

Introduction to Chatbots

Introduction to IBM Watson

Musa Baloyi

August 3, 2018

Introduction to IBM Watson

1. Recap: State of the art
2. Services
3. Programming languages
4. Databases
5. Programming environments
6. Getting started tutorial (part one)
7. References

Services

1. Authorization
2. Assistant
3. Discovery
4. Language Translator
5. Natural Language Classifier
6. Natural Language Understanding
7. Personality Insights
8. Speech to Text
9. Text to Speech
10. Tone Analyzer
11. Visual Recognition

Authorization

- ▶ The Authorization service can generate auth tokens for situations where providing the service username/password is undesirable.
- ▶ Tokens are valid for 1 hour
- ▶ Services now use Identity and Access Management (IAM) authentication
- ▶ To access API methods by using IAM, you must first collect the credentials from the service dashboard.
- ▶ IBM recommends that you use authentication to generate the access token.



The screenshot shows the 'Credentials' section of the IBM Cloud IAM console. It displays a generated API key and its associated details. The API key is '30f...Y7Pc9'. The details include the API key description, name, CRN, service ID CRN, and the URL for the API endpoint.

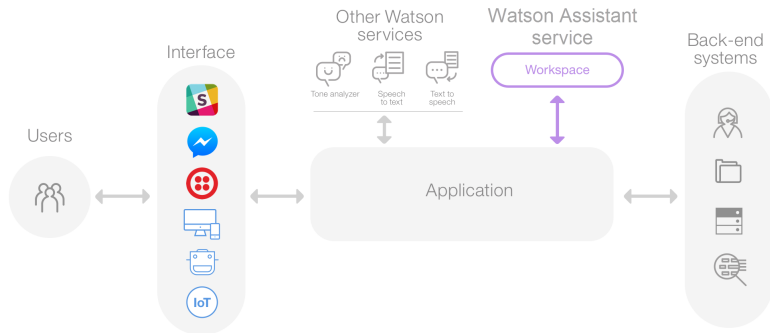
```
{
  "apikey": "30f...Y7Pc9",
  "iam_apikey_description": "Auto generated apikey during resource-key c",
  "iam_apikey_name": "auto-generated-apikey-31b336bc-046d-4c9d-b4c8-100e",
  "iam_role_crn": "crn:v1:bluemix:public:iam::::serviceRole:Manager",
  "iam_serviceid_crn": "crn:v1:public:iam-identity::a/57d48380d8240fb05f",
  "url": "https://gateway-s.watsonplatform.net/{service_name}/api"
}
```

Assistant

- ▶ Formerly Conversation
- ▶ Use the Assistant service to determine the intent of a message.

```
1 var AssistantV1 = require('watson-developer-cloud/  
  assistant/v1');
```

Assistant



- Build a solution that understands natural-language input and uses machine learning to respond to customers in a way that simulates a conversation between humans.

Discovery

- ▶ Use the Discovery Service to search and analyze structured and unstructured data.

```
1 var DiscoveryV1 = require('watson-developer-cloud/  
  discovery/v1');
```

Language Translator

- Translate text from one language to another or identify a language using the Language Translator service.

```
1 var LanguageTranslatorV3 = require('watson-developer-cloud/language-translator/v3');
```


Natural Language Classifier

- ▶ Use Natural Language Classifier service to create a classifier instance by providing a set of representative strings and a set of one or more correct classes for each as training.
- ▶ Then use the trained classifier to classify your new question for best matching answers or to retrieve next actions for your application.

```
1 var NaturalLanguageClassifierV1 = require('watson-developer-cloud/natural-language-classifier/v1');
```

Natural Language Understanding

- ▶ Use Natural Language Understanding is a collection of natural language processing APIs that help you understand sentiment, keywords, entities, high-level concepts and more.
- ▶ The fs module allows you to work with the file system on your computer.

```
1 var fs = require('fs');  
2 var NaturalLanguageUnderstandingV1 = require('watson-developer-cloud/natural-language-understanding/v1.js');
```

Personality Insights

- ▶ Analyze text in English and get a personality profile by using the Personality Insights service.

```
1 var PersonalityInsightsV3 = require('watson-developer-cloud/personality-insights/v3');
```

Speech to Text

- ▶ Use the Speech to Text service to recognize the text from a .wav file.

```
1 var fs = require('fs');  
2 var SpeechToTextV1 = require('watson-developer-cloud/  
  speech-to-text/v1');
```

Text to Speech

- Use the Text to Speech service to synthesize text into a .wav file.

```
1 var fs = require('fs');  
2 var TextToSpeechV1 = require('watson-developer-cloud/  
  text-to-speech/v1');
```

Tone Analyzer

- ▶ Use the Tone Analyzer service to analyze the emotion, writing and social tones of a text.

```
1 var ToneAnalyzerV3 = require('watson-developer-cloud/  
tone-analyzer/v3');
```

Visual Recognition

- ▶ Use the Visual Recognition service to recognize pictures.

```
1 var fs = require('fs');  
2 var VisualRecognitionV3 = require('watson-developer-  
  cloud/visual-recognition/v3');
```

Development support

- ▶ NodeJS
- ▶ Python
- ▶ Java
- ▶ .Net
- ▶ Ruby
- ▶ Swift
- ▶ Unity
- ▶ Salesforce Apex
- ▶ Botkit
- ▶ Spring Boot
- ▶ Android

Databases

- ▶ Cloudant

Programming environments

- ▶ CloudFoundry
- ▶ IBM Cloud, formerly BlueMix

Getting started tutorial (part one)



References

1.