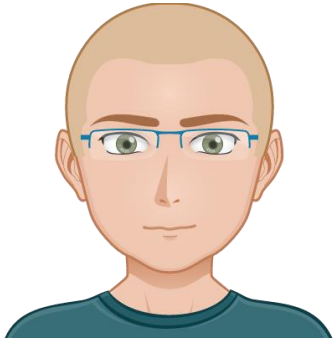
Azure Cognitive Services in Delphi

Marco Breveglieri



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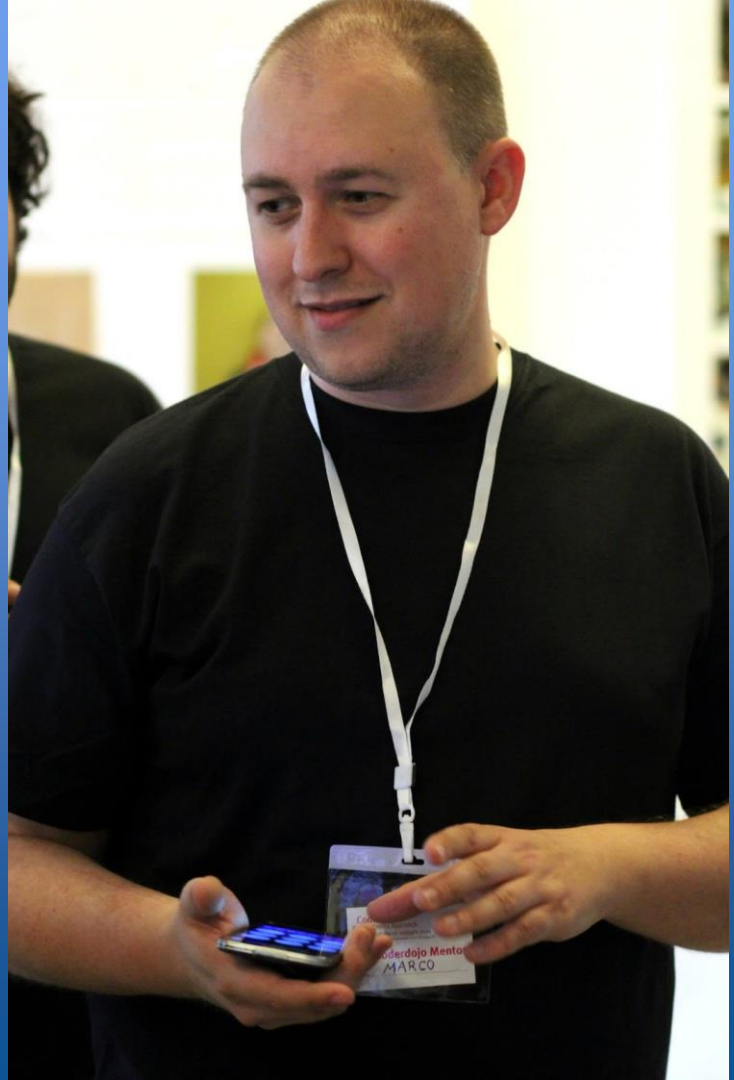

Siti e Social

https://www.breveglieri.it

https://www.twitch.tv/compilaquindiva

https://bit.ly/yt-compilaquindiva

https://www.compilaquindiva.com/

https://www.delphipodcast.com/

https://www.linkedin.com/in/marcobreveglieri/

https://twitter.com/mbreveglieri

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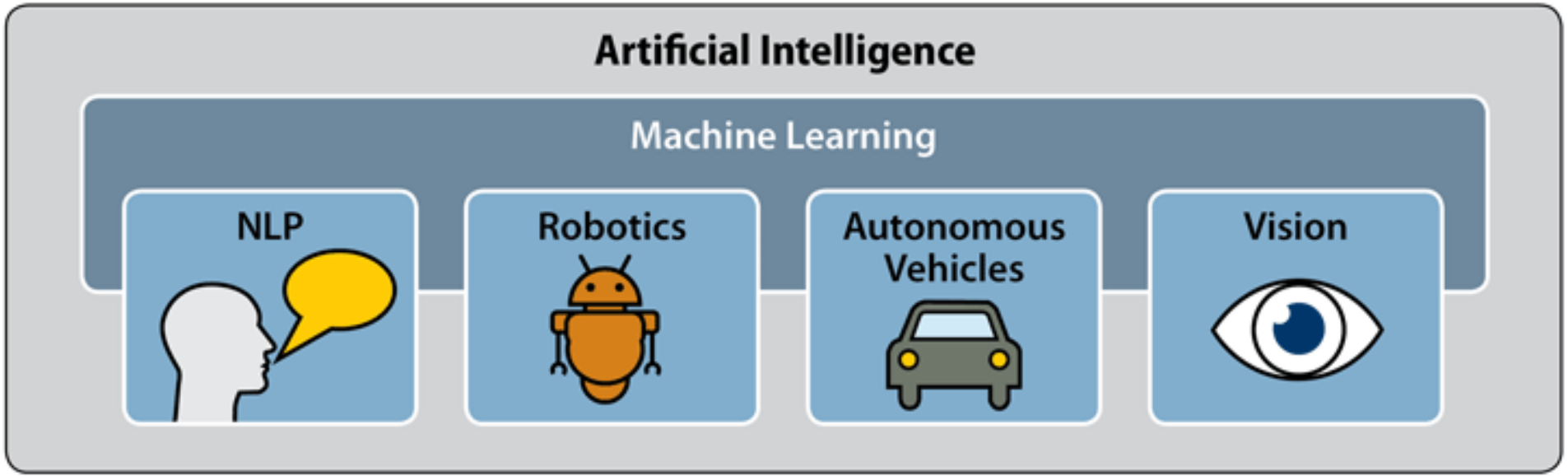
begin

AI is here!


Artificial Intelligence
Machine Learning
NLP
Robotics
Autonomous Vehicles
Vision

Machine Learning?

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Come si implementa

JS

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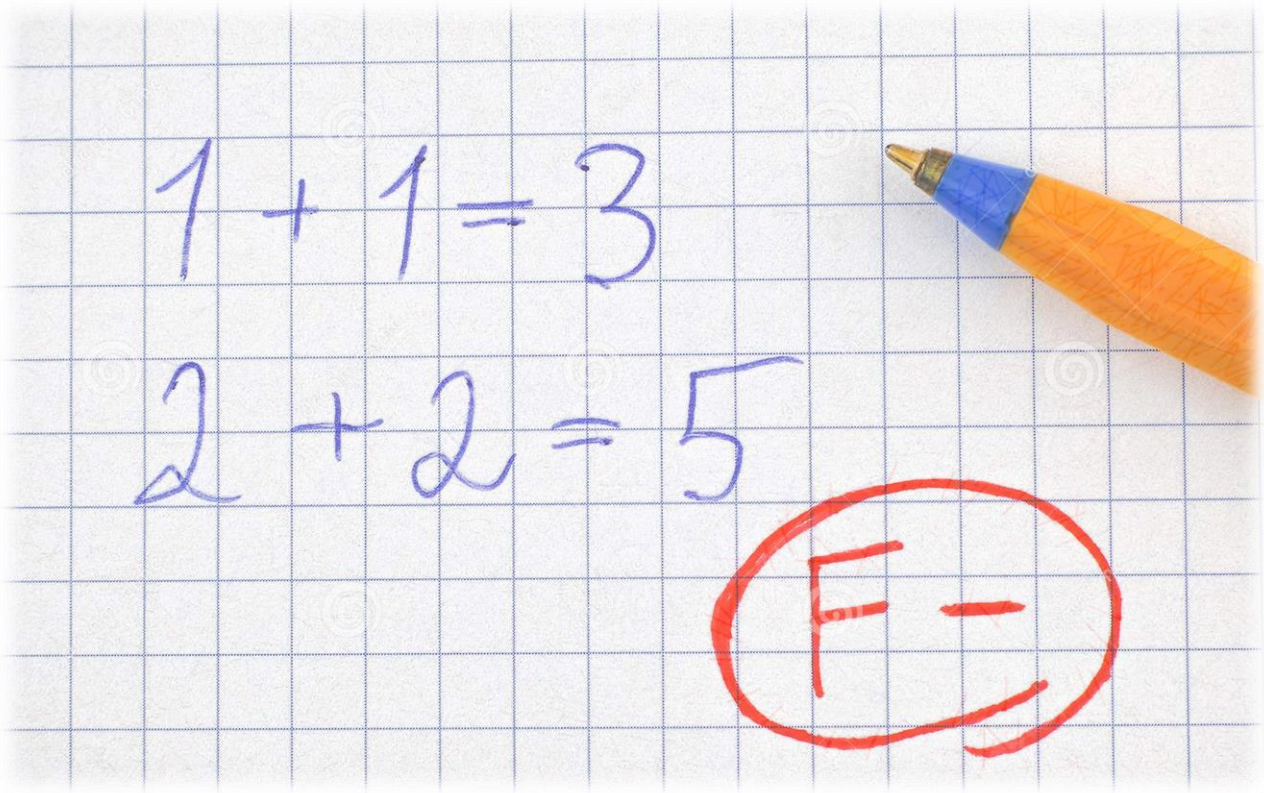
Hai le conoscenze?



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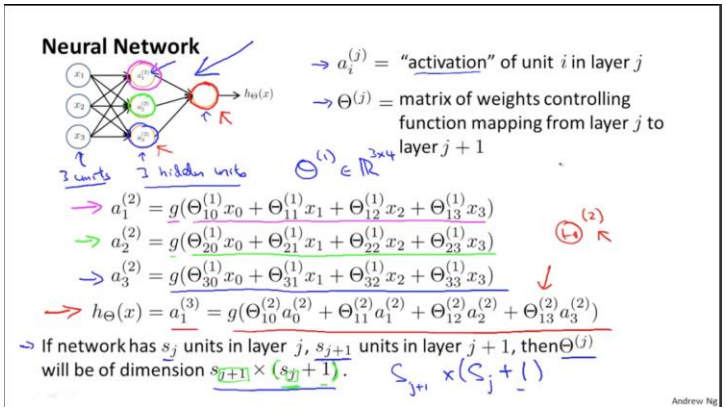
Not so easy...

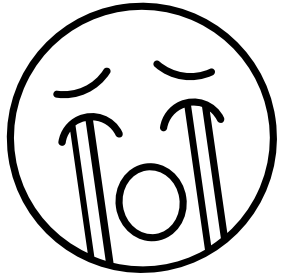
TensorFlow

```
model = keras.Sequential([
    keras.layers.Reshape(target_shape=(28 * 28,), input_shape=(28, 28)),
    keras.layers.Dense(units=256, activation='relu'),
    keras.layers.Dense(units=192, activation='relu'),
    keras.layers.Dense(units=128, activation='relu'),
    keras.layers.Dense(units=10, activation='softmax')
])
```




```
model.compile(optimizer='adam',
              loss=tf.losses.CategoricalCrossentropy(from_logits=True),
              metrics=['accuracy'])

history = model.fit(
    train_dataset.repeat(),
    epochs=10,
    steps_per_epoch=500,
    validation_data=val_dataset.repeat(),
    validation_steps=2
)
```



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Una possibile soluzione

AGENDA

- ➔ Breve introduzione a Microsoft Azure
- ➔ Creare un account per utilizzare Azure
- ➔ Impostare le risorse dei Cognitive Services
- ➔ Panoramica dei servizi esposti dalla piattaforma
- ➔ Esempi di invocazione API usando Delphi

Microsoft Azure

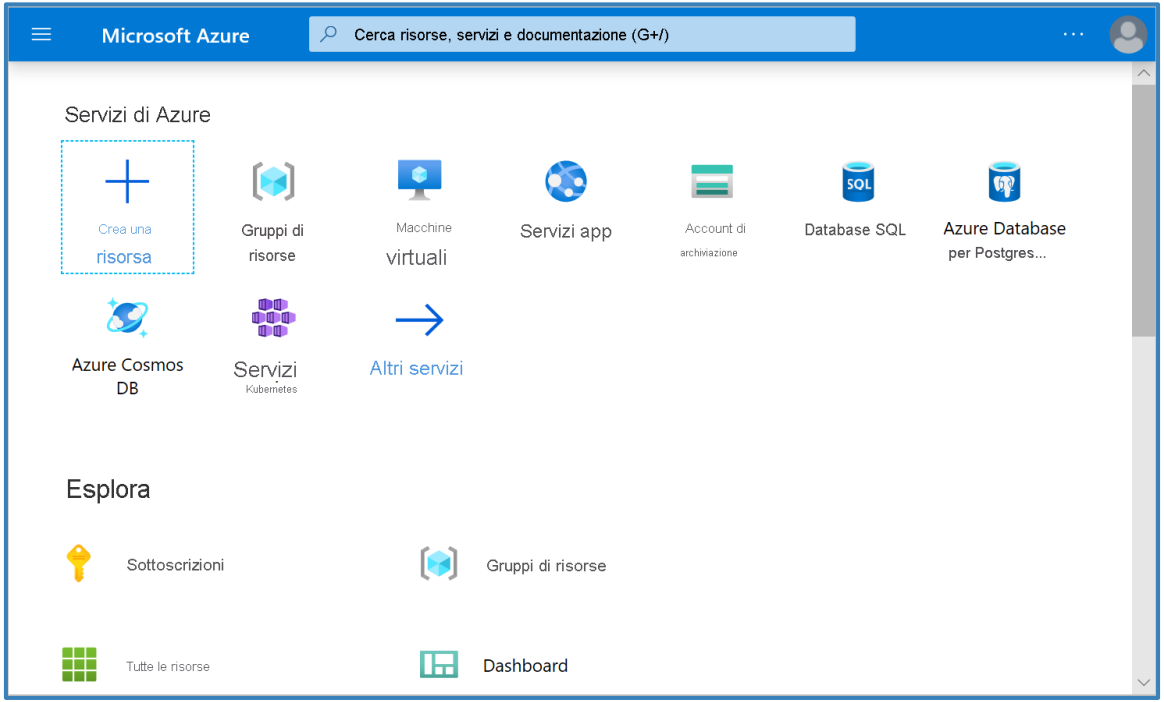
Cloud Computing

- ➔ Distribuzione di servizi informatici su Internet (Cloud)
- ➔ Vanta innovazione più rapida e risorse flessibili
- ➔ Consente di fare economie di scala
  - ➔ Si abbassano i costi operativi
  - ➔ L'infrastruttura è gestita in modo più efficiente
  - ➔ Le risorse sono dimensionate in base alle esigenze
- ➔ Logica a consumo: si noleggia banda, potenza di calcolo, spazio di archiviazione, fatturato per l'uso effettivo, restituito al sistema a fine impiego

Microsoft Azure

- ➔ Piattaforma di Cloud Computing di Redmond
- ➔ Comprende un set di servizi in continua espansione (più di 100!)
  - ➔ Servizi di esecuzione per applicazioni Web
  - ➔ Macchine virtuali, container, funzioni serverless
  - ➔ Soluzioni di storage (archiviazione remota, hosting di database)
  - ➔ Gestione centralizzata degli account
  - ➔ Nuove tecnologie: AI, Machine Learning e IoT

Azure Portal



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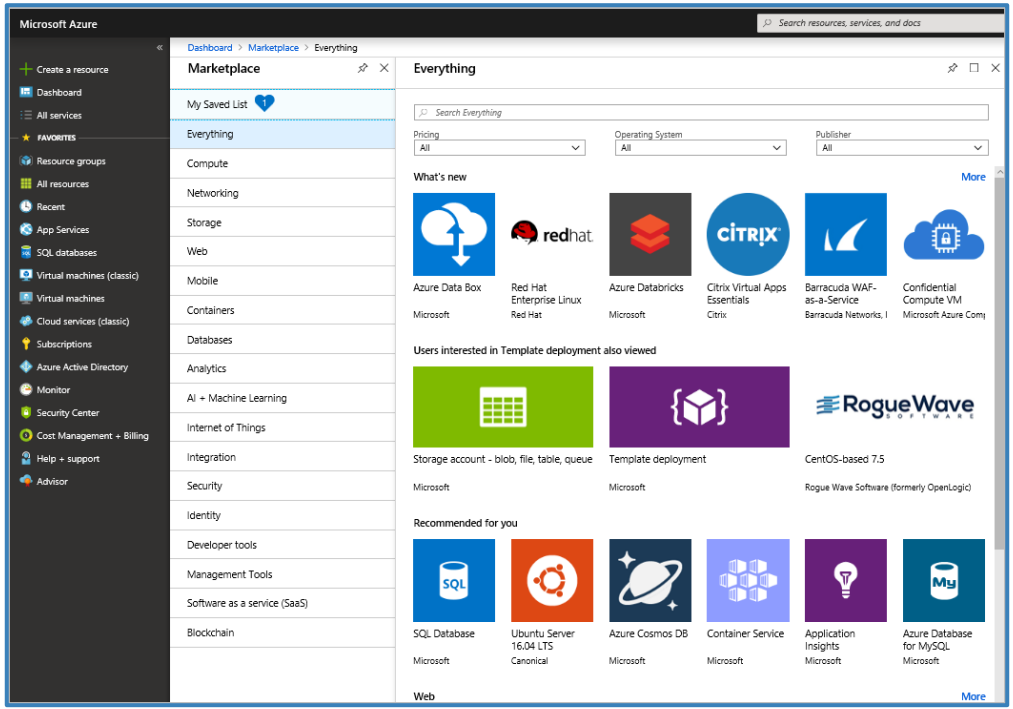
Azure Marketplace



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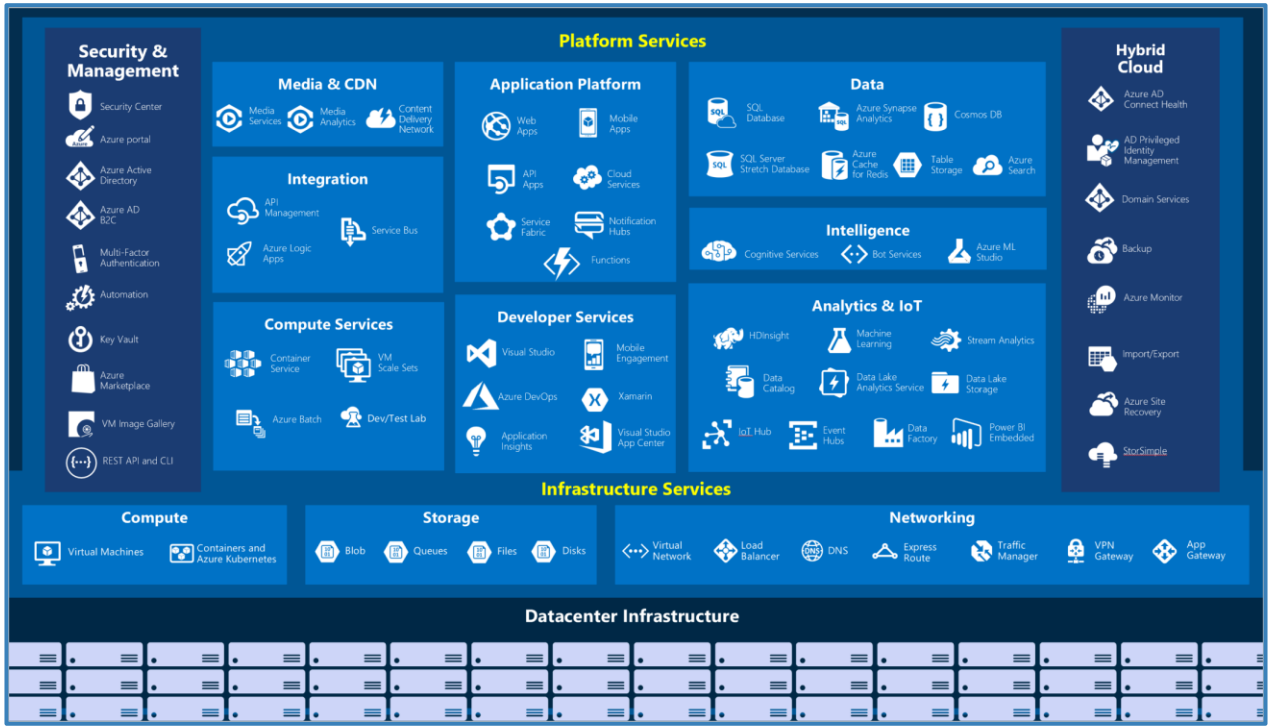
Azure Services



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Azure Services

Dispositivi mobili

Internet delle Cose

Web

AI

Big Data

Machine Learning

Networking

DevOps

Database

Storage

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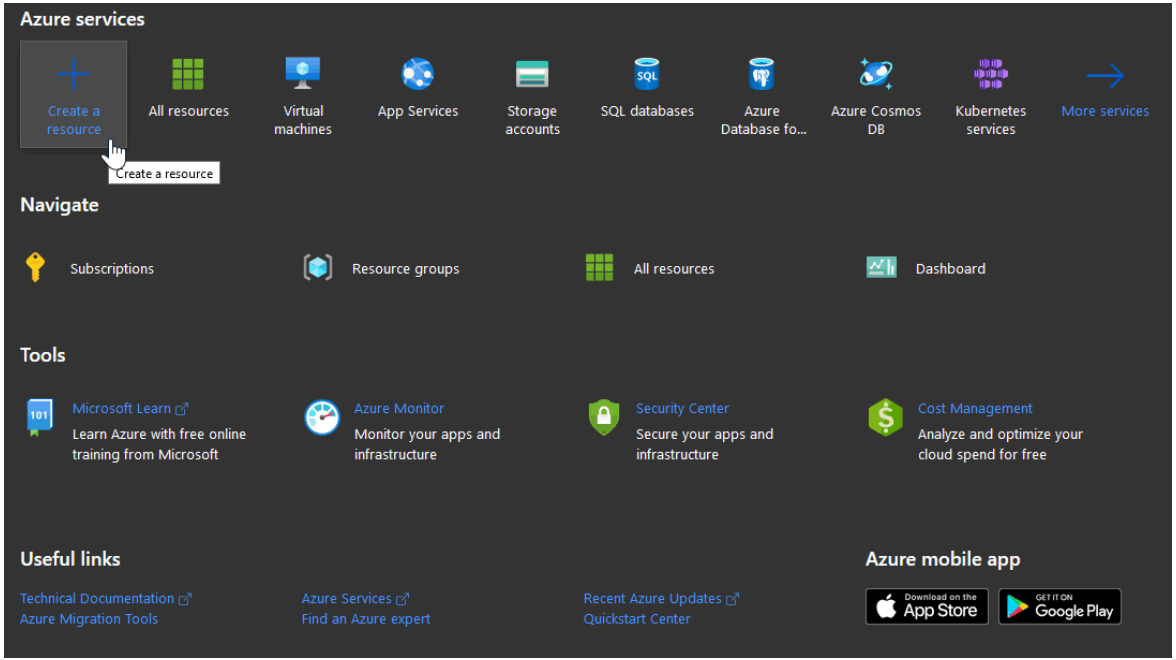
Cognitive Services

Creare un account

- ➔ Occorre creare un account Azure per usare i servizi
  - ➔ E' possibile creare un account gratuito di prova
- ➔ Caratteristiche dell'account gratuito
  - ➔ Accesso a prodotti e servizi per 12 mesi
  - ➔ Credito iniziale da spendere nei primi 30 giorni
  - ➔ Accesso a servizi (più di 25!) sempre gratuiti

Creare la risorsa /1



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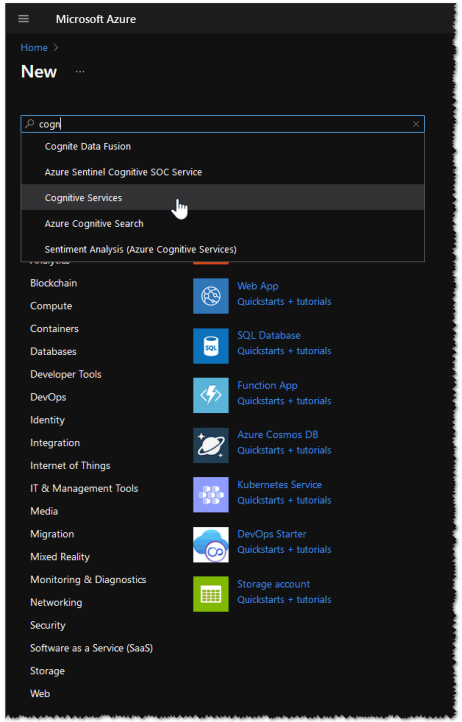
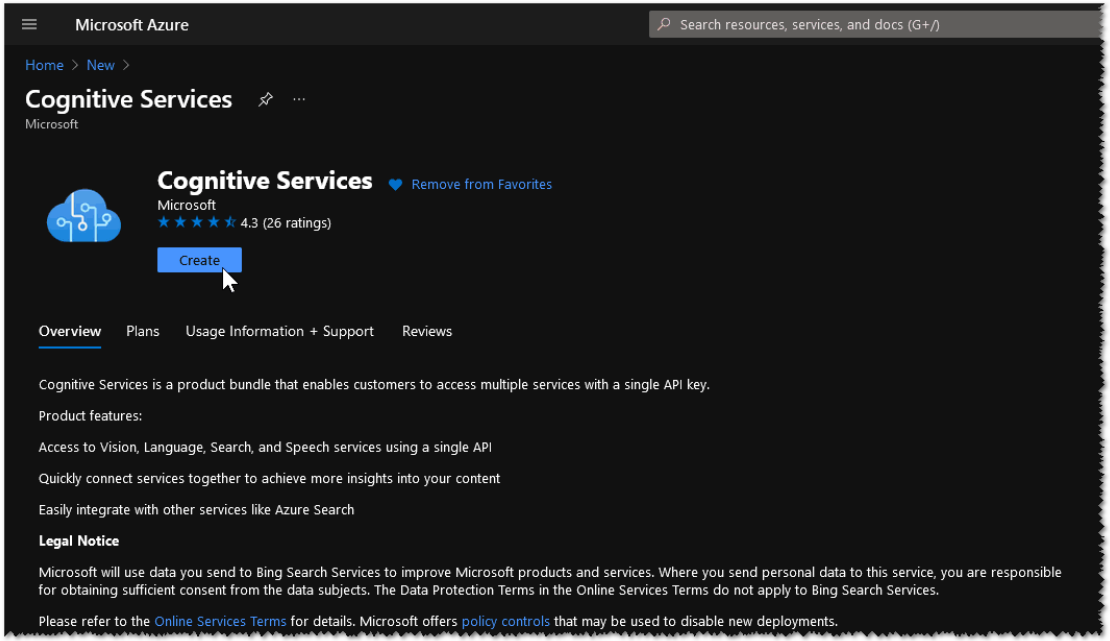
Creare la risorsa /2





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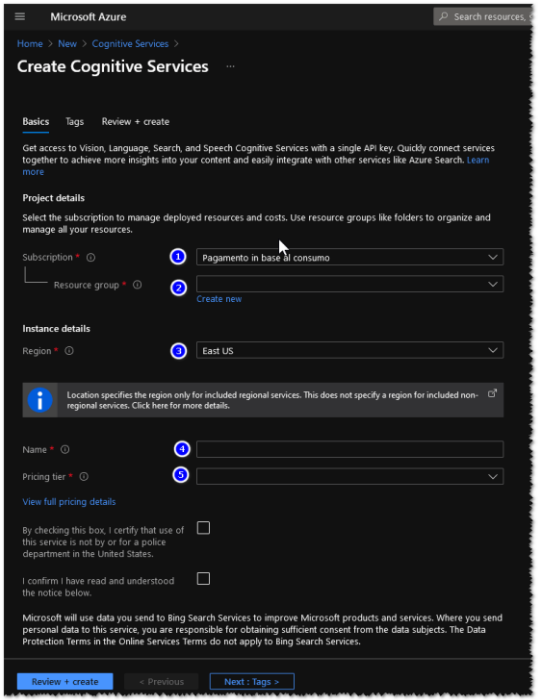
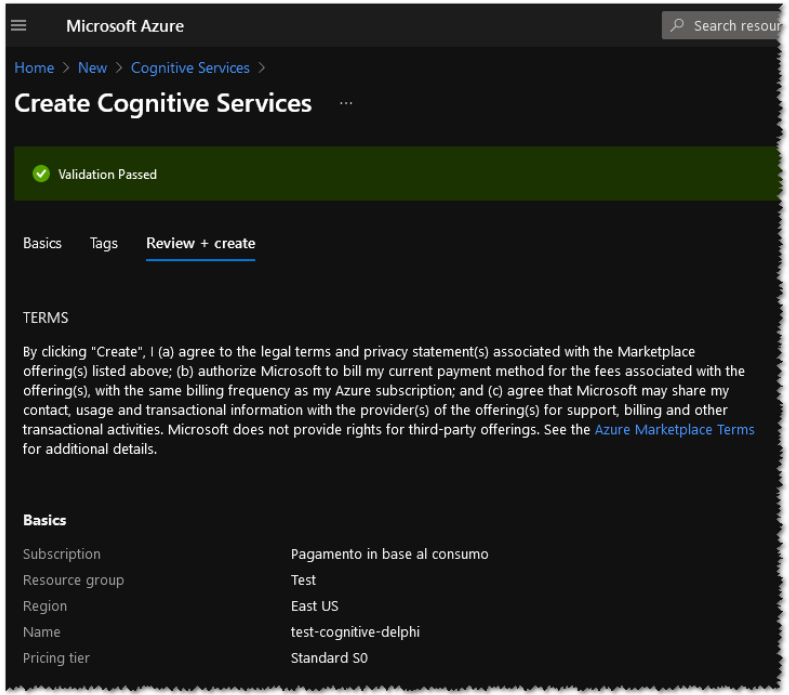
Configurare i servizi





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Guida e documentazione

You are all set! Follow the steps below to use your Cognitive Service resource

Use the same key and endpoint in any of the services listed below

1

Grab your keys and endpoint

Every call to Cognitive Services requires the subscription key above. This key needs to be either passed through

2

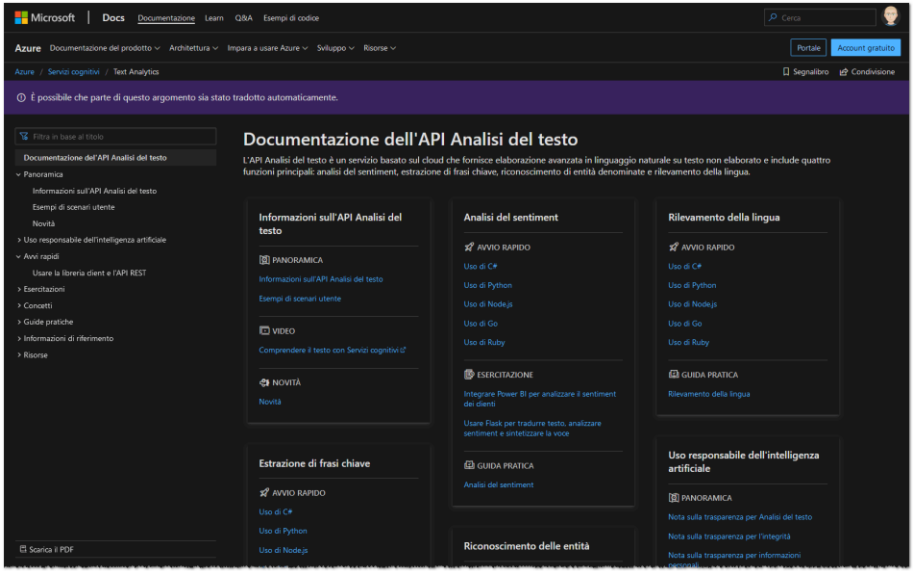
Get an overview of what you can do with the Cognitive Services

Documentation - Access Quickstarts with code samples, in-depth tutorials and how-to guides
Courses - Explore the free Cognitive Services courses in Microsoft Learn
Community - Ask and answer questions within a community of developers using the Cognitive Services

3

Get Started with the Cognitive Services

Cognitive Services available to use with your key and endpoint.
Computer Vision - Analyze images
Content Moderator - Check text, image or videos for offensive or undesirable content
Face - Recognize people and their attributes in an image
Form Recognizer - Identify and extract text, key/value pairs and table data from form documents
Personalizer - Create rich, personalized experiences for every user of your app.
Language Understanding - Extract meaning from natural language
Speech - Transform speech-to-text, text-to-speech and recognize speakers
Text Analytics - Detect sentiment, key phrases, entities and human language type in text
Translator - Translate text in near real-time
Video Indexer - Analyze video and audio



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Panoramica dei servizi

Integrazione con Delphi

Cloud API

Data.Cloud.AzureAPI

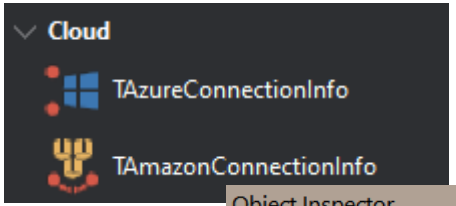
Up to Parent: Data.Cloud

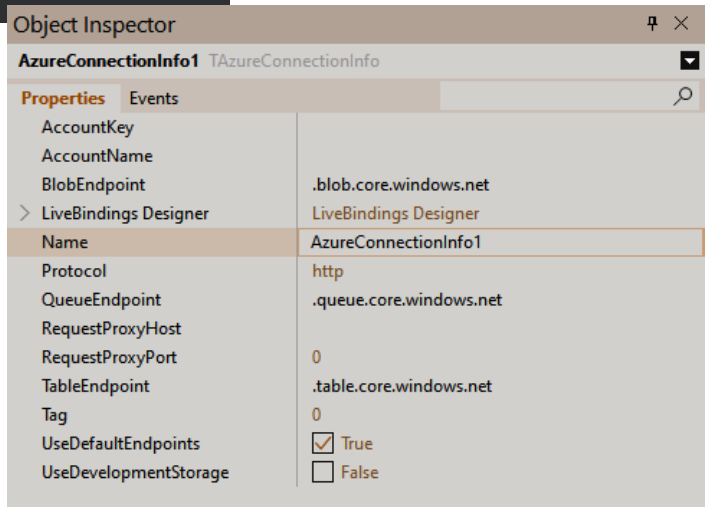
Contains classes that implement the API for using Microsoft Azure services.

Package	CloudService270.bpl

Classes

ISignedIdentifier	
TAzureAuthentication	Azure-specific implementation of `TCloudSHA256Authentication`.
TAzureBlob	Blob of any supported type, with its common features.
TAzureBlobService	Manager class for the Microsoft Azure Blob Service account.
TAzureConnectionInfo	Azure extension of `TCloudConnectionInfo`.
TAzureContainer	Represents a container for the Microsoft Azure Blob Service.
TAzureQueueService	Manager class for a Microsoft Azure Table Service account.
TAzureService	Abstract extension of the `TCloudService` class.
TAzureTableService	Implementation of TAzureService.
TBlobPolicy	Represents an access policy for a blob container.
TPolicy	Base class for classes that represent an access policy.
TQueuePolicy	Represents an access policy for a queue.
TSignedIdentifier	Represents an access policy and the signed identifier that uniquely identifies that policy.
TTablePolicy	Represents an access policy for a table.





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Demos!

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end.

THANK YOU

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