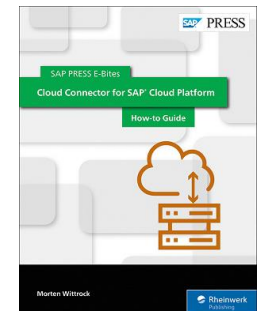


WHO AM I?

- _ Morten Wittrock
- _ Architect at SAP partner KMD in Denmark
- _ Organizer of the Copenhagen SIT
- _ SAP Mentors program alumnus
- _ SAP PRESS author
- _ @CPITracker developer
- _ Detroubulator project founder
- _ I blog at <https://people.sap.com/mortenw>
- _ Twitter: [@mwittrock](https://twitter.com/mwittrock)



-
- _ Official name: SAP Cloud Platform SDK for service development
 - _ A Java SDK for building OData services on Cloud Foundry
 - _ Its goal is to make your life easier when writing OData services in the cloud
 - _ Uses Apache Olingo behind the scenes
 - _ Announced at TechEd Las Vegas in 2017

WHAT IS ODATA?

- _ The name is short for Open Data Protocol
- _ Originally created by Microsoft, now an OASIS standard
- _ REST APIs:
 - _ Are a collection of services based on the HTTP protocol
 - _ Identify resources by URLs
 - _ Map operations to HTTP verbs
 - _ Retrieve = `GET`, create = `POST`, etc.
 - _ Typically return data in JSON format
- _ OData is a structured way to describe REST API metadata





Onsi Fakhouri
@onsijoe

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cf push haiku

here is my source code
run it on the cloud for me
i do not care how

2:18 PM - 12 May 2015

68 Retweets 104 Likes



WHAT IS CLOUD FOUNDRY?

- _ Open-source PaaS released in 2011
- _ Runs on top of IaaS resources by multiple vendors
- _ Cloud Foundry containerizes the application with all libraries, dependencies etc.
- _ I.e. your applications are independent of the underlying infrastructure
- _ Drives SAP's multi-cloud strategy
- _ Interact with Cloud Foundry through:
 - _ The SAP Cloud Platform Cockpit
 - _ The Cloud Foundry CLI tool



CLOUD FOUNDRY

- _ Buildpacks provide runtimes for different languages and frameworks
- _ Similar to the Neo runtimes, but generalized
- _ Some buildpacks are supported by SAP (Node.js, SAP Java)
- _ Others are community supported (Go, PHP, Ruby, Python, etc.)
- _ List available buildpacks with `cf buildpacks`

```
C:\>cf buildpacks
Getting buildpacks...

buildpack      position  enabled  locked  filename
staticfile_buildpack  1         true    false   staticfile-buildpack-v1.4.18.zip
java_buildpack   2         true    false   java-buildpack-v4.6.zip
ruby_buildpack   3         true    false   ruby-buildpack-v1.7.5.zip
nodejs_buildpack 4         true    false   nodejs-buildpack-v1.6.10.zip
go_buildpack     5         true    false   go-buildpack-v1.8.13.zip
python_buildpack 6         true    false   python-buildpack-v1.6.1.zip
php_buildpack    7         true    false   php-buildpack-v4.3.43.zip
binary_buildpack 8         true    false   binary-buildpack-v1.0.15.zip
dotnet_core_buildpack 9         true    false   dotnet-core-buildpack-v1.0.30.zip
sap_java_buildpack 10        true    false   sap_java_buildpack-v1.6.15.zip
```

- _ In Cloud Foundry terminology, services are resources such as databases and messaging queues
- _ SCP's CF environment offers services like Redis, MongoDB, PostgreSQL and RabbitMQ
- _ Service instances are provisioned from the so-called marketplace
- _ A service can have multiple plans
- _ List available services with `cf marketplace`

```
C:\>cf marketplace
Getting services from marketplace in org S0016675790trial_trial / space dev as mrw@kmd.dk...
OK

service      plans      description
application-logs  lite      Stream logs of bound applications to central application logging stack
autoscaler      lite      Automatically increase or decrease the number of application instances based on a policy you define.
connectivity    lite      Establishes a secure and reliable connectivity between cloud applications and on-premise systems.
destination     lite      [BETA] Provides a secure and reliable access to destination configurations
feature-flags   lite      Feature Flags service for controlling feature rollout
hanatrial      hdi-shared SAP HANA trial database
html5-apps-repo app-host, app-runtime [BETA] Enables storage of HTML5 applications and provides runtime environment for HTML5 applications.
jobscheduler    lite      [Beta] Allows you to define and manage your jobs that run on one-time or recurring schedules
mongodb         v3.0-dev  Store JSON-like documents in a document-oriented database.
portal-services site-host*, site-content*, site-app* Easily create SAP Fiori launchpad business sites for employees, customers and partners.
postgresql      v9.4-dev  Relational database with an object-oriented model.
rabbitmq        v3.6-dev  RabbitMQ messaging
redis           v3.0-dev  Use Redis to store data structures, in-memory.
xsuaa           application Manage application authorizations and trust to identity providers.

* These service plans have an associated cost. Creating a service instance will incur this cost.
```

WHAT IS MAVEN?

-
- _ An open-source build tool for Java code
 - _ Manages external library dependencies for you
 - _ Libraries are downloaded from central repositories
 - _ I.e. you don't download the SDK; Maven does
 - _ Maven archetypes are project templates



A CLOSER LOOK AT THE SDK

-
- _ Based on Java 8
 - _ Node.js is on the roadmap
 - _ Work in whichever IDE or editor you prefer
 - _ Java annotations describe your service (one for each operation)
 - _ `@Query(serviceName = "SITWDFService", entity = "Participants")`
 - _ No inheritance or interfaces to implement
 - _ Built-in support for OData and CDS backends
 - _ A Maven archetype constructs a project structure for you

THE FOUR STEPS TO CREATING A SERVICE

-
1. Create a new project using the Maven archetype
 2. Add metadata to describe the service and Java code to implement it
 3. Build the project with Maven
 4. Deploy the service to Cloud Foundry

SOFTWARE USED IN THE DEMO

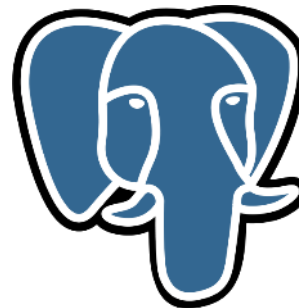
- _ Java 8 JDK
- _ Maven
- _ Cloud Foundry CLI tool
- _ Visual Studio Code
- _ PostgreSQL CLI tool
- _ Postman



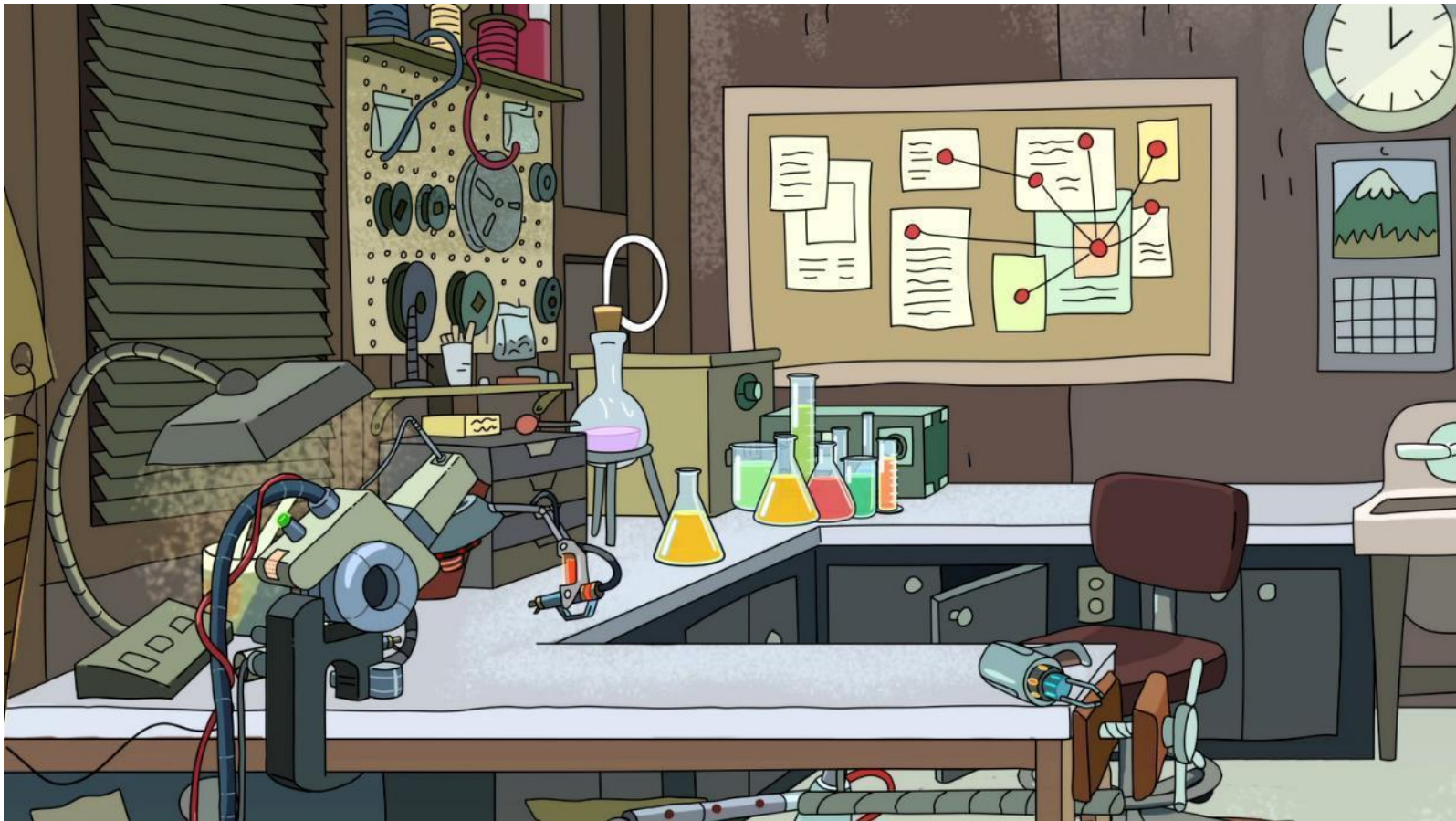
CLOUDFOUNDRY



POSTMAN



DEMO: LET'S BUILD A SERVICE!



[SDK documentation](#)

[SDK tutorials](#)

[OData documentation](#)

[Apache Maven](#)

[Cloud Foundry documentation](#)

[Cloud Foundry CLI tool](#)