

ver Busse

4IT GmbH, Germany

rch 28, 2017



“Elementary, Watson!”

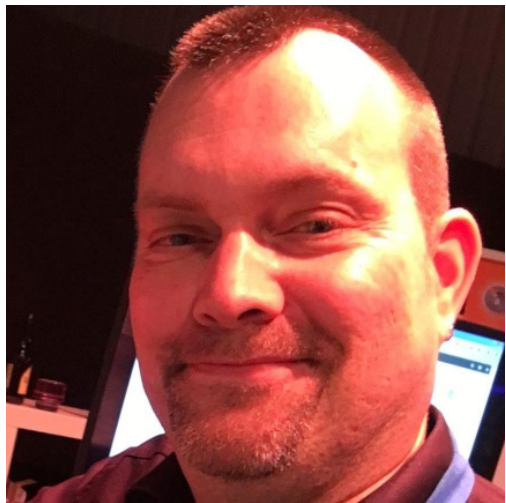
r: utilizing the cognitive capabilities of IBM Watson



Outthink limits

build a cognitive business

Oliver Busse



IBMCHAMPION 

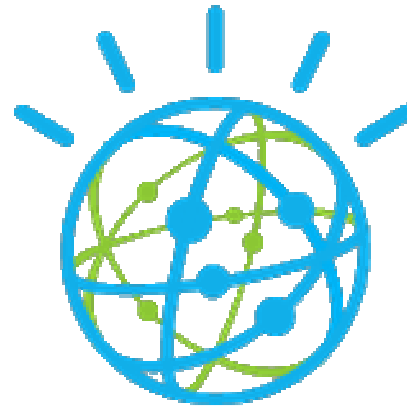
@zeromancer1972

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- „Bleeding Yellow“ since R4.5
- Software Architect at We4IT
 - Member of the development team of *aveedo[®] Application Framework*
- IBM Champion for ICS in 2015, 2016 + 2017
- OpenNTF Member Director
- XPages Advocate

Agenda

- Watson Services Overview
- Use cases
- How to start
- Runtime Options
- Domino?
- Caveats & Solutions



Watson Services Overview

The screenshot displays the IBM Bluemix Catalog interface. At the top, there's a navigation bar with 'Dokumentation', user information 'Oliver Busse | Vereintes Königreich : obusse@gmail.com : dev', and links for 'Katalog', 'Support', and 'Konto'. Below this, a sidebar on the left lists categories: 'Alle Kategorien', 'Infrastruktur' (Compute, Storage, Network, Security), 'Apps' (Boilerplates, Cloud Foundry-Anwendungen, Container, Mobile), and 'Services' (Data & Analytics, Internet of Things, APIs, Network, Storage, Security, DevOps, Application Services, Integrate). The 'Watson' service under 'Data & Analytics' is selected. The main content area features a search bar and a grid of Watson services. Each service card includes an icon, a title, a brief description, and a provider tag (IBM or Drittanbieter).

Service Name	Description	Provider
AlchemyAPI	Mit diesem AlchemyAPI-Service können Sie unstrukturierten Text und Bildinhalte analysieren.	IBM
Conversation	Sie können zu Ihrer Anwendung eine Schnittstelle für natürliche Sprache hinzufügen, um Interaktionen zu...	IBM
Discovery	Sie können eine Engine für die kognitive Suche und Inhaltsanalyse zu Anwendungen hinzufügen.	IBM
Document Conversion	Konvertiert ein HTML-, PDF- oder Microsoft Word™-Dokument in normalisiertes HTML-Format, einfache...	IBM
Language Translator	Text von einer Sprache in eine andere für bestimmte Domänen übersetzen.	IBM
Natural Language Classifier	Natural Language Classifier führt eine Klassifikation natürlicher Sprache bei Fragetexten durch. Ein Ben...	IBM
Natural Language Understanding	Mit diesem Service können Textanalysen durchgeführt werden, um Metadaten wie z. B. Konzepte, Entitäten...	IBM
Personality Insights	Watson Personality Insights leitet Einblicke aus transaktionsorientierten Daten und Social-Media-Da...	IBM
Retrieve and Rank	Durch intelligente Lernfunktionen erweiterte Suchfunktionalität zur Anwendung hinzufügen	IBM
Speech to Text	Streamingtranskription mit geringer Latenz	IBM
Text to Speech	Natürlich klingende und gut verständliche Sprache wird synthetisch aus Text erstellt.	IBM
Tone Analyzer	Tone Analyzer verwendet linguistische Analysefunktionen, um drei Arten des Tonfalls in der...	IBM
Tradeoff Analytics	Unterstützt Entscheidungsfindungsprozesse bei einer Vielzahl in Konflikt stehender Ziele. Kombiniert	IBM
Cognitive Graph	Cognitive Graph is a service provided by Cognitive Scale.	Drittanbieter
Visual Recognition	Erkennen Sie die Aussage visueller Inhalte! Analysieren Sie Bilder auf Szenen, Objekte, Gesichter und andere...	IBM
Cognitive Insights™	Cognitive Insights™ is a service provided by Cognitive Scale.	Drittanbieter
Cognitive Commerce™	Cognitive Commerce is a service provided by Cognitive Scale.	Drittanbieter

Watson Services Overview

The screenshot displays the IBM Bluemix Catalog interface. The top navigation bar includes 'Dokumentation', 'IBM Bluemix Katalog', and user information 'Oliver Busse | Vereintes Königreich : obusse@gmail.com : dev'. The left sidebar lists categories: 'Alle Kategorien', 'Infrastruktur' (Compute, Storage, Network, Security), 'Apps' (Boilerplates, Cloud Foundry-Anwendungen, Container, Mobile), and 'Services' (Data & Analytics, Internet of Things, APIs, Network, Storage, Security, DevOps, Application Services, Integrate). The 'Watson' service is selected under 'Data & Analytics'.

The main content area features a search bar and a grid of Watson services. Five services are highlighted with red boxes:

- AlchemyAPI**: Mit diesem AlchemyAPI-Service können Sie unstrukturierten Text und Bildinhalte analysieren. (IBM)
- Language Translator**: Text von einer Sprache in eine andere für bestimmte Domänen übersetzen. (IBM)
- Tone Analyzer**: Tone Analyzer verwendet linguistische Analysefunktionen, um drei Arten des Tonfalls in der Sprache zu erkennen. (IBM)
- Document Conversion**: Konvertiert ein HTML-, PDF- oder Microsoft Word™-Dokument in normalisiertes HTML-Format, einfache Textdateien oder eine andere Dateiformat. (IBM)
- Speech to Text**: Streamingtranskription mit geringer Latenz. (IBM)

Other visible services include Conversation, Discovery, Natural Language Classifier, Personality Insights, Retrieve and Rank, Tradeoff Analytics, Cognitive Graph, Visual Recognition, and Cognitive Insights™.

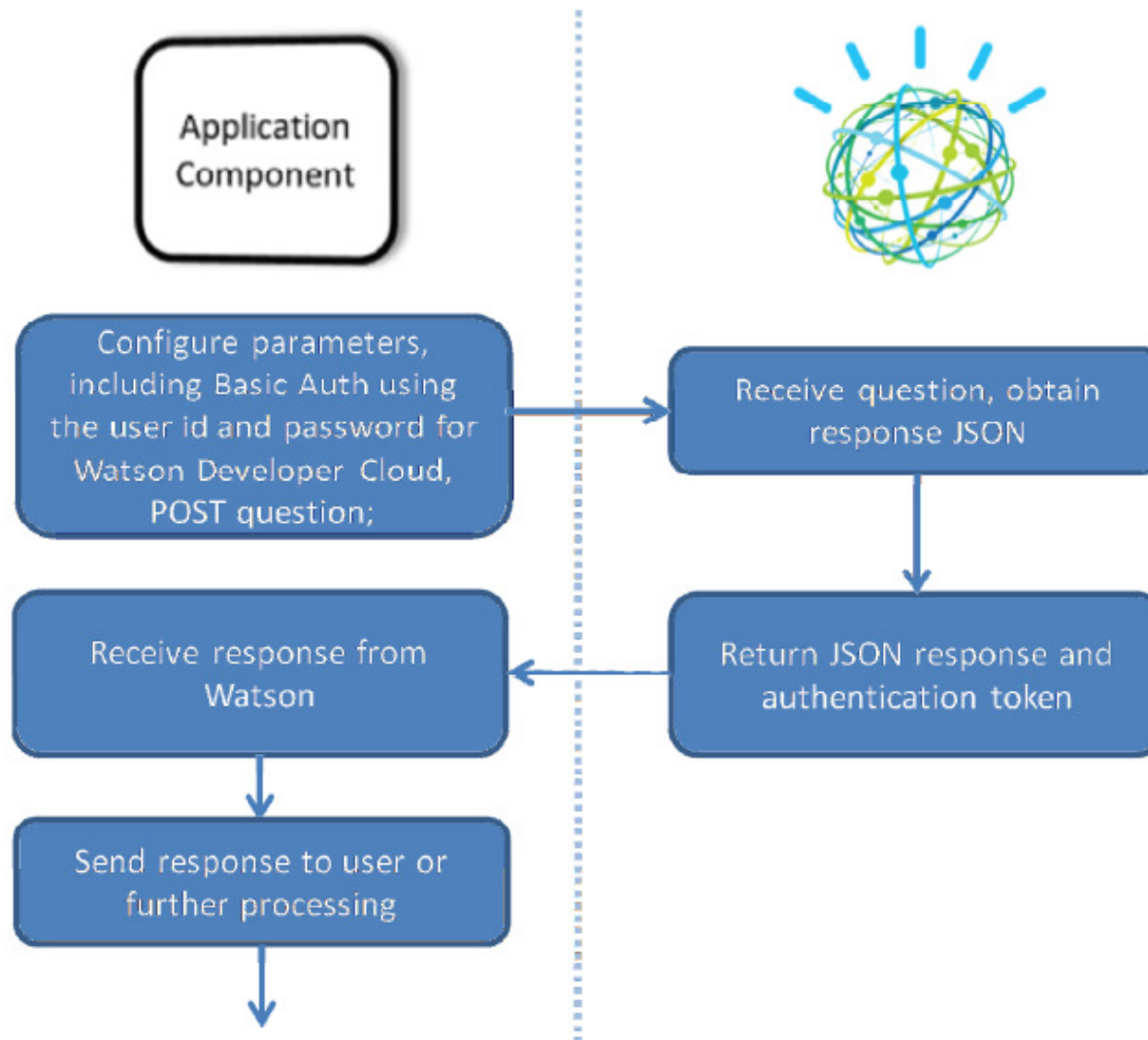
Use Cases

- Find solutions in Knowledge Bases
 - by relevance
 - by content
- Find out how your employees feel
 - search social stuff: blogs, forum posts, profiles
 - search chats
 - search mails?
- Categorize incoming service mails
 - tag departments, products, types

Basic Principles

- Watson Services are RESTful APIs
- Hosted on IBM Bluemix
- Basically free to use
 - additional requests produce costs
- APIs available for every service

Basic Principles: RESTful API



SDKs

- Basically a wrapper for the RESTful API
- Available for Java, Node.js, Python, ...

DEVELOPER TOOLS

API Reference

[View API Reference](#)

Node SDK

[View on GitHub](#)

Java SDK

[View on GitHub](#)

Python SDK

[View on GitHub](#)

iOS SDK

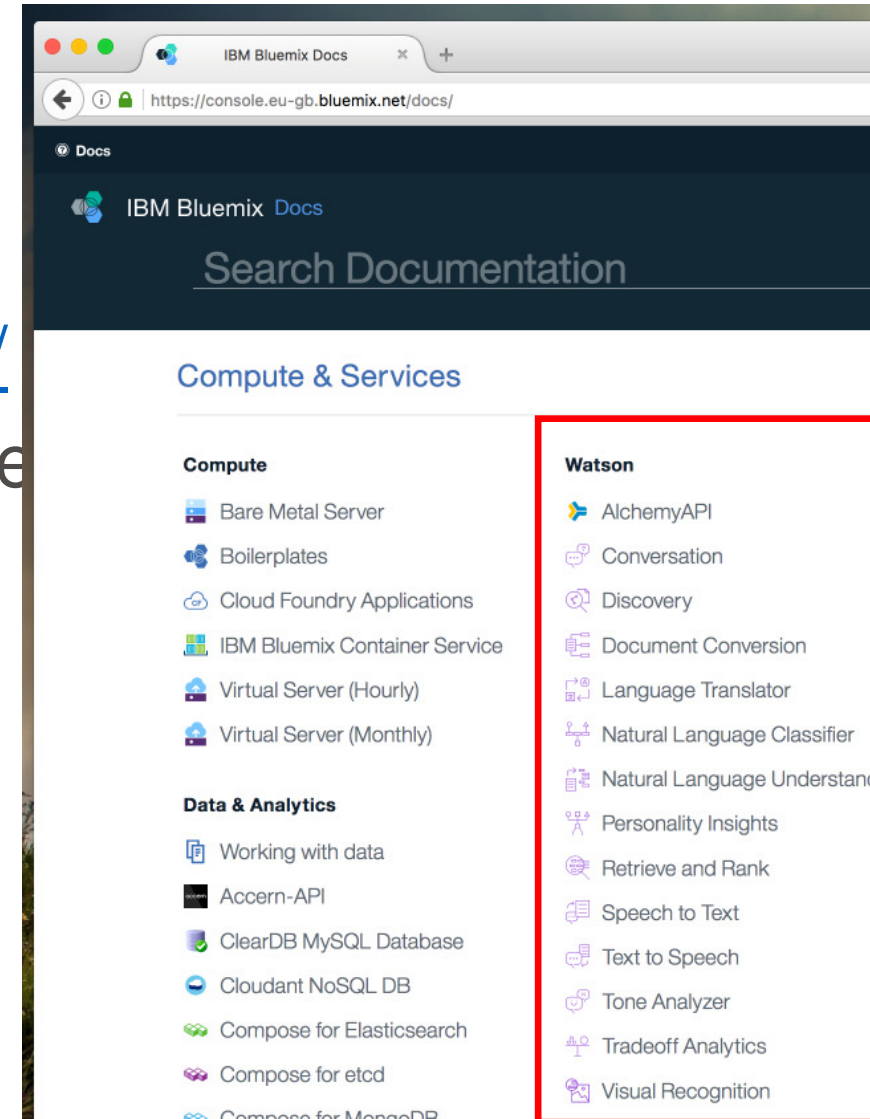
[View on GitHub](#)

Unity SDK

[View on GitHub](#)

Documentation

- More or less complete...
- <https://console.eu-gb.ibmcloud.net/docs/>
- Better: use examples from the Github repository



Watson API Explorer



- <https://watson-api-explorer.mybluemix.net/>
- Uses Swagger for documentation

https://watson-api-explorer.mybluemix.net/apis/alchemy-language-v1

Watson API Explorer

username password

AlchemyLanguage

The AlchemyLanguage API uses natural language processing technology and machine learning algorithms to extract semantic meta-data from content, such as information on people, places, companies, topics, facts, relationships, authors, and languages.

Authors

Show/Hide | List Operations | Expand Operations

GET	/html/HTMLGetAuthors	Retrieves author information from an HTML document
POST	/html/HTMLGetAuthors	Retrieves author information from an HTML document
GET	/url/URLGetAuthors	Retrieves author information from a web page

How to start: Bluemix

- Create a Bluemix account
- Add a service
- Grab credentials / keys



The screenshot displays the IBM Watson Developer Cloud interface. On the left, a sidebar shows "All Services (5)" with a "Create Service +" button. Below it, a table lists services:

NAME	SERVICE OFFERING	PLAN	ACTIONS
AlchemyAPI-ot	AlchemyAPI	Free	⋮
IBM XPages NoSQL Database-UK	XPages NoSQL Database	Free	⋮
Language Translator-yf	Language Translator	Standard	⋮
Text to Speech-5q	Text to Speech	Standard	⋮
Tone Analyzer-hd	Tone Analyzer	standard	⋮

The main area is titled "AlchemyAPI-ot" and has tabs for "Manage", "Service credentials", and "Connections". The "Service credentials" tab is active, showing a table with one credential:

KEY NAME	DATE CREATED	ACTIONS
Credentials-1	Mar 16, 2017 - 08:05:02	View credentials ⌵

Below the table, there's a section for the API key details, showing a JSON object:

```
{
  "url": "https://gateway-a.watsonplatform.net/calls",
  "note": "It may take up to 5 minutes for this key to become active",
  "apikey": "[REDACTED]"
}
```

How to start: the SDKs

- SDKs are available for Java, Node.js, Python, .NET, SWIFT & Unity
 - <https://github.com/watson-developer-cloud>
- The Java SDK need Java 1.7+
- For Domino we need a Java 1.6 compliant SDK
 - <https://github.com/watson-developer-cloud/java-sdk/issues/174#issuecomment-241215962>
- For the second part of the session we need the Node.js SDK
- All SDK are wrapper for simple HTTP request against the REST API

How to start: prepare dev machine

- Install Eclipse
 - <http://eclipse.org>
- Install Node.js
 - <http://nodejs.org>
- Install favorite editor
 - <https://code.visualstudio.com/>

Domino?

- XPages
- Legacy Apps -> **Hands-on 4 Session** 😊



DEMO

Java standalone & Domino XPages

Caveats

- Domino (<=FP7) only supports Java 1.6 libs
- Watson SDK for Java is 1.7 or higher
- IBM provides an inofficial compiled 1.6 version
 - **so SSL available for Language Alchemy API!**
 - **cypher length too high for Java 1.6**



Solution 😊

- Use a Node.js proxy server!
- Use Node.js SDK
- No CORS* problem
- No SSL problem



*) Cross-Origin Resource Sharing

DEMO

Resume

- Watson Services are helpful
- Watson Services are in „development“
- Documentation could be better
- SDKs are constantly improved
- Integration is simple
- Enriches your existing apps



Q & A

Demo app here:

<http://files.notesx.net/Privat/filesilo.nsf/file.xsp?action=openDocument&documentId=1C8303EEFF8A49EEC12580F20072E828>

[illegible]