Markus Ehrenmueller-Jensen

Self-service AI with Power BI Desktop

SQL Day

14 edycja konferencji SQLDay

9-11 maja 2022, WROCŁAW + ONLINE

Data Community

partner złoty

Future Processing

Infinite DATA

KPMG

partner srebrny

Objectivity

summ-it

UBS

dbWatch DATABASE CONTROL

partner brązowy

elitmind think bright

Artificial Intelligence (AI)

From automagical stuff to machine learning algorithms

From GUI to scripts (DAX, M, R & Python)

Smart Features

Report

- Q & A
- Smart Narrative
- Insights
- Analytic Line
- Key Influencer Visual
- Decomposition Tree Visual
- Smart Custom Visuals
- What-if Parameter

Scripts

- DAX
- R Integration
- Python Integration

Power Query

- AI Insights
- Cognitive Services
- Azure Machine Learning
- Column by Example
- Web by Example

Demo

Questions & Answers (Q & A)

Ask a question using natural language
- Refine via a related question

Provides answers from the data inside Power BI

Columns, Measures, Content, Filter, Visualisation
- Synonyms

https://docs.microsoft.com/en-us/power-bi/consumer/end-user-q-and-a-tips

Insights

Majority, Top/Bottom, Correlation, Low Variance, Steady share with parent

Overall Trends, Seasonality, Change points, Time series outliers

https://docs.microsoft.com/en-us/power-bi/consumer/end-user-insight-types

Smart Narrative

Summarizes the content of a visual in plain English text

Text can be customized

https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-smart-narrative

Analytic Line

Analytics Pane for out-of-the-box lines

- Constant, min, max, average, median, percentile
- Trendline, Forecasting, Anomalies

https://docs.microsoft.com/en-us/power-bi/desktop-analytics-pane

Key Influencer Visual

You bring one dimension and multiple metrics, Power BI will detect metric values are typical for the each dimension value

https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-influencers

Decomposition Tree Visual

You bring one metric and multiple dimensions, Power BI will detect which metric has high or low values on each dimension

https://docs.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-decomposition-tree

(Smart) Custom Visuals

Microsoft and third-parties have published custom visuals on AppSource (aka Market Place)

https://docs.microsoft.com/en-us/power-bi/developer/visuals/power-bi-custom-visuals

https://powerbi.microsoft.com/en-us/developers/custom-visualization/

What-if-parameter

Advanced analytics by running scenarios on your data

Parameter changeable via a slicer

https://docs.microsoft.com/en-us/power-bi/desktop-what-if

R Integration

Source

https://docs.microsoft.com/en-us/power-bi/desktop-r-scripts

Transformation

https://docs.microsoft.com/en-us/power-bi/desktop-r-scripts

Visual

https://docs.microsoft.com/en-us/power-bi/desktop-r-visuals

https://docs.microsoft.com/en-us/power-bi/service-r-packages-support

Python Integration

Source

https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-python-scripts

Transformation

https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-python-scripts

Visual

https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-python-visuals

https://powerbi.microsoft.com/en-us/blog/python-visualizations-in-power-bi-service/

AI Insights

Enrich your data by using a pre-trained machine learning model

Fully baked into the product

You need premium workspace (capacity or per-user)

https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/tutorials/tutorial-power-bi-key-phrases

https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-install-containers

Cognitive Services

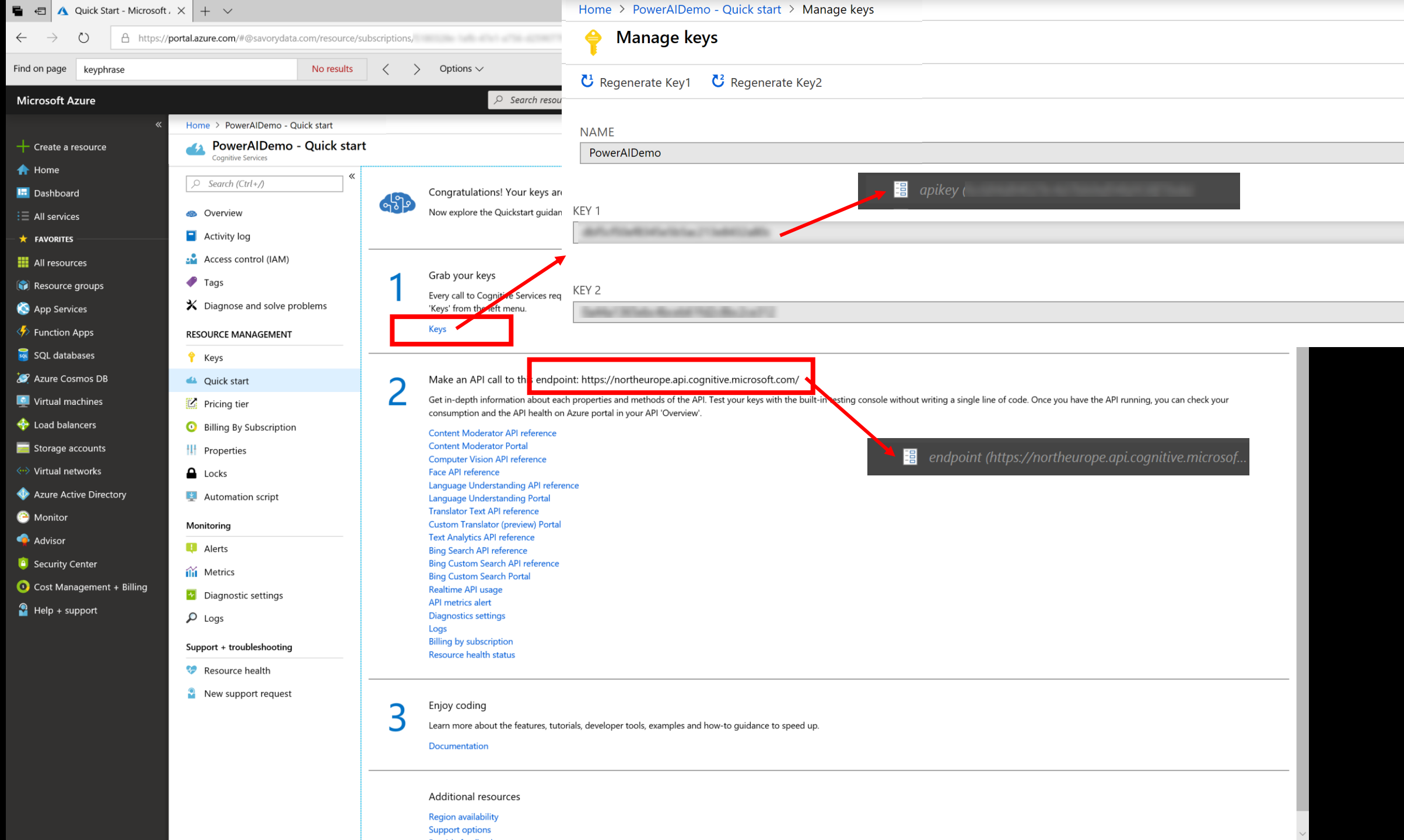
Enrich your data by using a pre-trained machine learning model

You need:

- Enable Cognitive Services in your Azure Subscription
- Create your own Power Query function

https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/tutorials/tutorial-power-bi-key-phrases

https://docs.microsoft.com/en-us/azure/cognitive-services/text-analytics/how-tos/text-analytics-how-to-install-containers


Quick Start - Microsoft
https://portal.azure.com/#@savorydata.com/resource/subscriptions/
Find on page
keyphrase
No results
Options
Microsoft Azure
Search resou
Create a resource
Home
Dashboard
All services
FAVORITES
All resources
Resource groups
App Services
Function Apps
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
Monitor
Advisor
Security Center
Cost Management + Billing
Help + support
Home > PowerAIDemo - Quick start
PowerAIDemo - Quick start
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Access control (IAM)
Tags
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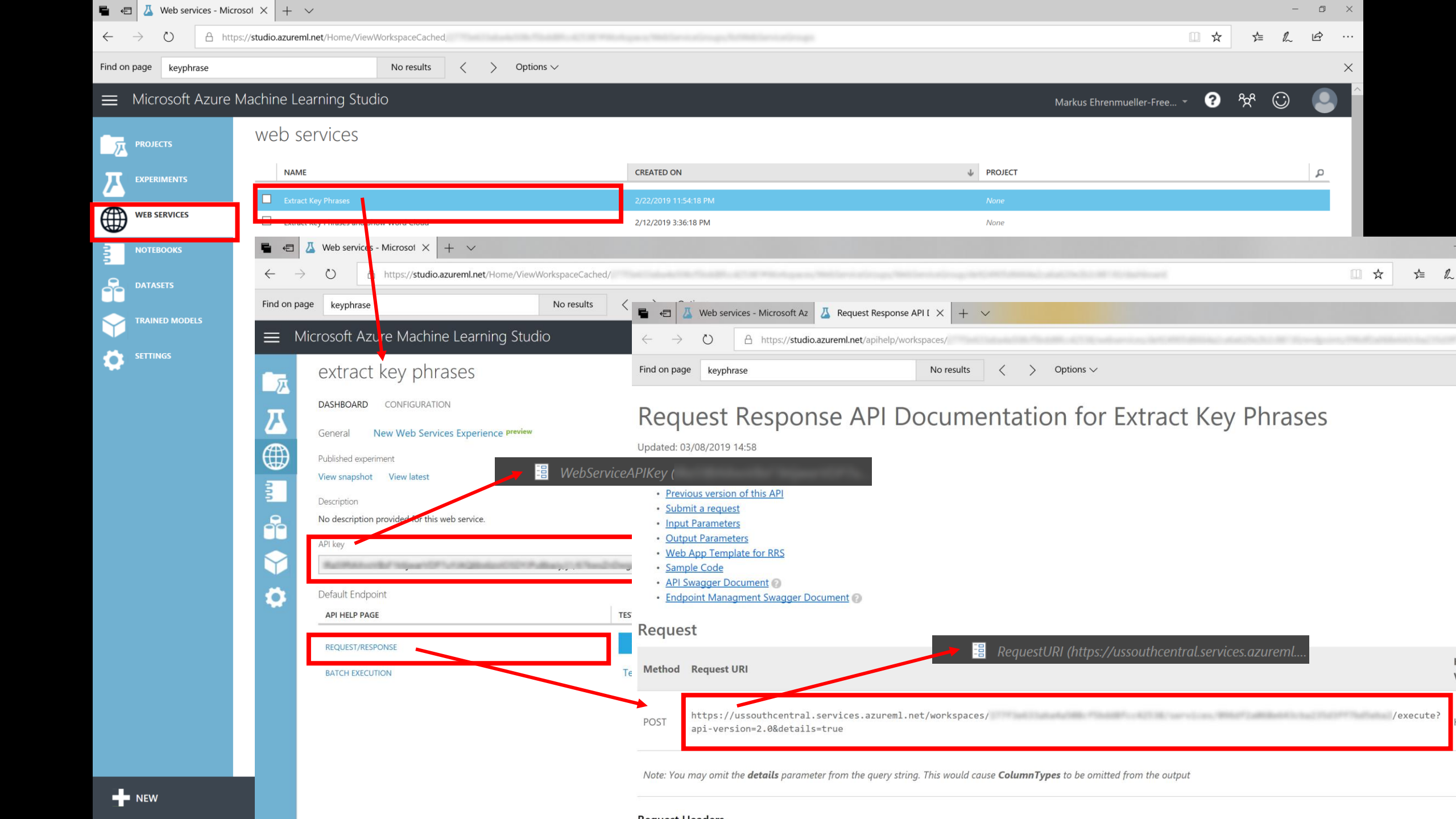
RESOURCE MANAGEMENT
Keys
Quick start
Pricing tier
Billing By Subscription
Properties
Locks
Automation script
Monitoring
Alerts
Metrics
Diagnostic settings
Logs
Support + troubleshooting
Resource health
New support request
Congratulations! Your keys ar
Now explore the Quickstart guidan
1
Grab your keys
Every call to Cognitive Services req
'Keys' from the left menu.
Keys
2
Make an API call to th endpoint: https://northeurope.api.cognitive.microsoft.com/
Get in-depth information about each properties and methods of the API. Test your keys with the built-in testing console without writing a single line of code. Once you have the API running, you can check your consumption and the API health on Azure portal in your API 'Overview'.
Content Moderator API reference
Content Moderator Portal
Computer Vision API reference
Face API reference
Language Understanding API reference
Language Understanding Portal
Translator Text API reference
Custom Translator (preview) Portal
Text Analytics API reference
Bing Search API reference
Bing Custom Search API reference
Bing Custom Search Portal
Realtime API usage
API metrics alert
Diagnostics settings
Logs
Billing by subscription
Resource health status
3
Enjoy coding
Learn more about the features, tutorials, developer tools, examples and how-to guidance to speed up.
Documentation
Additional resources
Region availability
Support options
Home > PowerAIDemo - Quick start > Manage keys
Manage keys
Regenerate Key1
Regenerate Key2
NAME
PowerAIDemo
KEY 1
KEY 2
apikey (
endpoint (https://northeurope.api.cognitive.microsof...

Azure Machine Learning

Enrich your data by using a self-trained machine learning model

Azure Machine Learning (classic) is still free to play around

https://powerbi.microsoft.com/en-us/blog/power-bi-azure-ml/


Web services - Microsoft Azure Machine Learning Studio
https://studio.azureml.net/Home/ViewWorkspaceCached
Find on page
keyphrase
No results
Options
Microsoft Azure Machine Learning Studio
Markus Ehrenmueller-Free...
PROJECTS
EXPERIMENTS
WEB SERVICES
NOTEBOOKS
DATASETS
TRAINED MODELS
SETTINGS
NEW
web services
NAME
CREATED ON
PROJECT
Extract Key Phrases
2/22/2019 11:54:18 PM
None
2/12/2019 3:36:18 PM
None
extract key phrases
DASHBOARD
CONFIGURATION
General
New Web Services Experience preview
Published experiment
View snapshot
View latest
Description
No description provided for this web service.
API key
WebServiceAPIKey (
Default Endpoint
API HELP PAGE
REQUEST/RESPONSE
BATCH EXECUTION
Web services - Microsoft Az
Request Response API D
https://studio.azureml.net/apihelp/workspaces/
Request Response API Documentation for Extract Key Phrases
Updated: 03/08/2019 14:58
Previous version of this API
Submit a request
Input Parameters
Output Parameters
Web App Template for RRS
Sample Code
API Swagger Document
Endpoint Managment Swagger Document
Request
Method
Request URI
RequestURI (https://ussouthcentral.services.azureml....
POST
https://ussouthcentral.services.azureml.net/workspaces/
/execute?
api-version=2.0&details=true
Note: You may omit the details parameter from the query string. This would cause ColumnTypes to be omitted from the output

Column by Example

Create new column, without typing any formula

https://docs.microsoft.com/en-us/power-bi/desktop-add-column-from-example

Web by Example

Extract data from web page,
even when there is no tidy table

https://docs.microsoft.com/en-us/power-bi/desktop-connect-to-web-by-example

Where are the instructions?

New platform for all technical documentation

docs.microsoft.com

All content

open source, hosted on GitHub, community-enabled & in your own language

Help the community of users worldwide

https://aka.ms/intldocs & https://aka.ms/msossloc

Questions?

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Microsoft CERTIFIED Solutions Expert
Business Intelligence
Data Platform

Microsoft CERTIFIED Trainer

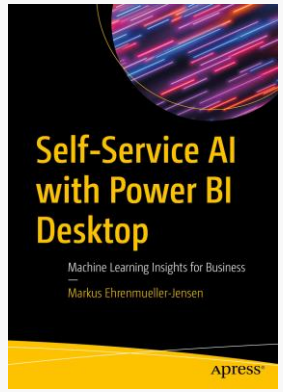
SQL Server 2005 – 2019

BI Developer
Database Developer
Database Admin

Microsoft MCT

MVP Microsoft® Most Valuable Professional

PowerBIUG POWER BI USER GROUP

PASS AUSTRIA

PASS SQLSATURDAY VIENNA