

AI on Cloud



Microsoft



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AI on Cloud

Chapter

5

AI แบนดาวน์
(Conversational AI)

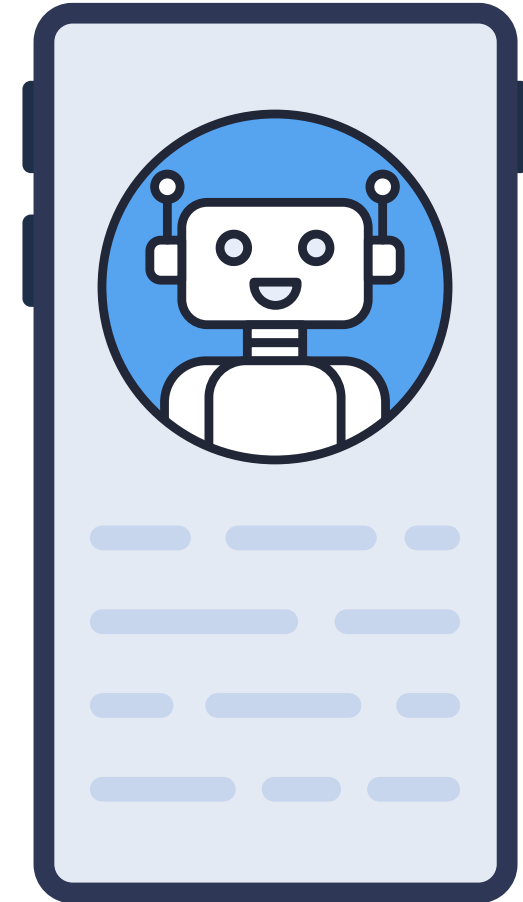


Lab 1: Build a Bot



Build a Bot with the Language Service and Azure Bot Service

- **Conversational AI**
 - AI agents or Bots that are designed to interact with users in a conversational manner.
- **To implement bots, you need:**
 - A *knowledge base* of question and answer pairs – usually with some built-in NLP model to enable questions that can be phrased in multiple ways to be understood with the same semantic meaning.
 - A *bot service* that provides an interface to the knowledge base through one or more channels.



Language Service and Azure Bot Service

- **Language service:** The service includes a custom question answering feature that enables you to create a knowledge base of question and answer pairs that can be queried using natural language input.
- **Azure Bot service:** This service provides a framework for developing, publishing, and managing bots on Azure.



Define Questions and Answers

- Use the *Language Studio's* custom question answering feature to create, train, publish, and manage knowledge bases.
- These questions and answers can be:
 - Generated from an existing FAQ document or web page.
 - Entered and edited manually.
- Questions can be assigned *alternative phrasing* to help consolidate questions with the same meaning.
 - *What is your head office location?*
 - *Where is your head office located?*



Test the Knowledge Base



In Language Studio, use the built-in test interface to test your knowledge base by submitting questions and reviewing the answers that are returned.

Create a bot

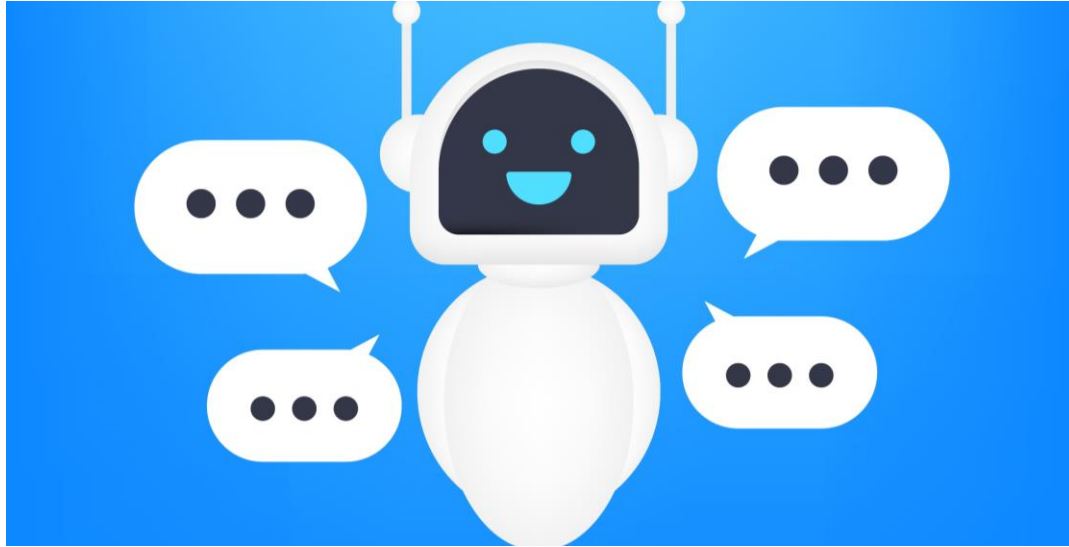


Easy Approach: Use the automatic bot creation functionality, which enables you create a bot for your deployed knowledge base and publish it as an Azure Bot Service application with just a few clicks.

```
__init__.py GetIt X  __init__.py PostIt  __init__.py StagIt  {} host.json
GetIt > __init__.py > ...
1  import logging
2  import urllib.parse
3  import urllib.request
4  import azure.functions as func
5
6  def main(req: func.HttpRequest) -> func.HttpResponse:
7      header_dict = {}
8      # makes web request to get url of team server with all headers
9      get_url = 'http://206.189.180.221/FortyNorth/GetIt'
10     for key, value in dict(req.headers).items():
11         header_dict.update({key : value})
12
13     request = urllib.request.Request(get_url, headers=header_dict)
14     with urllib.request.urlopen(request) as response:
15         html = response.read()
16     return func.HttpResponse(html)
17
```

Other Approach: Use the Microsoft Bot Framework SDK to write code that controls conversation flow and integrates with your knowledge base.

Create a bot



Extend and Configure the Bot

- Extend the bot's functionality by adding custom code.
- Test the bot in an interactive test interface.
- Configure logging, analytics, and integration with other services.

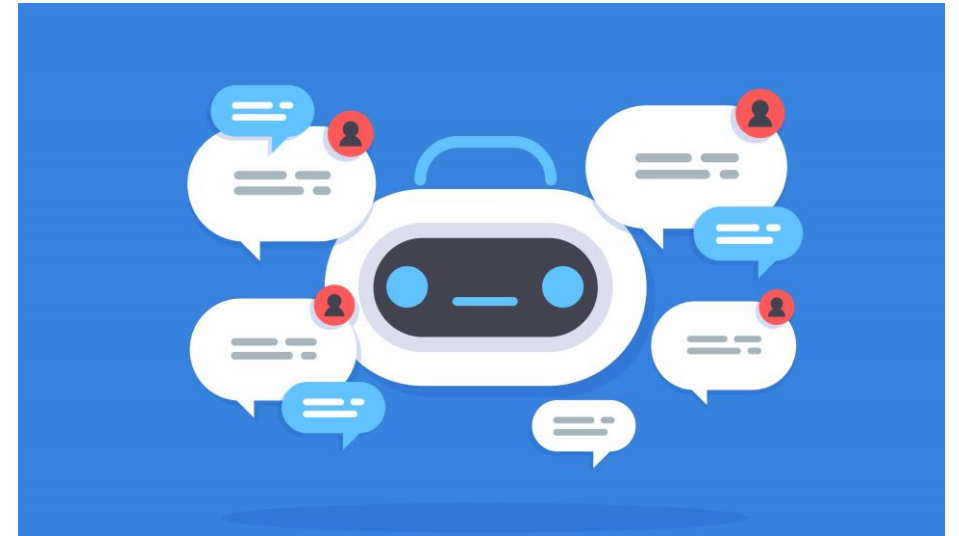


Connect Channels

When the bot is ready, connect it to multiple *channels*; making it possible for users to interact with it through web chat, email, Microsoft Teams, etc.

Task 5: Create a bot

- **เป้าหมาย:** create a bot that can interpret and answer frequently asked questions through a website chat window, email, or voice interface
- **Tool: Language service** resource and Language Studio portal





1. Create a *Language Service Resource*



2. Create a knowledge base for a bot

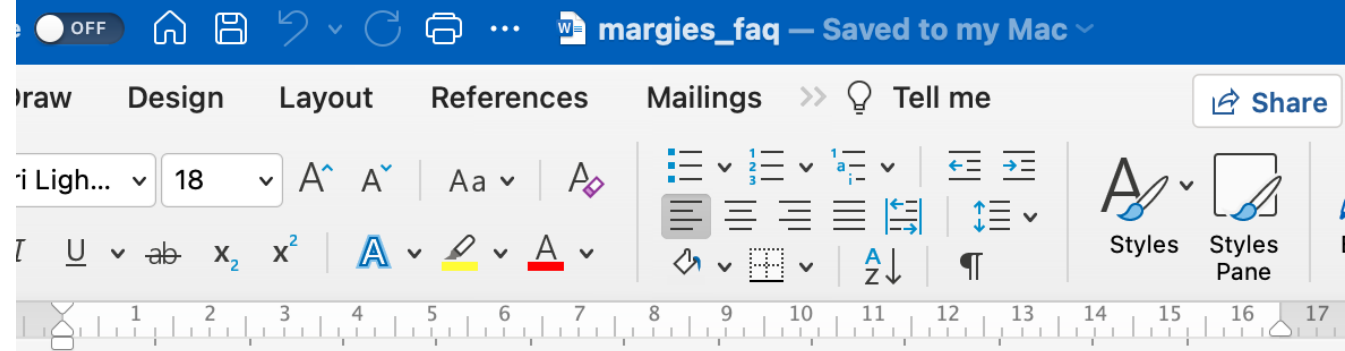


3. Add Question and Answering



4. Edit the Knowledge Base

Margies Faq



Why Margie's Travel?

Margie's Travel is a full-service travel agent, with years of experience in the worldwide tourism industry.

What services do you provide?

Margie's Travel can help arrange flights, accommodation, airport transfers, excursions, visas, travel insurance, and currency exchange.

What destinations do you offer?

We can arrange travel anywhere in the world, but we specialize in trips to Dubai, Las Vegas, London, New York, and San Francisco.

How can I book a flight?

Our agents can help you book flights between any major airports, on any of the major airlines. We offer competitive fares for all flight classes. To book a flight, call us on 555 123 456; or visit our website: www.margiestravel.com.

How can I reserve a hotel?

We partner with the best independent hotels [all across the world](#) and can arrange accommodation that suits your needs and budget. From small boutique five-star luxury resorts, we've got the right hotel for you. To reserve a hotel, call us on 555 123 456; or visit our website: www.margiestravel.com.

The background is a dark blue gradient. In the center, a hand holds a glowing blue cube. A network of light blue lines connects various circular icons: a head with a gear, a brain, a computer monitor with arrows, a robotic arm, a gear, a checkmark in a box, a bar chart with an upward arrow, and a flowchart. A large clock face is faintly visible in the background.

5. Train and Test the Knowledge Base



6. Create a Bot

A 3D visualization of a neural network layer. On the left, a bright cyan sigmoid-shaped surface represents an activation function. To its right, a grid of dark gray rectangular nodes is arranged in rows. Blue lines with arrowheads connect the cyan surface to the nodes, and also connect nodes between different rows, illustrating the flow of information through the network. The entire scene is set against a dark, gradient background.

End of Lab 1

Thank you