SAP Solutions for Continuous Integration and Delivery

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Agenda

Overview of SAP Solutions for Continuous Integration and Delivery

SAP Cloud Platform Continuous Integration and Delivery

- Demo

Project “Piper”

Best Practices Guide

Q&A
SAP Solutions for Continuous Integration and Delivery
Overview of CI/CD solutions by SAP

- CI/CD Service
  - SAP Cloud Platform
  - Continuous Integration and Delivery

- Project "Piper"

- CI/CD Best Practices Guide
  - Continuous Integration and Delivery
  - Best Practices Guide
SAP Solutions for Continuous Integration and Delivery
Overview of CI/CD solutions by SAP

Flexibility

CI/CD Service

Project “Piper”

CI/CD Best Practices Guide

Required Expertise
SAP Solutions for Continuous Integration and Delivery
Overview of CI/CD solutions by SAP

- SAP Cloud Platform Continuous Integration and Delivery
  - Simplifies your CI/CD setup through predefined pipelines that are ready to use
  - Reduces the complexity as you don’t need to set up any additional CI/CD infrastructure
SAP Solutions for Continuous Integration and Delivery
Overview of CI/CD solutions by SAP

Project “Piper”

- Provides preconfigured Jenkins pipelines for your own Jenkins infrastructure
- Comes with a toolbox to build and enhance your own Jenkins pipelines
- Offers ready-to-use Docker images
SAP Solutions for Continuous Integration and Delivery
Overview of CI/CD solutions by SAP

Continuous Integration and Delivery Best Practices Guide

- Provides procedures to implement CI/CD pipelines on any CI/CD stack
- Demonstrates how to apply the principles of CI/CD to SAP-specific technologies.
SAP Solutions for Continuous Integration and Delivery
Overview of CI/CD solutions by SAP

- CI/CD Service
  - SAP Cloud Platform
  - Continuous Integration and Delivery

- Project “Piper”

- CI/CD Best Practices Guide
  - Continuous Integration and Delivery
  - Best Practices Guide
SAP Cloud Platform
Continuous Integration and Delivery
Configure and run predefined pipelines for continuous integration and delivery.
SAP Cloud Platform Continuous Integration and Delivery
Our value proposition

- Simple onboarding for SAPUI5 projects and projects with the SAP Cloud Application Programming Model (CAP)
- No need to bring your own CI/CD infrastructure
- No in-depth knowledge about CI/CD required
SAP Cloud Platform Continuous Integration and Delivery
Our value proposition

- Configure predefined CI/CD pipelines
- Run predefined CI/CD pipelines
- Connect your GitHub.com repository
- Create and store credentials
- Monitor the build status
SAP Cloud Platform Continuous Integration and Delivery

Basic flow of the Continuous Integration & Delivery service

Legend
- Actor
- Action
1. A developer pushes code changes into a central source code management system (SCM).
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2. The SCM triggers an event to which SAP Cloud Platform Continuous Integration and Delivery reacts.
SAP Cloud Platform Continuous Integration and Delivery
Basic flow of the Continuous Integration & Delivery service

1. A developer pushes code changes into a central source code management system (SCM).

2. The SCM triggers an event to which SAP Cloud Platform Continuous Integration and Delivery reacts.

3. The Continuous Integration & Delivery service tests, builds, and deploys the code changes and provides feedback.
SAP Cloud Platform Continuous Integration and Delivery
Basic flow of the Continuous Integration & Delivery service
SAP Cloud Platform Continuous Integration and Delivery
Commercialization Information

- Runs in the following regions:
  - Europe (Frankfurt/EU10)
  - US East (VA/US10)
SAP Cloud Platform Continuous Integration and Delivery
Commercialization Information

- Follows the consumption-based license model CPEA (Cloud Platform Enterprise Agreement)
- 1€ per compute hour
SAP Cloud Platform Continuous Integration and Delivery

Outlook

- Support further extension scenarios:
  - Functions deployed on SAP Cloud Platform with a serverless runtime
  - ABAP extensions on SAP Cloud Platform, ABAP environment

- Support on-premise SCM systems

- Integrate into the SAP Business Application Studio

- Subscription-based consumption through SAP Store
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Continuous Integration and Delivery

Project “Piper”

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Best Practices Guide
Project “Piper”
SAP Solutions for Continuous Integration and Delivery
Project “Piper”

- Open source project
- Lets you use and adapt preconfigured Jenkins pipelines
- Consists of two components:
  - A shared library, which contains preconfigured pipelines, steps, scenarios, and utilities
  - A set of Docker images that can be used to implement best practice processes
SAP Solutions for Continuous Integration and Delivery
Project “Piper”

The **shared library** is a toolbox that helps you to:

- Use preconfigured Jenkins pipelines
- Enhance and adapt existing pipelines
- Build your own Jenkins pipeline for CI/CD

Continuous delivery is a method to develop software with short feedback cycles. It is applicable to projects both for SAP Cloud Platform and SAP on-premise platforms. SAP implements tooling for continuous delivery in project “Piper”. The goal of project “Piper” is to substantially ease setting up continuous delivery in your project using SAP technologies.

To get you started quickly, project “Piper” offers you the following artifacts:

- A set of ready-made Continuous Delivery pipelines for direct use in your project
  - ABAP Environment Pipeline
  - General Purpose Pipeline
  - SAP Cloud SDK Pipeline
- A shared library that contains reusable step implementations, which enable you to customize our preconfigured pipelines, or to even build your own customized ones
- A standalone command line utility for Linux and a GitHub Action
  - Note: This version is still in early development. Feel free to use it and provide feedback.
SAP Solutions for Continuous Integration and Delivery
Project “Piper”

The set of Docker images provides you with required tools and environments.

### Docker Images

The following images are published on [hub.docker.com](http://hub.docker.com):

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Docker Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenkins</td>
<td>Use a preconfigured Jenkins to run project “Piper” pipelines.</td>
<td>ppiper/jenkins-master</td>
</tr>
<tr>
<td>Cloud MTA Build Tool</td>
<td>Build multitarget applications with the Cloud MTA Build Tool.</td>
<td>devxci/mtbci</td>
</tr>
<tr>
<td>CM Client</td>
<td>Interact with SAP Solution Manager or CTS using the command line.</td>
<td>ppiper/cm-client</td>
</tr>
<tr>
<td>CloudFoundry CLI</td>
<td>Use command line tools for Cloud Foundry with plugins for blue-green deployment and MTA.</td>
<td>ppiper/cf-cli</td>
</tr>
<tr>
<td>Neo CLI</td>
<td>Use SAP Cloud Platform tools for Neo.</td>
<td>neo-cli/</td>
</tr>
<tr>
<td>Jenkinsfile Runner</td>
<td>Run a Jenkinsfile without a long-running, stateful Jenkins master. The Jenkinsfile Runner is based on ppiper/jenkins-master.</td>
<td>ppiper/jenkinsfile-runner</td>
</tr>
<tr>
<td>Life Cycle Container</td>
<td>Improve life-cycle management of the cx-server by using a sidecar image.</td>
<td>ppiper/cx-server-companion</td>
</tr>
<tr>
<td>Container Structure Test</td>
<td>Run container structure tests with a shell for ppiper/jenkins-master.</td>
<td>ppiper/container-structure-test</td>
</tr>
<tr>
<td>Node Browsers</td>
<td>Use web browsers for end-to-end tests of web applications in Jenkins pipelines.</td>
<td>node-browsers/</td>
</tr>
<tr>
<td>SAP HANA XS Advanced CLI</td>
<td>Use command line tools to deploy to SAP HANA XS Advanced.</td>
<td>Dockerfile</td>
</tr>
</tbody>
</table>
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SAP Cloud Platform
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CI/CD Best Practices Guide
Continuous Integration and Delivery
Best Practices Guide
Continuous Integration and Delivery
Best Practices Guide
SAP Solutions for Continuous Integration and Delivery
Continuous Integration and Delivery Best Practices Guide

- Guide on the SAP Help Portal
- No step-by-step tutorial
- Shows how to apply the principles of CI/CD to SAP-specific technologies
- Each procedure describes one specific SAP scenario
Two kinds of procedures:

- Set up your pipeline
- Enhance your pipeline
Have you found your **ideal SAP solution for CI/CD**, yet?
SAP Solutions for Continuous Integration and Delivery
Which SAP solution for CI/CD meets your needs?

We’ve created decision support on the SAP Help Portal that comprises:

- An overview and comparison of our CI/CD solutions
- A table that matches development scenarios with our corresponding offerings
SAP Solutions for Continuous Integration and Delivery

Further reading

- SAP Cloud Platform Continuous Integration and Delivery
- Discovery Center: SAP Cloud Platform Continuous Integration and Delivery
- Continuous Integration and Delivery by SAP
- SAP Solutions for Continuous Integration and Delivery
- Project “Piper”
- Continuous Integration and Delivery Best Practices Guide
Thank you.

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