



Watson - bitte helfen Sie



Integration von IBM Bluemix Watson Services in IBM Domino

<https://hbauer.net>
https://twitter.com/hagen_bauer

Profil | Dateien X



Hagen Bauer
Executive IT Specialist - Social Business and
Collaboration Solutions
IBM
GUSTAV-HEINEMANN-UFER 120, KÖLN,
50968, Germany
hagen.bauer@de.ibm.com
49-7034-6431091

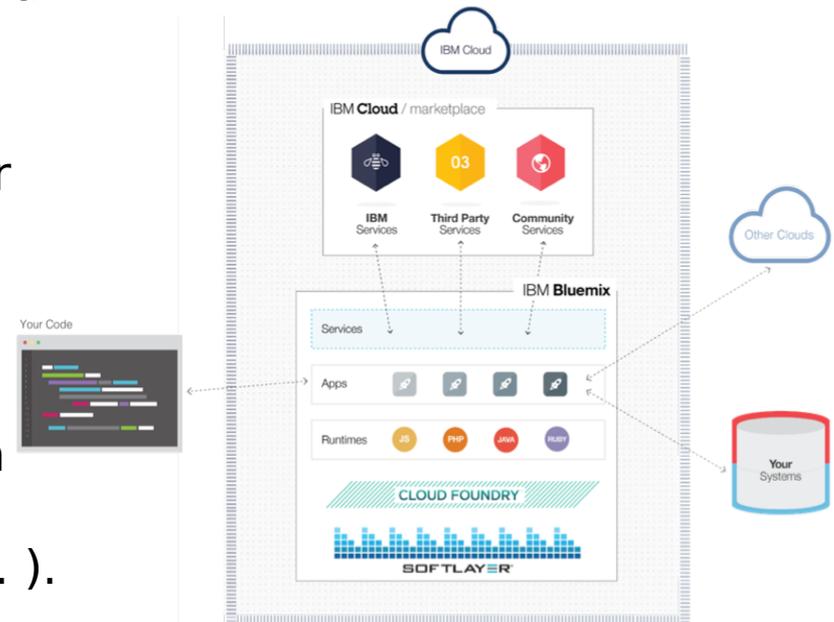
Chat | Weitere Aktionen ▾

Agenda

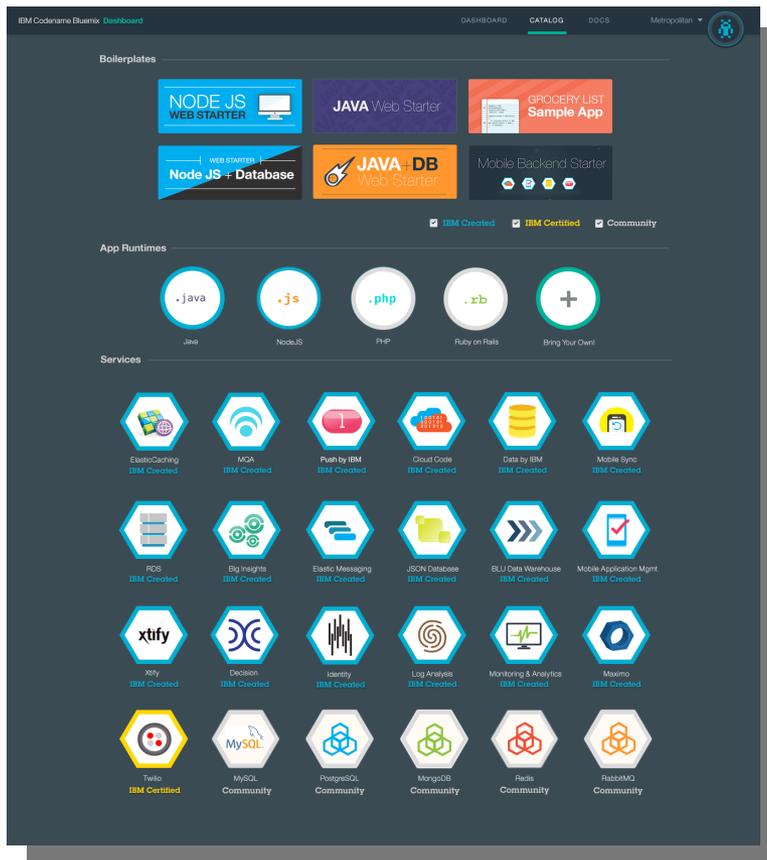
- Eine kurze Einführung in Bluemix und Watson Services
- Vorstellung der Beispiele
- Sprachklassifikation mit Trainingsdaten
- Textübersetzung und Bilderkennung
- Demonstration des Sprachklassifikationsbeispiel

Was ist Bluemix?

- BlueMix ist IBM's PaaS (Platform as a Service) Angebot
- Eine Cloud basierende Plattform für das
 - schnelle Entwickeln,
 - Verwalten und
 - Bereitstellen von Anwendungen verschiedenster Arten (Web, Mobil, Big Data, Social, ...).
- Entwickler können Services von IBM oder Partner in einem pay-as-you-go Model nutzen



Kombinierbare Objekte



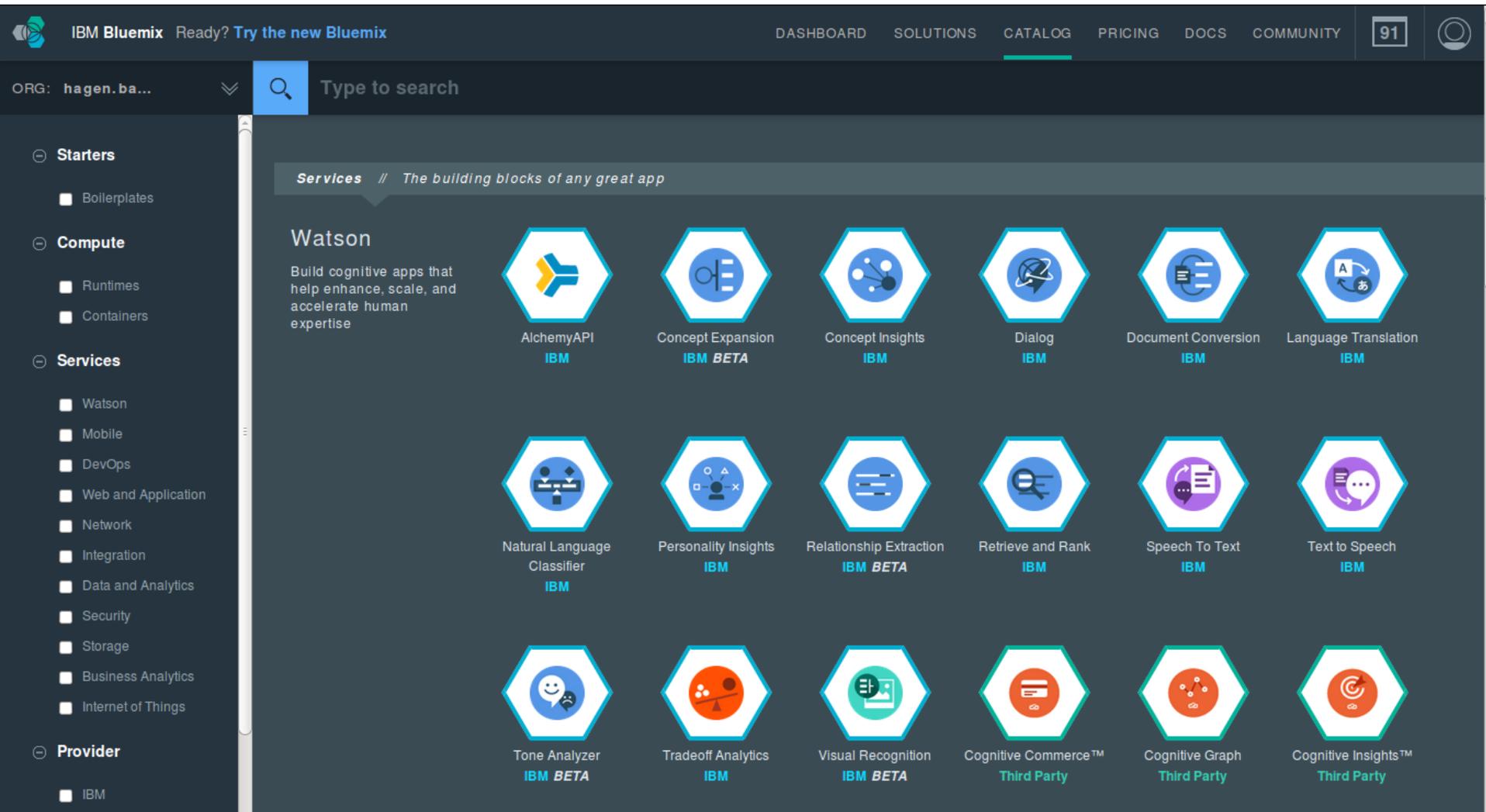
DevOps

APIs und Services

Hybride Cloud
Umgebungen

Erweiterung von SaaS
Anwendungen

Bluemix Watson Services



The screenshot shows the IBM Bluemix Watson Services catalog. The top navigation bar includes 'DASHBOARD', 'SOLUTIONS', 'CATALOG' (highlighted), 'PRICING', 'DOCS', and 'COMMUNITY'. A search bar is present with the text 'Type to search'. The left sidebar lists categories: Starters, Compute, Services, and Provider. The main content area is titled 'Services // The building blocks of any great app' and features a 'Watson' section with the description: 'Build cognitive apps that help enhance, scale, and accelerate human expertise'. Below this, a grid of 18 service icons is displayed, each with its name and provider status.

Service Name	Provider
AlchemyAPI	IBM
Concept Expansion	IBM BETA
Concept Insights	IBM
Dialog	IBM
Document Conversion	IBM
Language Translation	IBM
Natural Language Classifier	IBM
Personality Insights	IBM
Relationship Extraction	IBM BETA
Retrieve and Rank	IBM
Speech To Text	IBM
Text to Speech	IBM
Tone Analyzer	IBM BETA
Tradeoff Analytics	IBM
Visual Recognition	IBM BETA
Cognitive Commerce™	Third Party
Cognitive Graph	Third Party
Cognitive Insights™	Third Party

Die heutigen Beispiele

- IBM Domino Anwendungen sollen erweitert werden um
 - Sprachklassifikation
 - Natürlichsprachliche Anfragen im Kontext von Rezepten sollen in Rezeptklassen zugeordnet werden
 - Bildklassifikation
 - Bilder sollen automatisiert mit Schlagworten versehen werden
 - Text Translation
 - Texte sollen automatisiert übersetzt werden

Ablauf Sprachklassifikation

- Anlegen eines neuen Services über das Bluemix Webinterface
- Hochladen eines Trainingssets über die REST API
- Warten
- Erste Anfragen über die REST API
- Integration Domino Xpages



Natural Language
Classifier

IBM

Ablauf Sprachklassifikation



Anlegen eines neuen Services über das Bluemix Webinterface

- Hochladen eines Trainingssets über die REST API
- Warten
- Erste Anfragen über die REST API
- Integration Domino Xpages



Natural Language
Classifier

IBM

Demo Time

IBM Bluemix

Why Bluemix ▾ Products ▾ Solutions ▾ Services ▾ Resources ▾ Docs Support Pricing [Sign up](#) [Log in](#)

IBM > Bluemix

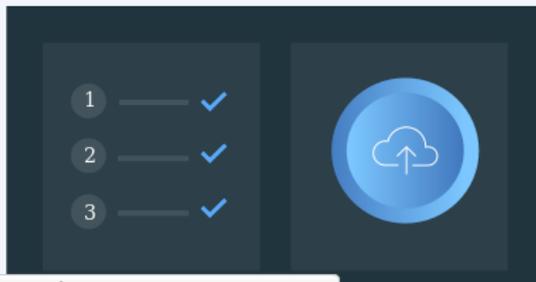
IBM Bluemix

The cloud platform to accelerate innovation on both sides of the firewall

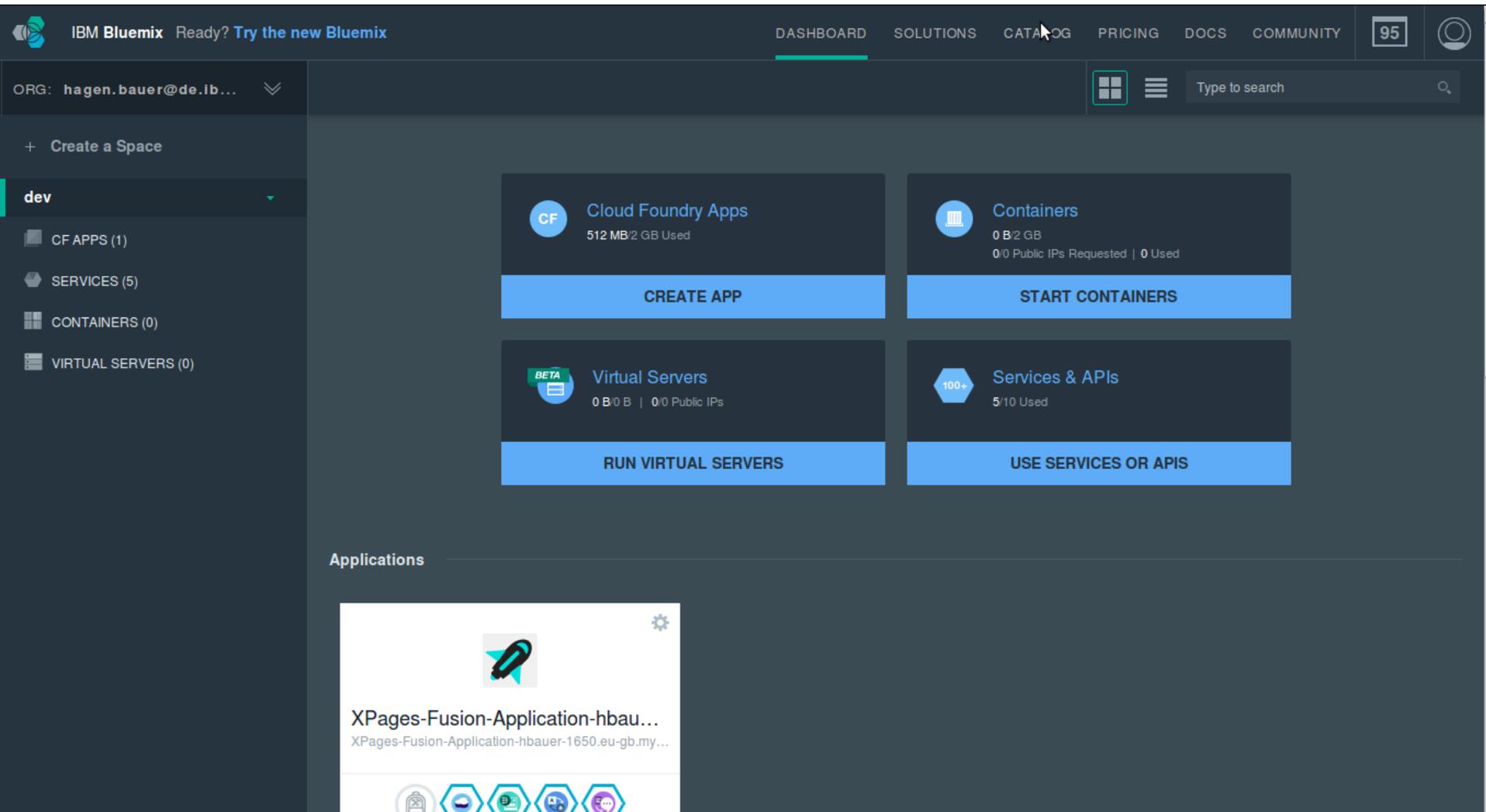
[Get started free](#)



Introducing the Swift Runtime for IBM Bluemix



Das Bluemix Dashboard

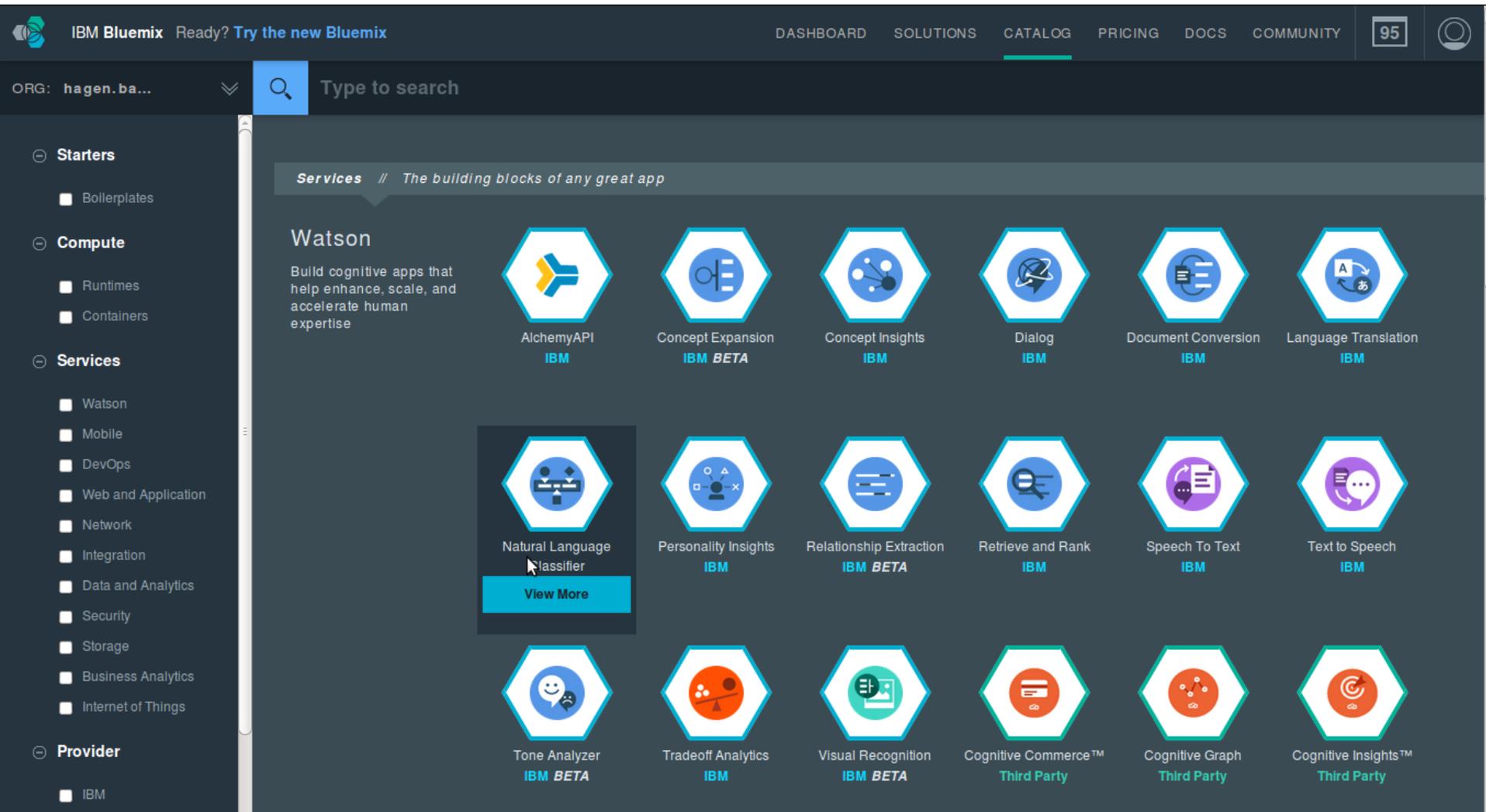


The screenshot shows the IBM Bluemix Dashboard interface. At the top, there is a navigation bar with the IBM Bluemix logo and the text "Ready? Try the new Bluemix". The main navigation menu includes "DASHBOARD", "SOLUTIONS", "CATALOG", "PRICING", "DOCS", and "COMMUNITY". A user profile dropdown shows "ORG: hagen.bauer@de.ibm...". A search bar is located on the right side of the dashboard.

The dashboard is divided into several sections:

- Left Sidebar:** Contains a "Create a Space" button and a list of spaces under the "dev" environment:
 - CF APPS (1)
 - SERVICES (5)
 - CONTAINERS (0)
 - VIRTUAL SERVERS (0)
- Main Content Area:** Features four large cards for different services:
 - Cloud Foundry Apps:** 512 MB / 2 GB Used. Button: "CREATE APP".
 - Containers:** 0 B / 2 GB. 0 / 0 Public IPs Requested | 0 Used. Button: "START CONTAINERS".
 - Virtual Servers:** 0 B / 0 B | 0 / 0 Public IPs. Button: "RUN VIRTUAL SERVERS".
 - Services & APIs:** 5 / 10 Used. Button: "USE SERVICES OR APIS".
- Applications Section:** Displays a card for "XPages-Fusion-Application-hbau..." with a gear icon for settings and a row of service icons at the bottom.

Den Service wählen



The screenshot shows the IBM Bluemix Services Catalog interface. At the top, there is a navigation bar with links for DASHBOARD, SOLUTIONS, CATALOG (highlighted), PRICING, DOCS, and COMMUNITY. A user profile icon shows '95'. Below the navigation bar is a search bar with the text 'Type to search' and a search icon. On the left side, there is a sidebar menu with categories: Starters (Boilerplates), Compute (Runtimes, Containers), Services (Watson, Mobile, DevOps, Web and Application, Network, Integration, Data and Analytics, Security, Storage, Business Analytics, Internet of Things), and Provider (IBM). The main content area is titled 'Services // The building blocks of any great app' and features a 'Watson' section with the description: 'Build cognitive apps that help enhance, scale, and accelerate human expertise'. Below this, there is a grid of 18 service icons, each with a name and provider status:

- AlchemyAPI (IBM)
- Concept Expansion (IBM BETA)
- Concept Insights (IBM)
- Dialog (IBM)
- Document Conversion (IBM)
- Language Translation (IBM)
- Natural Language Classifier (IBM) - This icon is highlighted with a blue box and a 'View More' button below it.
- Personality Insights (IBM)
- Relationship Extraction (IBM BETA)
- Retrieve and Rank (IBM)
- Speech To Text (IBM)
- Text to Speech (IBM)
- Tone Analyzer (IBM BETA)
- Tradeoff Analytics (IBM)
- Visual Recognition (IBM BETA)
- Cognitive Commerce™ (Third Party)
- Cognitive Graph (Third Party)
- Cognitive Insights™ (Third Party)

Den Service konfigurieren



Natural Language Classifier
IBM

PUBLISH DATE
02/23/2016

AUTHOR
IBM

TYPE
Service

LOCATION
US South

[VIEW DOCS](#)

The Natural Language Classifier service applies cognitive computing techniques to return the best matching classes for a sentence or phrase. For example, you submit a question and the service returns keys to the best matching answers or next actions for your application. You create a classifier instance by providing a set of representative strings and a set of one or more correct classes for each training. After training, the new classifier can accept new questions or phrases and return the top matches with a probability value for each match.



Pick a plan Monthly prices shown are for country or region: [Germany](#)

Plan	Features	
✓ Standard	1 Natural Language Classifier instance free per month 1000 API calls free per month 4 Training Events free per month	€15.04 EUR/ Instance per month €0.0026 EUR/ API call €2.26 EUR/ Training Event

Add Service

Space:

App:

Service name:

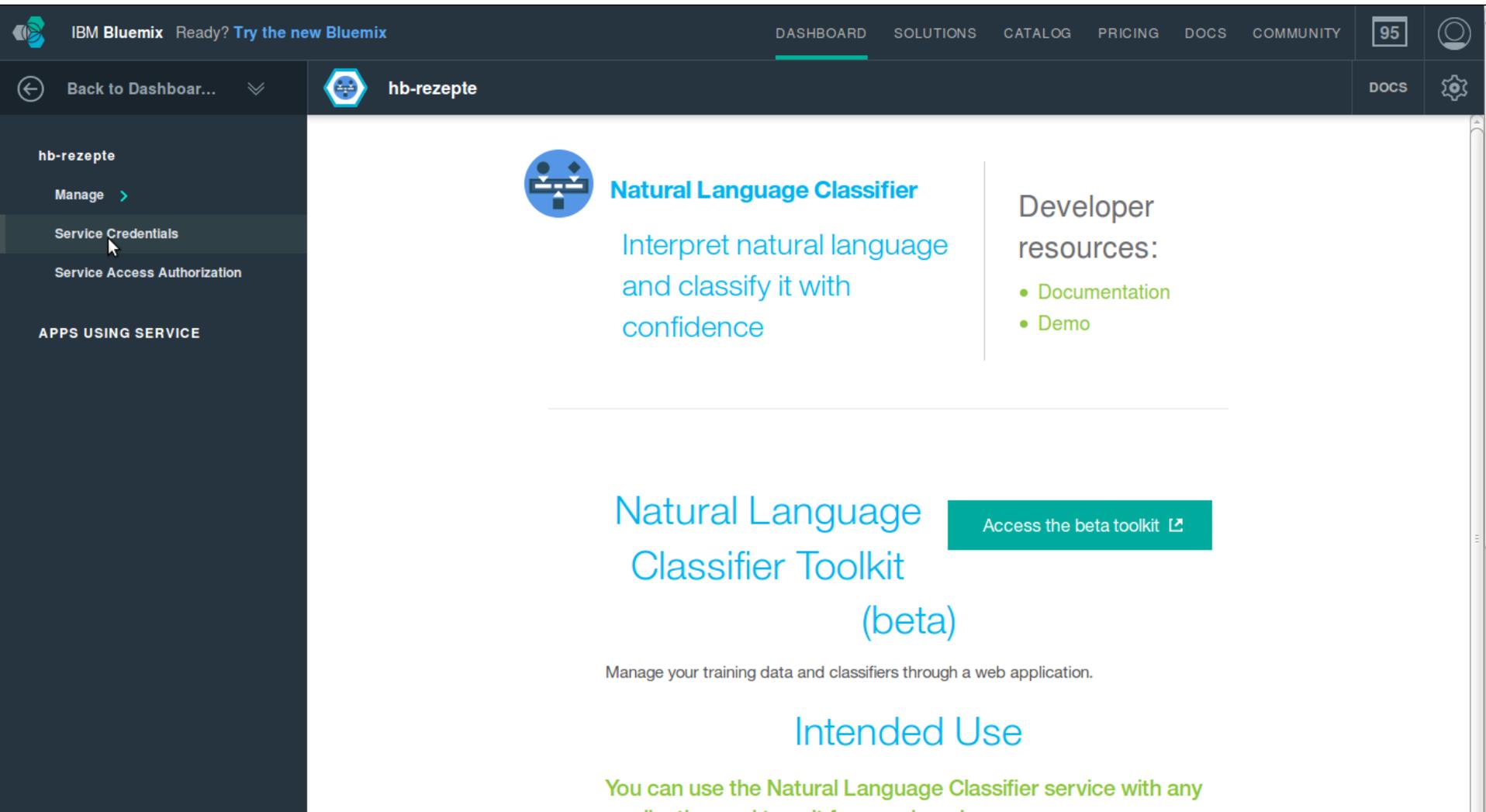
Credential name:

Selected Plan:

CREATE

 You will be charged per API call, per instance, and per training event

Der Service ist startklar



IBM Bluemix Ready? [Try the new Bluemix](#)

DASHBOARD SOLUTIONS CATALOG PRICING DOCS COMMUNITY 95

Back to Dashboar... hb-rezepte DOCS

hb-rezepte

- Manage >
- Service Credentials
- Service Access Authorization

APPS USING SERVICE

Natural Language Classifier

Interpret natural language and classify it with confidence

Developer resources:

- [Documentation](#)
- [Demo](#)

Natural Language Classifier Toolkit (beta)

[Access the beta toolkit ↗](#)

Manage your training data and classifiers through a web application.

Intended Use

You can use the Natural Language Classifier service with any

Die Service Kennwörter merken

IBM Bluemix Ready? [Try the new Bluemix](#)
DASHBOARD SOLUTIONS CATALOG PRICING DOCS COMMUNITY
95

← Back to Dashboar...
 hb-rezepte
DOCS 

hb-rezepte

- Manage
- Service Credentials >
- Service Access Authorization

APPS USING SERVICE

Service Credentials

Cloud Foundry provides your credentials in JSON format. The JSON snippet lists credentials, such as the API key and secret, as well as connection information for the service.

[ADD CREDENTIALS](#)

NAME	
hb-cred	DELETE

SERVICE CREDENTIALS

```

{
  "credentials": {
    "url": "https://gateway.watsonplatform.net/natural-language-classifier/api",
    "username": "3877eb90-8e9f-40c0-ae72-37cb17b3e087",
    "password": "XXXXXXXXXXXX7"
  }
}

```

Ablauf Sprachklassifikation

- Anlegen eines neuen Services über das Bluemix Webinterface
-  • Hochladen eines Trainingssets über die REST API
- Warten
- Erste Anfragen über die REST API
- Integration Domino Xpages



Natural Language
Classifier

IBM

Warum



- cURL (Client URL Request Library) ist ein Kommandozeilen-Programm zum Übertragen von Dateien in Rechnernetzen.
- Es ist Bestandteil der meisten Linux-Distributionen und auch von Mac OS X.
- Es eignet sich gut um schnell und einfach REST Api Aufrufe zu starten
- REST API Aufrufe können gut in einem Editor vorbereitet werden

```
curl -d "user=foo&pass=geheim" http://www.url.de/getthis/post.cgi
```

20 Zeilen Trainingsset

Cheese whirls	bread
Seeded wholemeal loaf	bread
rosemary focaccia	bread
Cheat's sourdough	bread
chilli cornbread	bread
Steamed bao buns	bread
walnut rolls	bread
Focaccia with pesto & mozzarella	bread
Ham & tomato Stromboli	bread
Garlic bread pizzas	bread
Classic white loaf	bread

20 Zeilen Trainingsset

Springtime spaghetti & meatballs	pasta
Orecchiette with anchovies & purple sprouting broccoli	pasta
Baked conchiglioni with sausage sage & butternut squash	pasta
Venetian duck ragu	pasta
Pilchard puttanesca	pasta
Tagliatelle with vegetable ragu	pasta
Easy lasagne	pasta
Salsa spaghetti with sardines	pasta
Broccoli & sage pasta	pasta

Die Testfragen

Red onion Gruyère & rosemary fougasse	
Malted walnut seed loaf	
Olive bread swirls	
Fettuccine with seared scallops & prosciutto	
Walnut & red pepper pesto	

Anlegen der Trainingsdaten

```
hbauer@oelberg: ~  
File Edit View Search Terminal Help  
hbauer@oelberg:~$
```

Anlegen der Trainingsdaten

```
Applications Places
File Edit View Search Terminal Help

$curl -i -u "USERNAME":"PASSWORD" \
> -F training_data=@/home/hbauer/Daten/demo-files/watson/bread-pasta.csv \
> -F training_metadata="{\"language\": \"en\", \"name\": \"TutorialClassifier\"}" \
> "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/classifiers"
```

```
Applications Places
File Edit View Search Terminal Help
Date: Tue, 01 Mar 2016 07:02:15 GMT
Server: -
Set-Cookie: Watson-DPAT=xJ22nD3NoIaTiRuwlHrP6S5VnsVHmtls7%2BVMyhqHD1TG50szxePFMzETb%2Bvmo16jUuHlobbHpo%2BtHd6Lp1j
Ixgbt4Fg0%2F5Kq6x5hjJaEJRwQh30CwE2uFoRJRsdw0hFkYTSvmgzs%2BeXeQrhi87kny94LNWE%2B9%2Fy87xR6ueOTpnG%2BBSTtSt5uqx%2B
Q24f05NoDRWI9nlahqsFLNRepAMYK0BsDz3FLO7BXHxd6i6tY%2FiSIJCha0EJbhHAAiSH3amV4JsgX0kA%2FTw0bhbuqVYb8skXUXcy61GhBDoMM
o12CuBixmjPtMo6n0BbpqVSHx9bv1vqwVUYgad3acrSCnZr%2F%2BBRQUTbDWZs2LARwMK5fWaHldo04TUUbiP97R6A0sDi05N4negfGboDqYVBjz
%2BS%2BoBwgYtiuae78w1gZ7jckKMcmLR0IR8S84QCiIu9jgM3dT282hpz1R7339j7at8Z%2F00K0bVPDL0L3JTUm14oF3B0FZT774%2FYeh82031
Q3qXtga%2FkijsvpvXOI7wUjmKHkNC4DP4uPvKKe%2BjtWry9sRPb9FMFFKdhur%2B5FyL%2B61Te8LjsX6639tHm1F%2F%2B8e15gkmuD0rMp5cb
b8eDbro2W5RB%2FHggGPvT4XQA0QWFASXLTBxxiNw9X48BQM%2BGRDfuyheLkThghANzgcgkyg4voKGDjWLMWvPH21NuNFvTSr6xh0iE%2B%2BICC
x%2BgS%2B7oZ6qTFRZwW9A3Z5a7gFRXQbzH6xpFDA%2BusR5I1pEauREwKzMa%2BnRS8RtCCKasnDH63RA3m9CU2E99HEyXwvFFq6LFUAECAZLCJ
bh5bLxBEHpymH%2FuYch0iBzGEQmZW3cuHorR0Upn3fdd5NNBgCU95hIDErDnQS08FCyoQfyxM2WDLQU; path=/natural-language-classifier/api; secure; HttpOnly
X-Client-IP: 195.212.29.173
X-Global-Transaction-ID: 2877925
X-DP-Watson-Tran-ID: csf_platform_prod_dp02-2877925

{
  "classifier_id" : "2eb68ax27-nlc-156",
  "name" : "TutorialClassifier",
  "language" : "en",
  "created" : "2016-03-01T07:02:15.244Z",
  "url" : "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/classifiers/2eb68ax27-nlc-156",
  "status" : "Training",
  "status_description" : "The classifier instance is in its training phase, not yet ready to accept classify requests"
}
$
```

Ablauf Sprachklassifikation

- Anlegen eines neuen Services über das Bluemix Webinterface
- Hochladen eines Trainingssets über die REST API
-  Warten
- Erste Anfragen über die REST API
- Integration Domino Xpages



Natural Language
Classifier

IBM

In der Zwischenzeit schon eine andere Demo

XPages Bluemix Fusion

Home

Database Services

Cloudant

Watson Services

Text To Speech

Text Translation

Image Recognition

IBM XPages Bluemix Fusion Demo



This XPages example application running on Bluemix uses a number of different services available from the Bluemix catalog.

Use the navigation menu on the left of the application to access the different demo pages.

...

ich hab da schon 'was vorbereitet

Zurück zur Sprachklassifikation

Ablauf Sprachklassifikation

- Anlegen eines neuen Services über das Bluemix Webinterface
- Hochladen eines Trainingssets über die REST API

Warten

Erste Anfragen über die REST Api

- Integration in Domino Xpages



Natural Language
Classifier

IBM

Schon fertig?

```
Applications Places
File Edit View Search Terminal Help
$curl -i -u "a243fc21-8c94-43d3-81e1-e0af1382ff3c":"R3bd1SmdsRjF"\  
> "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/\  
> classifiers/2eb68ax27-nlc-156" |
```

Es kann losgehen

```

Applications Places
File Edit View Search Terminal Help
Content-Type: application/json
Date: Tue, 01 Mar 2016 07:20:50 GMT
Server: -
Set-Cookie: Watson-DPAT=x%2FX2ZUN%2BBccJSq31MDkhGW%2BfVH%2FmoC8%2BI7nYABWJqMxvzFRDQgf1eDMoyzftCFRQUxyv1Pmej1WHeA9
1ChXACbv8FNs2fxoKDZuQFCGPVEBwPdVIV2ptjAK7XvV9Gtuf6RxI2t21oTMgBytTwmdKIKDNqhH3NB0TnG5ePcJ6CR4N8qIUNP3stH7htFcpjq%2
FN74gQUFivNCFv%2FRUXLJdSK6mPR8YBQVVJwrhgqZnx7GI42mZSggazQT24ZP%2FEkN4j%2Bll7esgx5vVwN2yLegJ39ByEbTaisnUbvV%2Bma7K
OMTFrRy1Wadb5an0zyZ%2BvZfgRkZ8PHkH%2FSd0hMt%2FX0%2FUu%2FGToRVWC%2BMG0mzyfDeeV4BCUIdTOzcG5mE2j0YoUo3kHVEHrDPiW%2B
L2CAxt1AQLXUv9RrzoUsaPl4T1mFKpIJXDvyyG5erSeyxuIPHD%2B97WwJRnZJCnYz5SE37oummuCPp7JA8Si8meosY1Uy1tvNNe8YJCq%2BD8K0j
k3pkI0XvIS8kZ2%2B9QcoRmE%2FKqn%2BP759rJ6jeV9qucAfsYEz4UvHGx%2FSAMLF26un1GA4Q7zFZFJzmo4BtLwHZJlJCmdJLHz5X42BGHfI8G
h3Z%2ByZKeW%2F%2Bh49sQ78eZL28gl%2B%2BH5dRszJHngGTShW0f3KfGhUG8c0db9PKdTpnYXqme3SI9V9y9h8K528bT4qr8qyM6bC9J%2BjB27c
nDphj5BA9%2BJUqgNPhpnNPqIQMEFJ41rykSrpBXe4ismCbaWv7FJ2xYocYpIkvZ4C9oB27NDo9b0kzi4smmFkG%2FJU5%2BtN54HCU%2FvXVMoFn
dSVj4tQv7lfn1I1XCPrJXgWmVbJCNWA%2B5rJw9xYl%2ByDa0k%2BEBj%2Fg38svwi4T4crgYVzoLkKuwIUYfq0puySz1pmxVLM2G4iSE7pCJCQA%
3D%3D; path=/natural-language-classifier/api; secure; HttpOnly
X-Client-IP: 195.212.29.173
X-Global-Transaction-ID: 3738713
X-DP-Watson-Tran-ID: csf_platform_prod_dp01-3738713

{
  "classifier_id" : "2eb68ax27-nlc-156",
  "name" : "TutorialClassifier",
  "language" : "en",
  "created" : "2016-03-01T07:02:15.244Z",
  "url" : "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/classifiers/2eb68ax27-nlc-156",
  "status" : "Available",
  "status_description" : "The classifier instance is now available and is ready to take classifier requests."
}

```

Wie wird „garlic bread“ klassifiziert?

```
Applications Places
File Edit View Search Terminal Help
$ curl -G -u "a243fc21-8c94-43d3-81e1-e0af1382ff3c":"R3bd1SmdsRjF" \
> "https://gateway.watsonplatform.net/natural-language-classifier/api/v1\
> /classifiers/2eb68ax27-nlc-156/classify" \
> --data-urlencode "text=how about some garlic bread"
{
  "classifier_id" : "2eb68ax27-nlc-156",
  "url" : "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/classifiers/2eb68ax27-nlc-156",
  "text" : "how about some garlic bread",
  "top_class" : "bread",
  "classes" : [ {
    "class_name" : "bread",
    "confidence" : 0.9307367409407368
  }, {
    "class_name" : "pasta",
    "confidence" : 0.06926325905926323
  } ]
}
```

(Der ist einfach)

Wie wird „Red onion Gruyère & rosemary fougasse“ klassifiziert?

```

Applications Places
File Edit View Search Terminal Help
$ curl -G -u "a243fc21-8c94-43d3-81e1-e0af1382ff3c":"R3bd1SmdsRjF" \
> "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/\
> classifiers/2eb68ax27-nlc-156/classify" \
> --data-urlencode "text=Red onion Gruyère & rosemary fougasse"
{
  "classifier_id" : "2eb68ax27-nlc-156",
  "url" : "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/classifiers/2eb68ax27-nlc-156",
  "text" : "Red onion Gruyère & rosemary fougasse",
  "top_class" : "bread",
  "classes" : [ {
    "class_name" : "bread",
    "confidence" : 0.7203628075370415
  }, {
    "class_name" : "pasta",
    "confidence" : 0.058286530569542534
  } ]
}

```

Begriffe kommen nicht im Trainingsset vor
werden aber „richtig eingeteilt“

Ablauf Sprachklassifikation

- Anlegen eines neuen Services über das Bluemix Webinterface
- Hochladen eines Trainingssets über die REST API
- Warten
- Erste Anfragen über die REST API Integration Domino Xpages



Natural Language
Classifier

IBM

So könnte eine Anwendung aussehen

XPages Bluemix Fusion

[Home](#)[Database Services](#)[Cloudant](#)[Watson Services](#)[Text To Speech](#)[Text Translation](#)[Image Recognition](#)[Language Classifier](#)

IBM Domino Anwendungen und der Watson Language Classifier

Der Service Natural Language Classifier verwendet Maschinenlernalgorithmen, um für kurze Texteingaben die am besten passenden vordefinierten Klassen zurückzugeben. Natural Language Classifier ist für die Arbeit mit kurzen Texten optimiert und kann für jede beliebige Domäne oder Anwendung trainiert werden.

Texteingabe:



Classify

Powered by IBM Watson

Text Classifiers

bread	92,51%
pasta	7,49%

Eine einfache Domino Maske

mit einem Button der

etwas Java aufruft

*classify - XPage x | ImageRecognition.java x | *Compare LanguageClassification.jav... x | .xsp xpagesFusion2.nsf - Web Service Prov... x | *LanguageClassification.java x

LeftColumn

- Page 1
- Page 2
- Subpage 1
- Subpage 2
- Subpage 3
- Page 3

IBM Domino Anwendungen und der Watson Language Classifier

Der Service Natural Language Classifier verwendet Maschinenlernalgorithmen, um für kurze Texteingaben die am besten passenden vordefinierten Klassen zurückzugeben. Natural für die Arbeit mit kurzen Texten optimiert und kann für jede beliebige Domäne oder Anwendung trainiert werden.

Texteingabe:

Classify

Powered by IBM Watson

Text Classifiers

{classifierName}: {classifierDefault}

Design | Source

Properties | Problems (0 errors, 1 warning, 0 oth... | Events

Events | Outline | Reference

- Mouse
 - onclick
 - ondblclick
 - onmousedown
 - onmouseup
 - onmouseover
 - onmousemove
 - onmouseout
- Focus
- Key

Client | Server

Simple Actions | Script Editor

Write a server-side JavaScript expression to run when the specified event occurs.

```
var text = getComponent("textContent").getValue();
var newText = text.trim();
if (null != newText && newText != "") {
    viewScope.textError = false;
    var result = classify.getClassification(newText);
}
if (null != result) {
    viewScope.watsonTags = result;
} else { println("tag analysis failed"); }
```

.... und der einfache Java Code
der die „bekanntesten URLs“
aufruft

```

import java.util.ArrayList;
import org.apache.http.client.fluent.Response;
import org.apache.http.util.EntityUtils;
import com.ibm.commons.util.io.json.JsonException;
import com.ibm.commons.util.io.json.JsonJavaArray;
import com.ibm.commons.util.io.json.JsonJavaObject;
import com.ibm.xsp.bluemix.util.BluemixContextUtil;
import com.ibm.xsp.bluemix.util.RestUtil;

public class LanguageClassification implements Serializable {
    private static final long serialVersionUID = 1L;
    public static final String SERVICE_NAME = "language_translation";
    public String classifier = "2eb68ax27-nlc-156"; // Hardcoded Watson url/credentials for local testing
    public String baseUrl = "https://gateway.watsonplatform.net/natural-language-classifier/api";
    public String username = "a243fc21-8c94-43d3-81e1-e0af1382ff3c";
    public String password = "R3bd1SmdsRjF";
    private BluemixContextUtil bluemixUtil;
    private RestUtil rest;

    public LanguageClassification() {
        bluemixUtil = new BluemixContextUtil(SERVICE_NAME, username, password, baseUrl);
        rest = new RestUtil();
    }

    public ArrayList<String[]> getClassification(String text) throws URISyntaxException, IOException, JsonException {
        String getUrl = URLEncoder.encode(text, "UTF-8");
        String postUrl = bluemixUtil.getBaseUrl() + "/v1/classifiers/" + classifier + "/classify?text=" + getUrl;
        Response response2 = rest.get(postUrl, bluemixUtil.getAuthorizationHeader());
        String content = EntityUtils.toString(response2.returnResponse().getEntity());
        JsonJavaObject jsonData = rest.parse(content);
        ArrayList<String[]> tags = getSuggestedTags(jsonData);
        return tags;
    }

    public ArrayList<String[]> getSuggestedTags(JsonJavaObject data) {
        ArrayList<String[]> tags = new ArrayList<String[]>();
        JsonJavaArray images = data.getAsArray("classes");
        if (images != null) {
            for (int i = 0; i < images.size(); i++) {
                System.out.println(i);
                JsonJavaObject jsonObj = images.getAsObject(i);
                String tagName = jsonObj.getAsString("class_name");
                double score = jsonObj.getAsDouble("confidence");
                String[] tagInfo = new String[2];
                tagInfo[0] = tagName;
            }
        }
    }
}

```

Das war wirklich nicht schwer.

XPages Bluemix Fusion

[Home](#)[Database Services](#)[Cloudant](#)[Watson Services](#)[Text To Speech](#)[Text Translation](#)[Image Recognition](#)[Language Classifier](#)

IBM Domino Anwendungen und der Watson Language Classifier

Der Service Natural Language Classifier verwendet Maschinenlernalgorithmen, um für kurze Texteingaben die am besten passenden vordefinierten Klassen zurückzugeben. Natural Language Classifier ist für die Arbeit mit kurzen Texten optimiert und kann für jede beliebige Domäne oder Anwendung trainiert werden.

Texteingabe:



Classify

Powered by IBM Watson

Text Classifiers

bread	92,51%
pasta	7,49%

Zusammenfassung

- Einfache Aktivierung von Watson Services aus Bluemix heraus
- Schnelle Integration in Domino Anwendungen möglich
- Was fehlt:
 - Neue Ideen für die Integration von Cognitive Computing

Erweitern Sie Domino Anwendungen um kognitive Elemente wie z.B.

- Natursprachliches Input
- „Menschliche“ Dialoge
- Analyse von „Stimmungen“ in Texten



AlchemyAPI
IBM



Concept Expansion
IBM BETA



Concept Insights
IBM



Dialog
IBM



Document Conversion
IBM



Language Translation
IBM



Natural Language
Classifier
IBM



Personality Insights
IBM



Relationship Extraction
IBM BETA



Retrieve and Rank
IBM



Speech To Text
IBM



Text to Speech
IBM



Watson - bitte helfen Sie



Integration von IBM Bluemix
Watson Services in IBM Domino

Profil | Dateien X



Hagen Bauer
Executive IT Specialist - Social Business and
Collaboration Solutions
IBM
GUSTAV-HEINEMANN-UFER 120, KÖLN,
50968, Germany
hagen.bauer@de.ibm.com
49-7034-6431091

Chat | Weitere Aktionen ▾