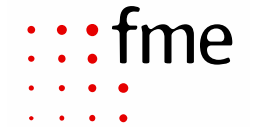


AWS Conversational ML Services and ECM

AWS Community Days 2018 Frankfurt – Machine Learning Track



fme AG

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Just a moment...



...checking the Infrastructure

OpenText Documentum Status:

Refreshed at: Wed Sep 26 2018 12:42:40 GMT+0200 (Mittleeuropäische Sommerzeit)

Database EC2	●	Offline
Content Server EC2	●	Offline
Database	●	Offline
Content Server	●	Offline
Documentum Administrator	●	Offline
Webtop	●	Offline
Rest Services	●	Offline
Controller Application	●	Offline

Last command: (STOP) at 2018-09-25 18:07:41 ● Success

[View log](#)

AWS Community Days 2018

Machine Learning Track



Extending an Enterprise Content Management System with conversational functions using application-level Machine Learning services from AWS



Amazon Alexa
@alexadevs



Dr. Konstantin Troshin
@konstl000

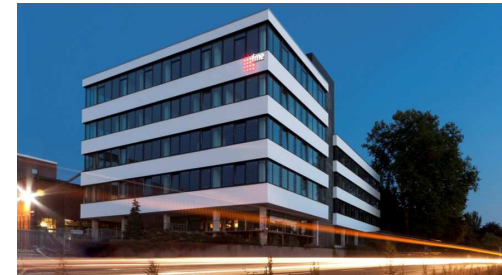


Markus Oponczewski
@moponczewski

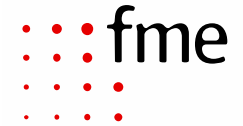
fme – Who we are





-  Consulting - Digital Transformation / Cloud Computing / ECM
-  (DE) Braunschweig, Munich, Frankfurt - (US) Danbury – (RO) Cluj-Napoca
-  250+ Talented People & Dedicated Professionals
-  Tech & Passion (& Fun)
-  Target Industries - Enterprise Companies in Automotive & LifeSciences
-  Partners & Domain Expertise: AWS – Pivotal – ForgeRock






Why This Showcase ?



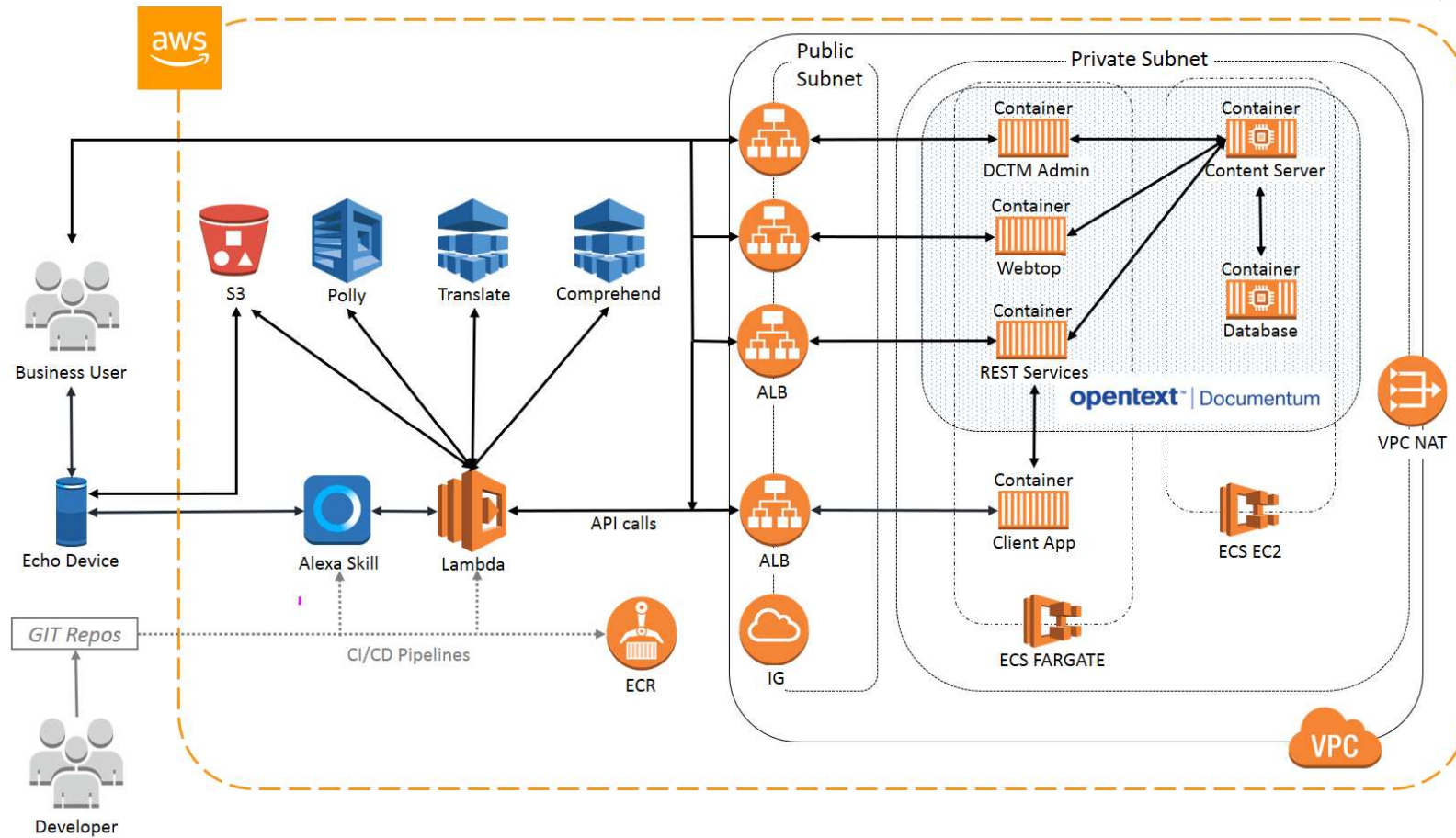
Intention

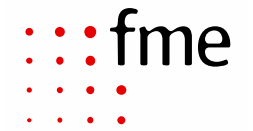
-  Many customers within context of Enterprise Content Management (ECM)
-  Howto improve behaviour of such “Dinosaur“ platforms and applications

Goals

-  Amazon Alexa voice control to extend the operating options
-  Enhance content related functionality with AWS ML services
-  Cloud + Agile Principles: MVP – DevOps (CI/CD, IaC) – API, Containerization, ...

Architecture





Demo Time

Or have a look at

<https://www.youtube.com/watch?v=jKGaeEI8m5g>

Lessons learned

Polly & Translate



- ✓ Polly generates an mp3 file that can be saved in S3 and then played by the player in an Echo device
- ⊖ Alexa cannot access private files in S3 directly =>use of signed URLs
- ⊖ To use the player, the Alexa session has to be closed (will maybe solved with next features of Alexa)

- ⊕ Works fast and well for European languages
- ⊖ Any translation not directly involving English has to be a double translation
- ⊖ More "exotic" languages are still somewhat subpar

Lessons learned

AMAZON.LITERAL Slots



Why are LITERAL slots great?



- ⊕ Flexibility on the user side
- ⊕ Flexibility on the developer side (no need to prepare a vocabulary)

Why are literal slots not so great?



- ⊖ Alexa does not understand every word
- ⊖ Even more troublesome for non-native speakers
- ⊖ It is possible to give Alexa examples, but as more examples are defined, the less does Alexa understand other words
- ⊖ As soon as even one LITERAL slot is used, the whole skill can not use dialogs anymore (even in intents that do not have any slots at all)

Lessons learned

Developing Alexa Skills: Balance between restrictions and chaos



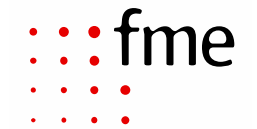
"Human-like skill"



"Swiss-watch-like skill"

- ✓ Intents can be invoked in various ways
- ✓ LITERAL slots allow for even more flexibility
- ⊕ No need to memorize keywords
- ⊕ More fun to use
- ⊕ No need for frequent updates
- ⊖ Alexa might not understand the user and do some random stuff instead of the requested action

- ✓ Distinct keywords for every intent
- ✓ Pre-defined vocabularies make sure that the slots are also interpreted correctly
- ⊕ Alexa does exactly what you ask for
- ⊖ User has to memorize and use the keywords precisely
- ⊖ The model has to be updated every time once a new value for a slot has to be used
- ⊖ More boring to use



It's fme you love to work with.

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