

DevOps with SAP BTP – Latest News + Updates

Harald Stevens, Dimitar Donchev, Boris Zarske – SAP October 12, 2021

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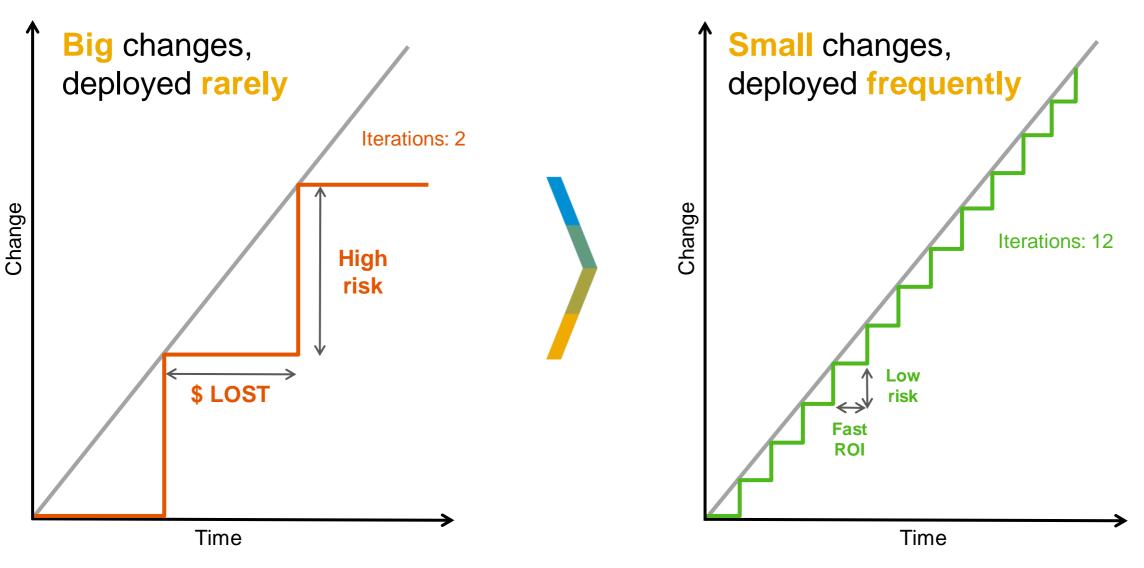
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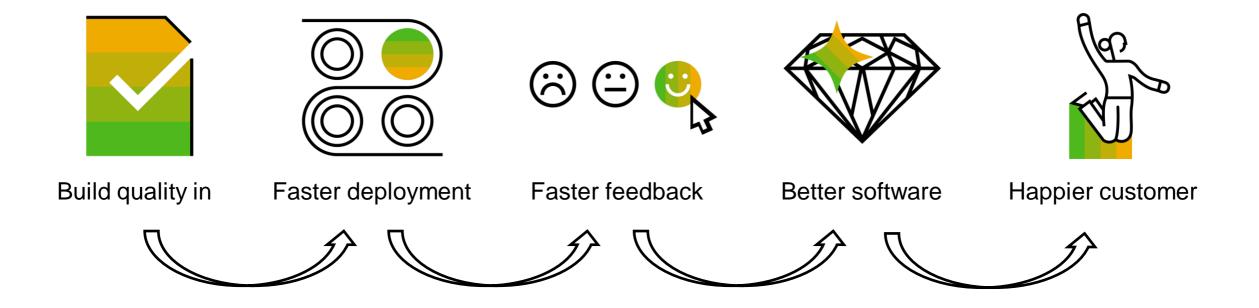
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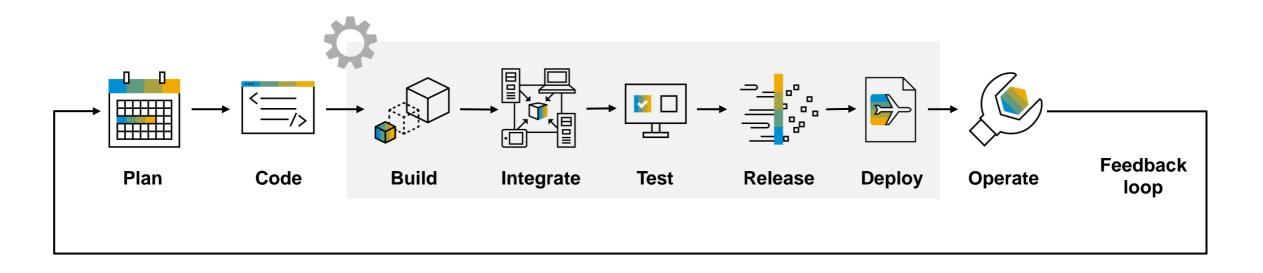
Benefits of continuously delivering software changes



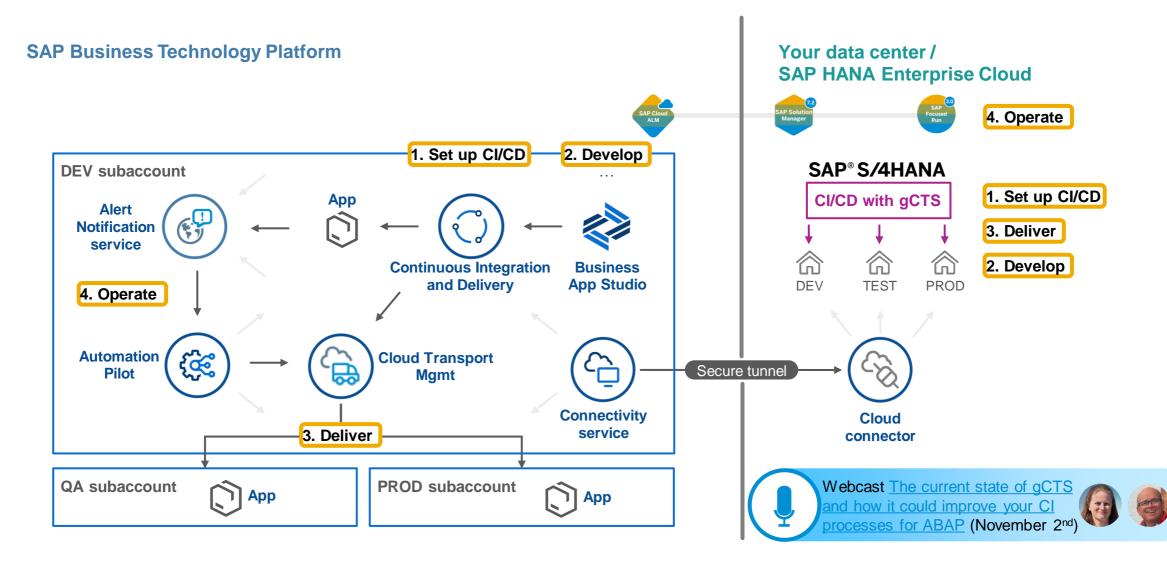
The goal of continuous delivery



The deployment pipeline – automated

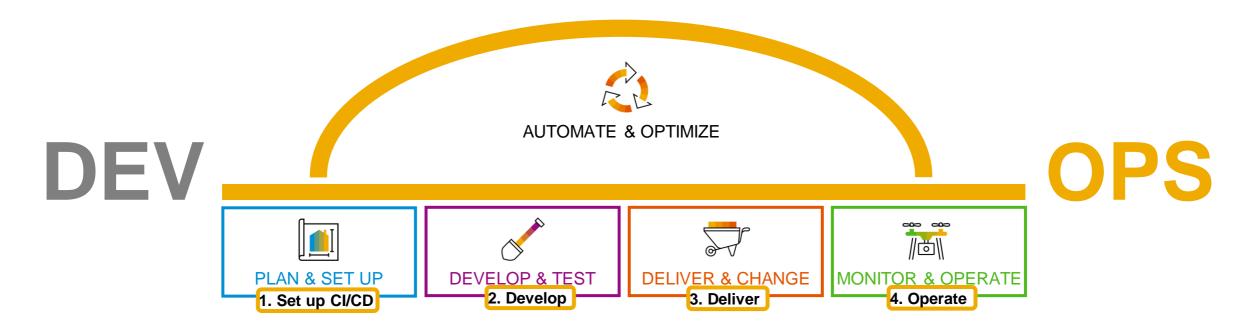


Example landscape to develop and run your SAP application with DevOps



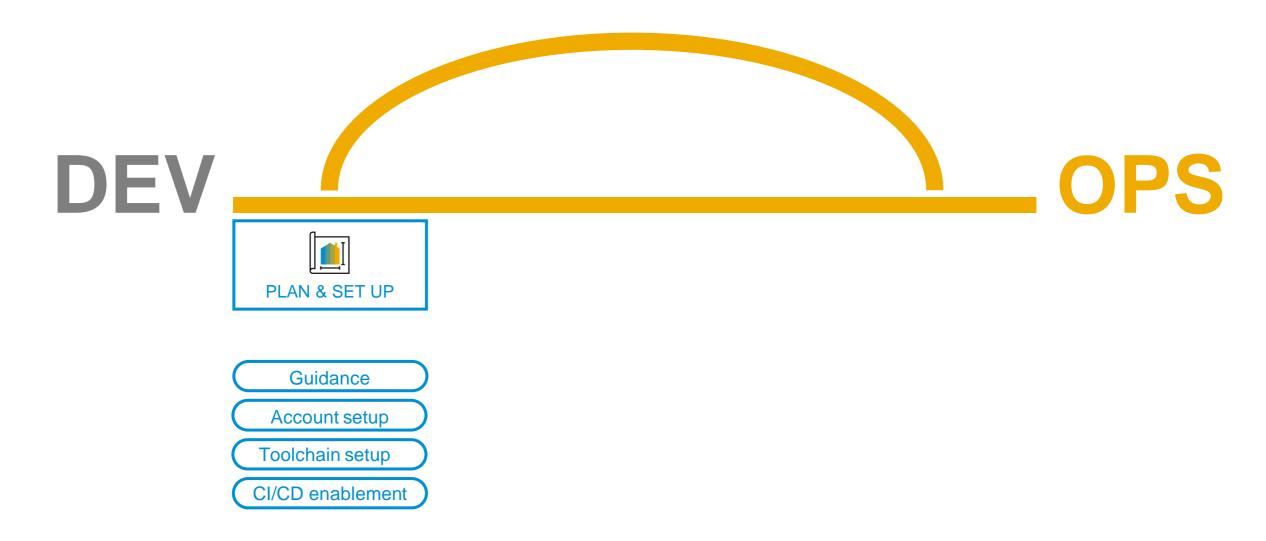
DevOps with SAP BTP

Categories



DevOps with SAP BTP

1. Plan & set up



1. Set up CI/CD efficiently for SAP environments

Our mission

... is to enable the implementation of CI/CD for the development of business solutions on SAP BTP and thereby, strongly focus on our customers' and partners' needs.

You can choose from two different solutions, depending on your level of **expertise** and the level of **flexibility** you require:

SAP Continuous

- Simplify and speed up your CI/CD setup trough predefined pipelines that are ready-to-use
- Follow SAP recommendations and best practices
- Don't worry about the underlying CI/CD infrastructure



 Simplify your tool setup through our set of Docker images Apply CI/CD principles to SAP-specific technologies

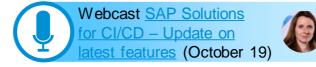
CI/CD enablement

Simplicity

for typical SAP business application developers

Flexibility

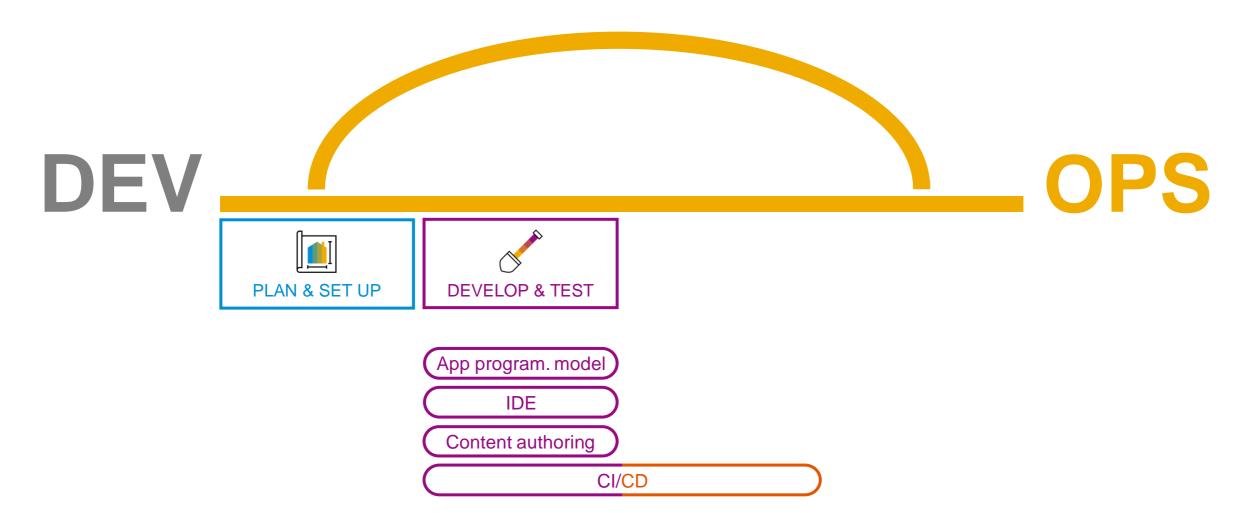
to automate complex and customer-specific development scenarios



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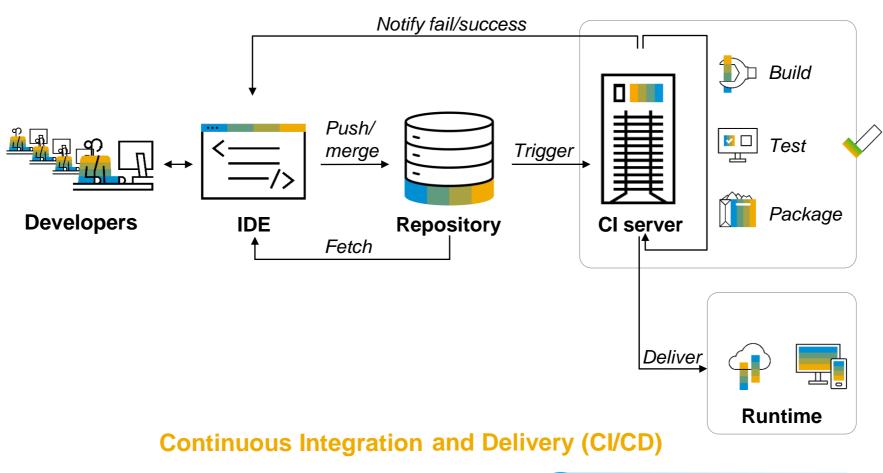
DevOps with SAP BTP

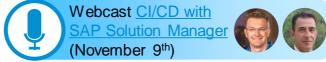
2. Develop & test



2. Agile development

Using automated Continuous Integration and Continuous Delivery pipelines

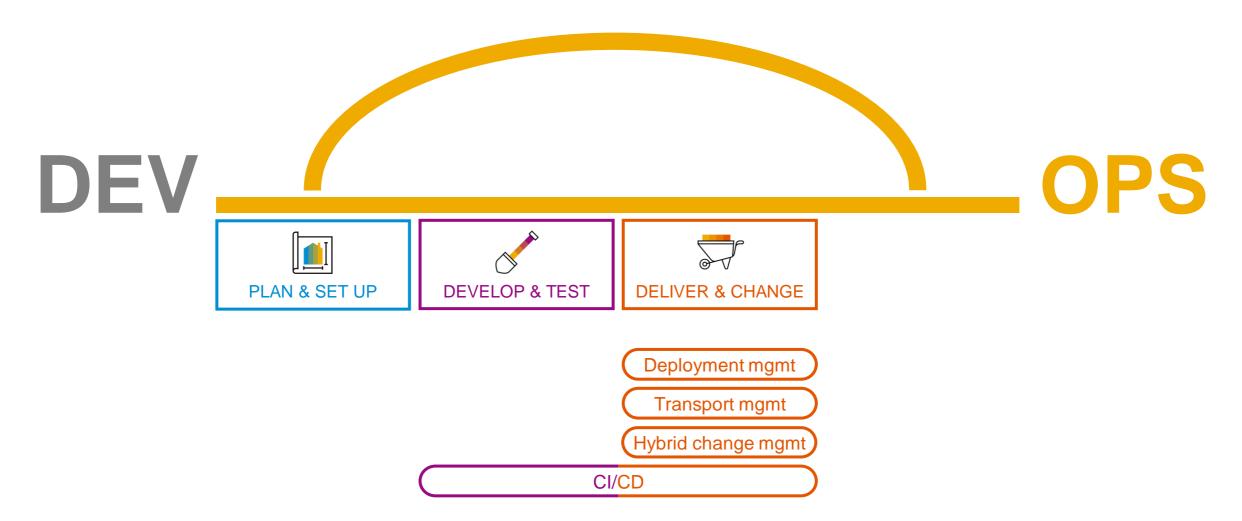




CI/CD

DevOps with SAP BTP

3. Delivery & change



3. Deliver your cloud changes toward production

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Continuous Delivery

- Mainly source-code-based and for isolated development
- Ideally fully automated





Transport Management

- Apply standardized, enterprise-ready change management process
- Add transparency on audit trail of changes
- Establish separation of concerns + regain control
- Option for synchronizing transports with on-premise artifacts

3. Deliver your cloud changes toward production

Integration into CI/CD: Combining agility + control

Development landscape

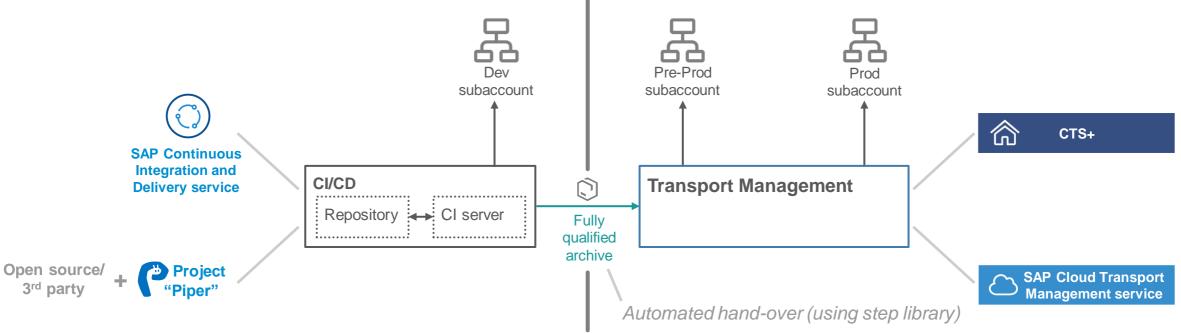
- Based on Continuous Integration principles, managed by DevOps team
- Verification of single developer change
- Typically fully automated

Delivery landscape

 Based on strict *Transport Management* rules (policies, schedules), managed by ops/approvers

Transport mgmt

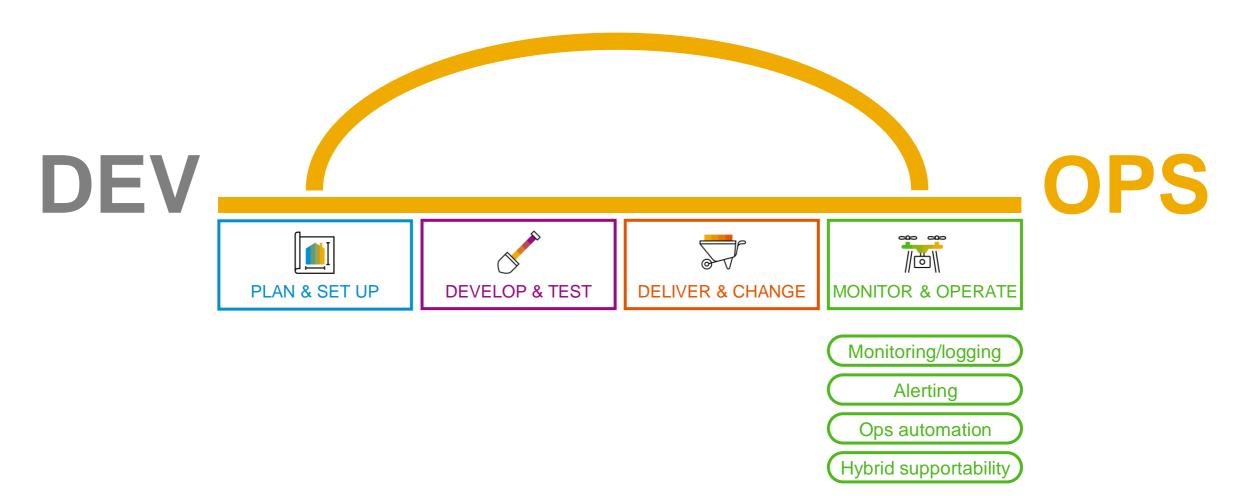
- Verification of release candidate version
- Typically done with manual confirmation

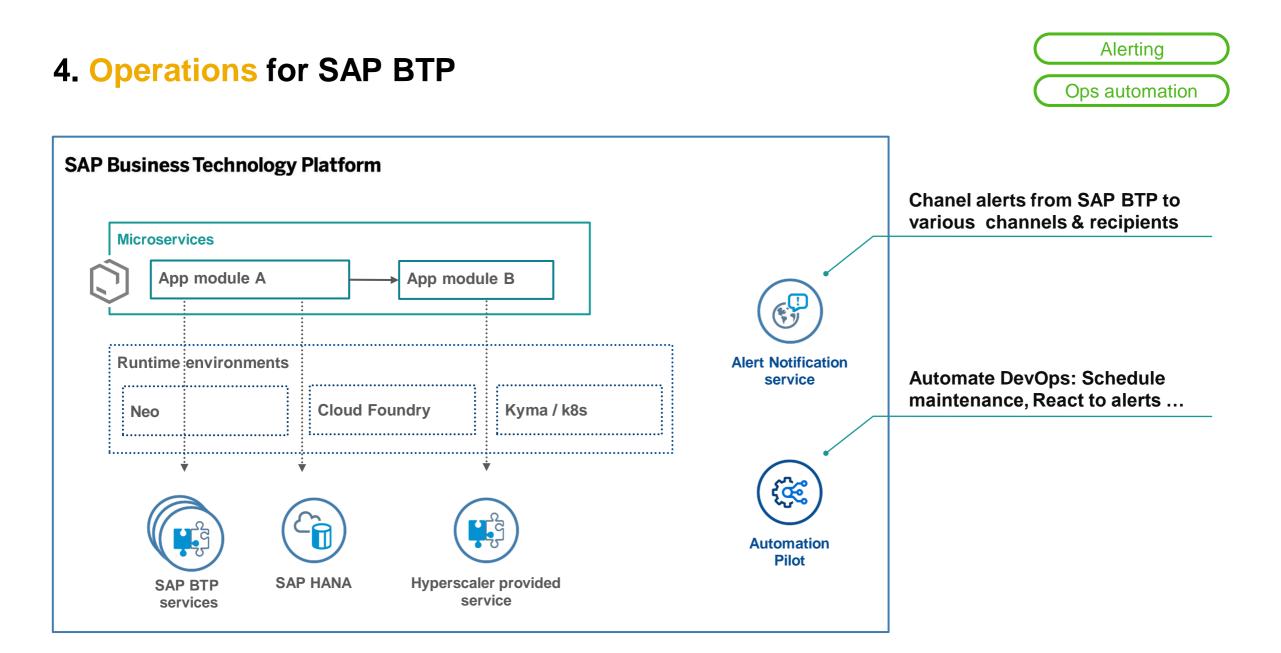




DevOps with SAP BTP

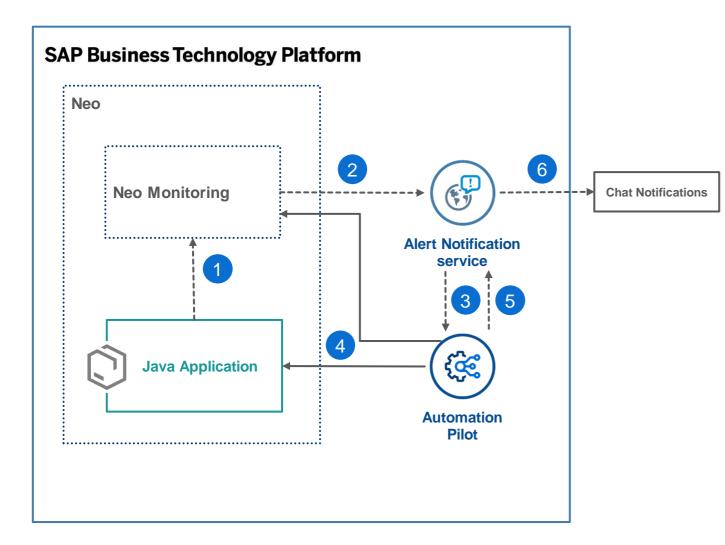
4. Monitor & operate





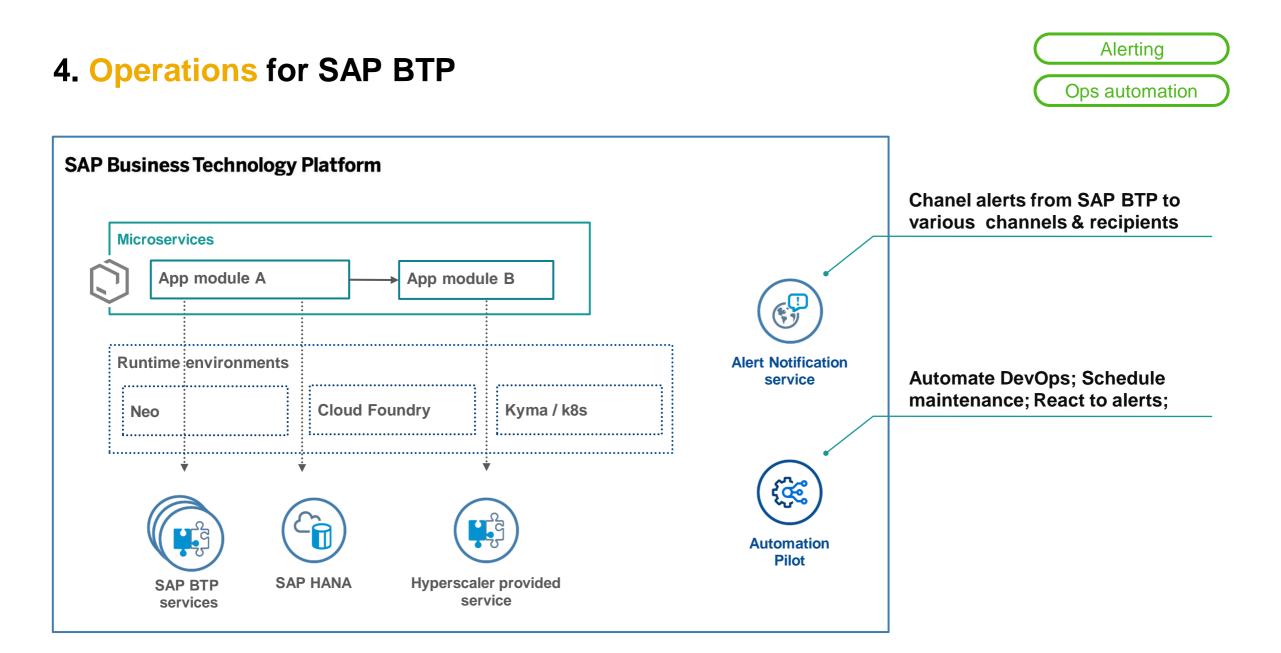
4. Automatic scaling in SAP BTP Neo environment



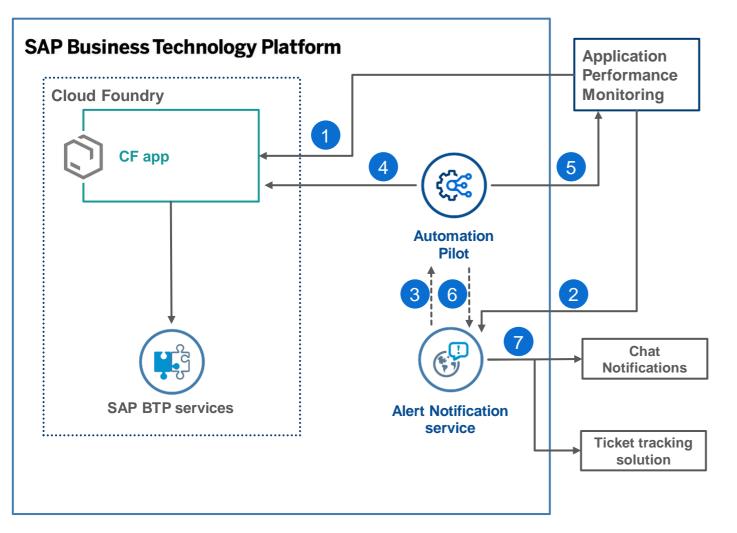


- 1. Neo Monitoring watches app metrics
- 2. An event is sent on CPU spike
- 3. Alert Notification service triggers Automation Pilot
- 4. Automation Pilot scales the app & monitors it's state
- 5. Status events are pushed to Alert Notification service
- 6. Alert Notification service delivers everything to an MS Teams channel





4. Automatic outage reaction in SAP BTP Cloud Foundry

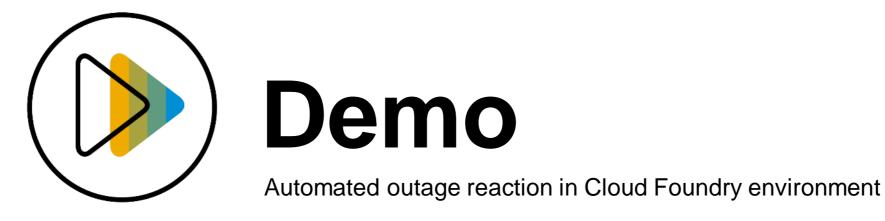


- 1. Monitoring system observes the CF solution
- 2. On service connectivity issues, an event is sent to Alert Notification service

Alerting

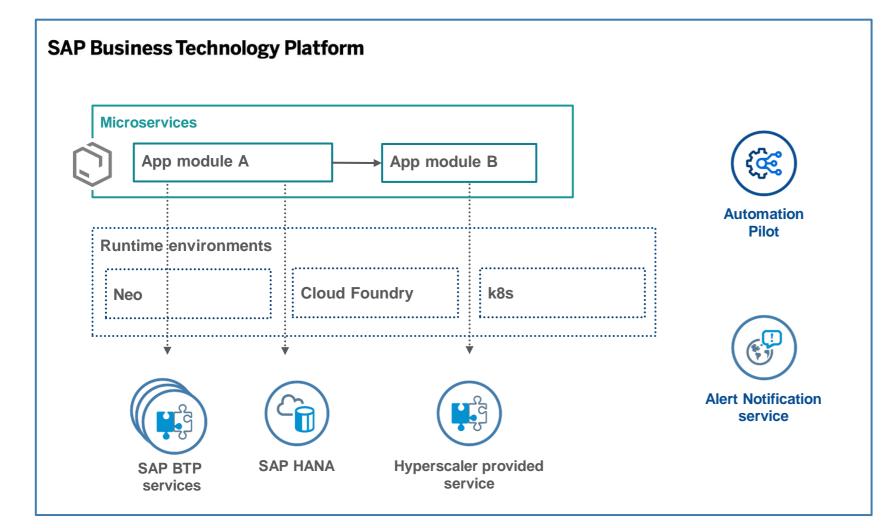
Ops automation

- 3. Alert Notification service triggers Automation Pilot
- 4. Automation Pilot restarts the application
- 5. Automation Pilot checks if the problem is resolved and rebinds the service if necessary
- 6. Status events are pushed to Alert Notification service
- Alert Notification delivers the events to chat and updates a ticket of the ongoing status



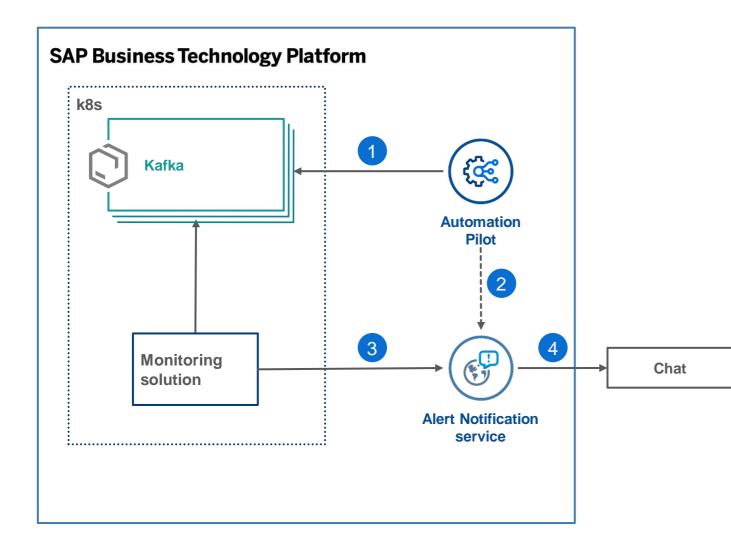
4. Operations for SAP BTP





4. Scheduled maintenance procedures in k8s runtime





- 1. Automation Pilot does a scheduled rolling restart of the Kafka cluster
- 2. Automation Pilot sends status events to Alert Notification service
- 3. In-cluster monitoring sends events to Alert Notification service
- 4. Alert Notification delivers the events to chat



4. Scheduled maintenance procedures in k8s runtime





- Sources events from within SAP BTP and external services
- Delivers notifications to various channels
 - Chat [MS Teams, Slack,...]
 - Incident management [VictorOps, SNOW, PagerDuty, Jira, ...]
 - Triggers automated procedures
 [Automation Pilot, BTP Workflow service ...]



- No-code engine for operations automation
- Utility commands & a rich API service specific command catalog for managing workloads across SAP BTP runtimes & services
- Handles well various use cases
 - Command chaining & composition
 - Flow control
 - Script execution
 - ...

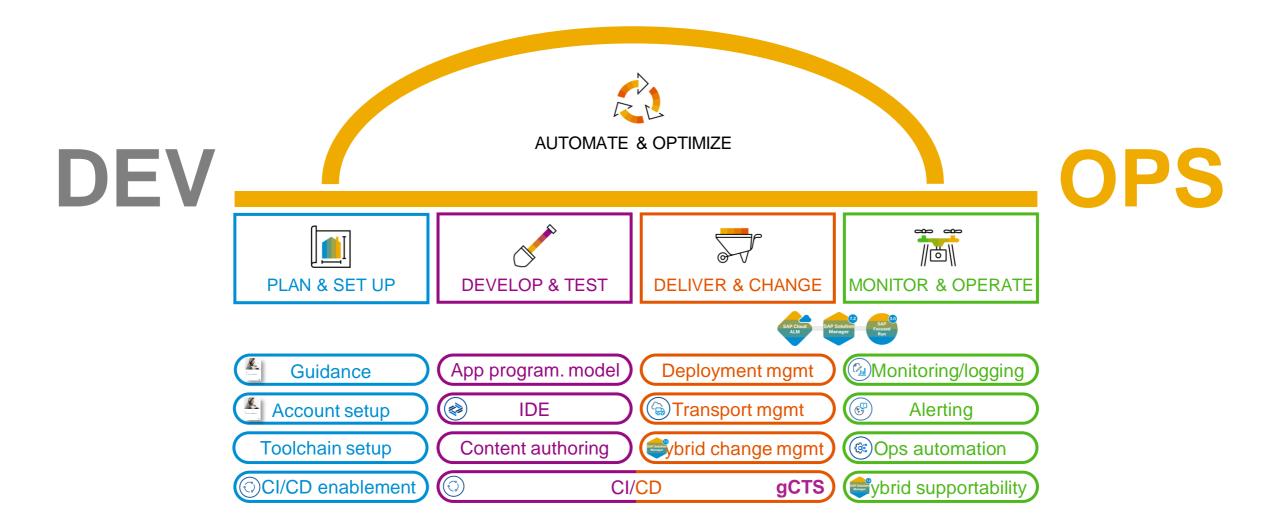
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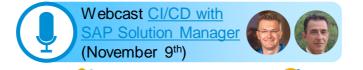
Summary



DevOps with SAP

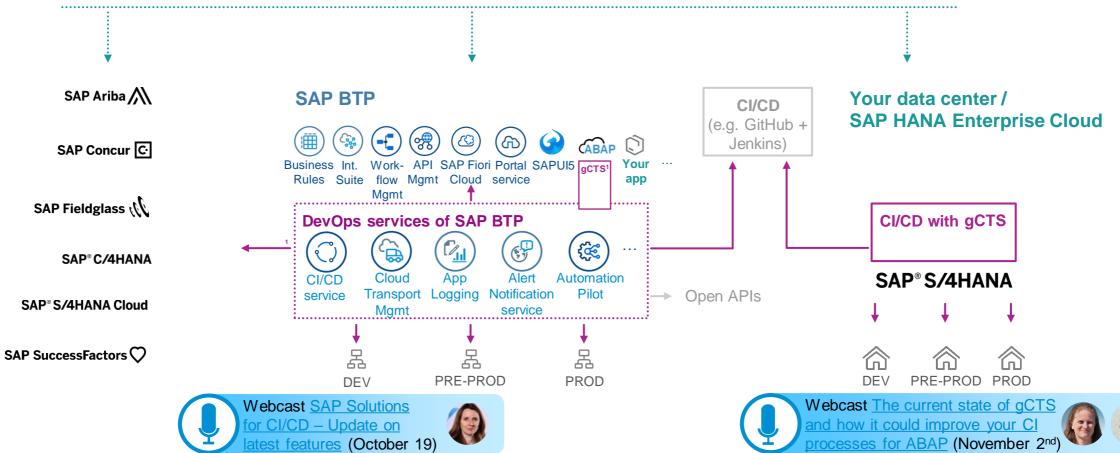


Vision of DevOps in hybrid enterprise environments



🥌 SAP Cloud ALM /😅 SAP Solution Manager / 😅 Focused Run





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How your company can make first steps



Deepen your knowledge about DevOps with SAP



Identify suitable projects + teams interested in DevOps with SAP

Enable quick results: start simple + non-disruptively

- Greenfield: SAP CI+D service
- Existing CI/CD infrastructure: Project "Piper"
- ABAP on-premise: gCTS



Regain control & integrate, when needed

- Automated hand-over from automated pipeline into transport and change management
- Integration into strategic ops platform of choice



Scale: extend & adapt as needed, engage inside + outside your company with peers and experts on the same journey

Call to action

- Learn more about DevOps with SAP:
- DevOps SAP Community page
- openSAP course "Efficient DevOps with SAP"
- Sway about potential first steps
- SAP Help Portal page about DevOps with SAP BTP
- Learning Journey DevOps with SAP BTP
- Best Practices for SAP BTP guide
- App Development & Integration in SAP Road Map Explorer
- DevOps essentials webcast series (registration + recordings)
- SAP TechEd session "SAP BTP's DevOps Portfolio in Action"



Try out our services on SAP BTP:

- Set up our services in the trial environment for <u>SAP BTP</u> and in the <u>free tier</u>
- Run our missions in SAP Discovery Center (such as for <u>transport management</u>)
- Tutorials for CI/CD



Contribute to our <u>SAP Continuous Influence session</u>

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Thank you.

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