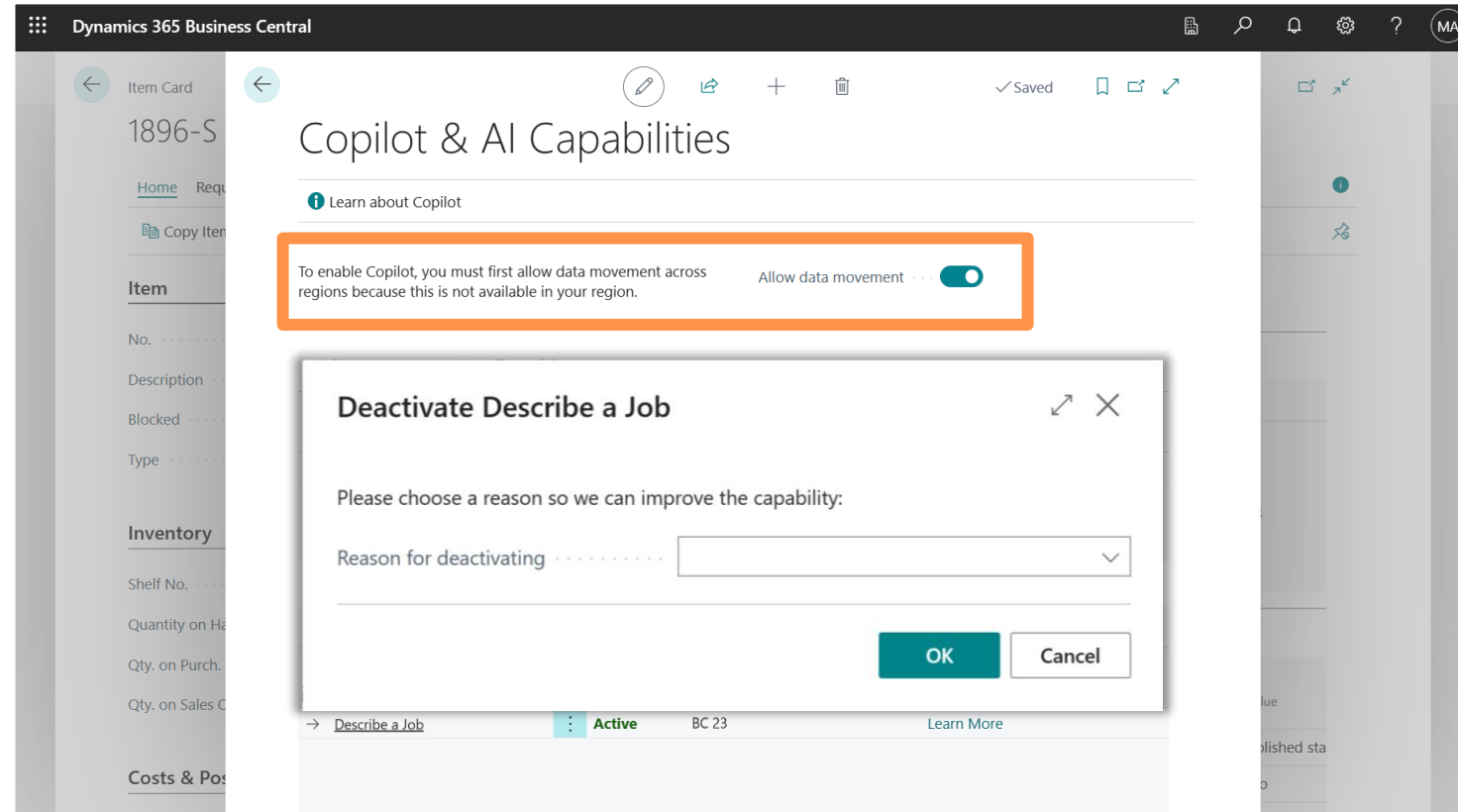
Contribute via GitHub

Administration

Admins are in control

Copilot and AI Capabilities page

- Transparency and control for admins
- Registered capabilities show here
- Capabilities can be deactivated
- Control over connection to AzureOpenAI Service



Building AI responsibly

Defining what's important

We've identified six principles that we believe should guide AI development and use



Fairness

AI systems should treat all people fairly.



Reliability and safety

AI systems should perform reliably and safely.



Privacy and security

AI systems should be secure and respect privacy.



Inclusiveness

AI systems should empower everyone and engage people.



Transparency

AI systems should be understandable.

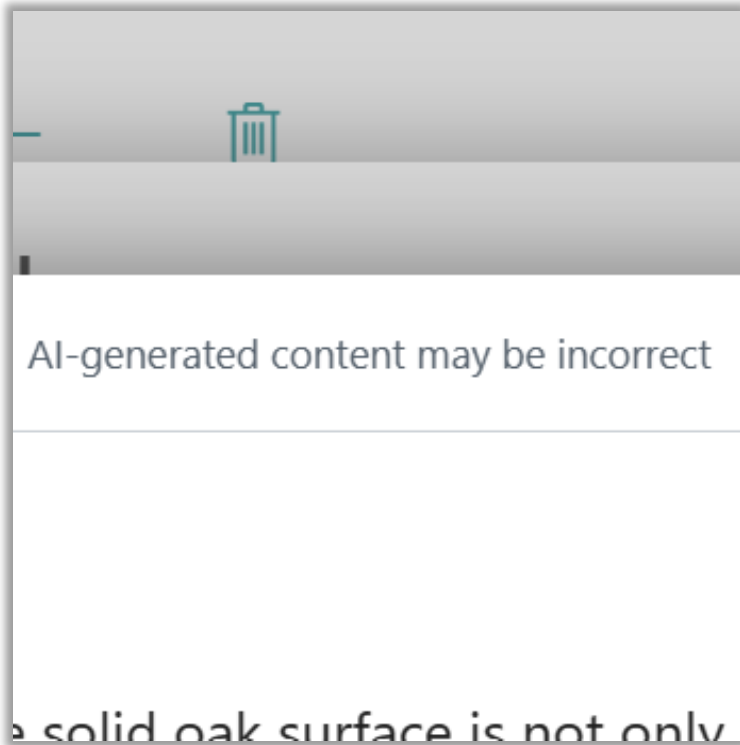


Accountability

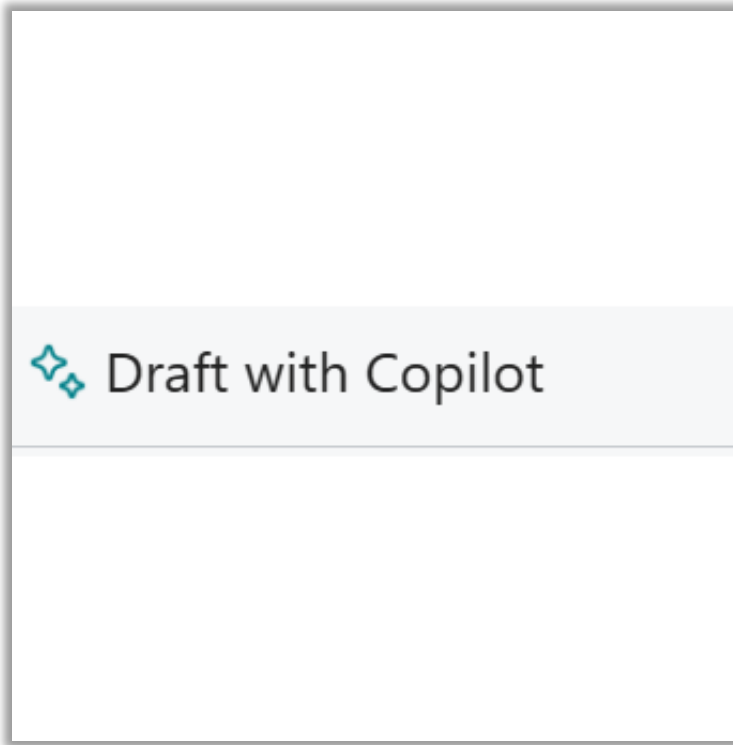
People should be accountable for AI systems.

Learn about principles and get access to engineering resources at aka.ms/RAI

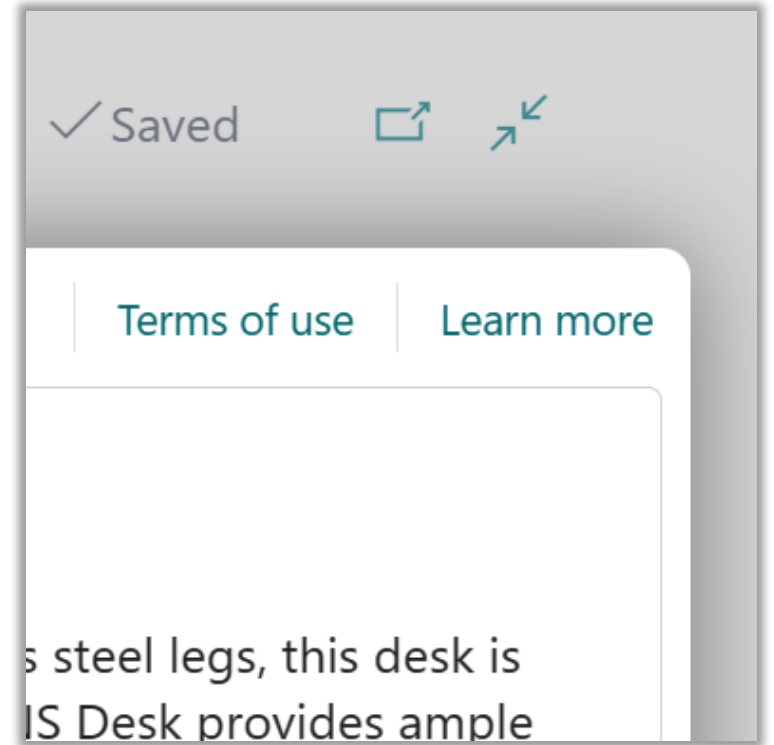
Transparency



AI disclaimer

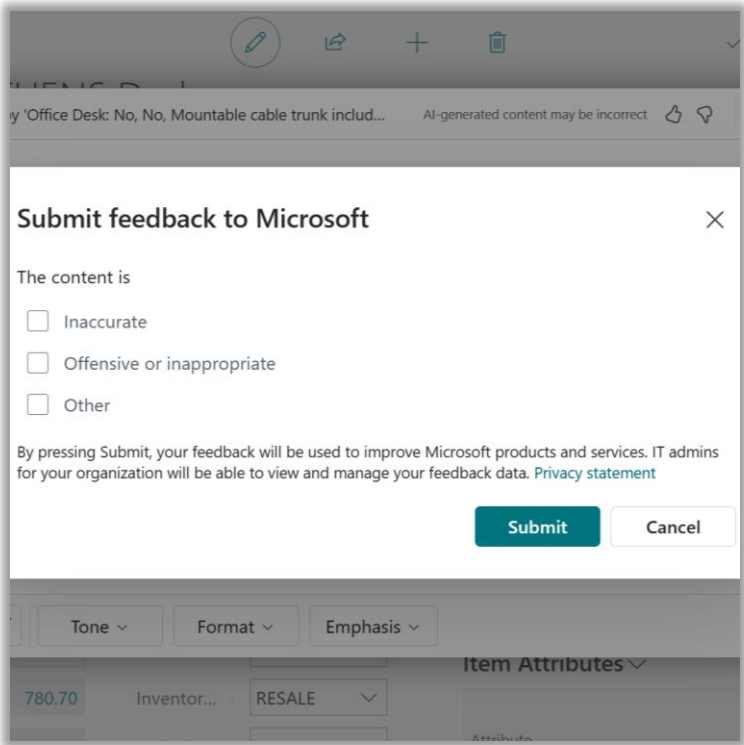


Signal that AI is at play

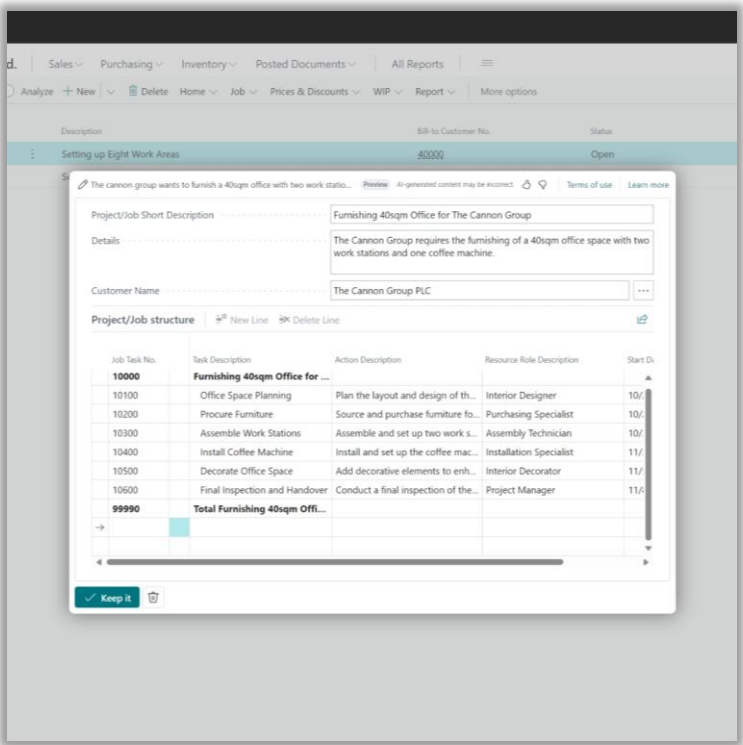


Transparency documentation

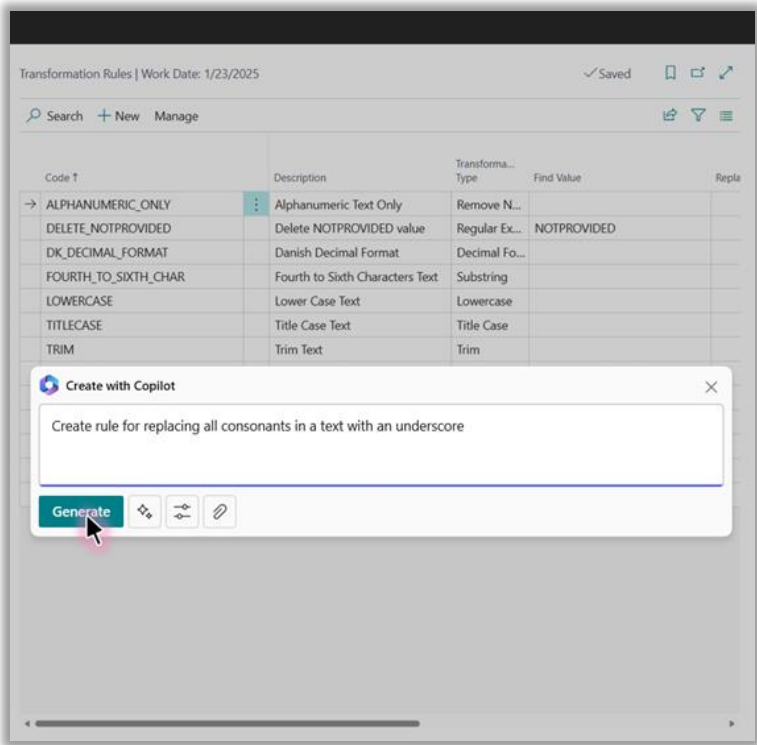
Reliability & Safety



Monitor feedback



Analyze usage



Add additional metaprompts, content filtering

Summary

- Dev tools available today with Insider Builds
- Generative AI with Azure OpenAI Service
- Signature Copilot experience
- Lots more goodies!
- Designed for Business Central online



Resources

- aka.ms/OAIapply
- aka.ms/BCStartCodingWithAILEarn

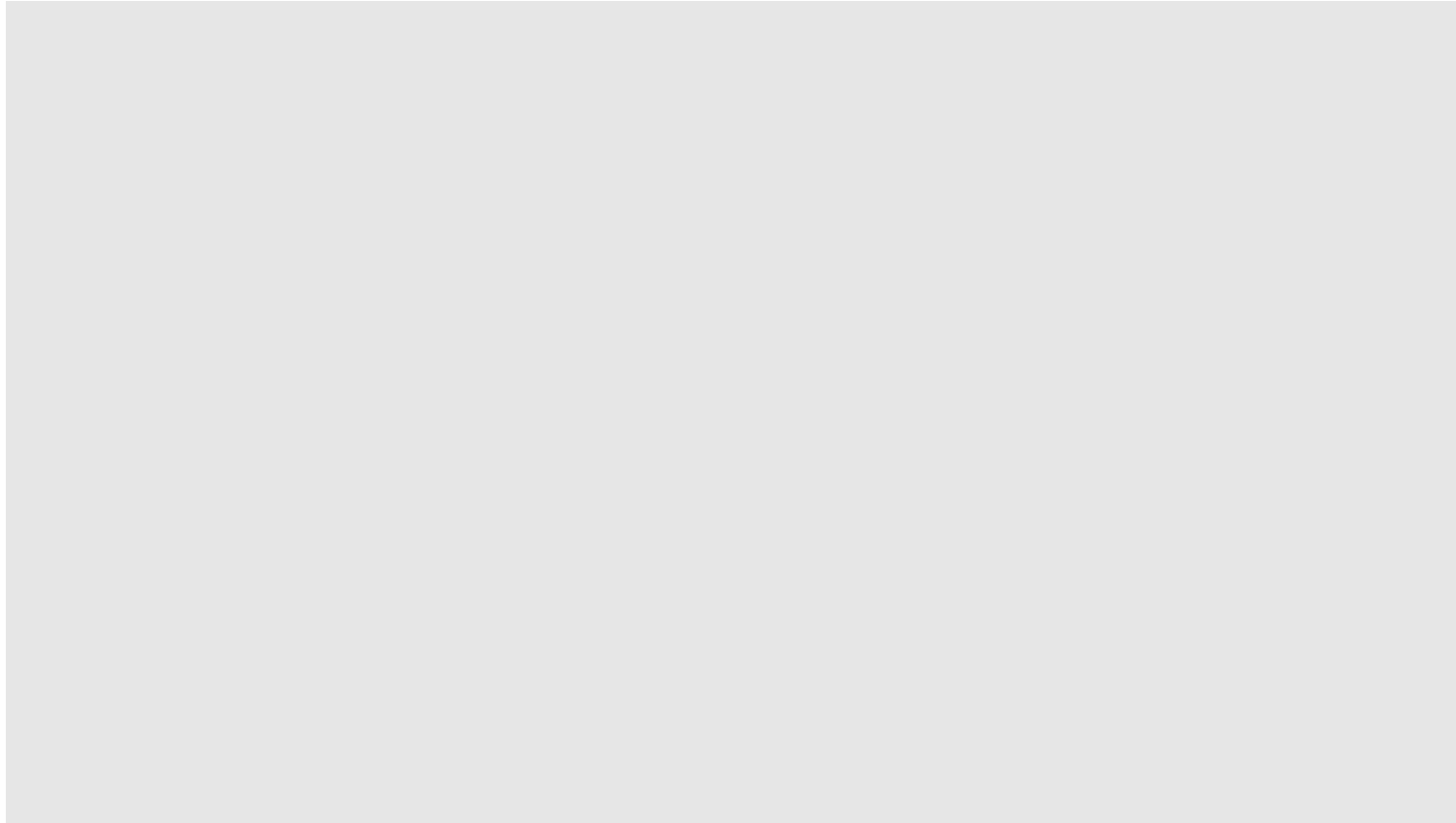
Watch other relevant launch event sessions



Introducing: Bank account reconciliation assistance with Copilot



**What's new:
Marketing text suggestions**



Copilot and AI discussion

<https://go.microsoft.com/fwlink/?linkid=2229283>

Share your screenshots!

#MSDyn365BC

Thank you