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QnA Maker

Web application that provides a Covid-19 Chatbot using Azure QnA Maker

**Azure**

The Azure cloud platform is more than 200 products and cloud services designed to help you bring new solutions to life—to solve today’s challenges and create the future. Build, run, and manage applications across multiple clouds, on-premises, and at the edge, with the tools and frameworks of your choice.

**QnA**

QNA stands for "Question and Answer."

**Azure QnA maker**

QnA Maker is commonly used to build conversational client applications, which include social media applications, chat bots, and speech-enabled desktop applications.

QnA Maker is a cloud-based Natural Language Processing (NLP) service that allows you to create a natural conversational layer over your data. It is used to find the most appropriate answer for any input from your custom knowledge base (KB) of information.

**When to use QnA Maker**

* When you have static information - Use QnA Maker when you have static information in your knowledge base of answers. This knowledge base is custom to your needs, which you've built with documents such as PDFs and **URLs**.
* When you want to provide the same answer to a request, question, or command - when different users submit the same question, the same answer is returned.
* When you want to filter static information based on meta-information - add metadata tags to provide additional filtering options relevant to your client application's users and the information. Common metadata information includes chit-chat, content type or format, content purpose, and content freshness.
* When you want to manage a bot conversation that includes static information - your knowledge base takes a user's conversational text or command and answers it. If the answer is part of a pre-determined conversation flow, represented in your knowledge base with multi-turn context, the bot can easily provide this flow.

**What is a knowledge base?**

QnA Maker imports your content into a knowledge base of question-and-answer pairs. The import process extracts information about the relationship between the parts of your structured and semi-structured content to imply relationships between the question-and-answer pairs. You can edit these question-and-answer pairs or add new pairs.

The content of the question-and-answer pair includes:

* All the alternate forms of the question
* Metadata tags used to filter answer choices during the search
* Follow-up prompts to continue the search refinement

**Build low code chat bots**

The QnA Maker portal provides the complete knowledge base authoring experience. You can import documents, in their current form, to your knowledge base. These documents (such as an FAQ, product manual, spreadsheet, or web page) are converted into question and answer pairs. Each pair is analyzed for follow-up prompts and connected to other pairs. The final markdown format supports rich presentation including images and links.

Once your knowledge base is edited, publish the knowledge base to a working Azure Web App bot without writing any code. Test your bot in the Azure portal or download it and continue development.

**High quality responses with layered ranking**

QnA Maker's system is a layered ranking approach. The data is stored in Azure search, which also serves as the first ranking layer. The top results from Azure search are then passed through QnA Maker's NLP re-ranking model to produce the final results and confidence score.

After the knowledge base receives questions from users at the published endpoint, QnA Maker applies active learning to these real-world questions to suggest changes to your knowledge base to improve the quality.

**Steps to follow in order to create a Web application that provides a Covid-19 Chatbot using Azure QnA Maker:**

**Step 1**: Create QnA maker Service:

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**Step 2**: Connect the QnA maker Service to a Knowledge Base (KB):

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**Step 3**: Populate, add questions and answers (if needed), and test the Knowledge Base (KB):

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**Step 4**: Publish the Knowledge Base (KB):

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**Step 5**: Create a UI for the bot where the QnA service populated with the KB will be applied to.

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**Step 6**: Use the embedded code and the secret keys of the created Web chat bot in order to use it in the desired application.

In this project I created a simple web application, using visual studio.

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**References:**

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