



AZ-300T06

Module 02: Developing Azure Cognitive Services Solutions

Subtitle or speaker name



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Module 02: Developing Azure Cognitive Services Solutions

Lesson 01: Cognitive Services Overview

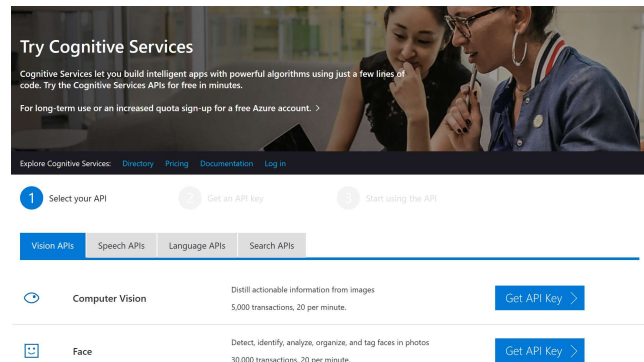


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About Cognitive Services

A set of APIs, SDKs and Azure services that:

- **Simplify development of apps that are intelligent, engaging, and discoverable.**
- **Facilitate features such as:**
 - **emotion and video detection**
 - **facial, speech and vision recognition**
 - **speech and language understanding**



Free Trial (<https://azure.microsoft.com/en-us/try/cognitive-services>)

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Lesson 02: Develop Solutions using Computer Vision



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Bing Web Search API overview

Provides an experience similar to Bing.com/search:

- Returns search results that Bing determines are relevant to the user's query
- Web pages, images, videos, and news, along with related search queries, spelling corrections, time zones, unit conversion, translations, and calculations.
- Generates a SearchResponse object containing a collection of answers:
 - Webpages
 - Images
 - Related searches
 - Videos
 - News
 - Computation
 - TimeZone

```
{
  "_type": "SearchResponse",
  "queryContext": {...},
  "webPages": {...},
  "images": {...},
  "relatedSearches": {...},
  "videos": {...},
  "news": {...},
  "spellSuggestion": {...},
  "computation": {...},
  "timeZone": {...},
  "rankingResponse": {...}
}, ...
```

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Lesson 04: Develop Solutions using Custom Speech Service



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Custom Speech Service Overview

A cloud-based service that provides the ability to customize speech models for Speech-to-Text transcription:

- **Contains two statistical models learned from training data:**
 - The acoustic model is a classifier that labels short fragments of audio into one of a number of phonemes, or sound units, in a given language.
 - The language model is a probability distribution over sequences of words. It helps the system decide among sequences of words that sound similar, based on the likelihood of the word sequences themselves.
- **Allows creating customized language and acoustic models:**
 - Facilitates application that deal with uncommon vocabulary items, such as product names or jargon

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Lesson 05: Develop Solutions using QnA Maker

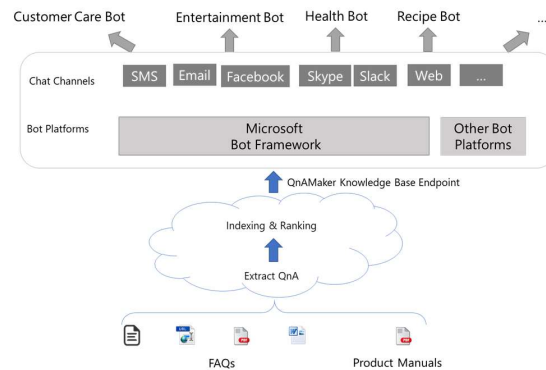


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QnA Maker overview

QnA Maker helps building question and answer services from semi-structured content like FAQ documents, URLs, or product manuals:

- **Offers easy-to-use graphical interface**
- **Does not require development skills**



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Lesson 06: Working with the Azure IoT Hub



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Azure IoT Hub overview

A managed service that operates as a message hub for bi-directional communication between IoT application and the devices it manages:

- **Scales to millions of IoT devices**
- **Supports multiple messaging patterns such as:**
 - device-to-cloud telemetry
 - file upload from devices
 - request-reply methods
- **Secures communication channel for devices to send data**
- **Routes device data**
- **Integrates with a number of other Azure services**
- **Facilitates configuring and controlling IoT devices**

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