



TIBCO BusinessWorks Container Edition Automated Deployment (CI/CD)

July, 2023

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Agenda

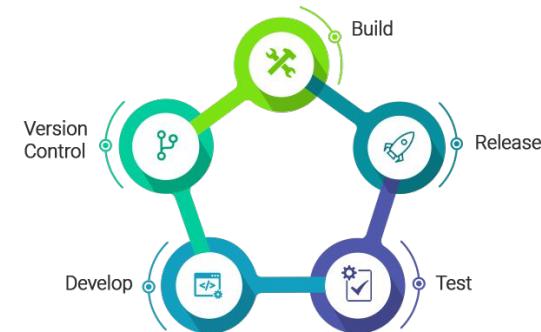
- Benefits of Automated Deployment
- TIBCO BWCE Automated Deployment
- Architecture & Infrastructure of Demo
- Demo
- Q&A

Benefits Automated Deployment

Operational & Dev(Sec)Ops

Operational benefits

- Improved Visibility and Traceability
- Improved Availability and Resiliency
- Automation
- Scalability and Flexibility
- Easy Rollback and Recovery
- Standardization and Consistency



Dev(Sec)Ops benefits

- Simplified deployment and management
- Faster time to market
- Improved Security of your applications
- Improved collaboration between different team - dev, ops, security, etc.
- Early bug detection
- Continuous Feedback and Learning

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TIBCO BWCE Automated Deployment

Accelerate deployments with CI/CD

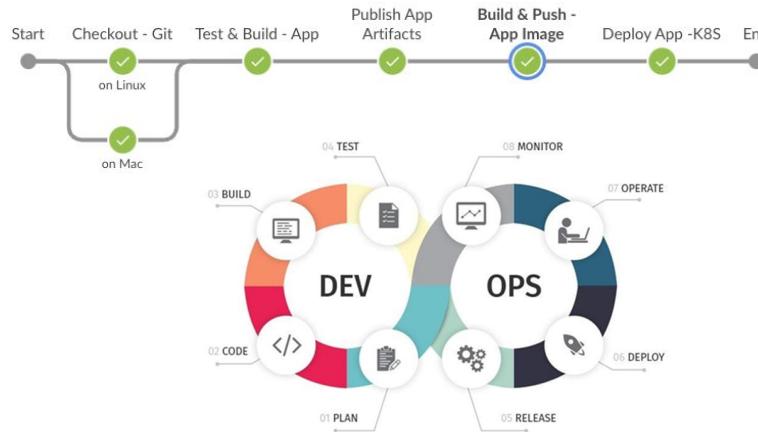
✓ BRZ-BWCE-CICD-DEMO < 186

Pipeline Changes Tests Artifacts ⌂ ⚙ Logout X

Branch: — ① 18s Changes by mpandav32
Commit: — ② 24 days ago Started by GitHub push by mpandav



Blue Ocean



- OOTB Unit Testing Capabilities
- Open Source Maven Plugin
- Easy Integration with Version Control, Testing, CI tools



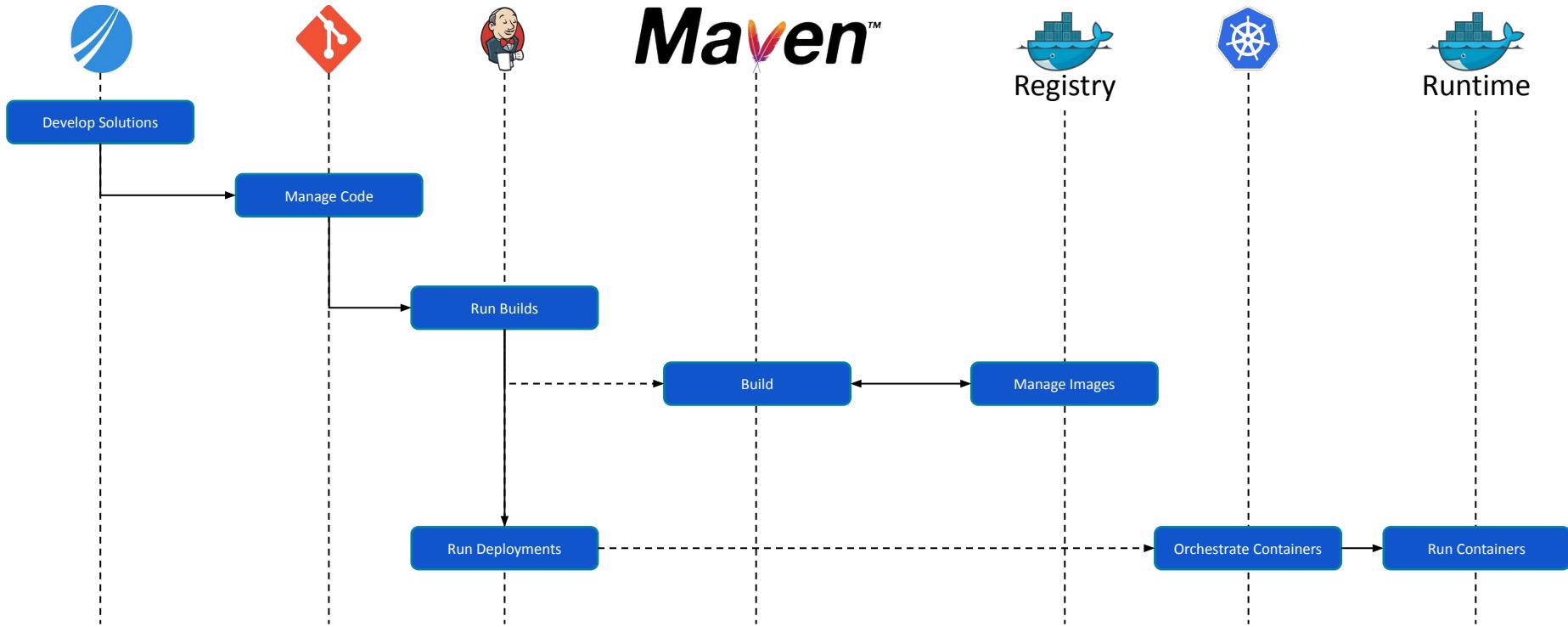
Maven™



Jenkins

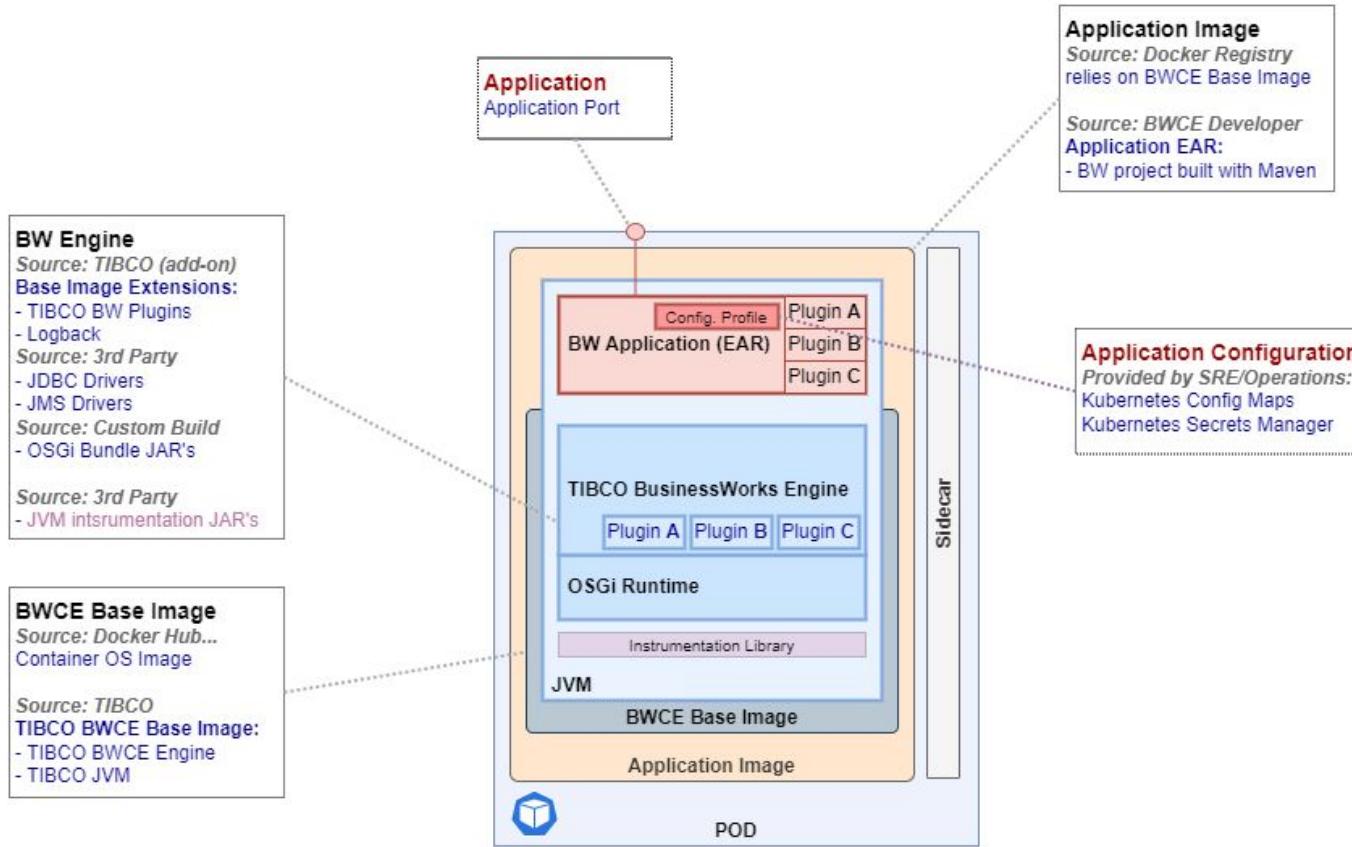
TIBCO BWCE Automated Deployment

Component Interaction



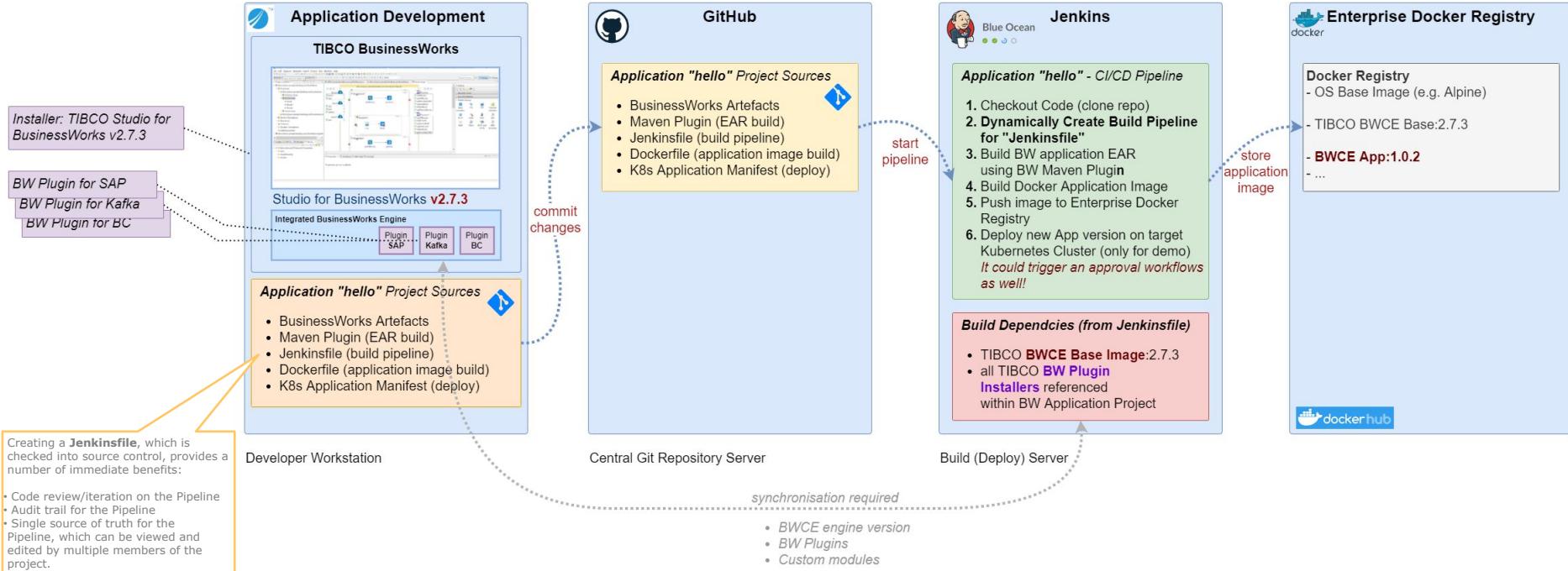
TIBCO BWCE Application Runtime

Anatomy of a BWCE Container Application



TIBCO BWCE Application: Design & Build

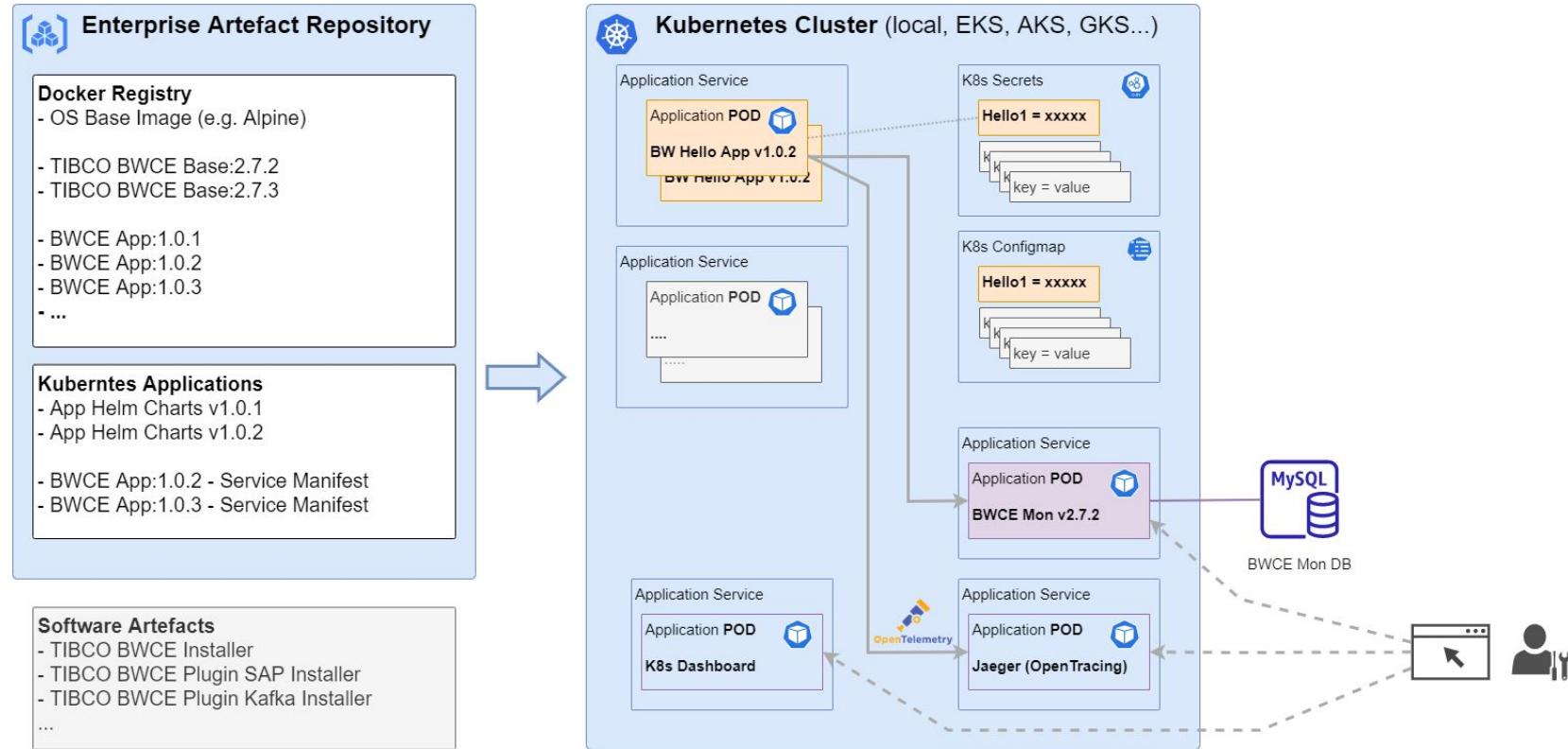
Application Creation & Automation of *Continuous Integration*



Source: <https://www.jenkins.io/doc/book/pipeline/jenkinsfile/>

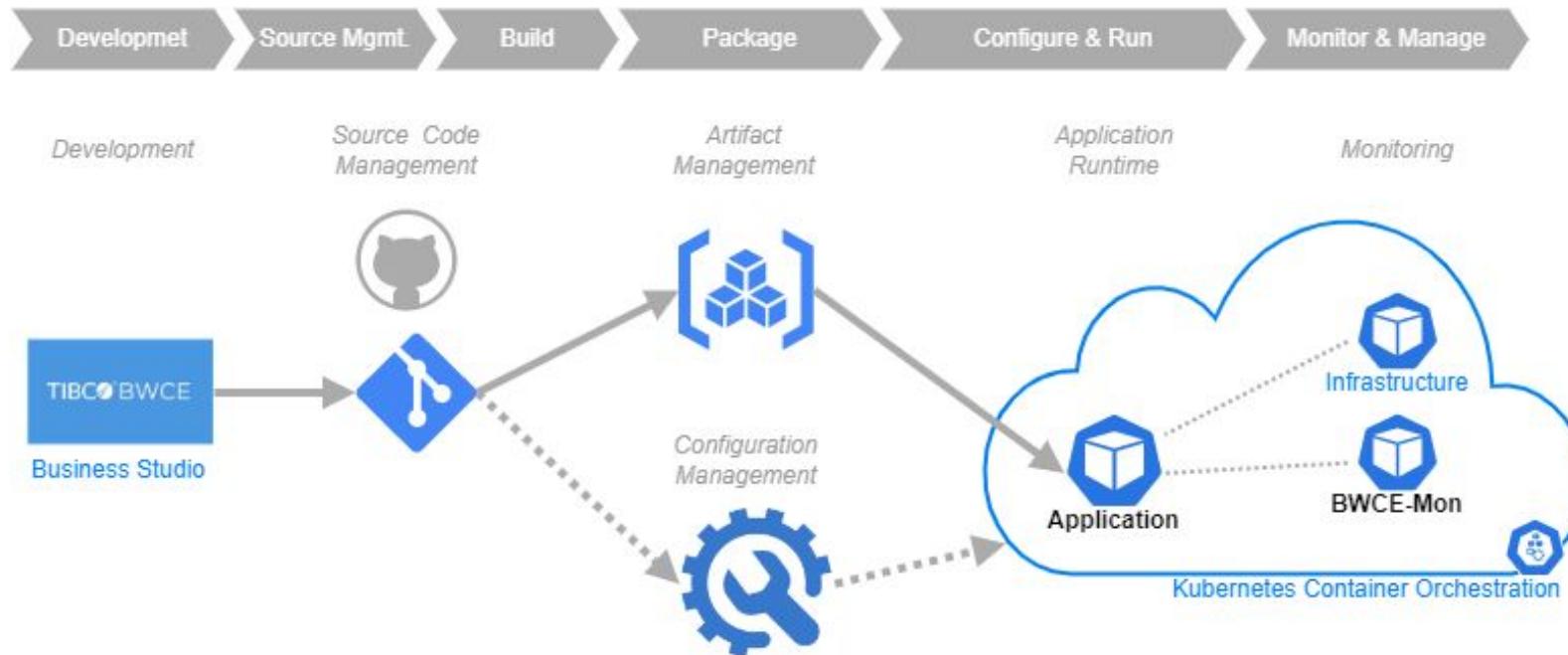
TIBCO BWCE Application: Runtime

Container Orchestration & Automation of *Continuous Deployment*



TIBCO BWCE App Deployment on Kubernetes

End-to-end Demo: Sample Scheduler application

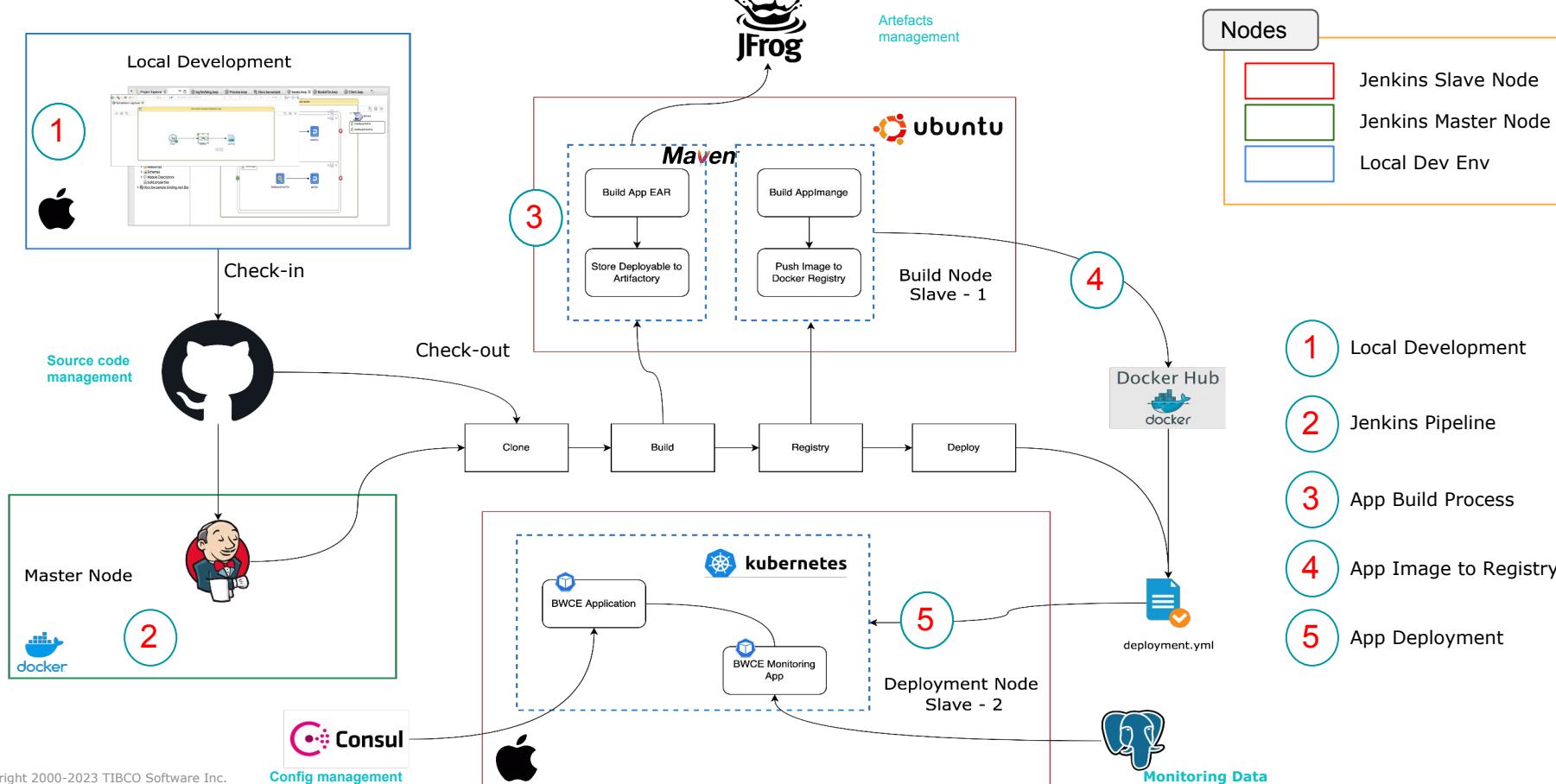


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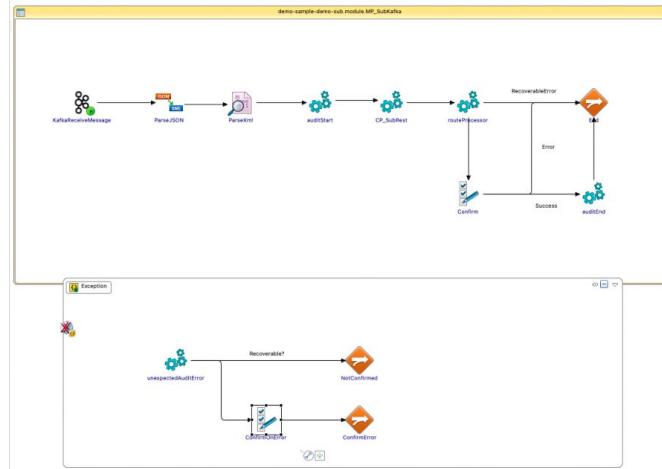
TIBCO BWCE App Deployment on Kubernetes

Architecture and Infrastructure



TIBCO BWCE App Deployment on Kubernetes

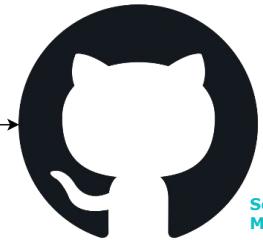
Code Development and Management



Local Development



git



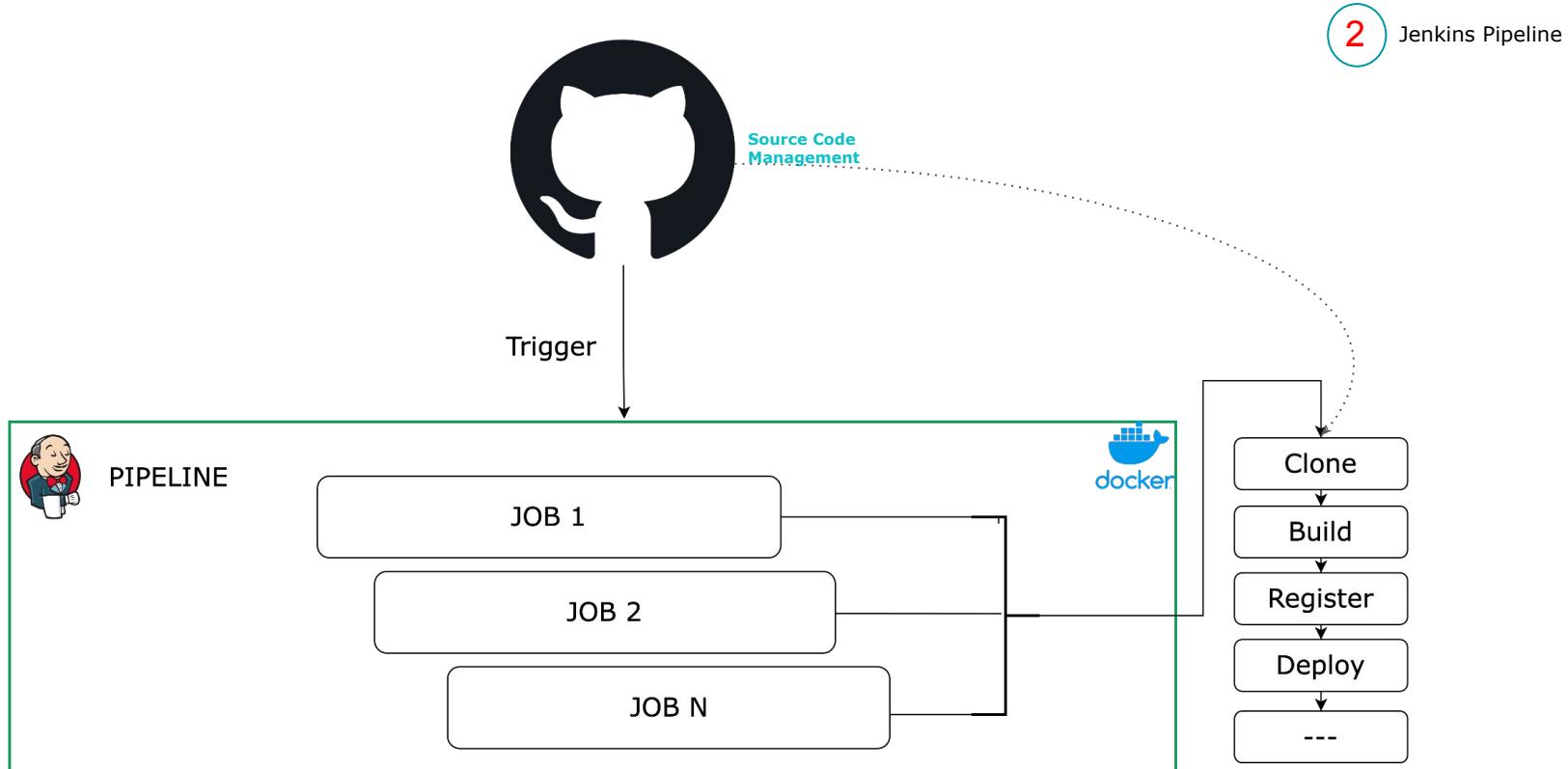
Source Code
Management

Remote Code Repository

1 Local Development

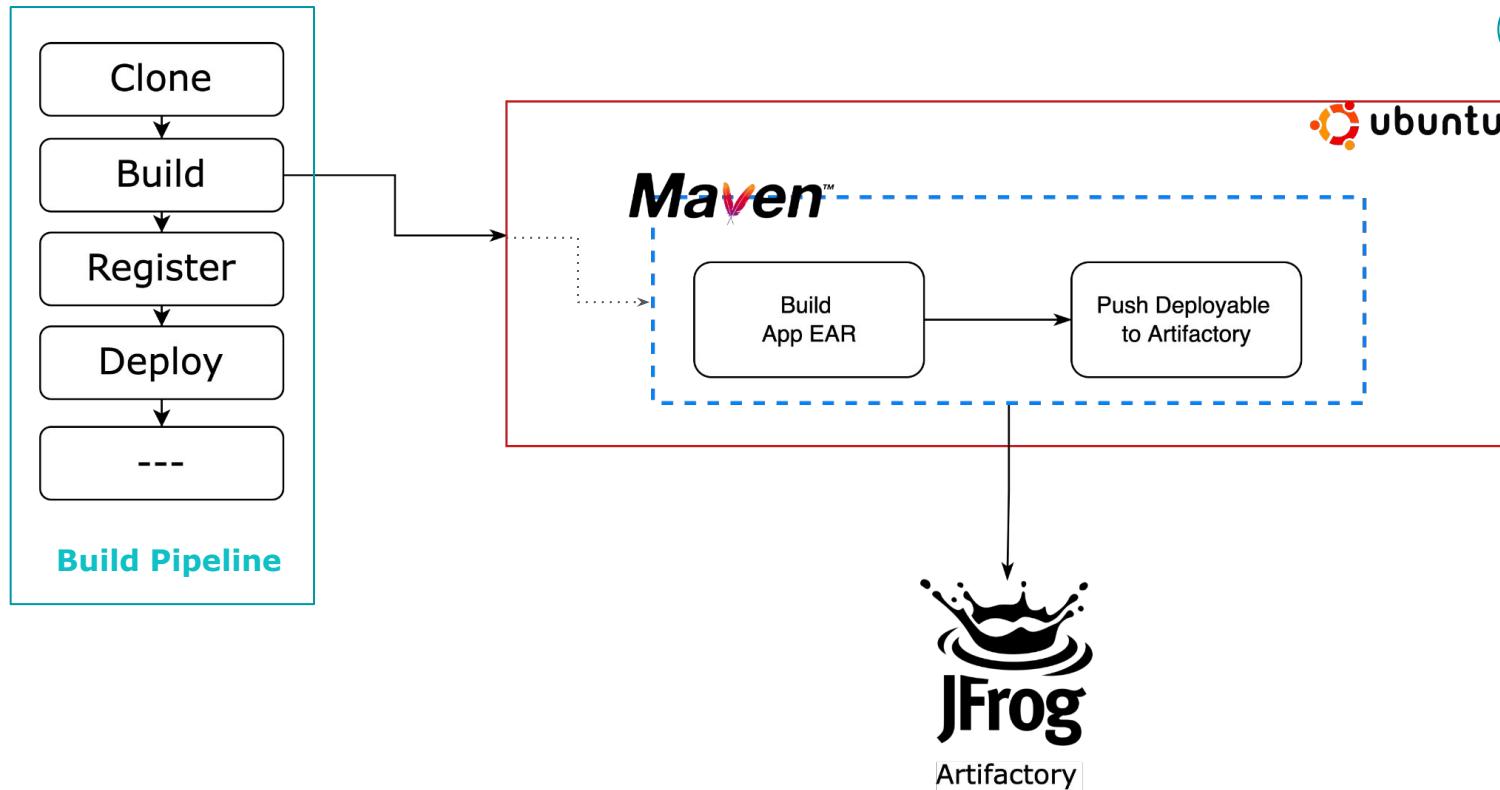
TIBCO BWCE App Deployment on Kubernetes

Build Pipeline using Jenkins



TIBCO BWCE App Deployment on Kubernetes

Build an app deployable and store it in Artifactory using Maven

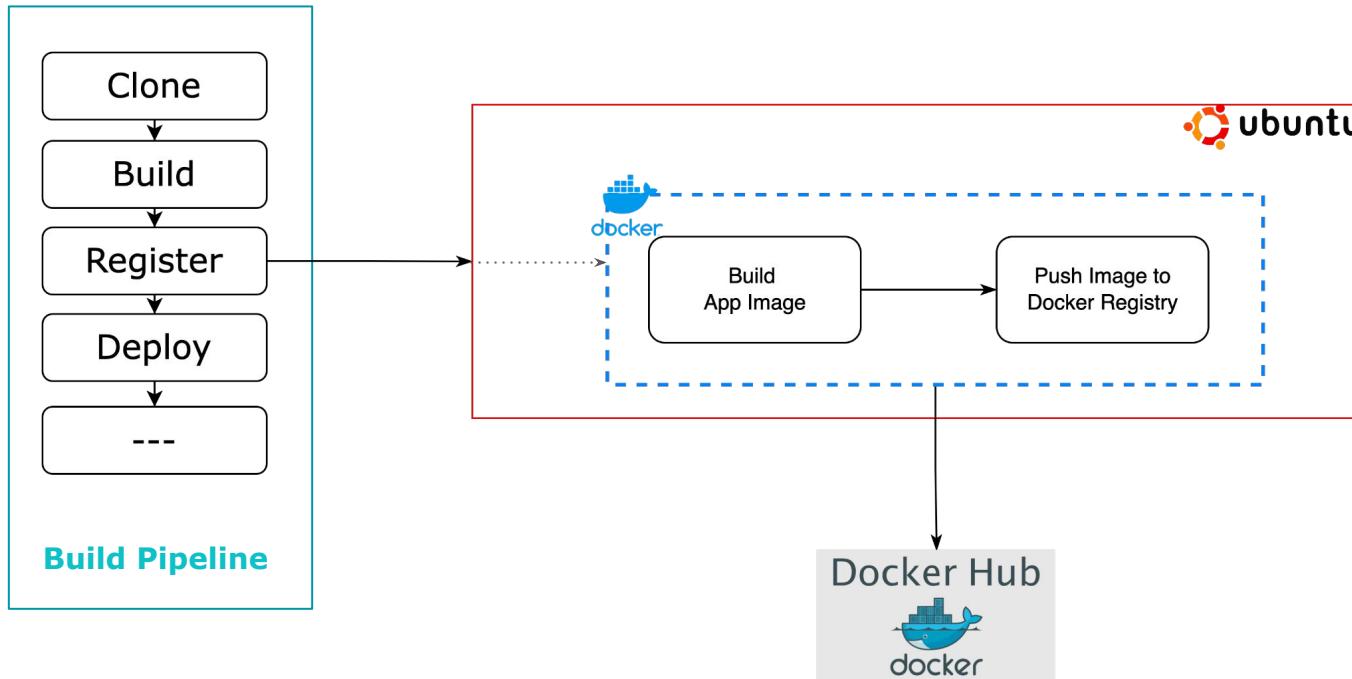


TIBCO BWCE App Deployment on Kubernetes

Build an app Image and store it in Docker Registry

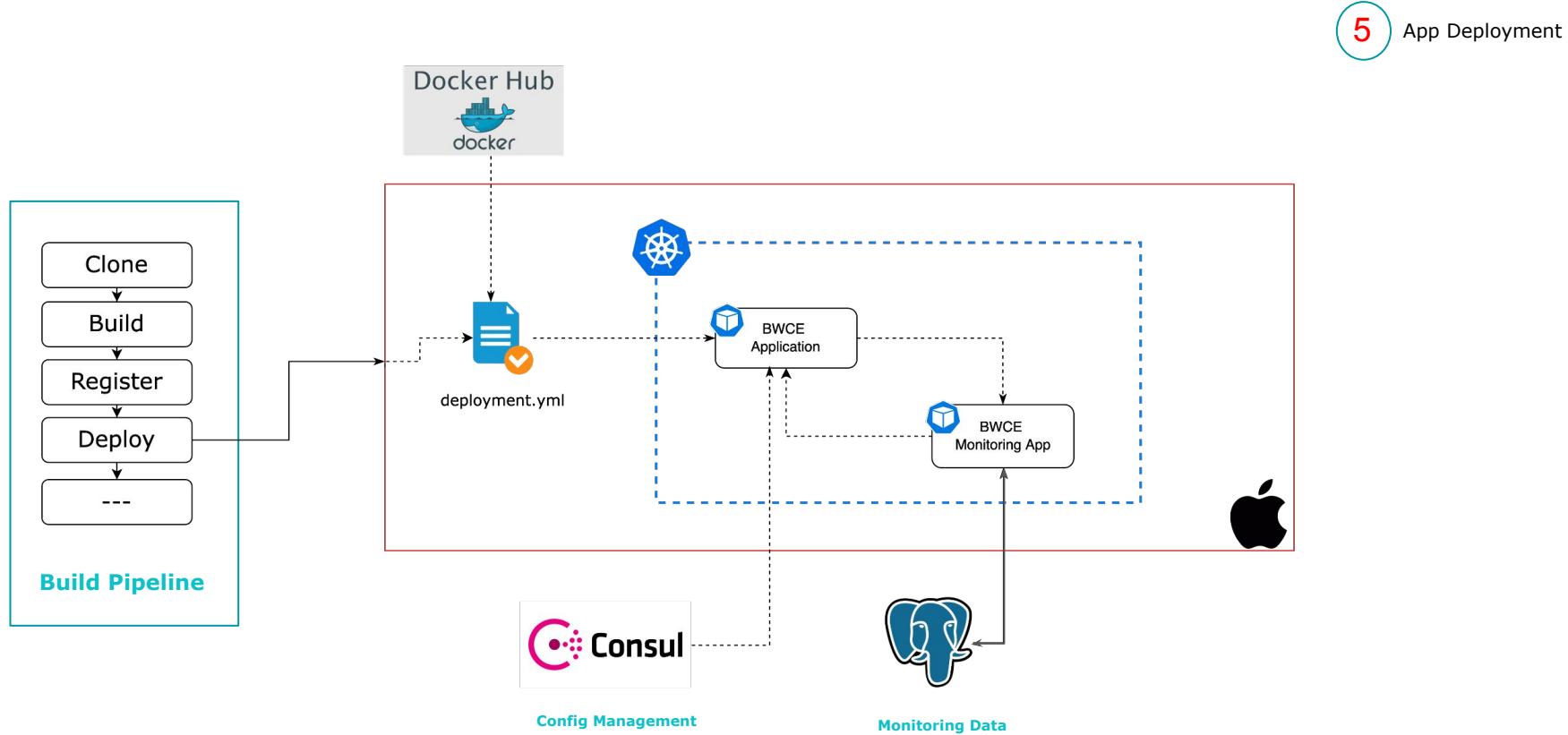
4

App Image to Registry



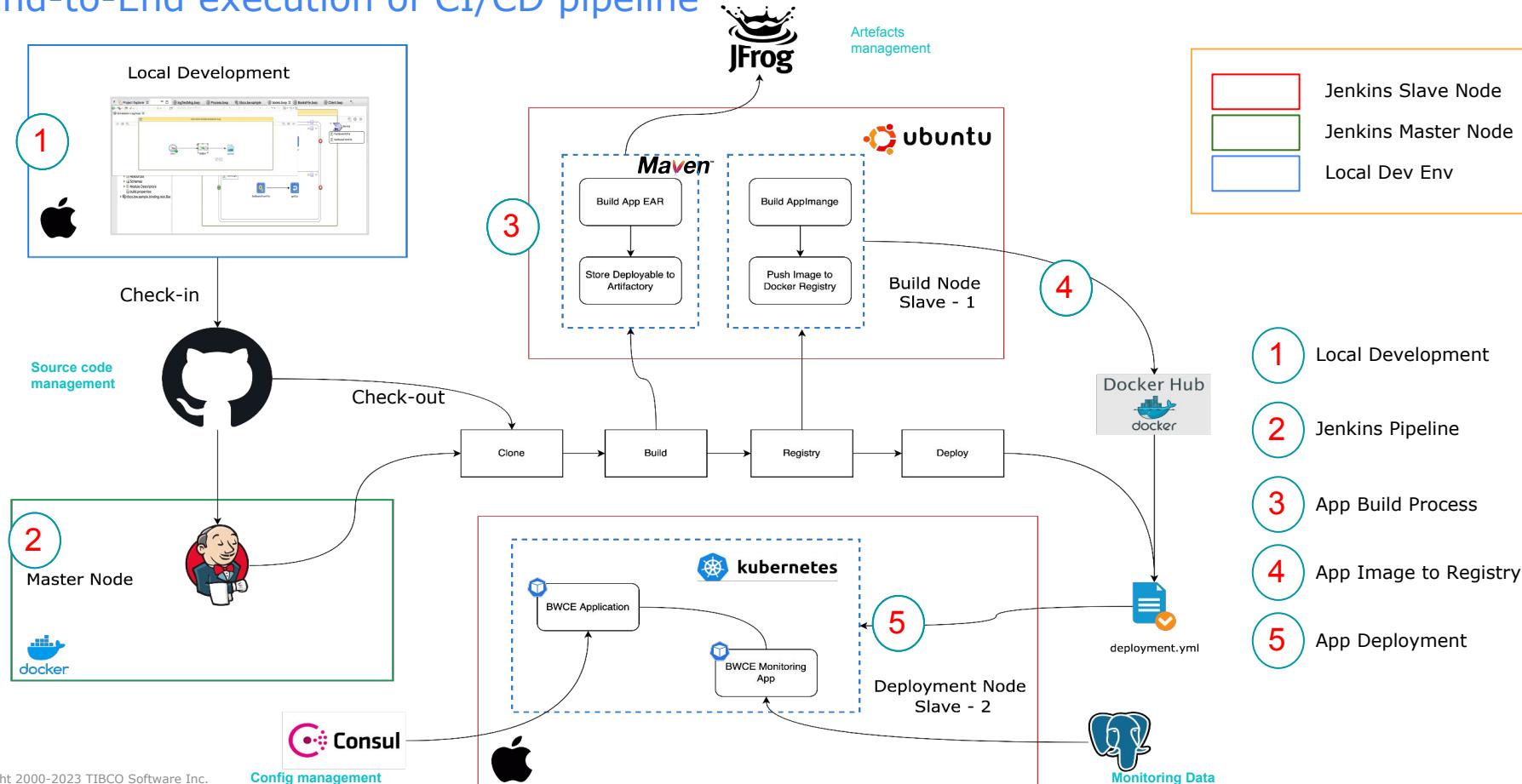
TIBCO BWCE App Deployment on Kubernetes

App deployment to k8s cluster



TIBCO BWCE App Deployment on Kubernetes

End-to-End execution of CI/CD pipeline



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Demo

Continuous Integration/Continuous Delivery (CICD)



The screenshot shows a desktop monitor displaying four different interfaces related to the CICD process:

- Top Left:** A Jenkins pipeline configuration screen titled "Scheduler-Log-beep". It shows a pipeline stage named "ci-cd-demo" with a "Mapper" step.
- Top Middle:** A GitHub repository page for "mpandav/ci-cd-demo". It displays the repository's README.md, issues, pull requests, and a Jenkins CI status badge.
- Bottom Left:** An Eclipse IDE interface showing a Java project named "ci-cd-demo". It includes a "Properties" view, a "Problems" view, and a "Console" tab.
- Right Side:** A Jenkins pipeline execution view for "jenkins/BWCE-CICD #186". It shows the pipeline stages: Start, Checkout - Git, Test & Build - App, Publish App Artifacts, Build & Push - App Image, Deploy App - K8S, and End. The "Deploy App - K8S" stage is currently running, with a log output window showing deployment commands like "Create Deployment for app --bwce_ci-cd_jenkins-build16" and "export IMAGE=\$IMAGE_NAME".

TIBCO BWCE Sample Scheduler Application

TIBCO Studio for BusinessWorks

The screenshot displays the TIBCO Studio for BusinessWorks interface, specifically the 'Scheduler-Log.bpw' process within the 'cicd-demo.module' project.

Project Explorer: Shows the project structure with files like 'cicd-demo.parent', 'pom.xml', and various descriptor and build files.

Scheduler-Log.bpw: The main process diagram shows a 'Timer' node connected to a 'Mapper' node, which then connects to a 'LOG' node.

Properties View (Mapper): The 'Mapper (Mapper)' tab is selected. It shows the 'Mapper-input' section with an XPath expression '\$Property' and a primitive value '\$Property1'. The 'XPath Expression' column also lists '\$Property' and '\$Property1'.

Outline View: Shows the activities in the process: Timer, LogTest, and Mapper.

Palette: On the right, the palette lists various components including ADB, Amazon CS, Amazon S3, Basic Activities, Compression, Data Conversion, File, and Files for Unix and Windows.

TIBCO BWCE Sample Scheduler Application

Additional Artefacts for Build, Configure, Run

The screenshot displays a GitHub repository page for the user 'mpandav' with the repository name 'cicd-demo'. The repository is public and contains 46 commits across 1 branch and 0 tags. The commit history shows updates to README.md, cicd-demo.module, cicd-demo.parent, cicd-demo, Dockerfile, and manifest.yaml, along with updates to Jenkinsfile and README.md. The 'About' section describes the repository as demonstrating automated deployment using Jenkins, Docker, and k8s, competing with TIBCO BWCE. It includes tags for automation, cicd, tibco, and tibco-integration. The 'Releases' section indicates no releases have been published. The 'Packages' section also indicates no packages have been published. The 'Languages' section shows a breakdown where HTML is 82.7%, CSS is 16.9%, and Other is 0.4%. The GitHub footer at the bottom of the page includes links for Terms, Privacy, Security, Status, Docs, Contact GitHub, Pricing, API, Training, Blog, and About.

Code Issues Pull requests Actions Projects Security Insights

main · 1 branch · 0 tags

Go to file Code

mpandav Update README.md 7b37d12 1 hour ago 46 commits

cicd-demo.module Updares 3 weeks ago

cicd-demo.parent Added unit test to app 3 weeks ago

cicd-demo Added unit test to app 3 weeks ago

Dockerfile Update Dockerfile last month

README.md Update README.md 1 hour ago

jenkinsfile Update jenkinsfile 3 weeks ago

manifest.yaml Update manifest.yaml 3 weeks ago

About

The demonstration of TIBCO BWCE application automated deployment using jenkins, docker and k8s platform. A compete CICD with TIBCO BWCE

automation cicd tibco
tibco-integration

Readme 0 stars 2 watching 0 forks

Report repository

Releases

No releases published

Packages

No packages published

Languages

HTML 82.7% CSS 16.9%
Other 0.4%

[Github Repo](#) for reference...

TIBCO BWCE Sample Scheduler Application

Automated deployment process/pipeline

✓ BRZ-BWCE-CICD-DEMO < 193

Branch: — ② 19s No changes
Commit: — ③ 18 hours ago Replayed #192

Pipeline Changes Tests Artifacts ⚡⚙️⚙️ Logout X



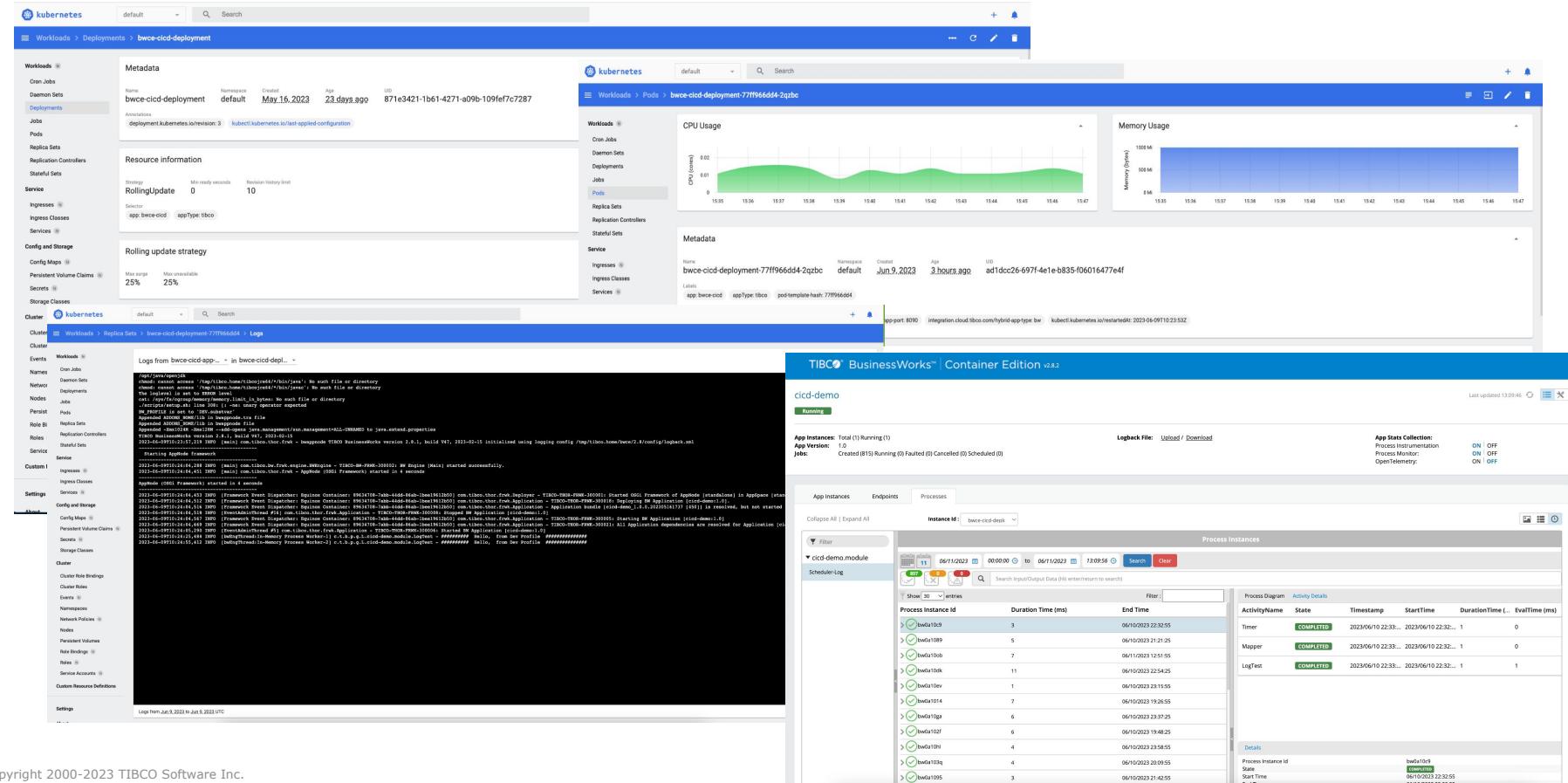
Deploy App -K8S - 2s

Restart Deploy App -K8S ⚡

Step	Description	Time
✓	##### Create Deployment for App -- bwce_cicd.jenkins-build:193 -- in K8S Cluster... ##### -- Print Message	<1s
1	##### Create Deployment for App -- bwce_cicd.jenkins-build:193 -- in K8S Cluster... #####	<1s
✓	export IMAGE="\${IMAGE}" -- Shell Script	<1s
1	+ export IMAGE=bwce_cicd.jenkins-build	
2	+ IMAGE=bwce_cicd.jenkins-build	
✓	export VERSION="\${VERSION}" -- Shell Script	<1s
1	+ export VERSION=193	
2	+ VERSION=193	
✓	envsubst < manifest.yaml kubectl apply -f - -- Shell Script	<1s
1	+ envsubst	
2	+ kubectl apply -f -	
3	deployment.apps/bwce-cicd-deployment configured	

TIBCO BWCE Sample Scheduler Application

Result of the deployment process





Thank you
#BETTERTOGETHER

