

eBook

# CloudBees CD/RO Capability Guide

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# Introduction

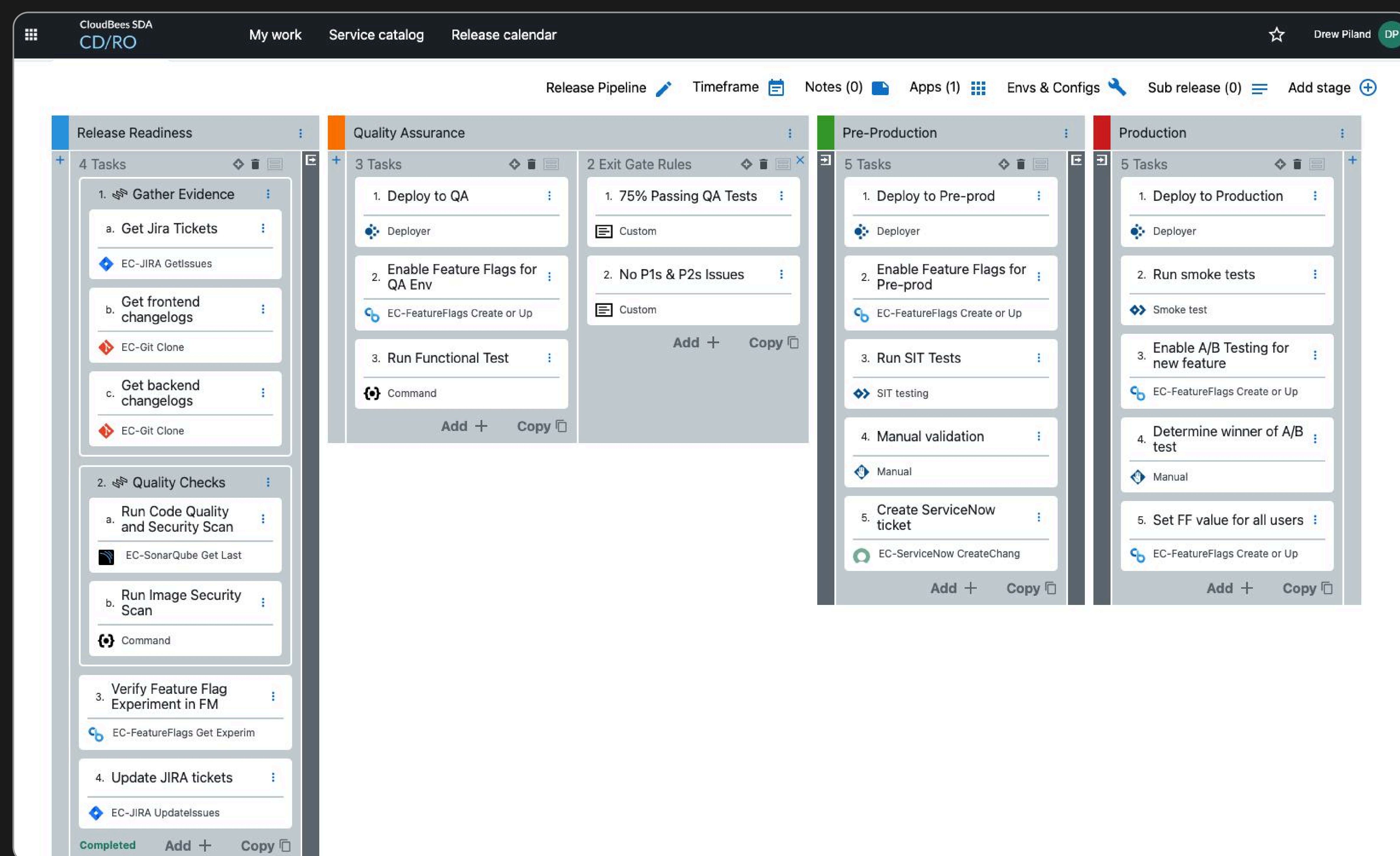
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CloudBees CD/RO is a platform designed to optimize your software development lifecycle. Automating deployment pipelines enables faster time to market without sacrificing security. Our robust set of integrations empowers developer tool choice while extracting contextual insights.

As a result, you make more informed decisions in a repeatable and reliable manner to align software delivery to business outcomes. The following list is a summary of our key capabilities.

# Release Orchestration

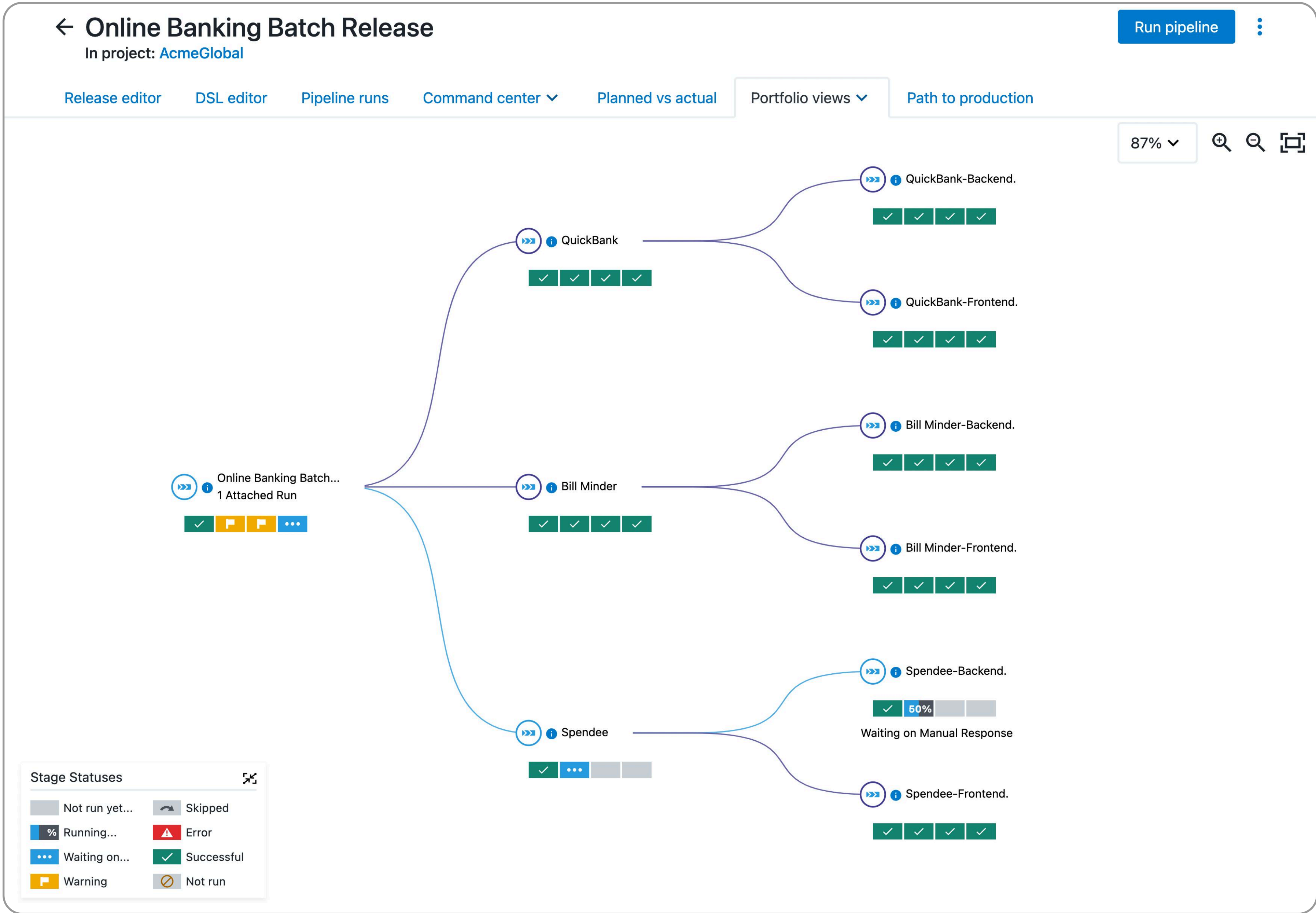
Model and orchestrate your DevOps release pipelines across all tools.





Model Pipelines	<p>With stages automating each task.</p> <ul style="list-style-type: none"><li>• Manual and automated approvals between tasks (entry and exit gates).</li><li>• Flexibility and control in automation through error handling, parallel execution, automated and manual retries, concurrent execution of stages, parameter-driven automation, and more.</li></ul>
Evidence Links	<p>Centralized access directly from the pipeline run to all evidence and reports associated with the stage: such as test and security scan results, build jobs, and changelogs.</p>
Release Calendar	<p>Aggregated view of all releases spanning ongoing and planned activities helps to identify where there may be conflicts between releases.</p>
Release Portfolio View	<p>Top-down visibility into the dependency hierarchy across all releases and pipelines. This view provides the status of all related releases at a glance, with drill-downs into dependencies to instantly understand progress and identify delays.</p>
Planned vs Actual View	<p>Analyze which phases of the release take the most time -- with breakdowns into manual/idle vs. automation to identify bottlenecks and improve release efficiency.</p>
Release Command Center	<p>Provides a centralized view of all release activities and processes. Integrations pull critical metrics from the tools used across the end-to-end process.</p>





Path to Production Capability

Review the entire payload delivered from the 1st stage (e.g., DEV) through the final stage (e.g., PROD). This feature includes the ability to click into the payload and understand the snapshot version, as well as the actual component(s) name(s) and version(s) delivered through the release.

DSL Editor View

Review the entire release pipeline in Domain Specific Language (DSL)/Groovy/ YAML and then store these pipelines in GitHub, Bitbucket, or another repository for testing and verification purposes.

Dynamic and data-driven parameters

Enable customers to create compelling end-user experiences to gather inputs and reduce errors.

Triggers

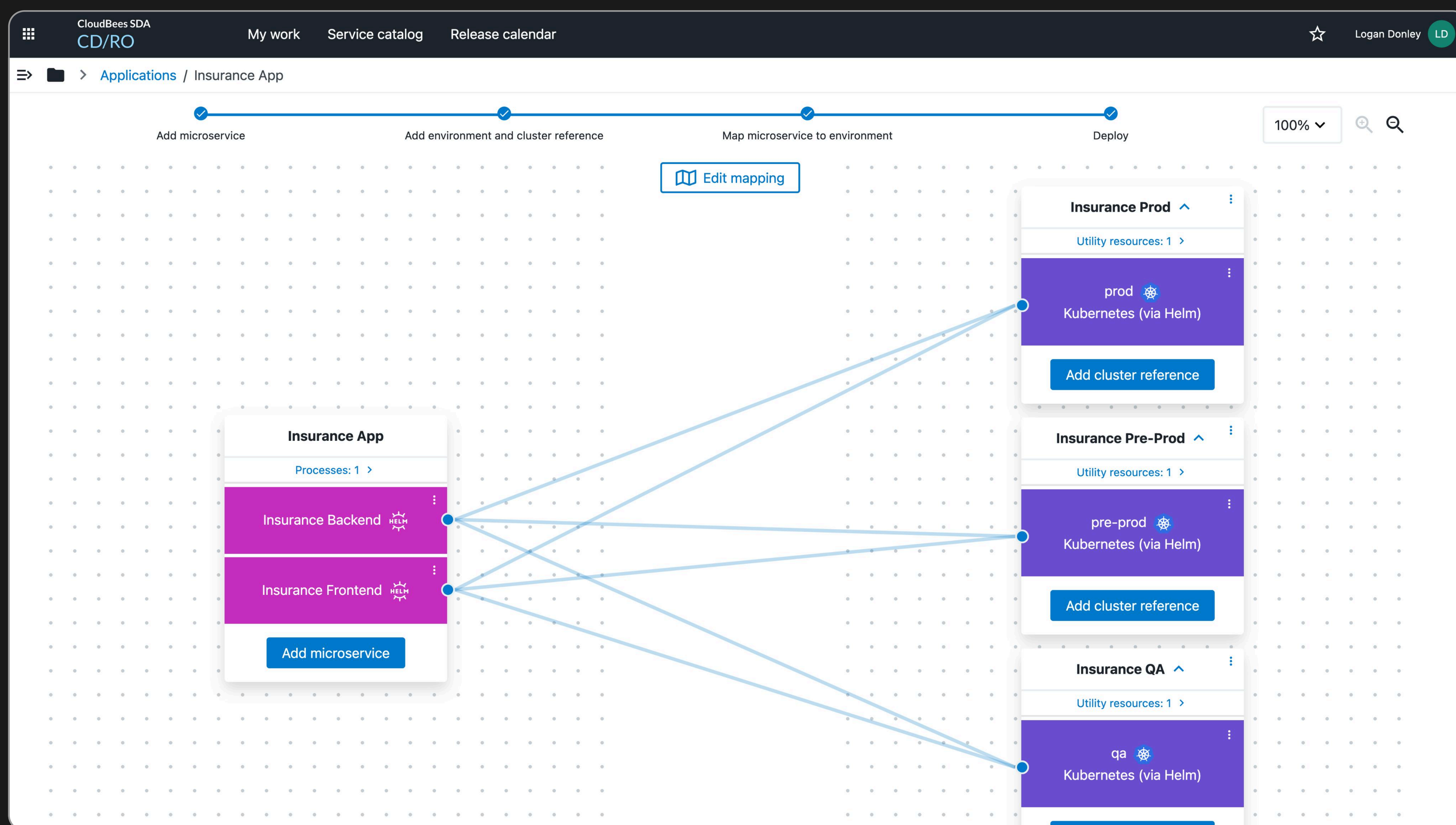
Automatically kick off releases and pipelines on code commits using polling and webhooks.



# Deployment Automation

Model applications and environments and automate predictable deployments of the same application(s) across your environments at scale.

- Flexible and customizable deployment processes can call any automation in the system and leverage our full plugin suite: support manual intervention, parallel steps, branching, and error handling.





# Deployment Features

## ● Smart Deploy

Option to only deploy to changed artifacts.

## ● Artifact Staging

Limit deployment time by staging artifacts on the environment in advance.

## ● Master Components

Reuse best practices across your applications. Use by reference or copy.

## ● Snapshots

Capture the artifacts deployed to an environment and the exact process used to deploy them for consistency across environments.

## ● Automated Rollback

Leverage integrations with APM vendors to analyze and roll back deployments to the last known good version when there is an error.

## ● Advanced deployment strategies

Eliminate downtime and deploy with confidence across your environments and application types, with capabilities such as:

- Blue/Green Deployments
- Canary Deployments
- Dark Launch Deployments
- Hot Deployments
- Partial Deployments
- Combination Deployments

## ● Third-Party Deployment

Manage deployments across third-party tools (Jenkins, Argo CD, Ansible Tower, etc.) directly within CloudBees CD/RO.

Provide enhancements through automated repeatability, process visibility, environment inventory, reservation management, and analytics.



# Environment Management

## ● Dynamic Environments

Dynamically spin up and configure environments at deployment time, and automate destroying the environment when it is no longer needed.

## ● Environment Inventory

Visibility into what is deployed where with detailed traceability into exact component versions and processes used for deployment.

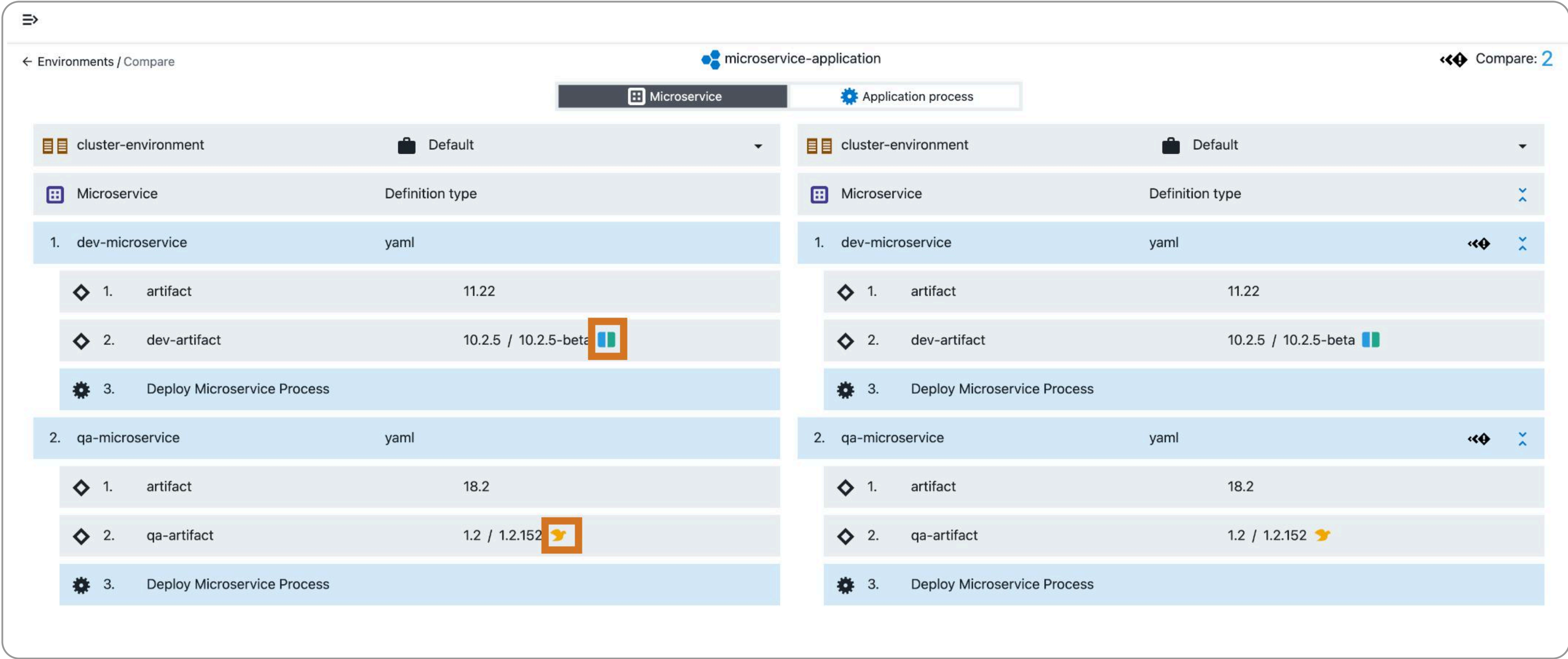
- Inventory comparison to compare inventory in multiple environments and detect environment drift.

## ● Environment Reservation

Equips the operations team with capabilities that allow it to impart control on environments or environment tiers, making application deployments more reliable and predictable. This includes the ability to reserve environments and create blackout periods to allow exclusive deployment to an environment and prevent conflicting activities.

# Microservices modeling and deployment

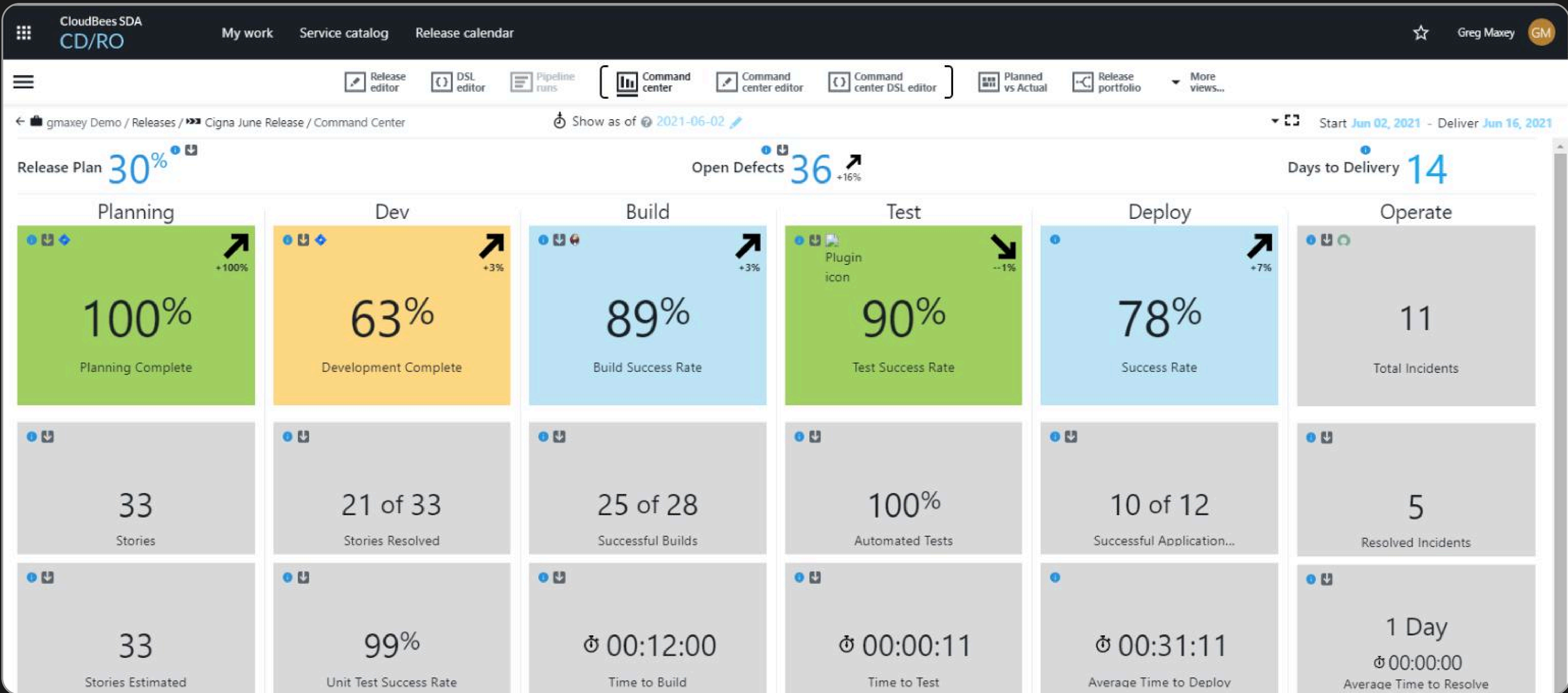
Native Helm and YAML support for modeling container-based microservices and clusters where they are deployed. Deep integrations with Kubernetes and all other leading container platforms to deploy your containers anywhere.





# Analytics Dashboard

Gain unprecedented insight into all your releases, pipelines, deployment, CI builds, and much more, all from a unified reporting and analytics dashboard.





## ● Out of the box dashboards

Showing key metrics and patterns:

- Releases
- Release Command Center
- Microservices Deployments
- Application Deployments
- DORA Dashboard
- Continuous Integration
- Code Commit Trends
- Workload Insights (Jenkins/CBCI Dashboard)
- Plugin Usage (Jenkins/CBCI Dashboard)

## ● Persona dashboards

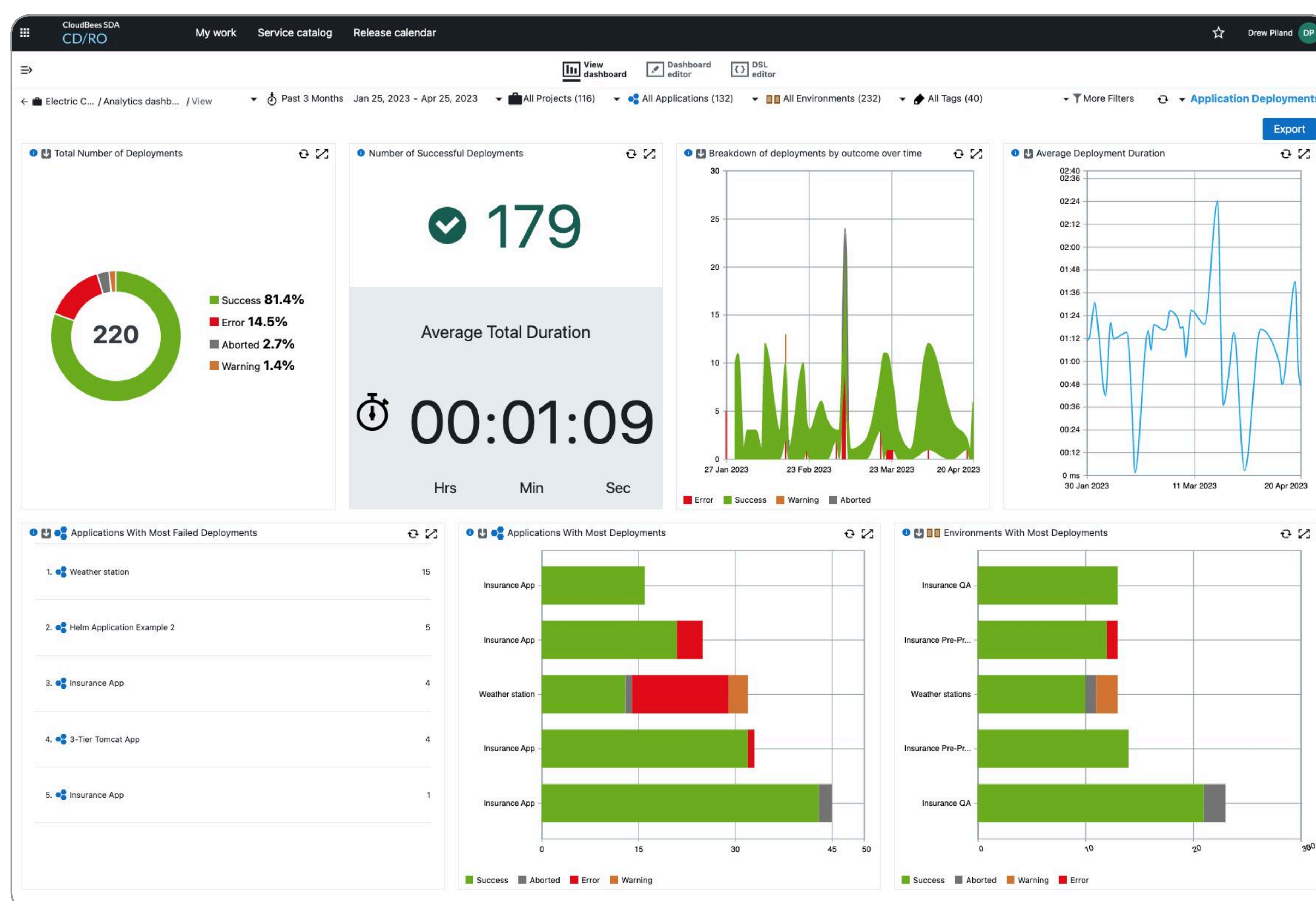
Present only what is relevant for specific roles to help eliminate the noise.

## ● Environment inventory

Visibility into what is deployed where with detailed traceability into exact component versions and processes used for deployment.

## ● CloudBees Analytics is based on Elastic Search

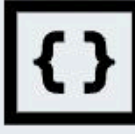
Providing unprecedented insight into all reports contained and created within our system. Additionally, it can be leveraged to combine reports, searching, and rendering from objects outside the system. Customers can take full advantage of this powerful engine to report on any metrics and KPIs within their projects.






# Self-Service Catalog


Onboard and expose key DevOps capabilities to your entire team or organization at the click of a button.




**Migrate configurations**  
Migrate your old plugin configurations into plugin configuration objects.  
[More...](#)  
[Migrate](#)




**Export DSL**  
Manage your automation as code in DSL.  
[More...](#)  
[Export](#)




**AWS Dynamic Environment**  
Create a new environment by dynamically provisioning and configuring VMs on Amazon EC2  
[More...](#)  
[Provision](#)




**Multi-stage CD Release**  
Create a sample Release with Dev, QA and Production pipeline stages and approval gates to manage the path to production from Dev  
[More...](#)  
[Create](#)




**Multi-stage CD Pipeline**  
Create a Pipeline with Dev, QA and Production stages with approval gates to manage path to production from Dev commit to Production  
[More...](#)  
[Create](#)




**Ansible tower model**  
Create a sample Ansible Tower application.  
[More...](#)  
[Create](#)




**Artifact Usage and Remediation**  
Generate a report on where an artifact version is being used across the system, including environments, applications and master  
[More...](#)  
[Execute](#)




**Import DSL**  
Manage your automation as code in DSL.  
[More...](#)  
[Import](#)




**Database Deployment to MySQL**  
Execute SQL script from file for MySQL.  
[More...](#)  
[Execute](#)




**Import DSL from Git**  
Manage your automation as code in DSL.  
[More...](#)  
[Import](#)




**Database Deployment to Oracle**  
Execute SQL script from file for Oracle.  
[More...](#)  
[Execute](#)




**Database Deployment to SQL Server**  
Execute SQL script from file for SQL Server.  
[More...](#)  
[Execute](#)




**Deployment Package Manager**  
Deployment package manager allows deployment of Java or .Net application quickly using CloudBees CD.  
[More...](#)  
[Create/Deploy](#)




**IIS Application Model**  
Create a simple .Net application model to deploy to Microsoft IIS server.  
[More...](#)  
[Create](#)




**JBoss Application Model**  
Create a simple Java application model to deploy to Redhat's JBoss Application Server.  
[More...](#)  
[Create](#)




**Spring Boot Application Model**  
Create a simple Java application model to deploy to Spring Boot Application Server.  
[More...](#)  
[Create](#)



**Tomcat Application Model**  
Create a simple Java application model to deploy to Tomcat Application Server.  
[More...](#)  
[Create](#)



**WebLogic Application Model**  
Create a simple Java application model to deploy to Oracle's WebLogic Server.  
[More...](#)  
[Create](#)



**WebSphere Application Model**  
Create a simple Java application model to deploy to IBM's WebSphere Application Server.  
[More...](#)  
[Create](#)



## “Self Service” and ‘consumerizing’ DevOps

CloudBees CD/RO has differentiated capabilities like Self-Service Catalog (SSC) that dictate how end users can consume DevOps in their organization. The CloudBees CD/RO Self-Service Catalog empowers users to ‘self-serve’ to drastically reduce onboarding of our solution and increase usage. It significantly improves the success rate of DevOps projects, and there is no ‘tissue rejection’ by end users.

### ● Reuse best practices

Quickly get started with numerous DevOps use cases with out-of-the-box templates.

### ● Internal Developer Platform

Build out your own internal developer portal, or communicate into existing systems using REST APIs.

### ● One-stop-shop

Centralized location for IT organizations to manage execution, creation, provisioning, discovery, and automation. Any company can create and customize self-service templates, and expose them to one person, a team, a department, or the entire company!



## Customized catalog items










Share automation across the organization. There are several benefits for using the self-service catalog, including:

- Need to POC software technology with another vendor? Leverage the CloudBees CD/RO to spin up and tear down a complete Demo and POC environment.
- Need to build a critical Dashboard and Report for your boss? Leverage the CloudBees CD/RO to create any dashboards and reports needed to validate and show metrics!
- Need to check system specs on a machine or series of machines? Leverage the CloudBees CD/RO to execute these commands and collect the results you require.
- Need to enable team best practices templates for building applications, deploying applications, creating and executing pipelines and releases? Leverage the CloudBees CD/RO to do all this and much more!

# Governed release process

Empowers developers to create great code to drive value for their end customers while also providing the management tools needed to ensure a streamlined, secure, and governed process.

Access Control  
for Pipeline: pipeline\_Insurance Release

	Type	Name	Read	Modify	Execute	Change Permissions
 pipeline_Insurance Release	Pipeline					
199 Inherited Privileges						
 LD Insurance Nov 16	Release					
 Idonley Demo	1. Group	 Developers	Allow	Inherit	Allow	Inherit
	2. Group	 Release Engineers	Allow	Allow	Allow	Allow
	3. Project	 Idonley Demo	Allow	Allow	Allow	Allow
 Projects	System Object					
	1. Project	 EC-Admin-4.0.0.10009	Allow	Allow	Allow	Allow
	2. Project	 EC-AWS-EC2-1.0.17.20221019...	Allow	Allow	Allow	Allow



# Governance Features

## Fine-grained access controls

Every object within CD/RO can have access control lists to view, run, and modify. Access is managed hierarchically for scalability and ease of management, ensuring users only have access to the objects they are authorized to view to help limit the blast radius.

## Single Sign-On (SSO)

Delivers critical SSO capability, which opens up additional use cases like approving from email and collaboration tools (such as Slack). CloudBees CD/RO supports this through SAML, OpenID Connect, and Kerberos protocols.

## Entry & Exit gates

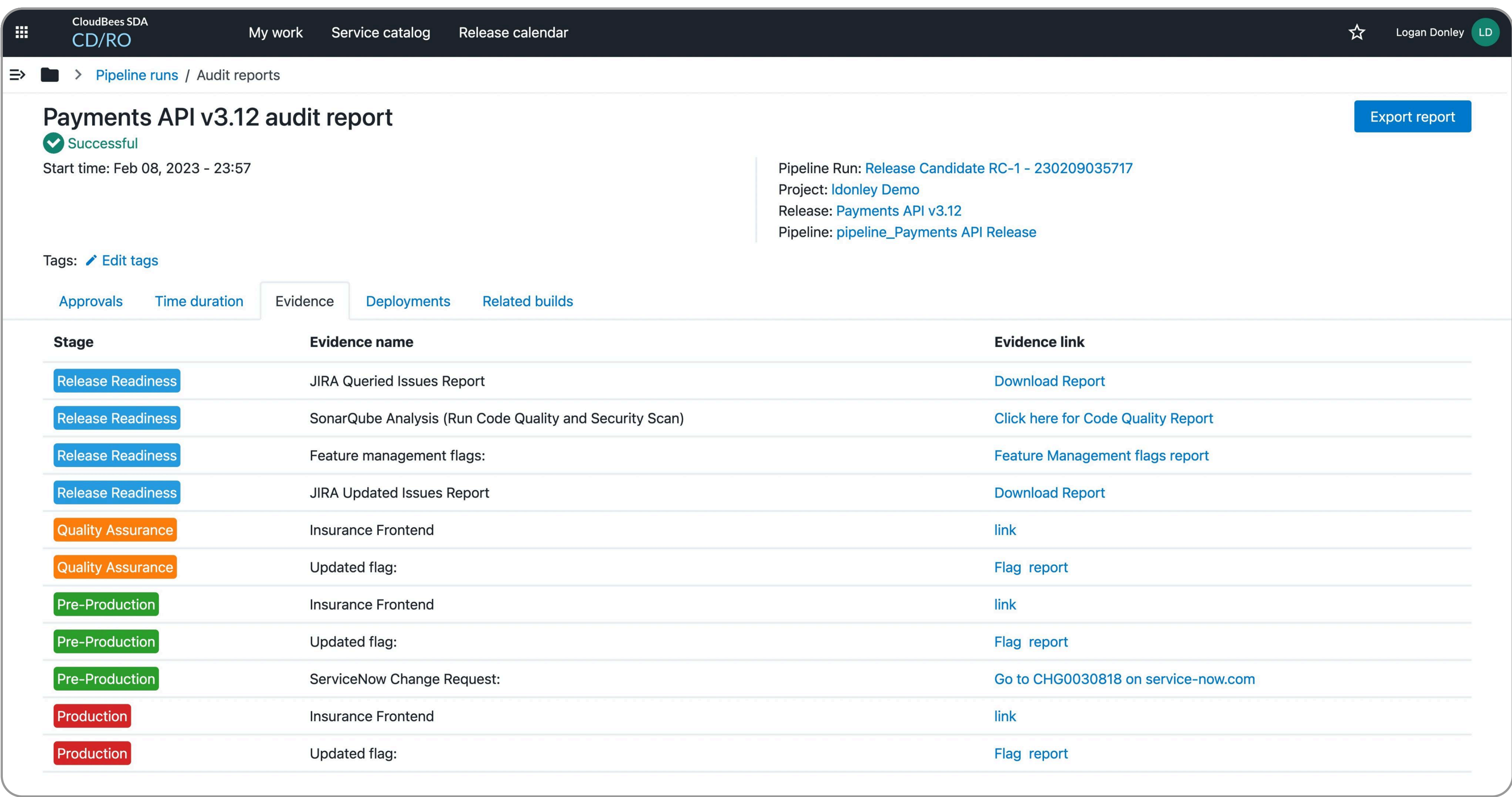
Ensure only good code makes it into production, and thus, dangerous/unsecured/unrecognized code should be shut down.

## Traceability of the objects

Helps enforce governance to show that the agreed-upon process was followed.

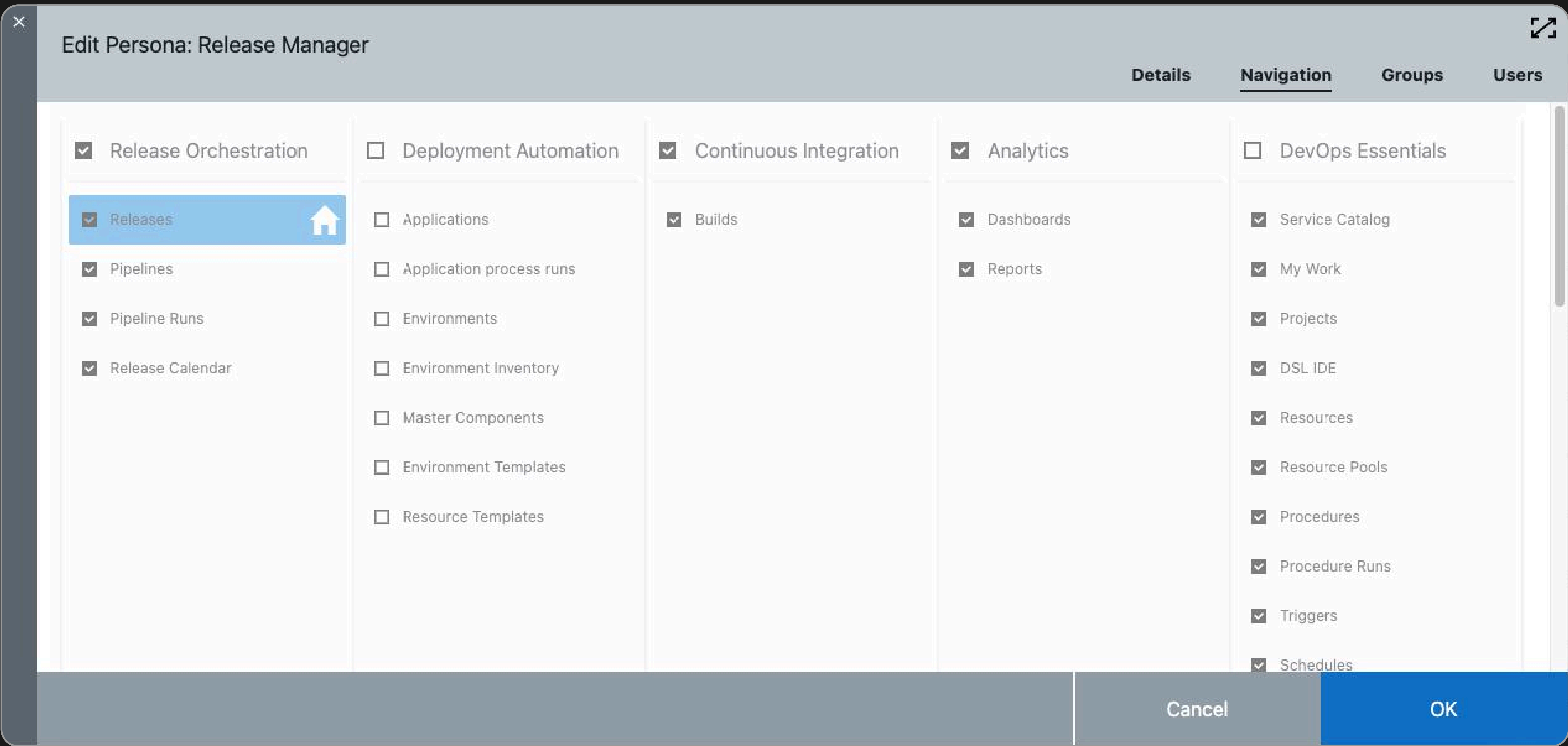
## Audit-ready pipelines

Capture all actions/evidence in real-time. As a result, teams always know the exact status of a release and can generate single-click audit reports.



# End User Personalization

Simplify the user experience.





## ● Persona-Based Navigation

Allow users to create “tailored views” and navigation menus for each DevOps role so that users see only the things their role demands. Personas help separate duties for all DevOps roles without requiring multiple products.

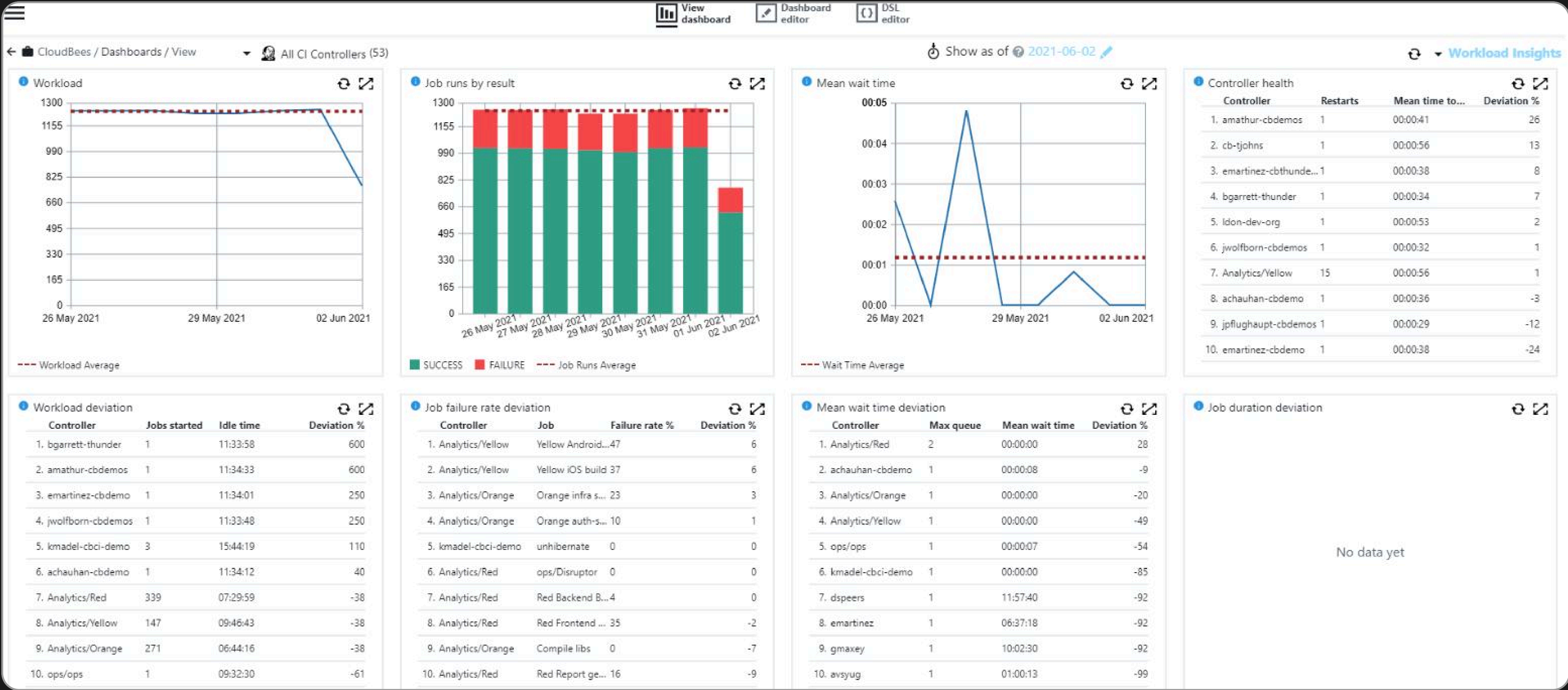
## ● Personalize user experience

Enables users to personalize their workflows through capabilities such as:

- “MyWork” (for quick access to all the approvals waiting for a user)
- Favorites (for quick access to most accessed pages)
- Homepage personalization (to control the landing page when a user first logs into CloudBees CD/RO)

# CI Integration

- Natively select and kick off CloudBees CI pipelines
- Jenkins plugin to kick off CD/RO pipelines, releases, etc.
- CBCI analytics data pushed to CD/RO Analytics engine (Plugin usage, Workload insights)





Learn more

- [Release Notes](#)
- [Support Policies](#)
- [CD-RO Guide Videos](#)
- [Speak to an Expert or Schedule a Demo](#)  
[Contact Us](#)

Learn more [cloudbees.com/get-started](https://cloudbees.com/get-started)

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