DevOps essentials with SAP: CI/CD with SAP Solution Manager

Nicolas Alech, Patrick Schmidt, SAP
December 14, 2021
The information in this presentation is confidential and proprietary to SAP and may not be disclosed without the permission of SAP. Except for your obligation to protect confidential information, this presentation is not subject to your license agreement or any other service or subscription agreement with SAP. SAP has no obligation to pursue any course of business outlined in this presentation or any related document, or to develop or release any functionality mentioned therein.

This presentation, or any related document and SAP's strategy and possible future developments, products and or platforms directions and functionality are all subject to change and may be changed by SAP at any time for any reason without notice. The information in this presentation is not a commitment, promise or legal obligation to deliver any material, code or functionality. This presentation is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. This presentation is for informational purposes and may not be incorporated into a contract. SAP assumes no responsibility for errors or omissions in this presentation, except if such damages were caused by SAP's intentional or gross negligence.

All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.
When and why DevOps with ABAP

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
Our idea…

Development

PRD

TST

CTS*

git

gCTS

* Change and Transport System
Change Request Management with gCTS

Process meets technology

Quality Gate Management*

Transport management and
SAP Cloud Transport Management service

Git-enabled Change and Transport System (gCTS)*

Change Request Management

*Quality Gate Management is currently not integrated with gCTS
Change Request Management with gCTS
Transport and deployment options from SAP

**CTS / CTS+**
- Hybrid landscape (on-premise and cloud) with ABAP/non-ABAP/non-SAP-based systems
- Content development
- Integration with change control management in SAP Solution Manager possible

**gCTS**
- ABAP-based system customer landscape, continuous integration (CI) setup/usage @ customer
- Content development
- Integration with change control management in SAP Solution Manager possible

**SAP Cloud Transport Management (cTMS)**
- No ABAP-based system customer landscape, no CI setup/usage @ customer or further control desired
- Content development
- Integration with change control management in SAP Solution Manager planned

**Continuous Integration**
- CI infrastructure available @ customer
- Content development
- Integration with change control management in SAP Solution Manager possible

© 2021 SAP SE or an SAP affiliate company. All rights reserved. | PUBLIC
Change Request Management with gCTS

Git-enabled Change and Transport System (gCTS) – Scenario 1

Processing Git-enabled Changes

- **CREATE YOUR OWN ABAP OBJECTS AND COMMIT THEM**
- **NEW COMMIT TRIGGERS FEATURE PIPELINE**
- **MERGE FEATURE IN MASTER BRANCH**
- **NEW COMMIT TRIGGERS MASTER PIPELINE**

© 2021 SAP SE or an SAP affiliate company. All rights reserved. | PUBLIC

SAP Solution Manager 7.2 SP12 & SAP S/4HANA 2020
Outlook: Change Request Management with gCTS

Git-enabled Change and Transport System (gCTS) – Scenario 2: distributed development

Two dev teams can work on the same object

Commit changes to repository

Merge into master branch, deploy to QA

Deploy to production after test
SAP Application Testing Solutions by Tricentis

SAP Enterprise Continuous Testing by Tricentis
SAP Enterprise Data Integrity Testing by Tricentis

Based on the **current Tricentis product**

SAP Change Impact Analysis by Tricentis
SAP Enterprise Performance Testing by Tricentis

SAP Enterprise Continuous Testing *Cloud* by Tricentis*
SAP Enterprise Data Integrity Testing *Cloud* by Tricentis**

Based on the **future Tricentis Cloud product**

ALM Solutions by SAP

Tricentis Test Automation for SAP
Test Management in SAP Solution Manager

Part of SAP Enterprise Support

Tricentis Test Automation *Cloud* for SAP*
Test Orchestration in SAP Cloud ALM

Available on SAP price list
Integration Approach – Today and Future Overview

Today

SAP Solution Manager 7.2 → ECT or TTA Client → Direct Execution

Future

SAP Solution Manager 7.2 → ECT Client → SAP ECT Server → Distributed Execution Agents
Future: Integration approach – synchronization and execution – Initial Phase

1. Synchronize test plan information

2. Trigger execution

3. Execution results

4. Synchronize execution results

Test Suite
- Test Plan
  - Test Package
    - Test Configuration
    - Test Configuration
    - Test Configuration

Execution
- Test Event
  - Execution List
    - Execution Entry
    - Execution Entry
    - Execution Entry

Distributed Execution
- Execution Entry
  - Execution Entry
  - Execution Entry
  - Execution Entry
Future: Integration approach – synchronization and execution – Second Phase

2. Trigger execution

1. Synchronize test plan information

Test Suite

Test Plan

Test Package

Test Configuration

Test Configuration

Test Package

Test Configuration

Test Configuration

Test Configuration

Execution

Test Event

Execution List

Execution Entry

Execution Entry

Execution Entry

Execution Entry

Execution Entry

Execution Entry

Distributed Execution

4. Synchronize execution results

3. Execution results
Change or Scheduling Event
• Change submitted
• Scheduled Regression Run

Test Event
1. Execution List 1
2. Execution List n

Distributed Execution Agents

Test Plan
14. Test Package 1
15. Test Package n

Analytics and Reporting

SAP Enterprise Continuous Testing by Tricentis

Jenkins or CI/CD or gCTS Oriented Approach – Initial Phase
Solution Manager Oriented Approach – Second Phase

Any Triggering Event
- ChaRM Document status change
- Transport released
- Test package execution
- Work Package to be tested

Test Plan
1. Test Package 1
2. Test Package n

Test Event
1. Execution List 1
2. Execution List n

Analytics and Reporting

SAP Enterprise Continuous Testing by Tricentis

Distributed Execution Agents

Lab preview
Processing Git-enabled Changes

CREATE YOUR OWN ABAP OBJECTS AND COMMIT THEM

NEW COMMIT TRIGGERS FEATURE PIPELINE

MERGE FEATURE IN MASTER BRANCH

NEW COMMIT TRIGGERS MASTER PIPELINE
**Outlook: Change Request Management with gCTS & Test Management**

**Git-enabled Change and Transport System (gCTS) – Scenario 1**

### Processing Git-enabled Changes

- **CREATE YOUR OWN ABAP OBJECTS AND COMMIT THEM**
- **NEW COMMIT TRIGGERS FEATURE PIPELINE**
- **MERGE FEATURE IN MASTER BRANCH**
- **NEW COMMIT TRIGGERS MASTER PIPELINE**
Questions & Answers
Thank you.