Microsoft Power Platform

Build Your Own Custom Copilot Using Microsoft Copilot Studio!

Agenda

Introduction to Microsoft Copilot Studio

Lab 1: Create your first copilot in Microsoft Copilot Studio

Lab 2: Authoring 101

Lab 3: Knowledge sources, AI knowledge, and custom instructions

Lab 4: Build and Invoke Power Automate cloud flows

Lab 5: Invoke AI Builder prompts

Lab 6: Make HTTP requests to connect to an API

Lab 7: Use generative AI orchestration to interact with your connectors

Lab 8: Using topic inputs

Q&A

Introduction to Copilot Studio

What is an agent?

An experience using generative AI to assist humans with complex cognitive tasks.
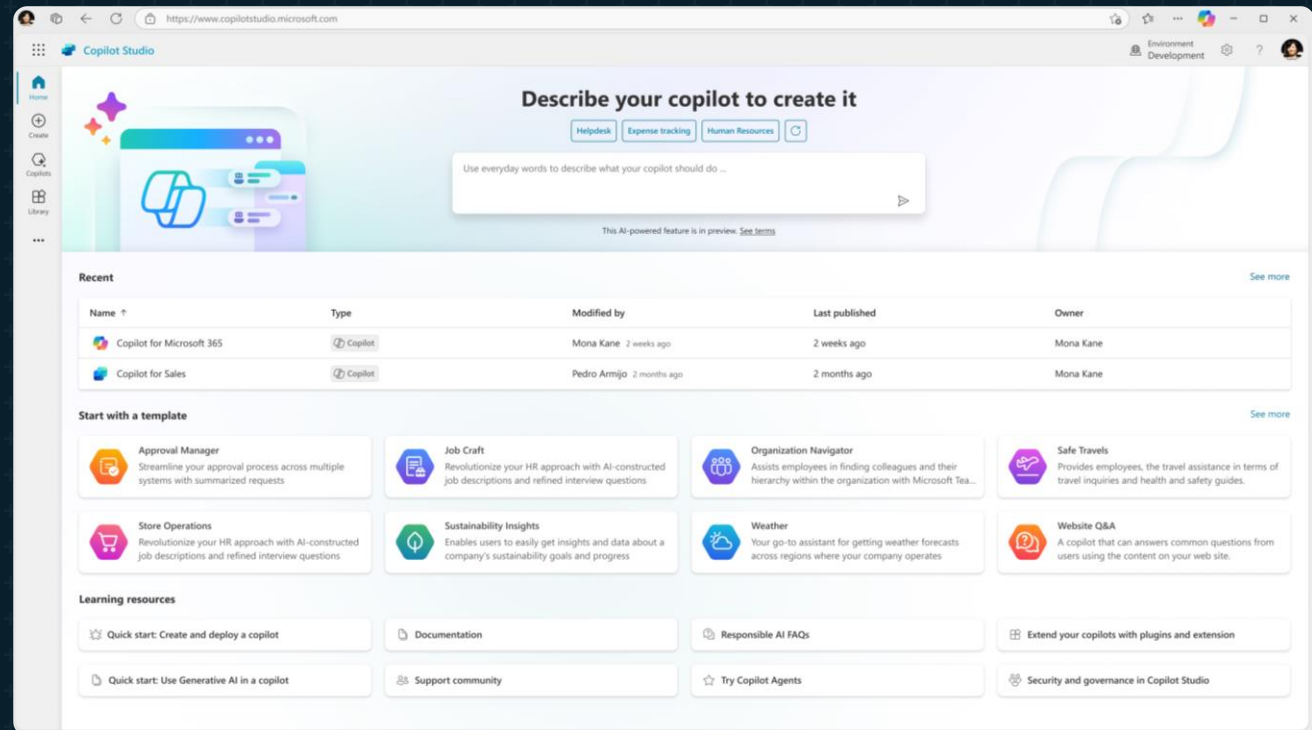
Chat using natural language (and code)

You determine, guide, and approve the output

Its value increases with complexity

Microsoft Copilot Studio

Your agent, your way

Copilot Studio is an end-to-end conversational AI product for **building your own agent** or **extending Microsoft Copilot** with generative AI, large language models and **your data**.

Create, manage, publish and extend Copilots
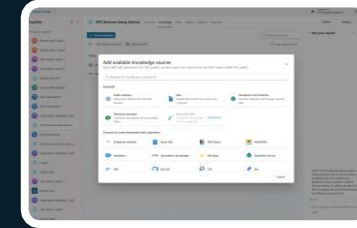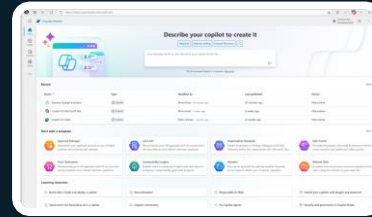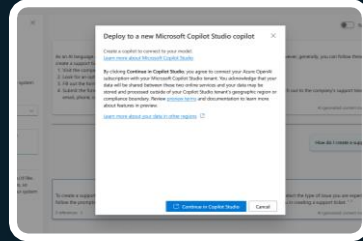Live in minutes - all from one tool
and E2E SaaS service

Integrate with AI Services
Integrate with Azure AI Studio,
Azure Cog Services, Bot
Framework and various other
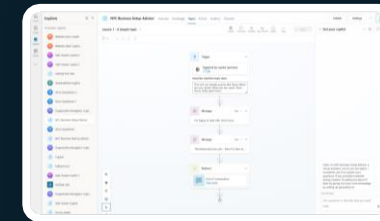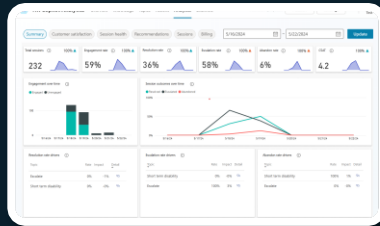Microsoft conversational services

Build & Publish

Chat over knowledge with Gen AI
Get enterprise specific answers
over your files, websites, internal
shares, Dataverse, third party
systems and more

Copilot Studio

Monitor and Improve
with rich out-of-the-box
insights and analytics

Create specific topics
Supplement generative
responses with specific, curated
topics where you want tight
control. Build them easily with
the powerful graphical studio

Publish to multiple channels,
and go live instantly on the SaaS
service or choose to extend
Copilot for Microsoft 365 with
your custom capabilities

Analyze & Improve
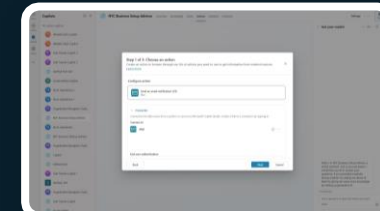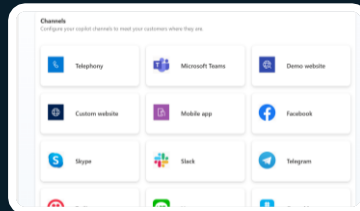
Build actions & Plugins
Create actions, plugins, use
1000s of pre-built connectors
or Power Automate to call
your backends and APIs

Copilot Studio

Copilot Studio
message capacity add-on

$200 per tenant/month
Tenant-wide capacity license sold in capacity packs.
1 capacity pack = 25,000 messages/month

Offer Details
- Gen AI: AI-enabled conversations
- Copilot in Microsoft Copilot Studio: Create and iterate on chatbot topics using expanded natural language capabilities
- Power Automate for Microsoft Copilot Studio: Cloud flows – Create automated, instant and scheduled flows within context of Microsoft Copilot Studio bots
- Connectors: Standard, Premium and Custom connectors
- Dataverse for Microsoft Copilot Studio: Dataverse Default Capacity
    - 5 GB Database Capacity
    - 20 GB File Capacity
    - 2 GB Log Capacity

Get Started

Microsoft Power Platform
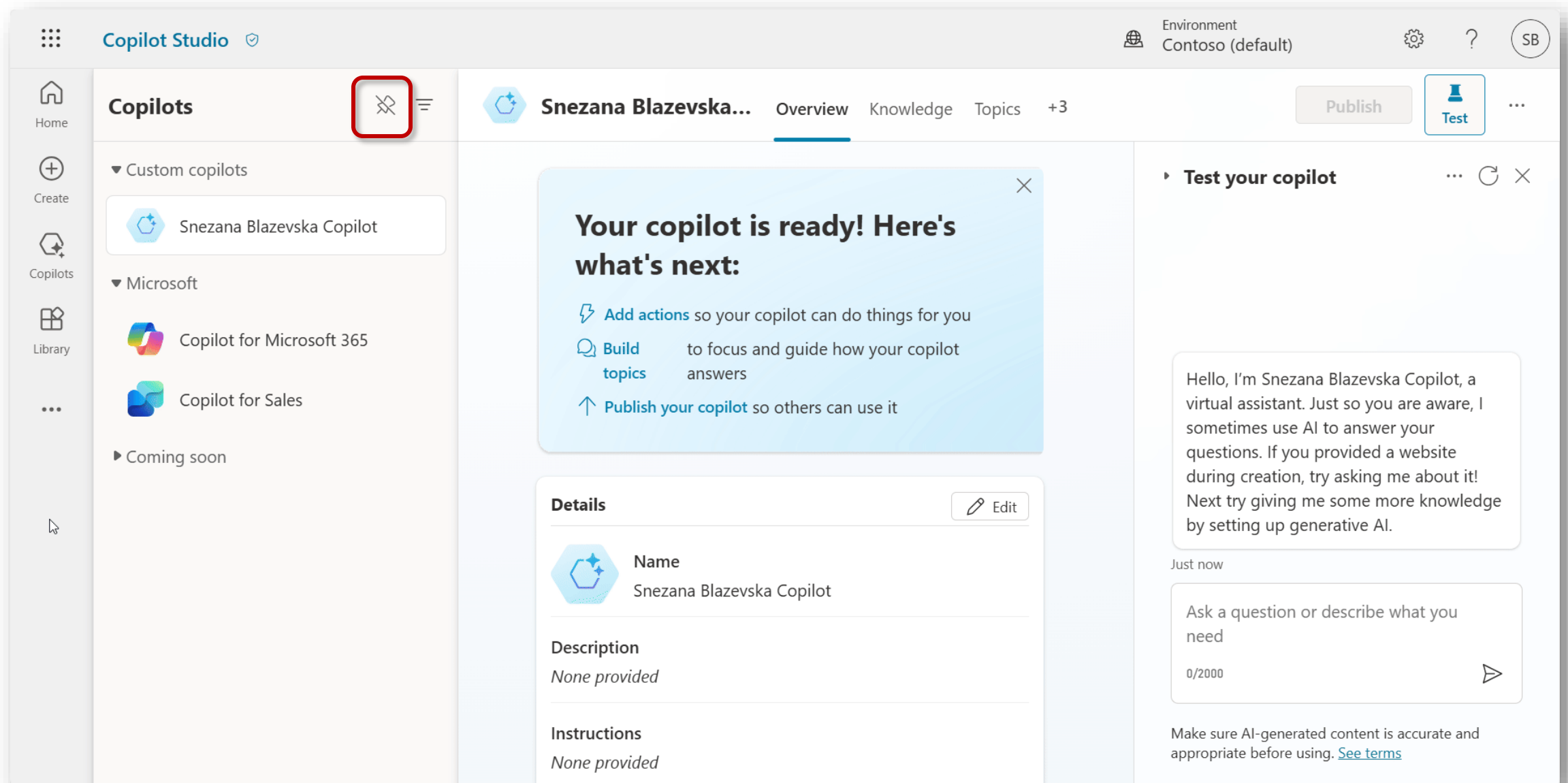
Go to **aka.ms/PPCCMCSWorkshop**

SCAN ME

THEN:

1. **Download** and **unzip** the lab files locally.

2. Using the provided credentials, **log in** aka.ms/CopilotStudioStart

IMPORTANT LAB INSTRUCTIONS

1. **Follow the labs** most lab content is dependent on previous labs.

2. **If you want to deviate from the labs** and test your own scenarios, this is fine, but please do complete the labs first, and create your own separate custom copilot for your own scenarios and exploration after you've completed the labs.

Productivity tip #1: Unpin the Copilots pane

Productivity tip #2: Refresh the conversation between tests

Lab 01: Create your first copilot in Microsoft Copilot Studio

Demo Lab 1

Test your copilot

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.

Just now

Ask a question or describe what you need

0/2000

Make sure AI-generated content is accurate and appropriate before using. See terms

Copilot for Copilot Studio

AI assistance in building topics, designing and modifying the copilot all through natural language

Assisted authoring for:
- Topic creation
- Topic iteration
- Response generation
- Adaptive Card generation
- Topic improvement suggestions
- Suggested trigger phrases, topic names, topic descriptions
- Transcript generation
- Copilot creation
- Topic suggestions

Azure bots take **months** to author → Copilots took **days** to author → Prompt-authored copilots will take **hours or even minutes** to author.

Generally Available
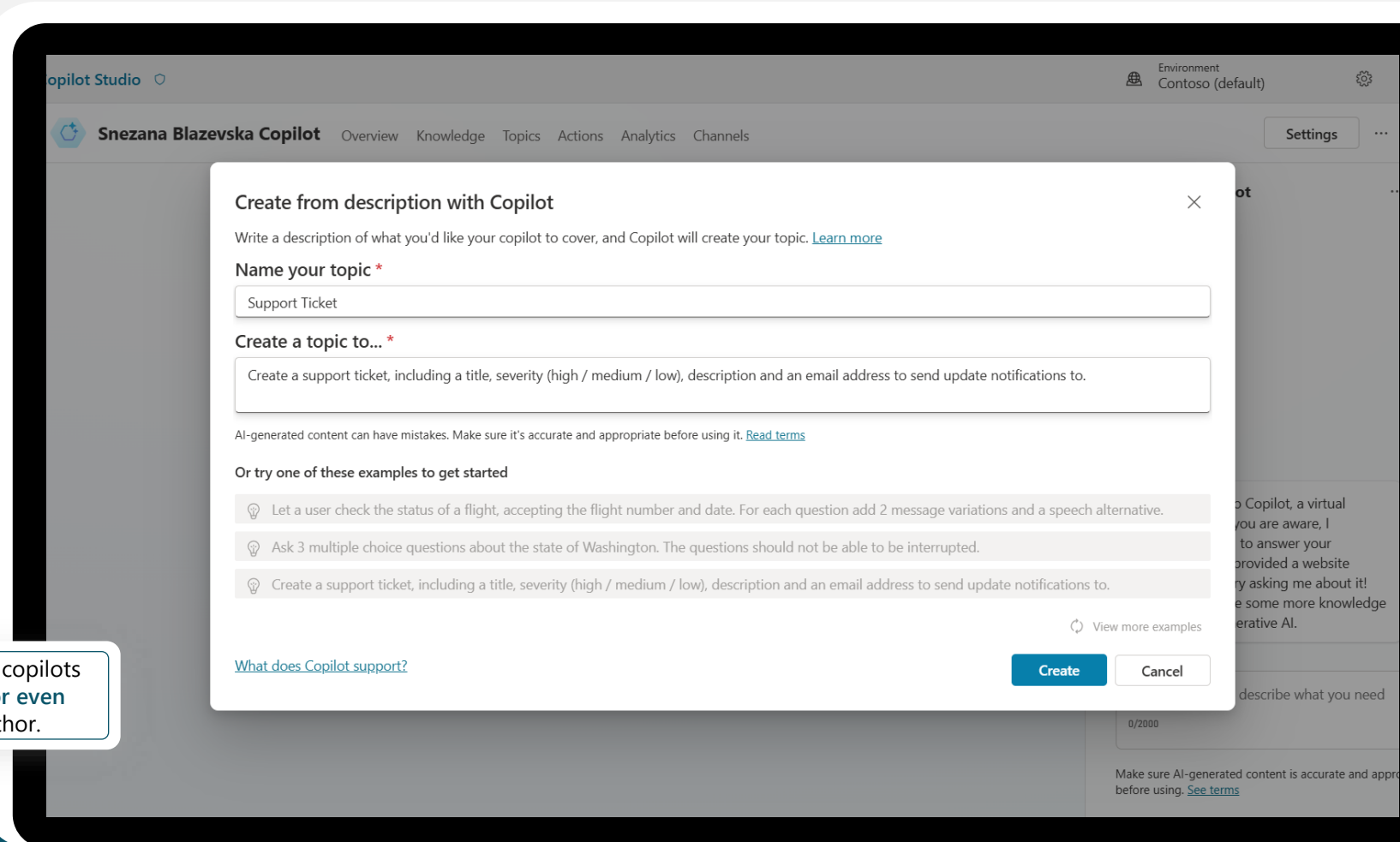
Lab time!

Lab 01 [40] minutes
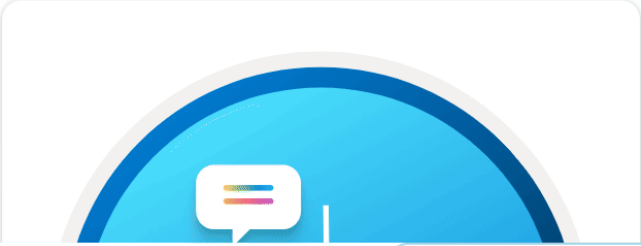
Lab 02: Authoring 101

Demo Lab 2

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.
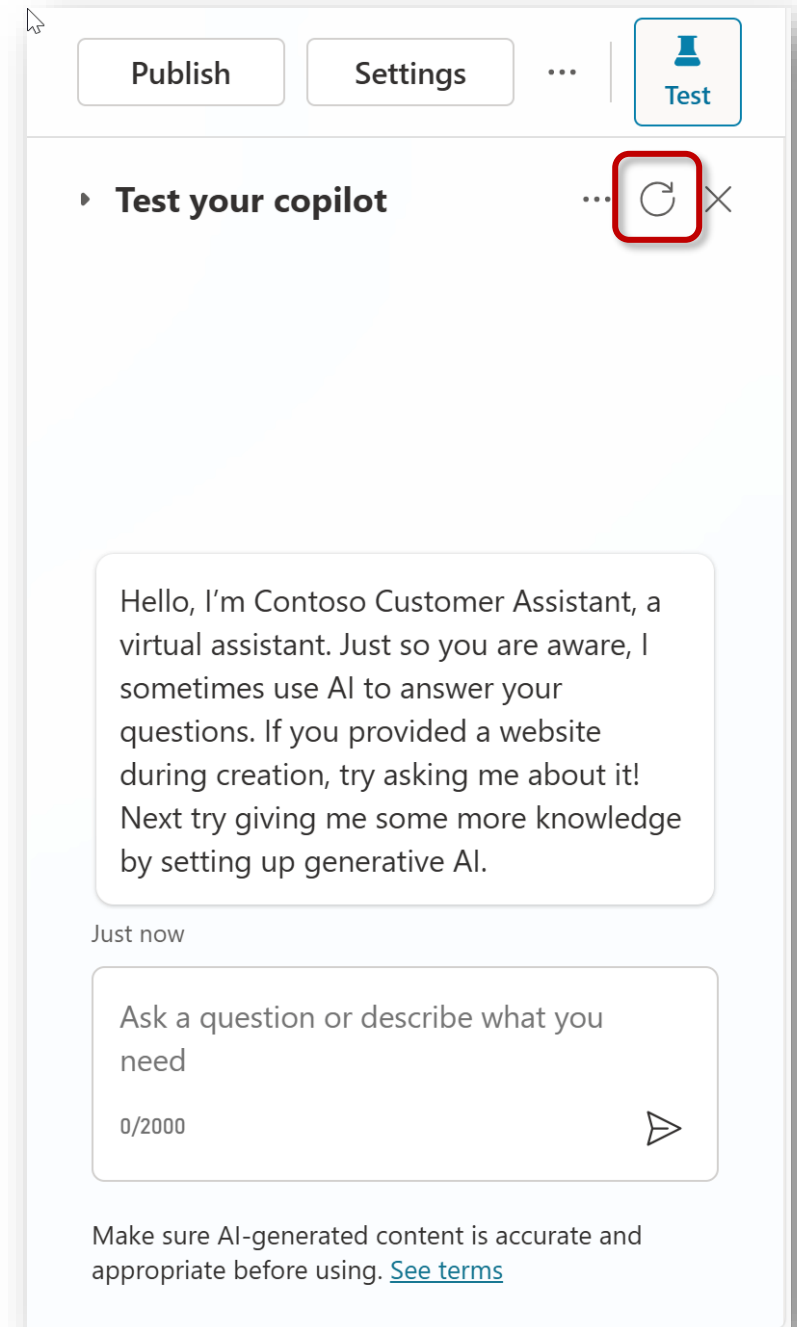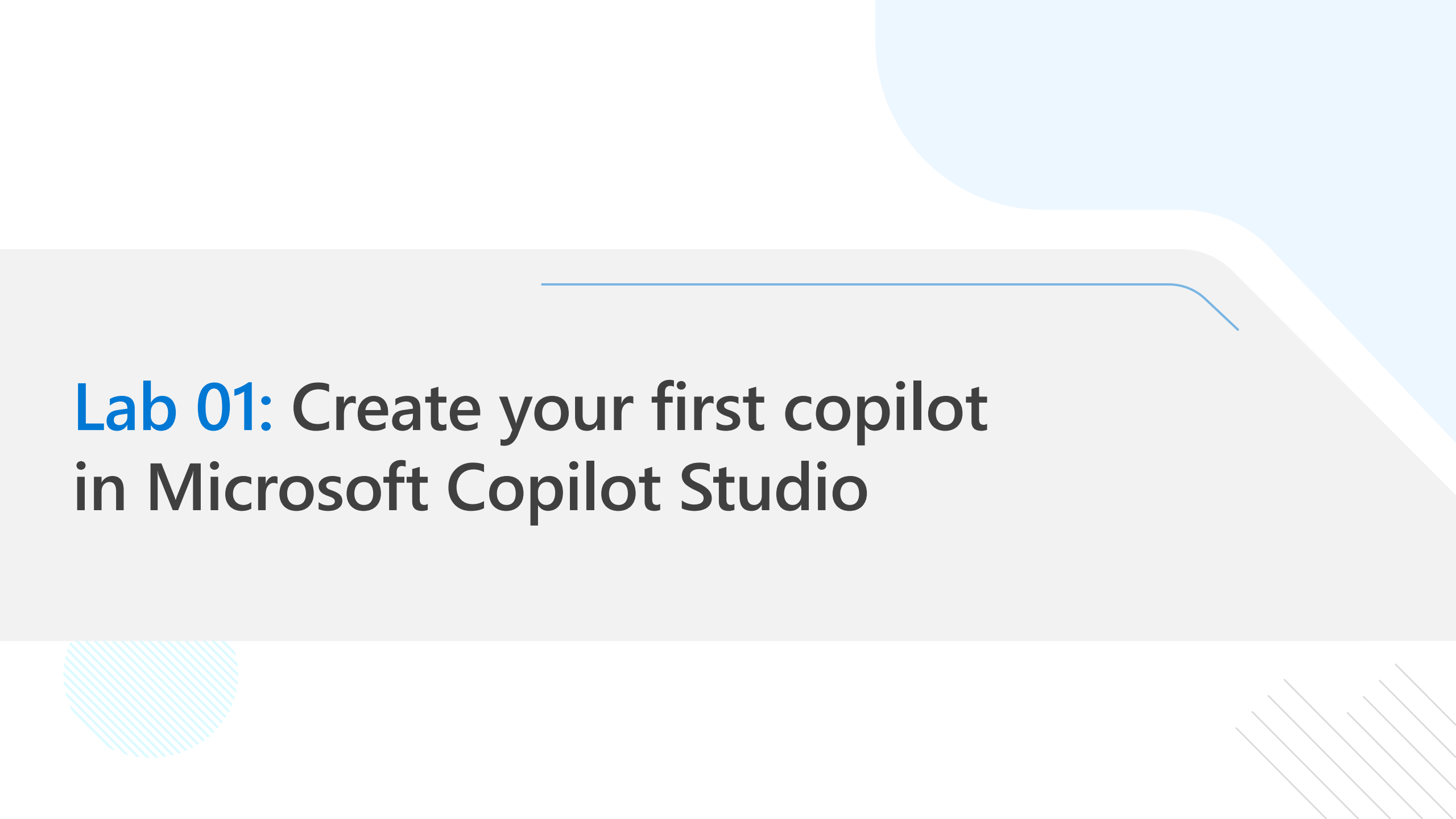
Help with my order

Ask a question or describe what you need

0/2000

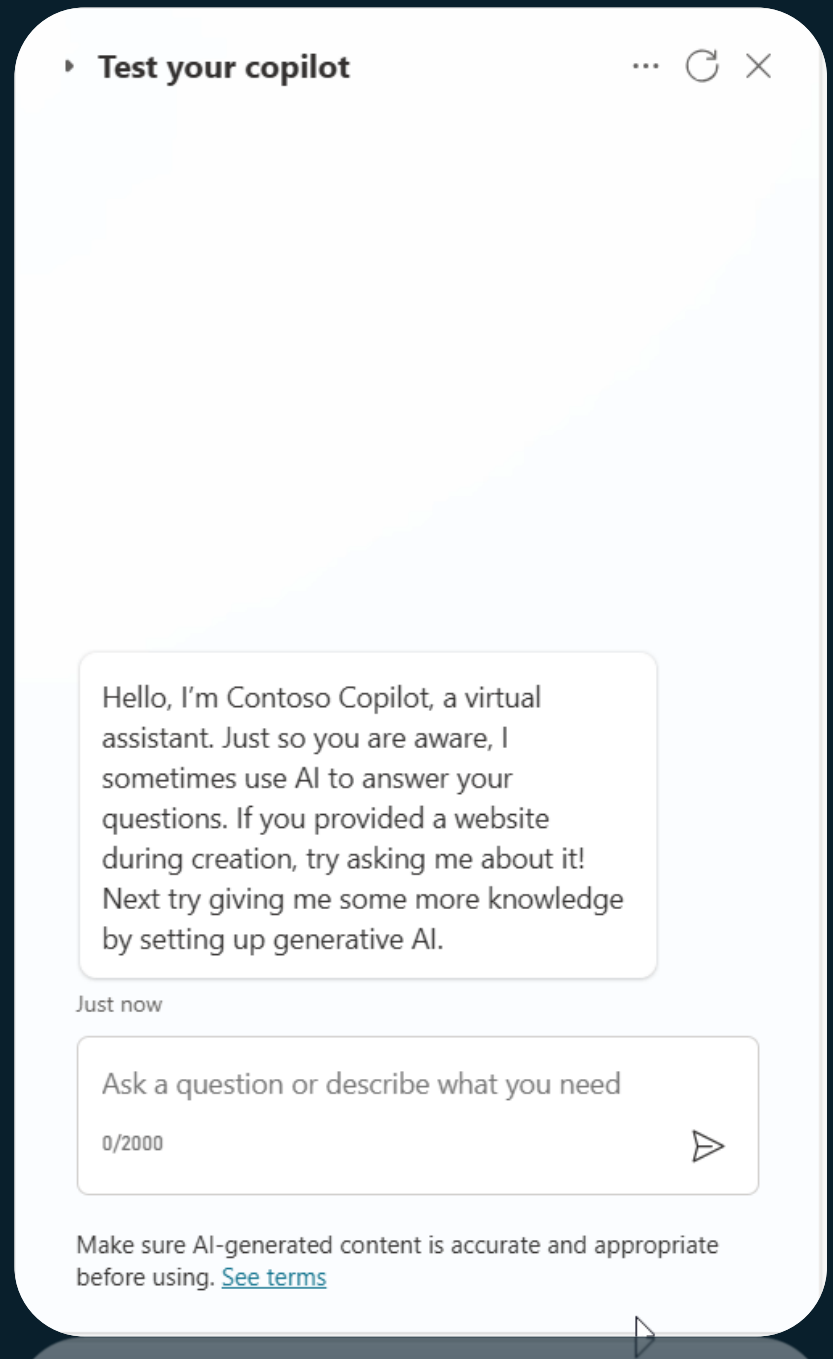Make sure AI-generated content is accurate and appropriate before using. See terms

Copilot Studio authoring canvas
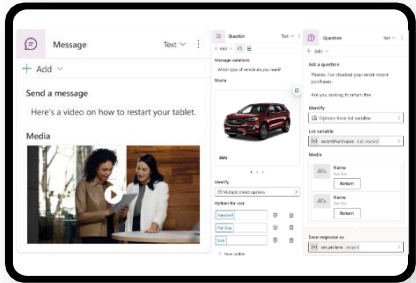
Rich Responses

New features including:

Adaptive Cards

Images

Videos

Quick Replies
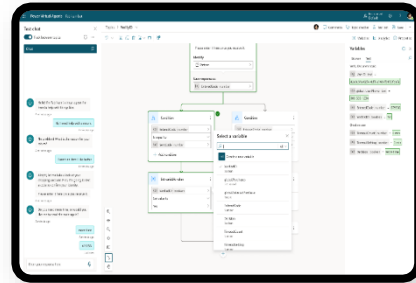
Power Fx-based variables system

- Power Fx integrated formula editor for variable management
- List / Record type support
- Condition nodes with Power Fx formula support
- Iterate over a List with new Loop nodes (coming soon)
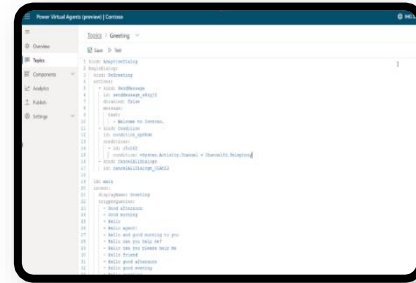
Code side-by-side

- Move between a visual editor and code
- Share and re-use topic logic between developers and bots
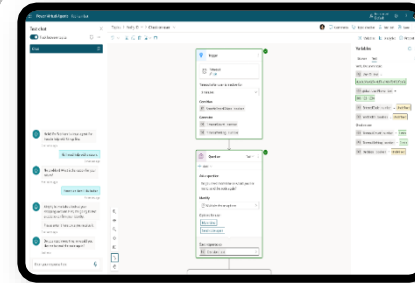
Event-driven & contextual triggering

- Trigger an event that can interrupt Dialogs if it detects a certain value has been received
- Add more nuanced responses to a message when the bot runs into an issue.
- Bots can stay within context when a user asks for additional help or more details
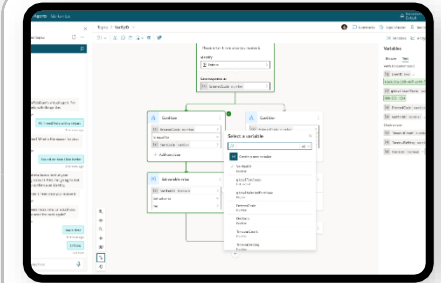
Productivity

- Cut, Copy, Paste
- Multi-node selection
- Enhanced topic navigation

Lab time!

Lab 02 [60] minutes

Disambiguation with topic design
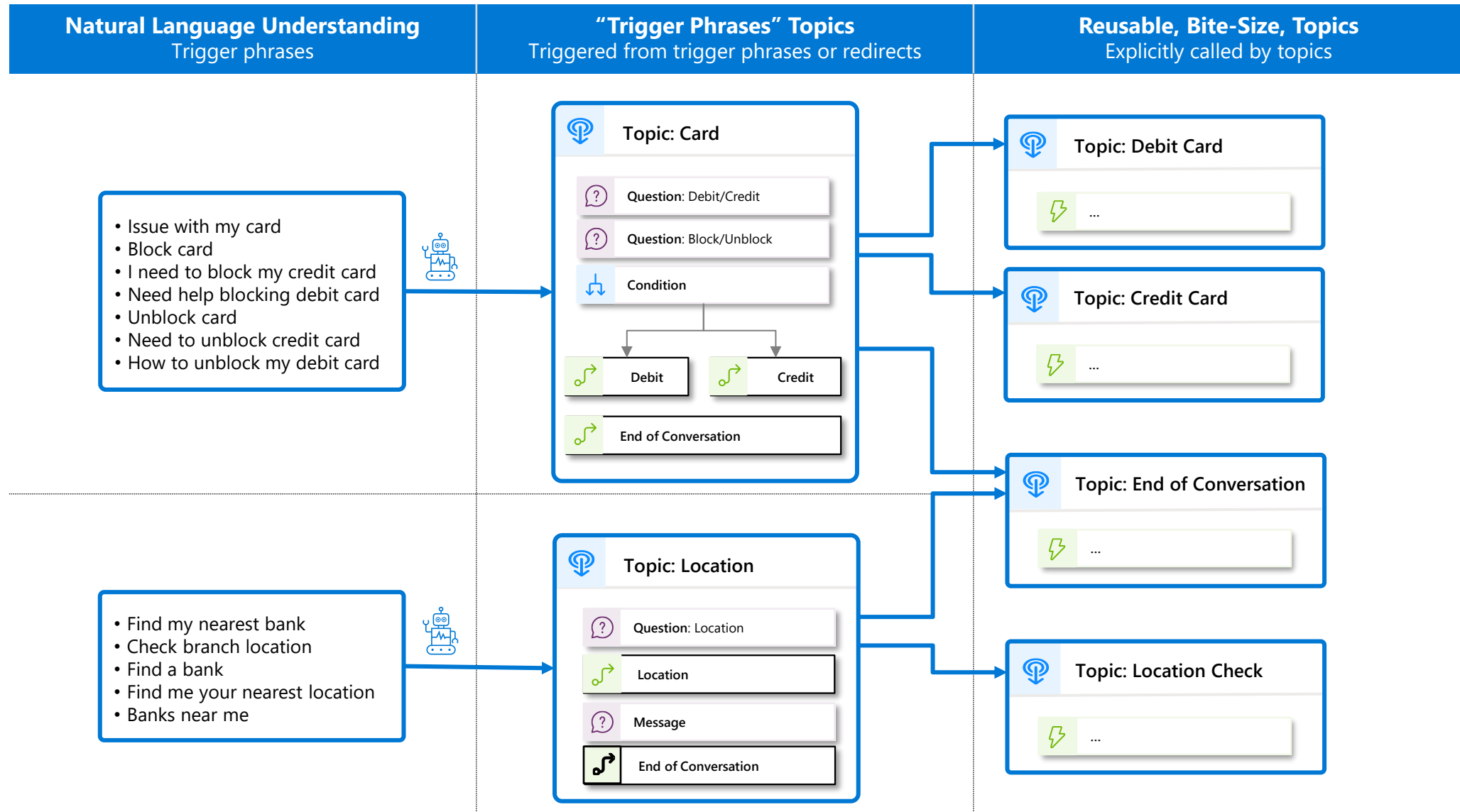
Natural language understanding

	Standard NLU model	Custom Azure CLU model	Generative orchestration
✅	✓ Default, out-of-the-box, model that comes pre-trained, with many predefined entity types. ✓ Configuration is done by adding trigger phrases and custom entities (either closed lists with values and synonyms, or regular expressions).	✓ Supports additional languages, with native models. ✓ Allows to further customize the intent triggering model for better intent recognition or to address specific industry requirements. ✓ Allows for complex entity extraction (e.g., of the same type). ✓ Entity extraction can also leverage Copilot Studio standard NLU.	✓ Uses a GPT large language model. ✓ Can handle multiple intents and chain topics and/or plugins. ✓ Automatically generate questions for missing inputs and answers complex entities and questions from the conversation context. ✓ Configuration is done by simply describing topics, plugin actions, and inputs/outputs.
☑	✓ Single intent recognition per query. ✓ Cannot be extended. ✓ Slot-filling multiple entities of the same type in the same query requires disambiguation for each (e.g., from and to cities)	✓ Single intent recognition per query. ✓ Configuration is done in Azure and involves additional costs. ✓ Has its own service limits that need to be evaluated. ✓ Azure CLU intents and Copilot Studio topics must be carefully kept in sync.	✓ As it's a generative AI feature, the licensing burn rate of messages is higher than in regular topic triggering. ✓ Preview capability.

Lab 03: Knowledge sources, AI knowledge, and custom instructions

Demo Lab 3

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.

Help with my order

Help with my incident

Ask a question or describe what you need

0/2000

Make sure AI-generated content is accurate and appropriate before using. See terms

Knowledge sources

Enable multi-turn chat over your own internal and external knowledge sources and sites with generative answers

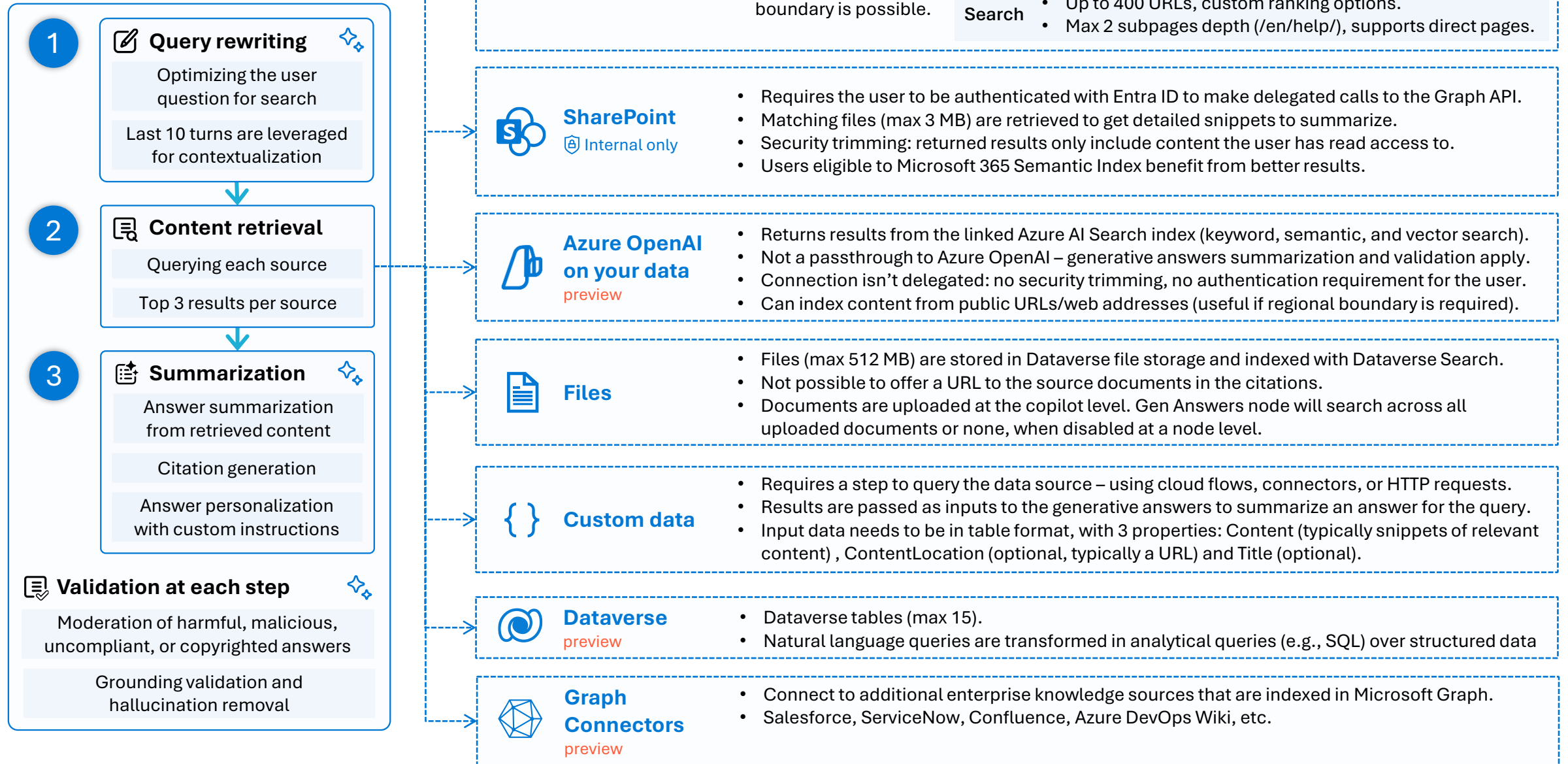Copilots can answer thousands of questions out of the box in seconds

You can even pull data from an API or other backend system and enable generative chat over it

Generally Available

Try now at aka.ms/CopilotStudioDemo

Knowledge sources & Generative AI

1 Query rewriting ✦

Optimizing the user question for search

Last 10 turns are leveraged for contextualization

2 Content retrieval

Querying each source

Top 3 results per source

3 Summarization ✦

Answer summarization from retrieved content

Citation generation

Answer personalization with custom instructions

Validation at each step ✦

Moderation of harmful, malicious, uncompliant, or copyrighted answers

Grounding validation and hallucination removal

Public data

| Public Website | • Max 2 subpages depth (/en/help/), no direct pages. |

- Websites must be indexed by Bing.
- Bing being a global service, no regional boundary is possible.

| Bing Custom Search | • One configuration ID, but it can be set using a formula.
• Azure costs covered by Microsoft
• Up to 400 URLs, custom ranking options.
• Max 2 subpages depth (/en/help/), supports direct pages. |

SharePoint
🔒 Internal only

- Requires the user to be authenticated with Entra ID to make delegated calls to the Graph API.
- Matching files (max 3 MB) are retrieved to get detailed snippets to summarize.
- Security trimming: returned results only include content the user has read access to.
- Users eligible to Microsoft 365 Semantic Index benefit from better results.

Azure OpenAI on your data
preview

- Returns results from the linked Azure AI Search index (keyword, semantic, and vector search).
- Not a passthrough to Azure OpenAI – generative answers summarization and validation apply.
- Connection isn't delegated: no security trimming, no authentication requirement for the user.
- Can index content from public URLs/web addresses (useful if regional boundary is required).

Files

- Files (max 512 MB) are stored in Dataverse file storage and indexed with Dataverse Search.
- Not possible to offer a URL to the source documents in the citations.
- Documents are uploaded at the copilot level. Gen Answers node will search across all uploaded documents or none, when disabled at a node level.

Custom data

- Requires a step to query the data source – using cloud flows, connectors, or HTTP requests.
- Results are passed as inputs to the generative answers to summarize an answer for the query.
- Input data needs to be in table format, with 3 properties: Content (typically snippets of relevant content) , ContentLocation (optional, typically a URL) and Title (optional).

Dataverse
preview

- Dataverse tables (max 15).
- Natural language queries are transformed in analytical queries (e.g., SQL) over structured data

Graph Connectors
preview

- Connect to additional enterprise knowledge sources that are indexed in Microsoft Graph.
- Salesforce, ServiceNow, Confluence, Azure DevOps Wiki, etc.

Generative AI security and compliance considerations

- The large language models (LLM) Copilot Studio depends upon are the foundation models trained by OpenAI.
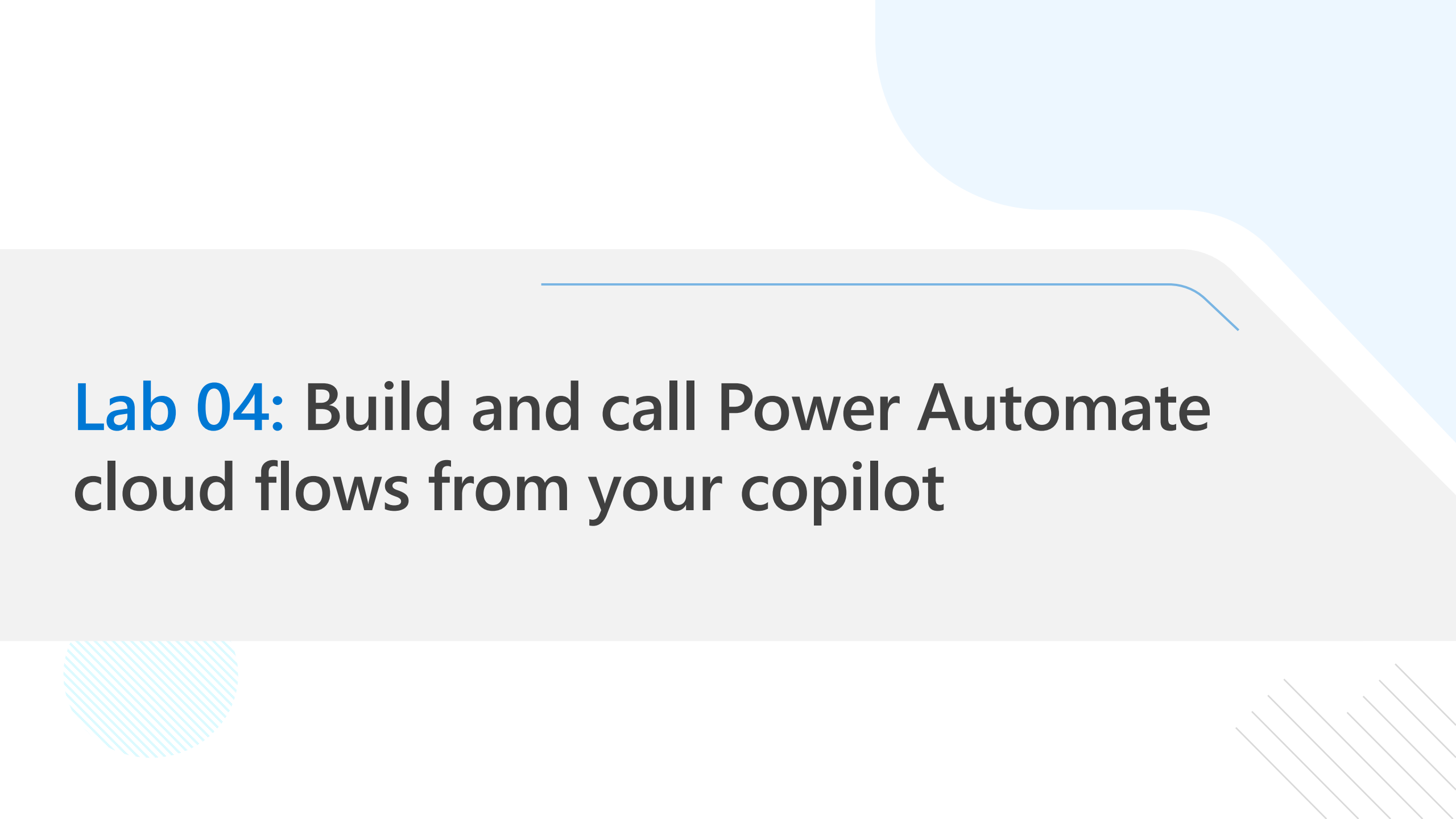
- Generative answers uses GPT-3.5 Turbo for summarization, but will soon be updated to GPT-4o as of Sep 2024.

- Models are hosted on internal Azure OpenAI services, honoring the Microsoft Services Trust boundary.

- Models are accessed and used following [Microsoft Responsible AI](#) principles and policies.

- [Custom instructions](#) can be added to generative answers to influence format and filters.

- [Data storage and processing](#) for Copilot Studio generative AI capabilities may result in data movement across regional boundaries. When local data storage and processing aren't available in the region, environment settings are available to disable features requiring Azure OpenAI or Bing Search, preventing data movement.

- Copilot Studio does not collect, nor provide any customer data, for use in the training of LLMs.

- For operations purposes only, conversations are stored temporarily in a service-operated and secured store so that authorized Microsoft employees via Secure Access Workstations (SAWs) with Just-In-Time (JIT) access requests may respond to support requests. Access can be controlled through [Customer Lockbox](#).

- Generative AI capabilities log additional troubleshooting data, but only when the thumbs up or down reactions are used by the copilot author in the Copilot Studio test pane.

- Given the existing control layers and to avoid further logging of customer data, [Azure OpenAI abuse monitoring](#) is disabled for Copilot Studio generative AI features.

Lab time!

Lab 03 [30] minutes

Lab 04: Build and call Power Automate cloud flows from your copilot

Demo Lab 4

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.

Just now

Help with my order

Help with my incident

Ask a question or describe what you need
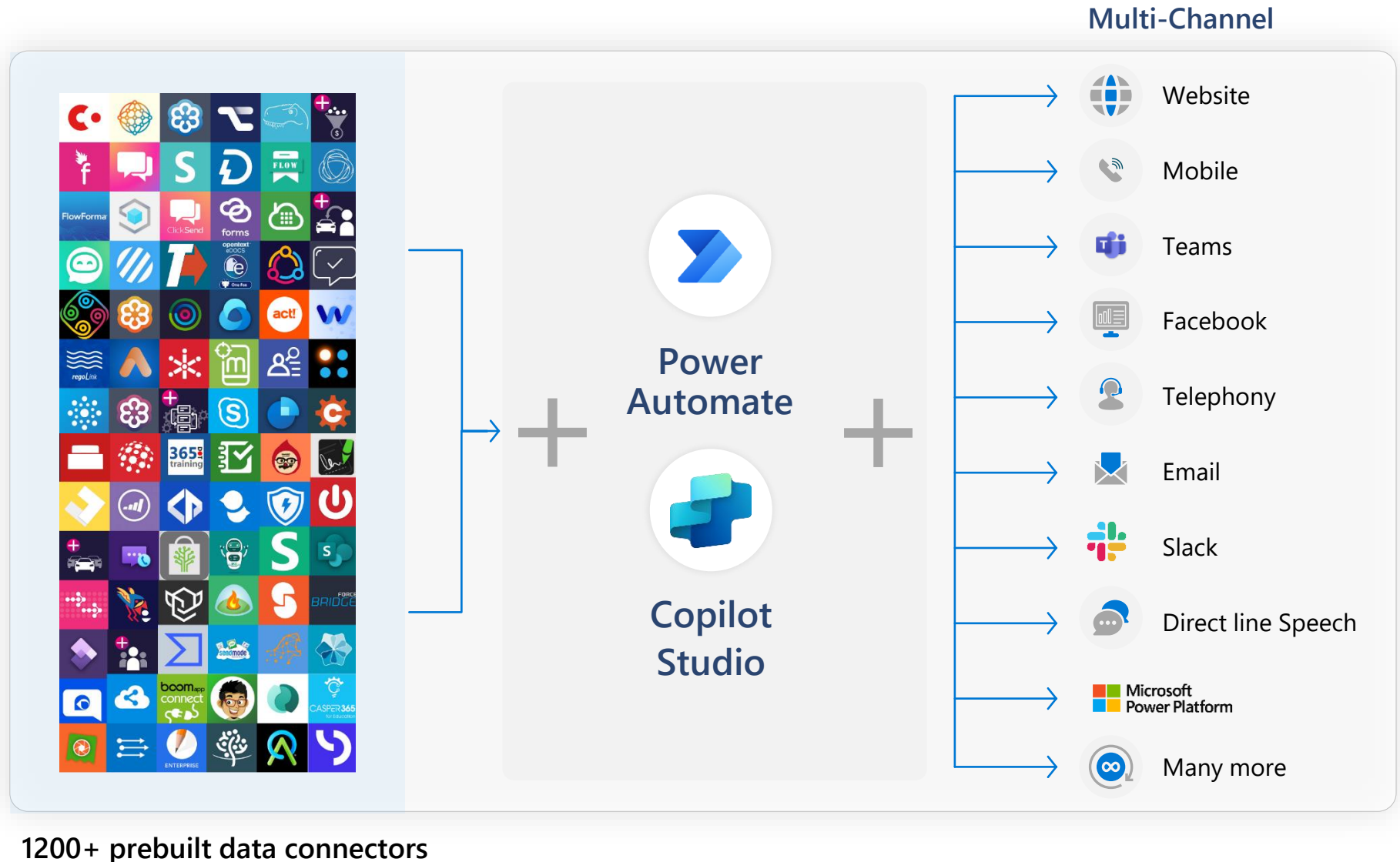
0/2000

Make sure AI-generated content is accurate and appropriate

19:38

Integration patterns considerations

	Power Automate Cloud flows	HTTP requests & Connectors	Bot Framework Skills
✓	- No-code / low-code. - Clear separation of integration and conversational logic. - Can be monitored separately. - Existing cloud flows can be updated to integrate with Copilot Studio.	- No-code / low-code. - Faster runtime execution. - Can be monitored as part of Copilot Studio App Insights integration. - Can leverage variables, including environment variables and secrets. - Variables, conditions, parameters, etc. can use Power Fx formulas. - Parsing and error handling support.	- Synchronous execution. - Support for private endpoints. - Existing Bot Framework investments can be reused.
✓	- Invocation and execution of the cloud flow can add latency. - If scale/performance are a concern, the higher-tier "Power Automate Process" plan can be evaluated. - "Power Automate Process" required for service principal ownership. - Need to return results within 100s.	- Mixing conversational logic and integration logic, but integration topics can be isolated, as they can be configured for inputs and outputs. - Need to return results within 100s.	- Pro-code (e.g., C#) - Runs in the Azure AI Bot Service. - Additional costs need to be covered by an Azure subscription. - ALM differs from Power Platform.

Power Platform Connectors

- Power Platform, including Power Automate and Copilot Studio, offers great integration capabilities, with more 1,200 native connectors or ways to create your own custom connectors to your APIs.

- For a good end-user experience, cloud flows, HTTP requests and connectors triggered from Copilot Studio must execute quickly so that the user doesn't have to wait too long for the copilot to answer.

Multi-Channel

1200+ prebuilt data connectors

Power Automate

Copilot Studio

- Website
- Mobile
- Teams
- Facebook
- Telephony
- Email
- Slack
- Direct line Speech
- Microsoft Power Platform
- Many more

Lab time!

Lab 04 [60] minutes

Lab 05: Invoke AI Builder prompts

Demo Lab 5

Test your copilot

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.

Help with my order

Help with my incident

Ask a question or describe what you need

0/2000

Make sure AI-generated content is accurate and appropriate before using. See terms

Lab time!

Lab 05 [25] minutes

Lab 06: Make HTTP requests to connect to an API

Demo Lab 6

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.

Help with my order   Help with my incident

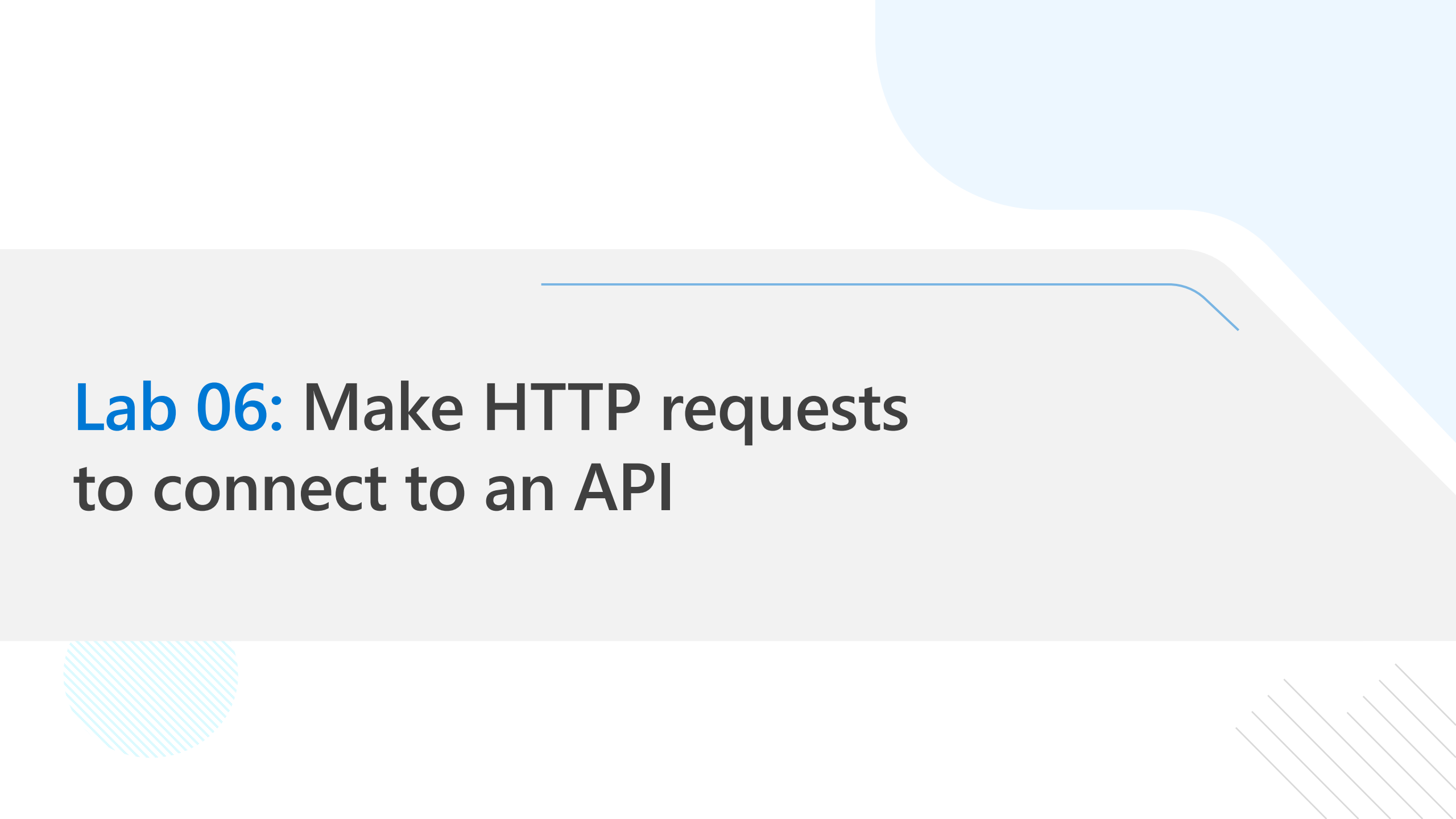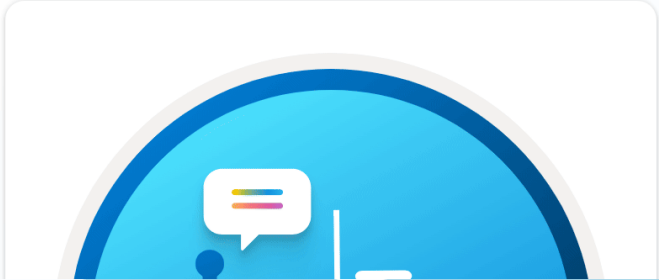Ask a question or describe what you need

0/2000

Make sure AI-generated content is accurate and appropriate before using. See terms

Lab time!

Lab 06 [20] minutes

Lab 07: Use generative AI orchestration to interact with your connectors

Demo Lab 7

Test your copilot

Hello, I'm Contoso Copilot, a virtual assistant. Just so you are aware, I sometimes use AI to answer your questions. If you provided a website during creation, try asking me about it! Next try giving me some more knowledge by setting up generative AI.

Help with my order | Help with my incident

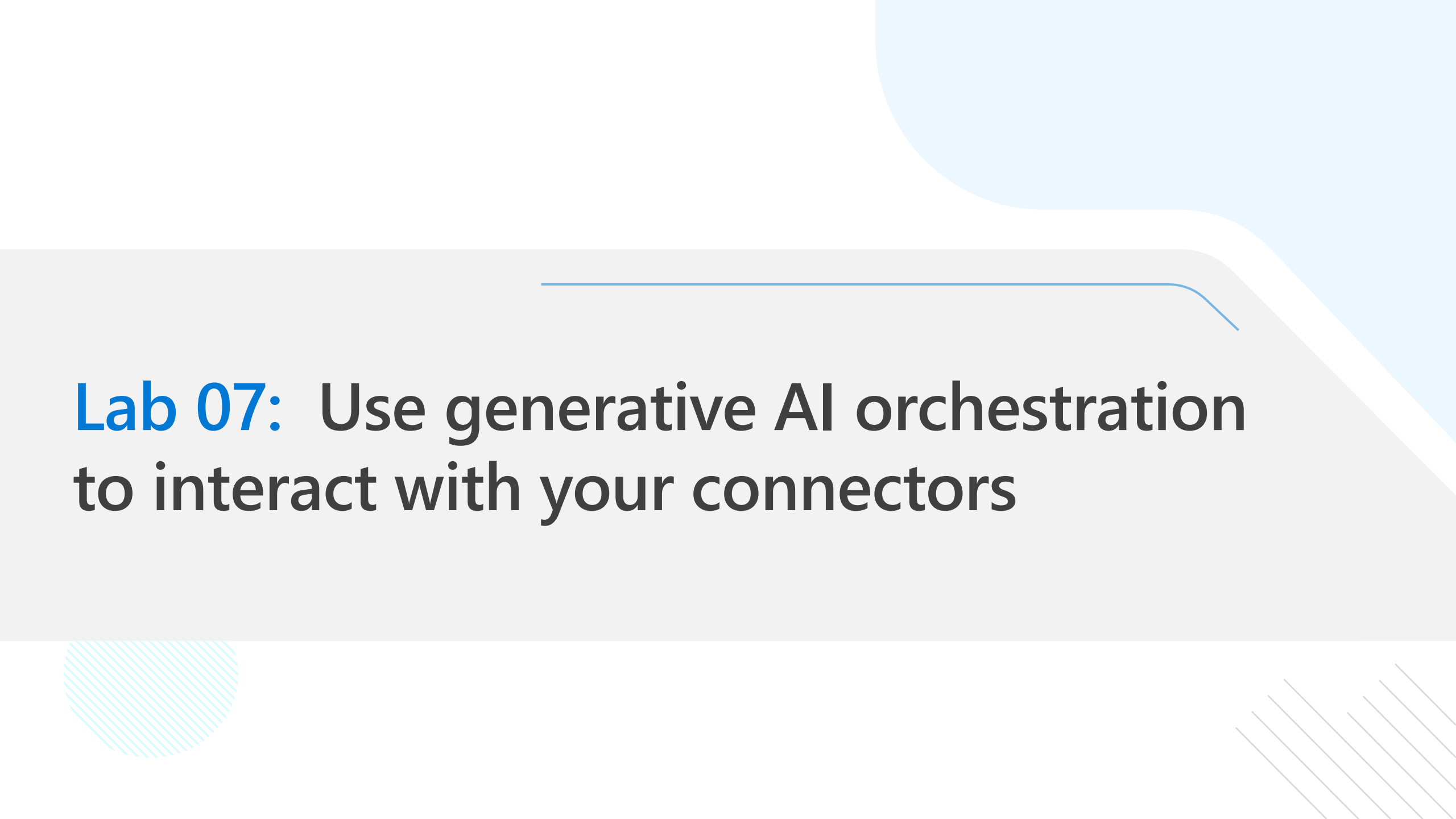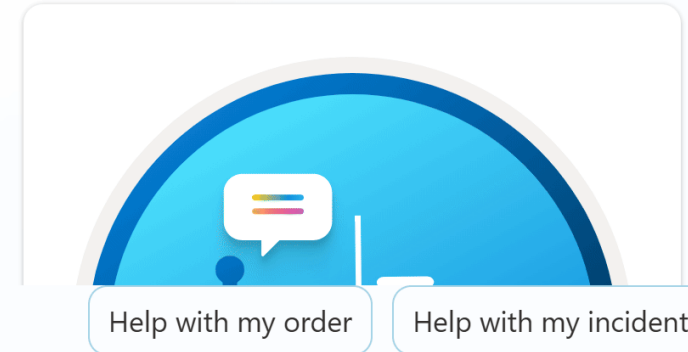Ask a question or describe what you need

0/2000

Make sure AI-generated content is accurate and appropriate before using. See terms

Generative AI orchestration
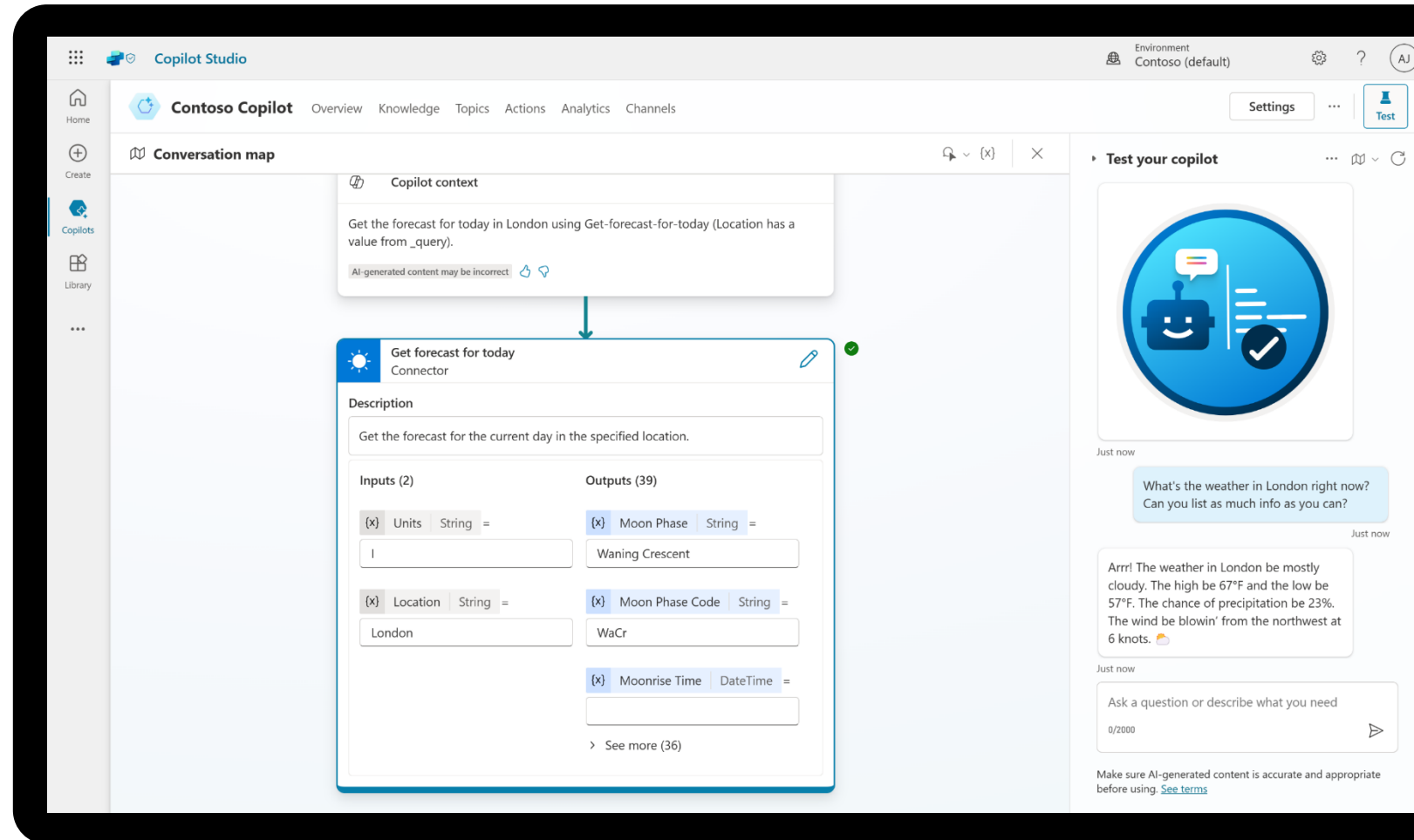
Test and trace feature to see it in action

Dynamically chains actions and topics together to produce actionable responses

Handle multi-intent queries that were not anticipated or built by the user

Automatically slot-fill further details to get the information needed for the task

Powered by the Azure OpenAI Service with LangChain concepts

Lab time!

Lab 07 [20] minutes

Lab 08: Using topic inputs

Lab time!

Lab 08 [15] minutes

Microsoft

Q&A

Resources

Resources

SCAN ME

Copilot Studio trial	aka.ms/TryCopilotStudio
Copilot Studio website	aka.ms/CopilotStudio
Official Blog	aka.ms/CopilotStudioBlog
Copilot Studio Demo	aka.ms/CopilotStudioDemo
Copilot Studio Kit	aka.ms/CopilotStudioKit
Product documentation	aka.ms/CopilotStudioDocs
Product guidance	aka.ms/CopilotStudioGuidance
Implementation guide	aka.ms/CopilotStudioImplementationGuide
Community	aka.ms/CopilotStudioCommunity