

Paving the Road for 30.000+ developers

Dirk Lehmann, SAP



Who we are and what we do

- Founded 1972
- Enterprise software
 - Tailored for ~25 industries
- 99 of the 100 largest companies in the world are SAP customers
- 112.632 employees worldwide (30.09.2022)
 - 130 locations worldwide
 - ~30.000 Developers



How we do stuff

- Technology
 - ABAP (Advanced Business Application Programming)
 - Own proprietary language and technology stack in (mainly) core ERP suite
 - Non-ABAP
 - Java ~30%
 - JavaScript ~15%
- Channels
 - On-Premise, Cloud, Hybrid, Mobile
 - Multi-Cloud Strategy (Hyperscalers + own 66 Data Centers)

```
CLASS zbp_generate_bookings_xxx DEFINITION
       PUBLIC
       FINAL
       CREATE PUBLIC .
       PUBLIC SECTION.
         INTERFACES if oo adt classrun.
       PROTECTED SECTION.
       PRIVATE SECTION.
     ENDCLASS.
10
11
12
13
     CLASS zbp_generate_bookings_xxx IMPLEMENTATION.
14
15
       METHOD if_oo_adt_classrun~main.
         DATA: it bookings TYPE TABLE OF ztbooking xxx.
16
17
18
          read current timestamp
19
         GET TIME STAMP FIELD DATA(zv tsl).
        fill internal table (itab)
20
         it bookings = VALUE #(
21
             ( booking = '1' customername = 'Buchholm' numberof
22
               country = 'Germany' dateofbooking ='20180213125959
23
24
              booking = '2' customername = 'Jeremias' numberof
               country = 'USA' dateofbooking ='20180313125959' da
25
26
          ).
27
28
         Delete the possible entries in the database table - in o
29
         DELETE FROM ztbooking xxx.
30
         insert the new table entries
31
         INSERT ztbooking xxx FROM TABLE @it bookings.
32
33
         check the result
         SELECT * FROM ztbooking_xxx INTO TABLE @it_bookings.
34
        out->write( sy-dbcnt ).
35
         out->write( 'data inserted successfully!' ).
36
37
38
       ENDMETHOD.
39
     ENDCLASS.
```

(Some) challenges from engineering side

1972

~25 industries

Mobile

...largest companies

in the world

Non-ABAP

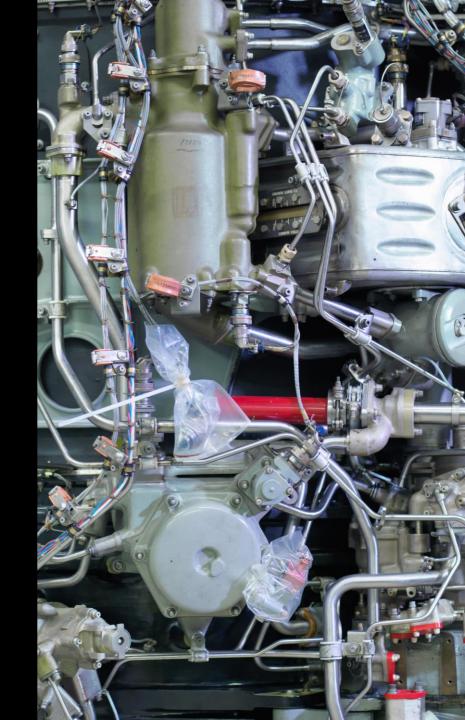
~30.000 Developers

ABAP

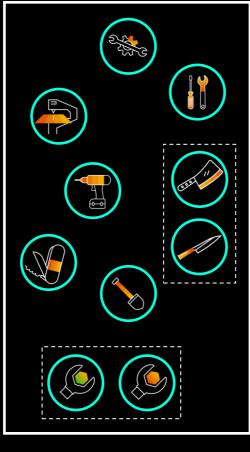
Cloud

On-Premise

Hybrid



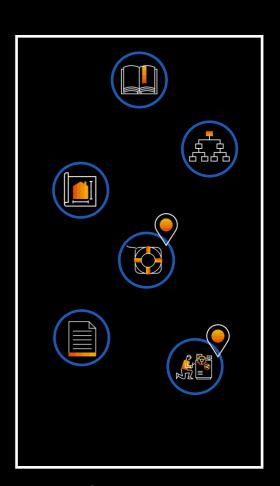
What we did in the past







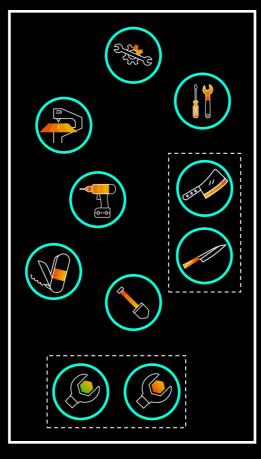
Process Requirements



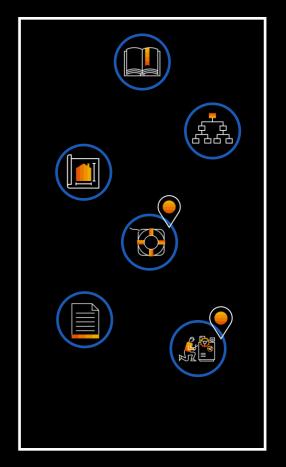
Guidelines

What we did in the past









Tools

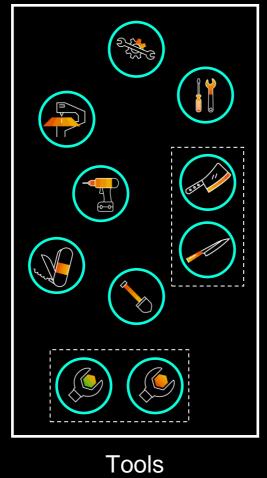
Process Requirements

Guidelines

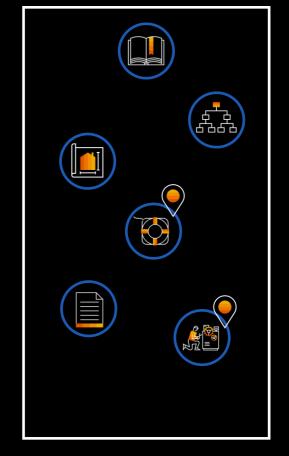
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Shift left all the things









Process Requirements

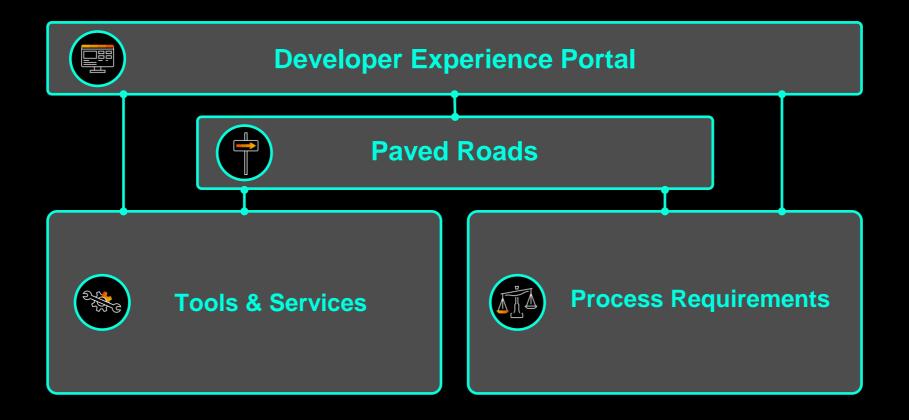
Guidelines

"Good developer experience allows for shift left"

James Governor, Analyst and Co-Founder RedMonk

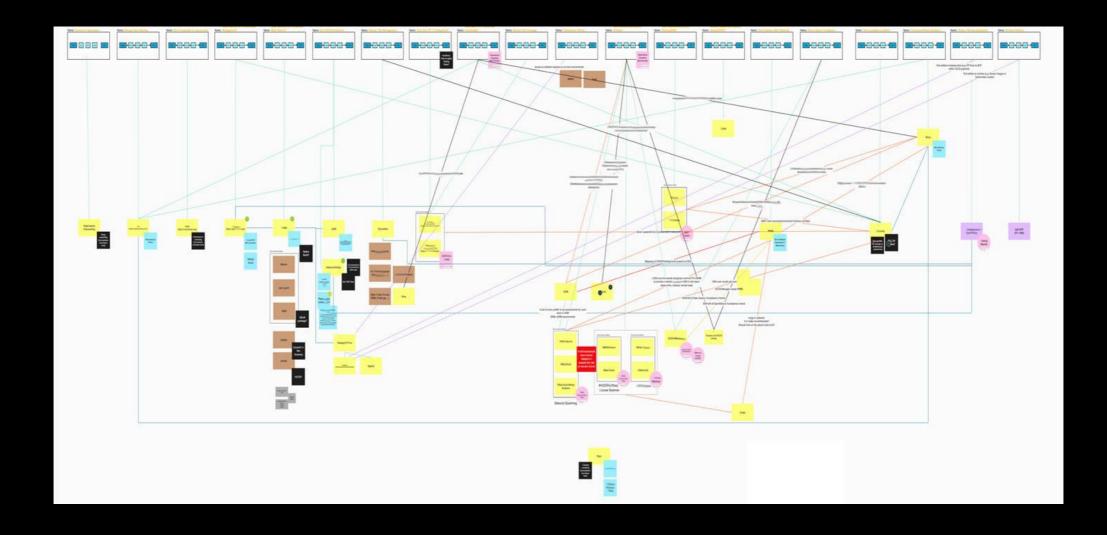
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Hyperspace: SAPs internal CI/CD platform



At least we tried





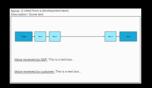


Development Procedures

"Things an engineering team needs to do, in order to ship software at SAP"



Development Procedures

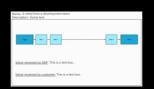


Trigger: "I want to use an Open Source library in my application"

Value: "Faster mean time to ship code, while staying compliant and secure."



Development Procedures





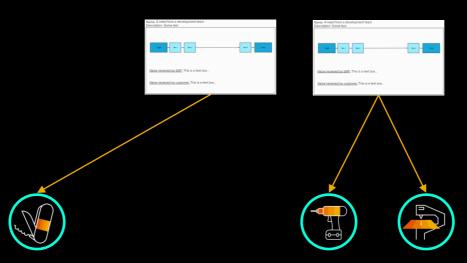
Trigger: "I need to manage and share my team's backlog"

Value: "Transparency on work and deliveries"



Development Procedures

Tools and Services

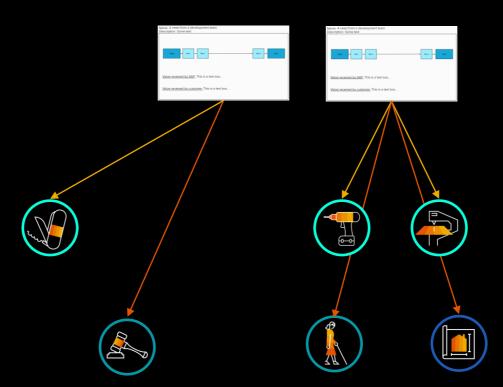




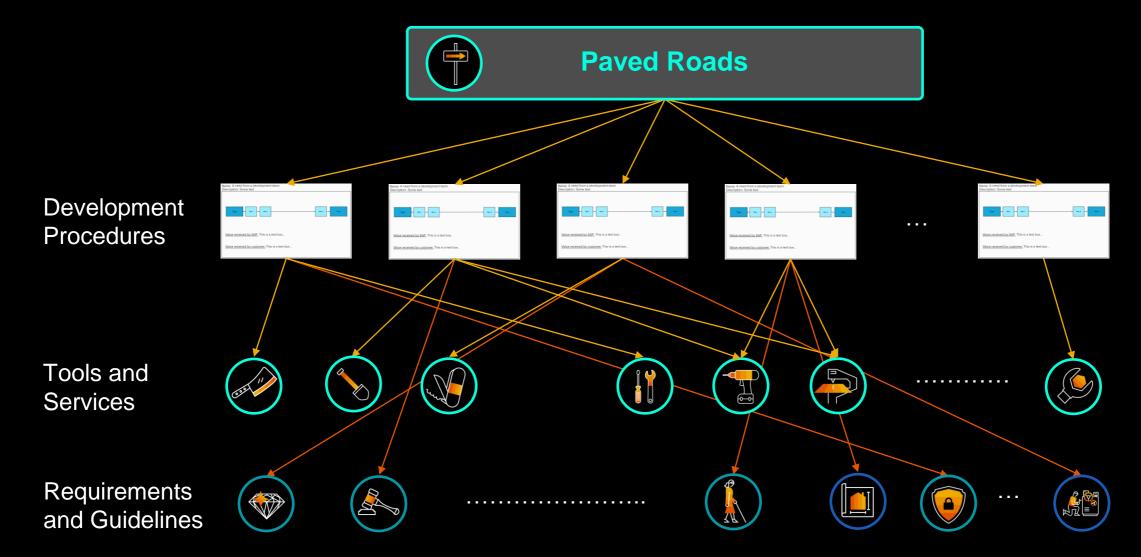
Development Procedures

Tools and Services

Requirements and Guidelines

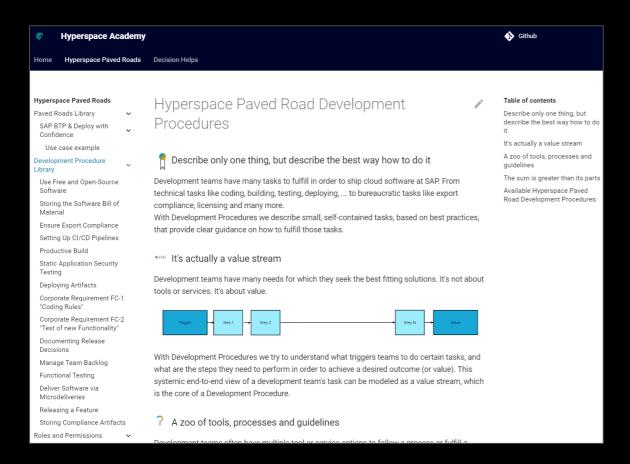


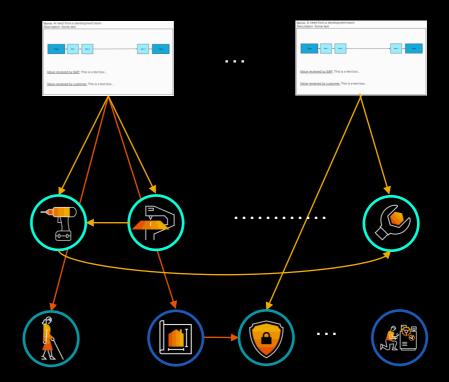




Value Streams everywhere







What we as provider see

What the engineering teams see

"Would have saved us weeks of work, if it would have existed 1.5yrs ago."

Paved Road customer

What's next on the Paved Roads?



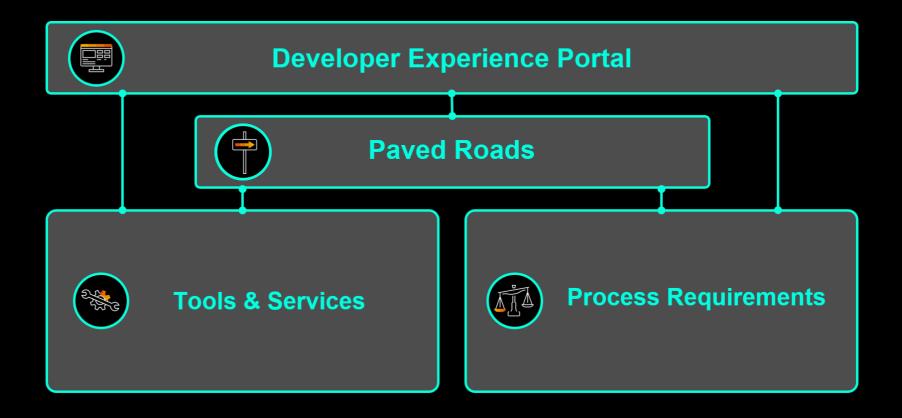
- Add more Development Procedures to extend the scope of the Paved Roads
 - Add more Development Procedures on e.g. Operations, Cultural Transformation, ...
 - Keep the total number of Development Procedures as minimal as possible
- Add more Paved Roads
 - Context specific for the various technology stacks and programming languages
 - Reuse the existing Development Procedures to build new Paved Roads
 - Use only a minimal number of "domain" specific Development Procedures (which only fit to one Paved Road)

Learnings on creating the Paved Roads?



- Limit your scope, overwise complexity will kill you
 - Focus only on a small part of the overall value stream
 - Divide and conquer
 - Make the first scope as narrow as feasible
 - It's ok, if the scope looks utopic with too few adoption cases in "real world"
 - For the first version(s):
 - Adoption metrics are a false friend
 - Your goal is to provide transparency and to gain insights into complex structures. Not adoption!
- Start with the as-is situation
 - Improve with later versions, once you have transparency on the complete system
- Clear ownership on the Development Procedures / Paved Roads (-> Value Streams)

Learnings on our CI/CD Platform



Learnings on our CI/CD Platform

Paved Roads

Tools & Services

Tools & Services

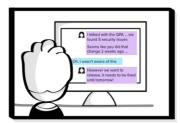
- Never, ever mandate the platform
 - It would kill innovation
 - Platforms focuses on the known
 - Innovation focuses on the unknown
 - Breaks and honest feedback loop
- Put responsibility for larger value stream parts into one organization
 - Distributed setting causes lot of (unnecessary) friction
- Paved Roads / Golden Paths are your friend
 - Help to get systemic view
- It's a marathon. It takes times to change status quo.
 - Esp. in big companies
- Tell your vision as a story
 - People see/hear/understand in different way
 - Paint a picture in their head

Share a vision as a story



Vision of Hyperspace – Engineer POV

Scene 01



Timur gets disrupted by an urgent incident. He was actually finishing his day. Now he has to do a nightshift.

Scene 02

The day after, Timur meets his friend Paul for an after-work drink. Timur has to vent his frustration.

Scene 03



Paul explains what his life looks like since he uses Hyperspace. He can track all his changes and gets notified immediately if something went wrong.

Scene 04



Paul has an overview of all tasks related to this change sorted by relevance. He even gets recommendations how to tackle them.

Scene 05



In case Paul don't know how to resolve an issue, he can easily request help from an Expert.

Scene 06



The security expert Ema gets notified. And takes over Pauls issue.

Scene 07



Paul explains how his life changed to the good. Timur gains hope and can't wait to discuss Hyperspace with his teammates.

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Thank you.

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