



Development Processes with gCTS

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Public

Agenda

gCTS basics

CI process with gCTS

Development with gCTS, Registry and BAdI implementation

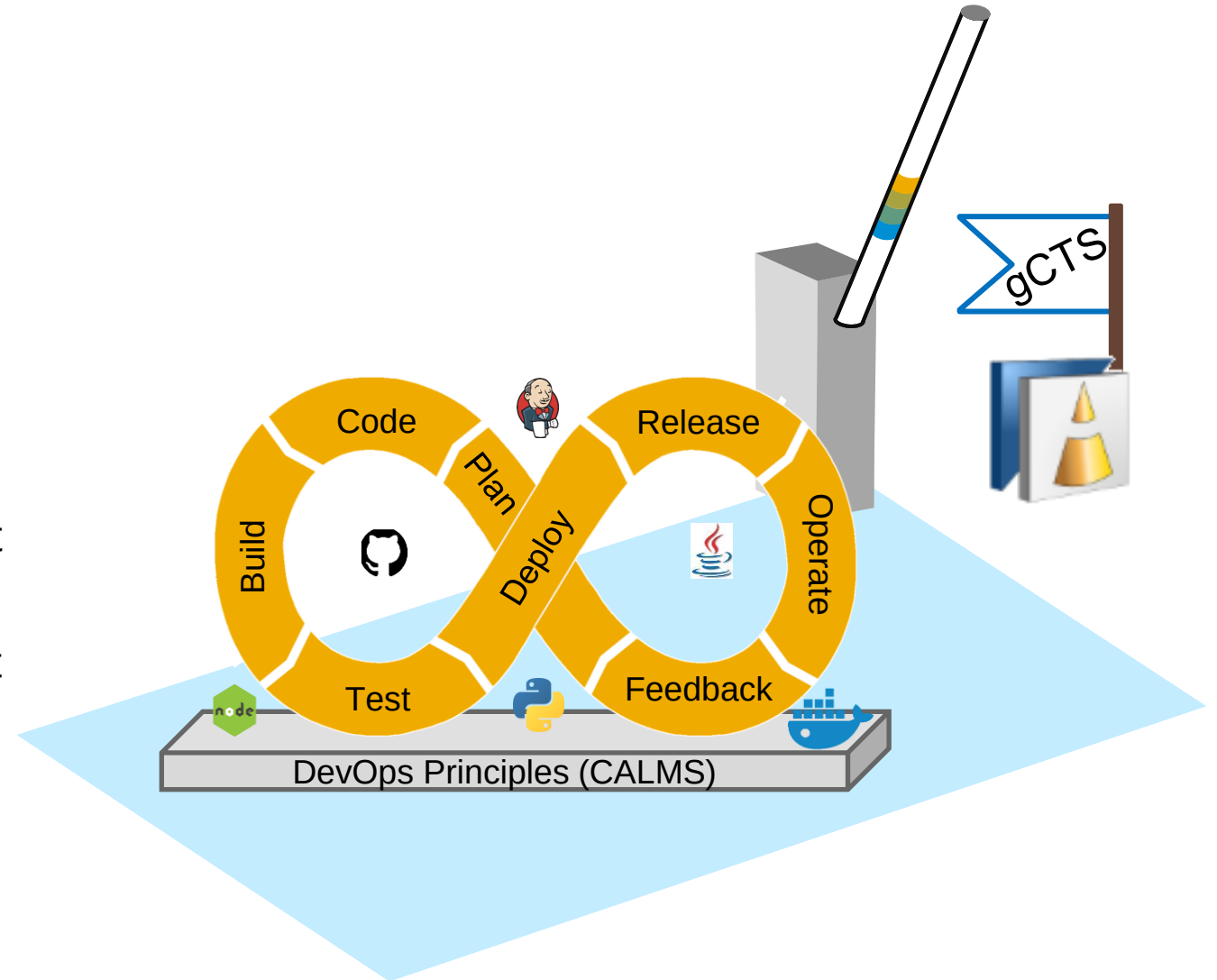
gCTS@SAP

Why gCTS?

DevOps – get ABAP in

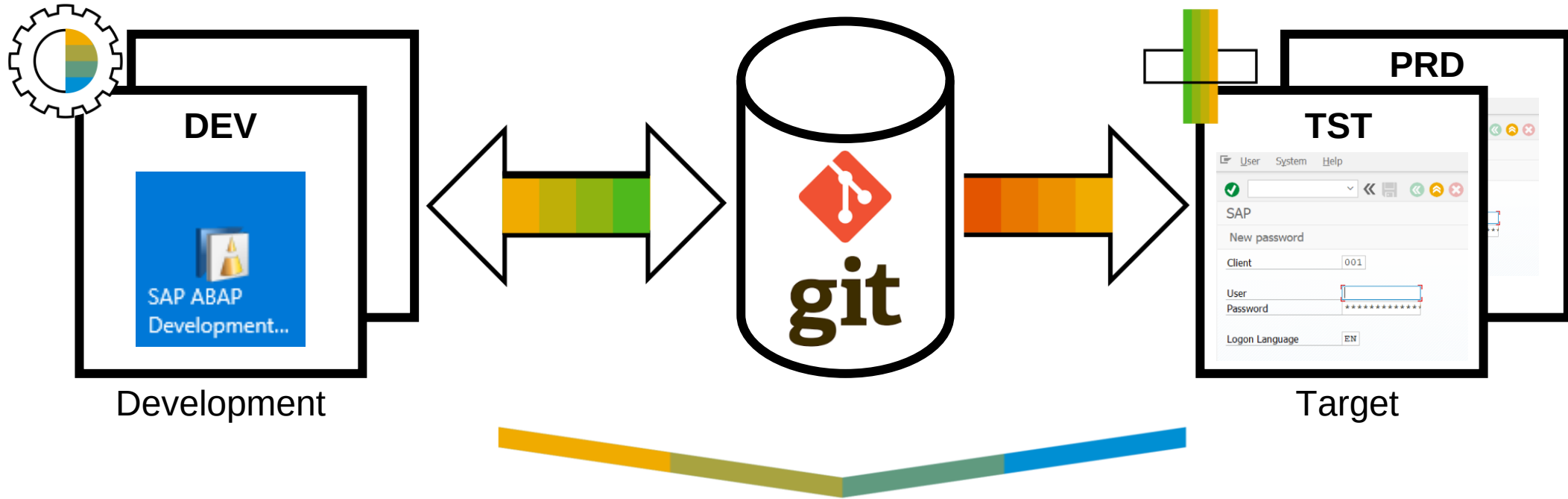
It should be possible to add ABAP to the DevOps world

- To share source code on Git
 - To enable automation of development processes via pipelines
 - To manage ABAP development similar to what you do in other languages and environments
- ➔ This is what Git-enabled CTS (gCTS) aims at



Why gCTS?

The idea



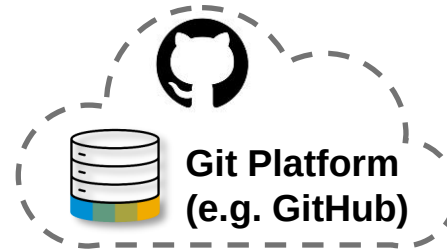
 CTS*   git  gCTS

* Change and Transport System

Which systems do I need?

Git platform

- To host your repositories

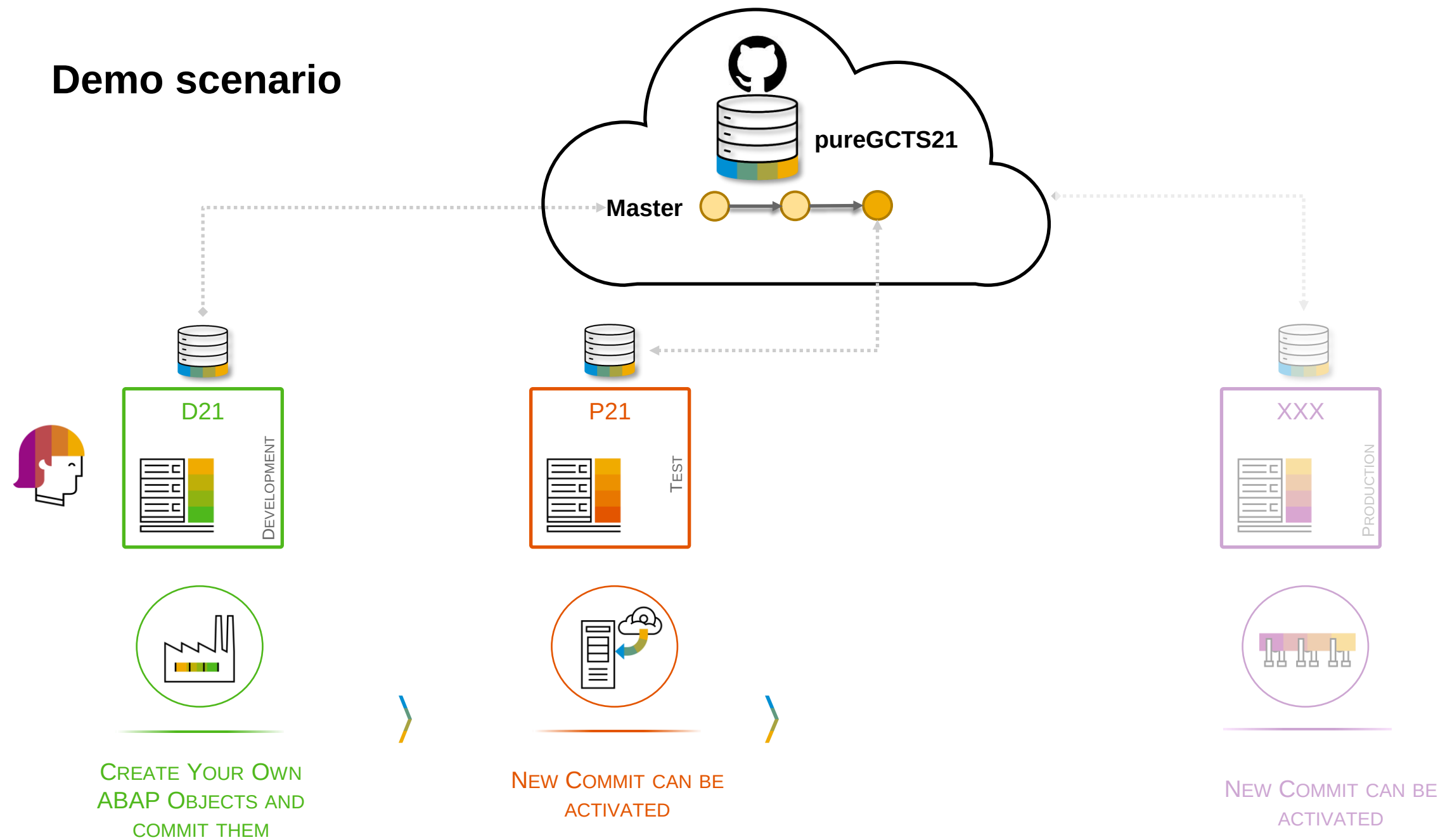


ABAP systems

- E.g. development, test and production system



Demo scenario



Demo



Agenda

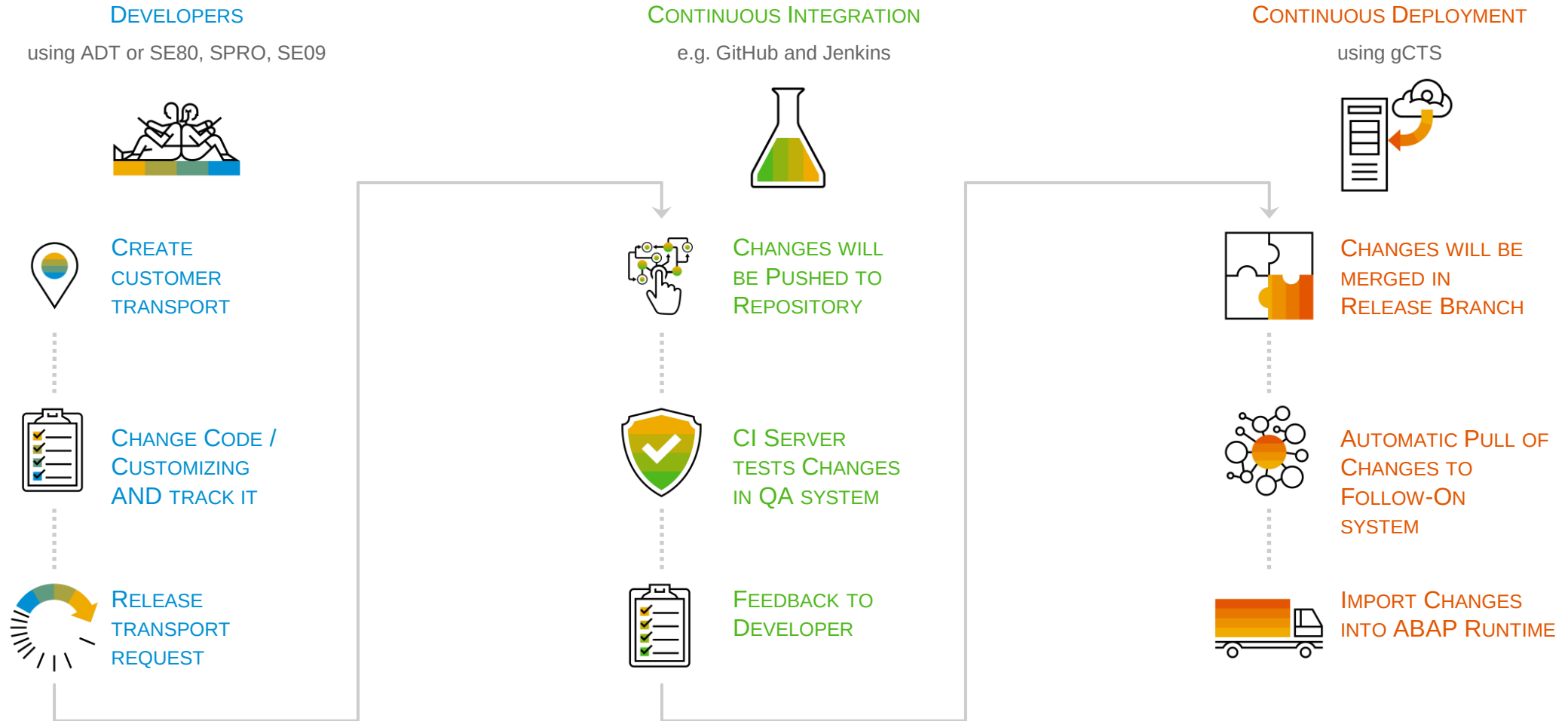
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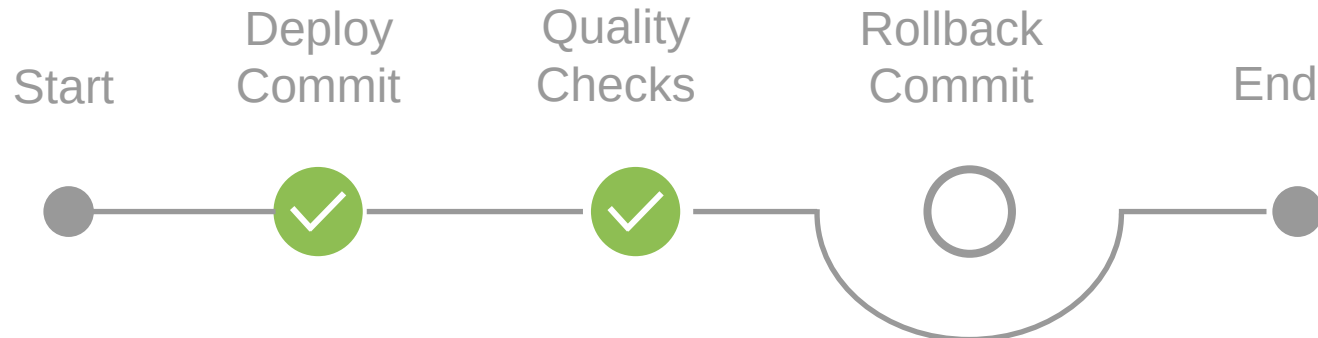
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ABAP software lifecycle process



Project 'Piper' – available Steps



Library Steps in Project ,[Piper](#)'

[gctsCloneRepository](#)

[gctsCreateRepository](#)

[gctsDeploy](#)

[gctsExecuteABAPQualityChecks](#)

[gctsRollback](#)

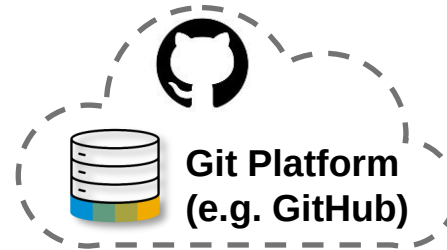
Scenario description:

[Set up a Pipeline-Based ABAP Development and Testing Process Using Git-Enabled Change and Transport System](#)

Which systems do I need?

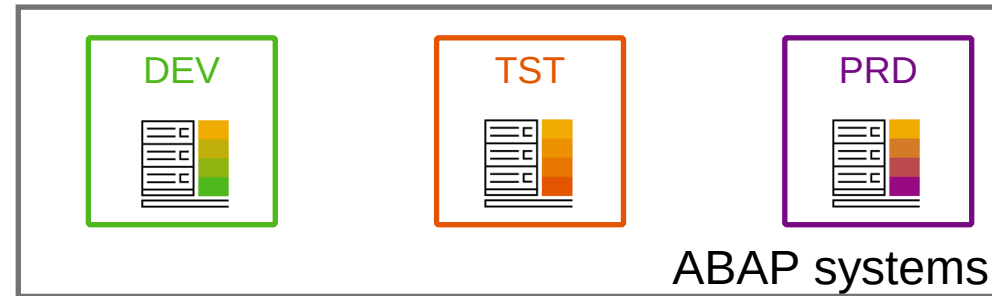
Git platform

- To host your repositories



ABAP systems

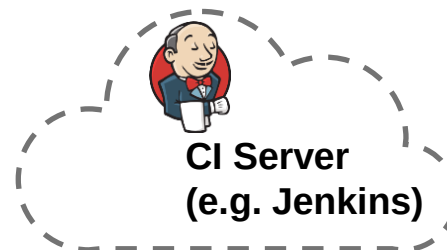
- E.g. development, test and production system



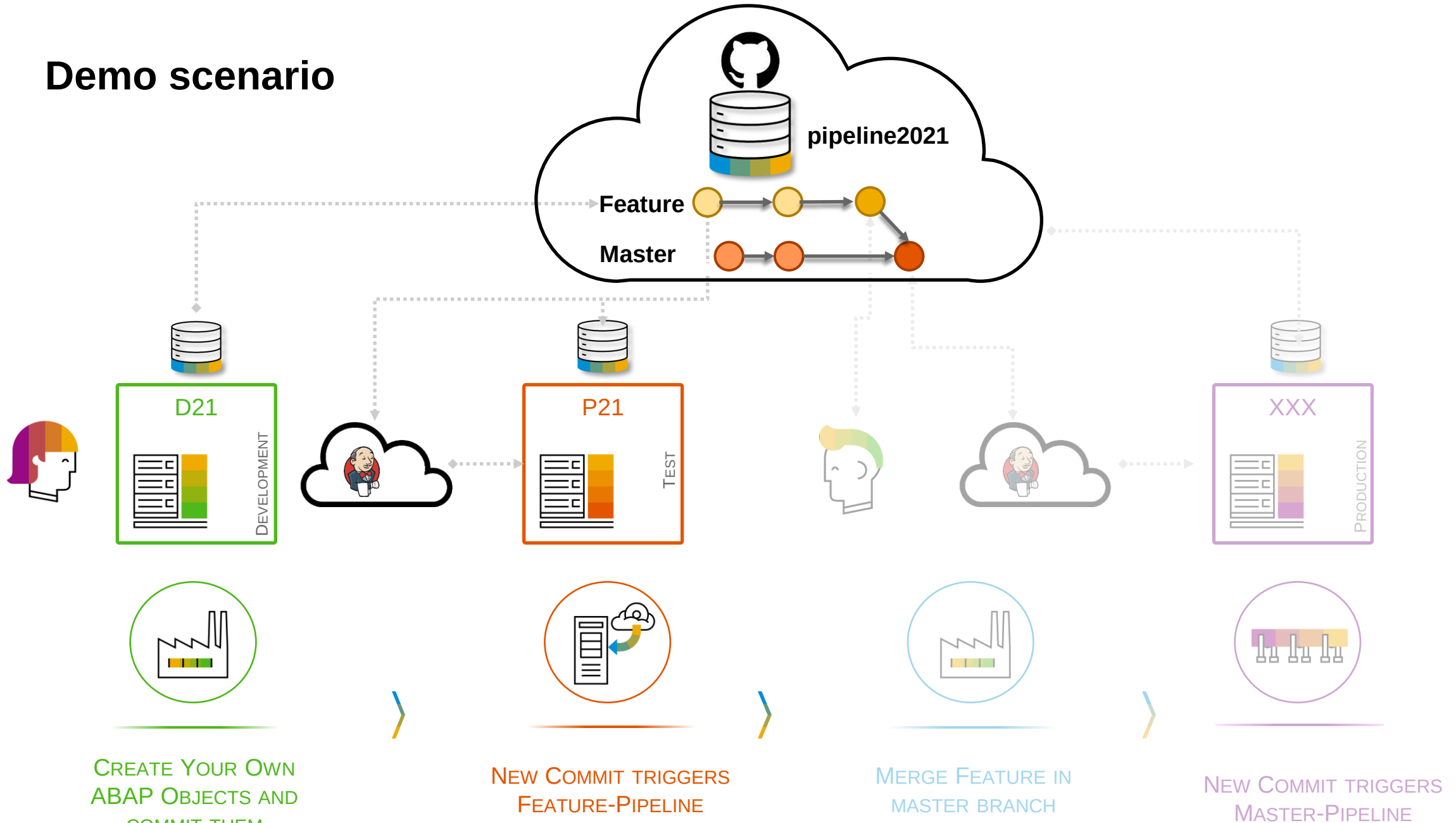
MUST
optional

CI server

- To host your pipelines



Demo scenario



Demo



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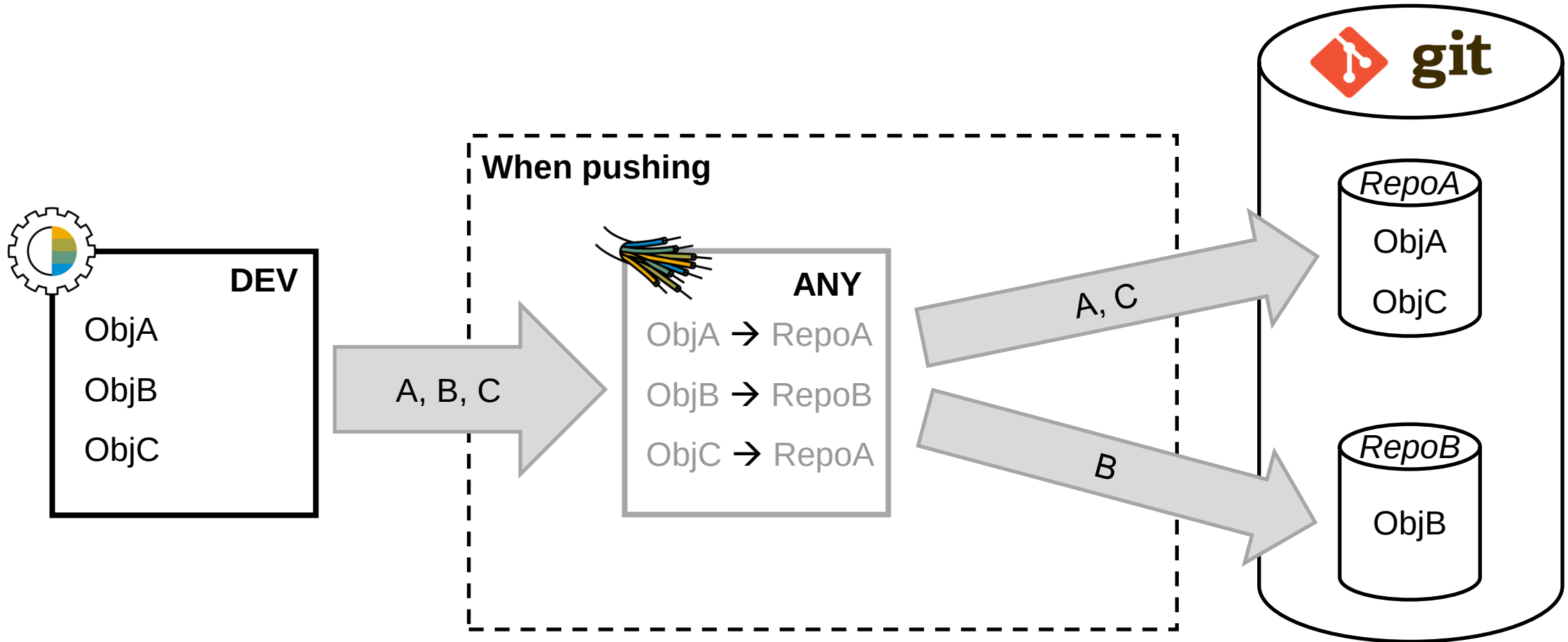
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Introduction to the registry

The idea of the registry

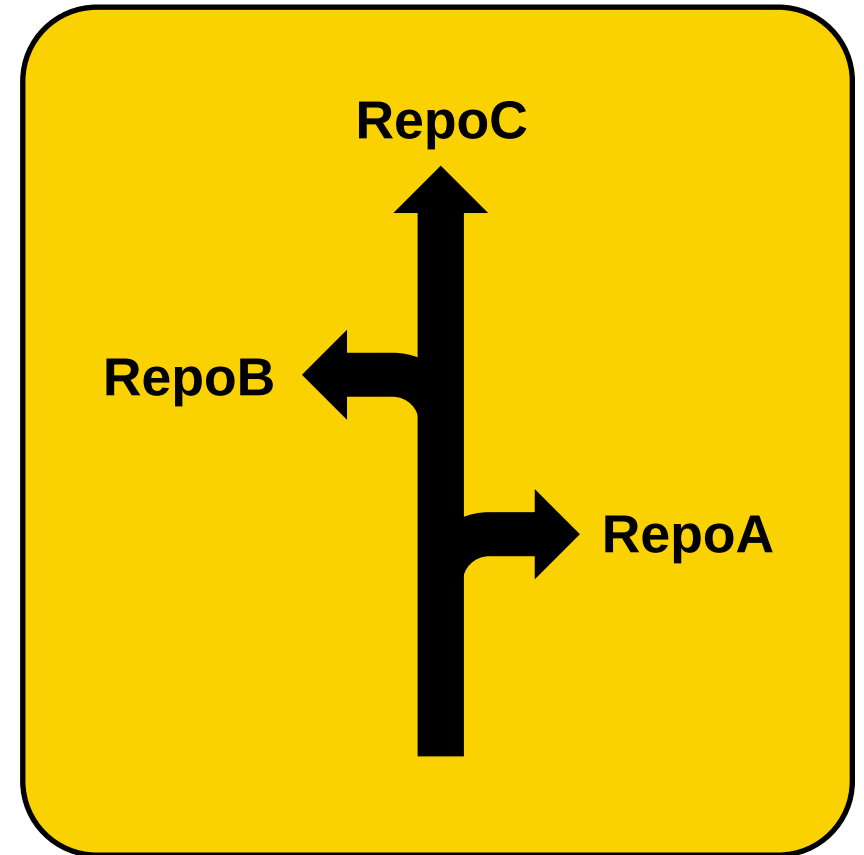


gCTS registry is an option to centrally assign objects and packages to repositories

Introduction to the registry

Facts about the registry

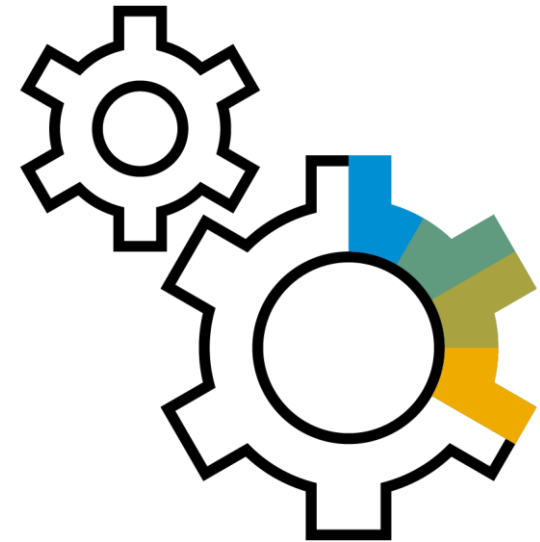
- Registry knows to which repository a certain object shall be pushed, especially if several repositories are in place.
- One persistent ABAP system hosts the registry
 - Should always be up and stable
 - Must *not* be overwritten (e.g. by system refresh)
- Registration can be done from any connected system
- Using the registry allows to work with a stable STMS configuration
- Registry is recommended when Customizing is managed via gCTS
- Requires implementing a BAdI ("Business Add-In") to get integrated in development process



Make the Git repository part of your development process

What does that mean?

- Commits can be done during task release
 - so that intermediate states of development can be tested in a test system (not only when transport are released which is widely understood as a statement of readiness)
- This enables automated test execution controlled by pipelines
- Automatic branch handling
- Automatic check of branch state before a commit is done
- ... and some more automation gimmicks that are offered by the BAdI



Introduction to the registry

Registry for Customizing

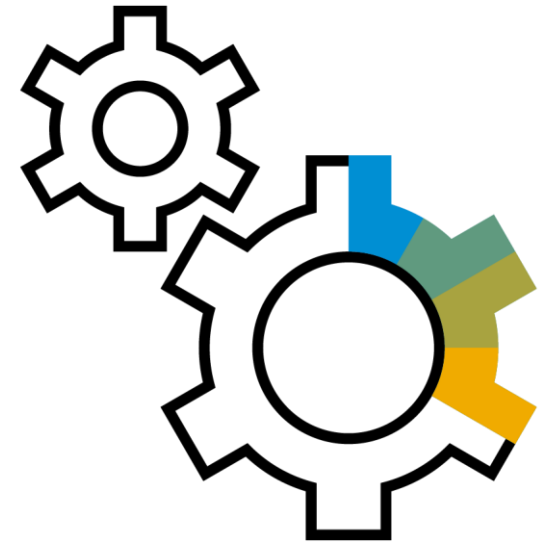
Customizing entities usually have no object catalog entries (TADIR)

Therefore, we recommend that you use the registry at least when Customizing is handled via gCTS

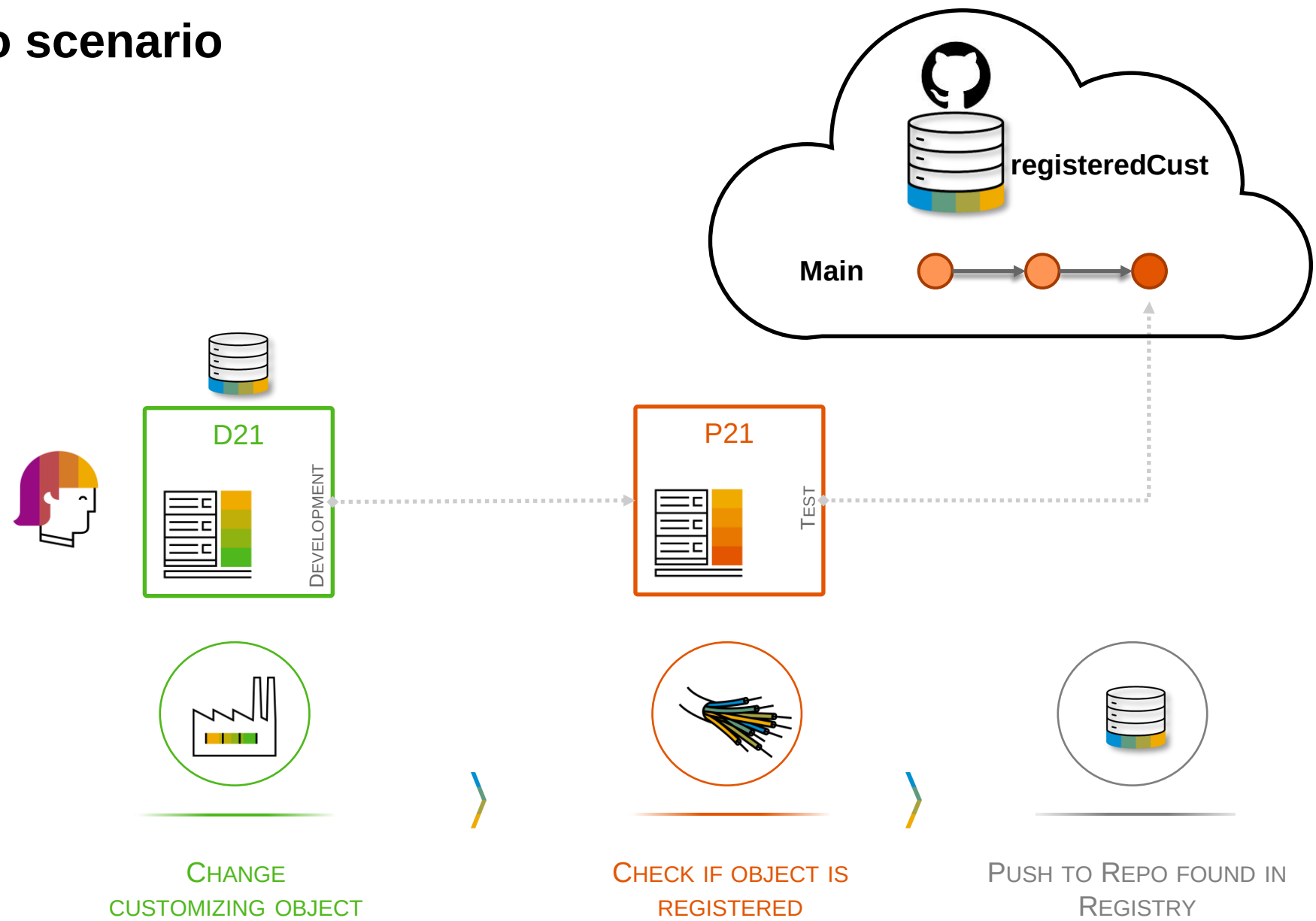
- No need to think about the target for every transport request
- By default, the standard transport layer would be used for Customizing if registry is not in use
- Registry makes sure that each Customizing entity is stored in exactly one repository

And how?

- Start with one Customizing repository
- Differentiate in different Customizing repositories later – migration tool is planned



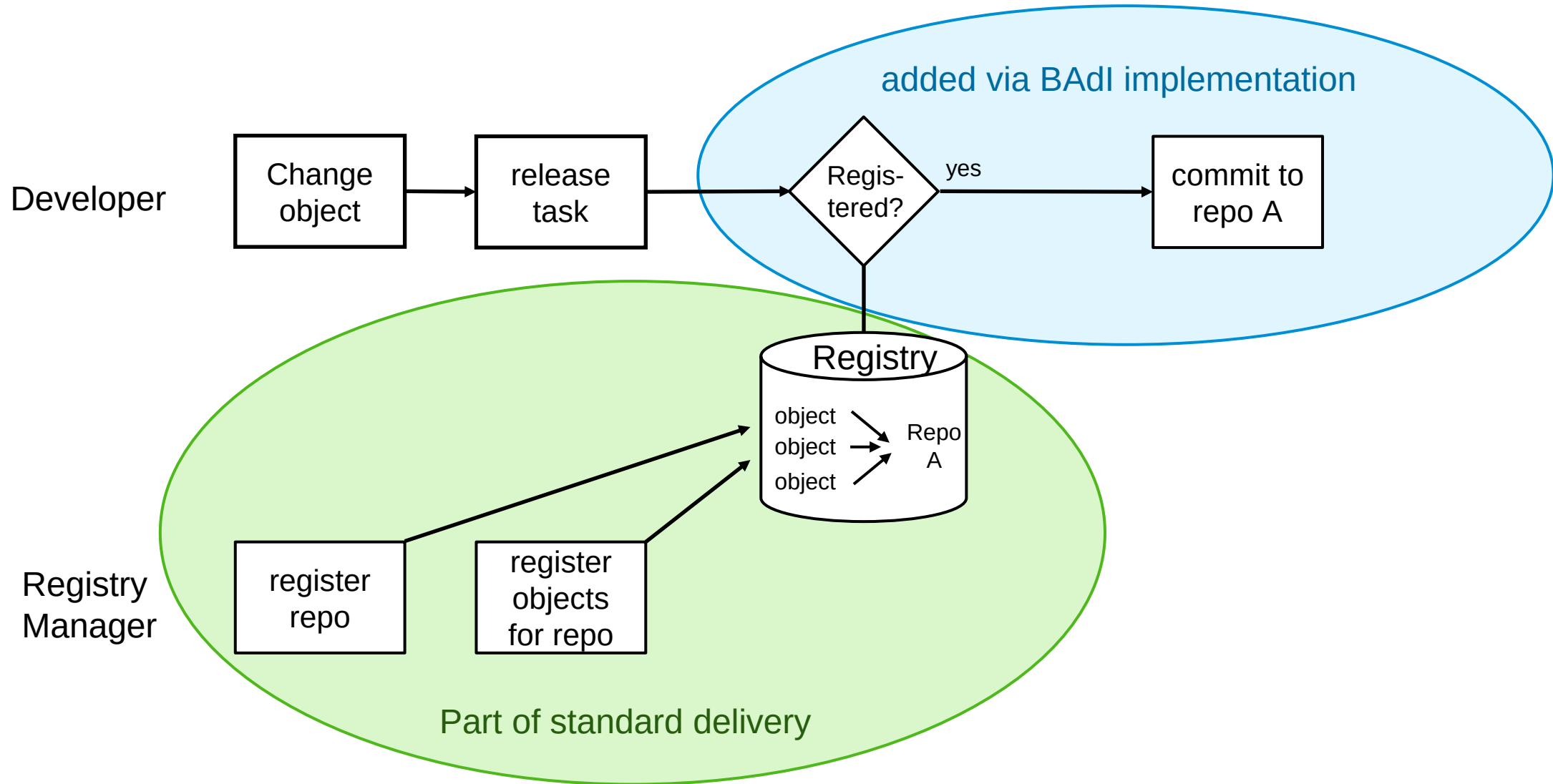
Demo scenario



Demo



Development Process



How to get the BAdI

DEV

Edit Repository

URL: *

Description: *

vSID: *

Role:

Type:

Visibility:

DEV

Edit Table Views: Initial Screen

Table/View

SM30: ZGCTS_BADI_TOGGL

DEV

Business Add-Ins: Display Definition CTS_REQUEST_CHECK

General Data

Package	SCTS_REQ	Last Changed By	SA
Language	DE	Last change	23

Name of Generated BAdI Class

1 Clone sample repository to DEV

2 Set parameters

3 Activate BAdI



gCTS BAdI Toggle
Feature
BADI_GCTS_ENABLE_TRIGGER
BRANCH_CREATE_TOGGLE
BRANCH_HANDLING_ENABLE
CHECK_PERMISSION
CHECK_REPOSITORY_CHANGES_PULLED
CHECK_REPOSITORY_OBJECT_LIST
CHECK_REPOSITORY_STATUS
CHECK_REPOSITORY_TARGET_SYSTEM
CHECK_REPOSITORY_USER_PERMISSION
CHECK_REPOSITORY_VSID
REPOSITORY_ASYNC_COMMIT
REPOSITORY_RELATION_IDENTIFIER

Business Add-In Builder: Change Implementation ZGCTS_BADI

General Data

Package	*TMP
Language	EN

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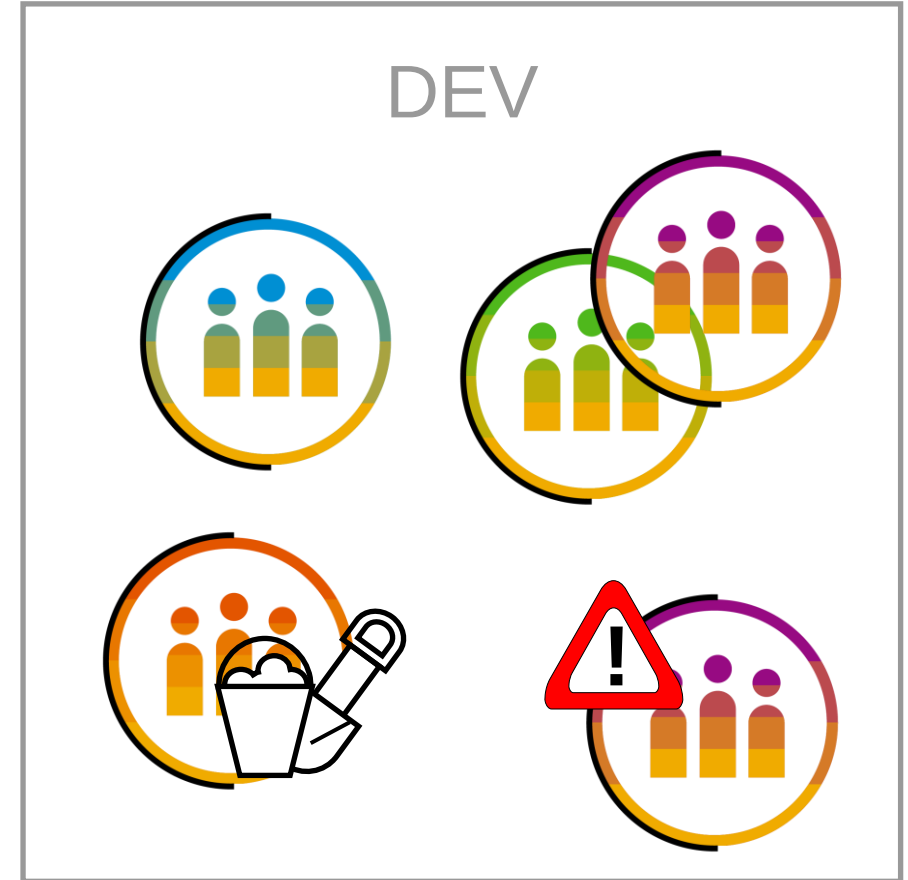
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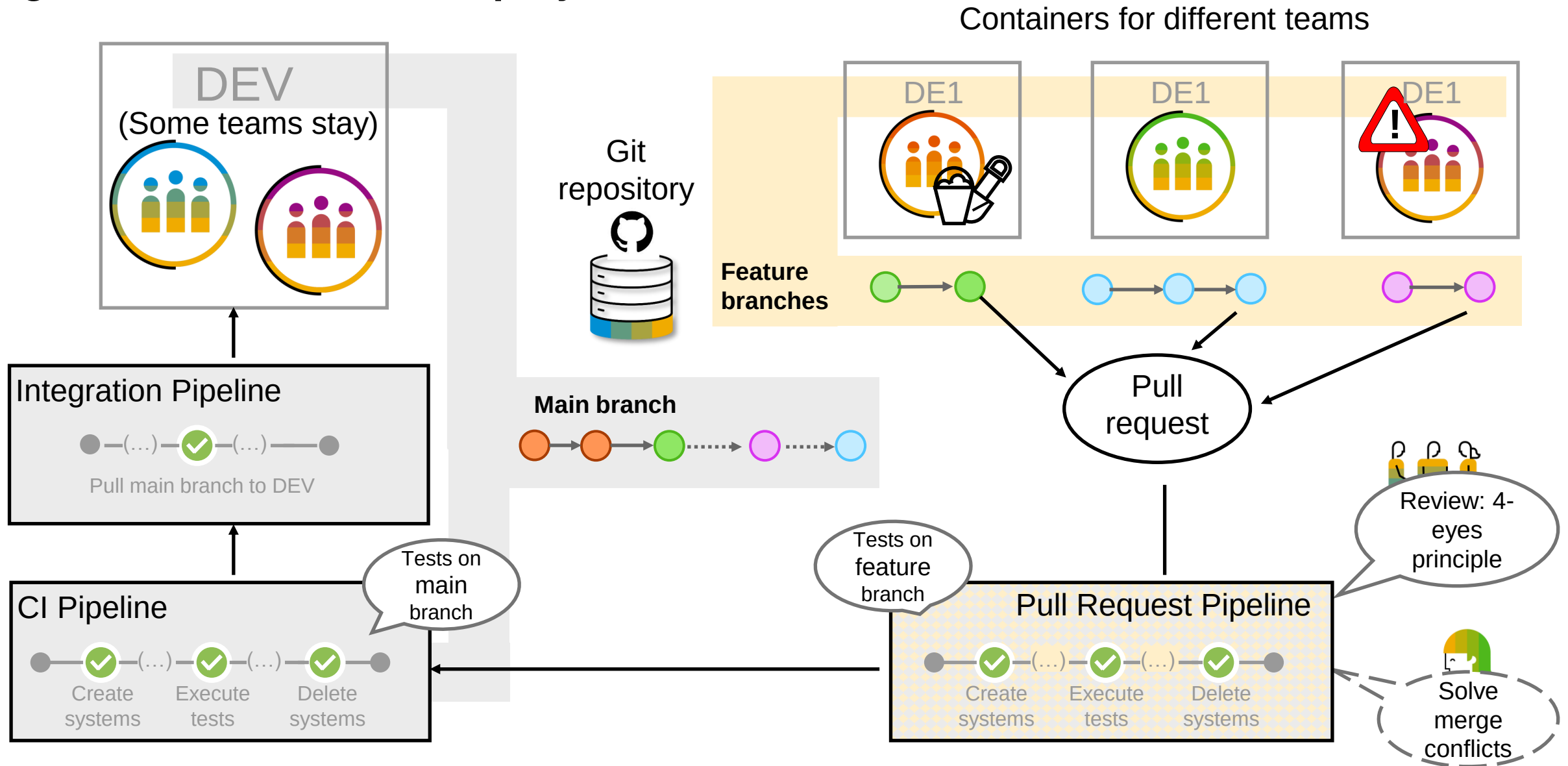
gCTS@SAP – what we had

One big development system for many teams

- Some are isolated
- Some interfere with each other
- Some do basic changes that effect others (unintended)
- Some need a 'playground'



gCTS@SAP – our DDCl project



Usability Testing

We would like to improve and ask for your feedback

When? 29. Nov – 1. Dec 2022 / 6. Dec – 8. Dec

How? Please register for our UX tests after TechEd and / or UKISUG

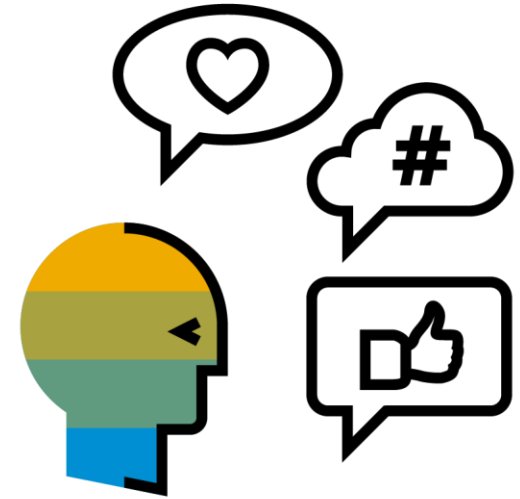
What is going to happen?

- Online Zoom-Meeting, anonymously, subject to NDA
- You can go through the development process you have just seen. We are looking for gaps and issues that you find

Links to register:

TechEd: [1. Application Development & Integration – ABAP Development Process Using Git-Enabled Change and Transport System](#)

UKISUG: [Topic 1: ABAP Development Process Using Git-Enabled Change and Transport System](#)



Links

[Git-enabled Change and Transport System](#) on SAP Help Portal

openSAP course [DevOps for ABAP with gCTS in SAP S/4HANA](#)

BAdI blog post (for task-based committing and Registry):

<https://blogs.sap.com/2022/05/24/integrating-gcts-with-transport-organizer-processes/>

Change Request Management with gCTS

- Blog post: <https://blogs.sap.com/2021/09/05/how-change-request-management-charm-leverages-git-enabled-cts-gcts/>
- [Bonus Content](#) in openSAP course

Thank you.

Contact information:

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