



# How to integrate IBM UrbanCode Deploy with Instana for Pipeline Visibility

*Deployment Automation for Fast Feedback and MTTR*

Tuesday, September 29  
IBM DevOps Community





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# IBM DevOps

Develop and deliver secure and reliable software as fast as possible

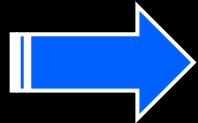
# IBM DevOps: Mission



Improve development and delivery operations



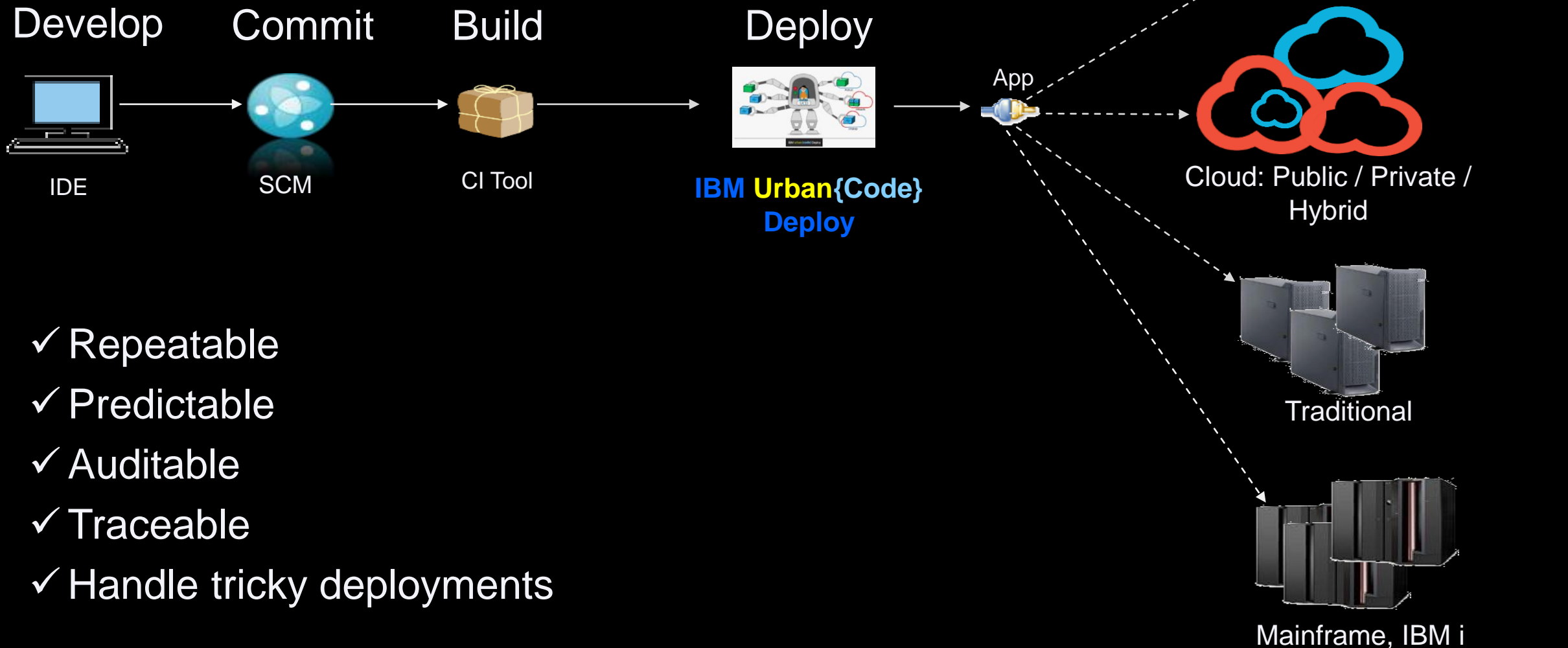
Reduce security and compliance risk



Deliver reliable solutions faster



# Deploy for Deployment Automation



# Demo of IBM `urban{code}` Deploy

## Quick UCD overview:

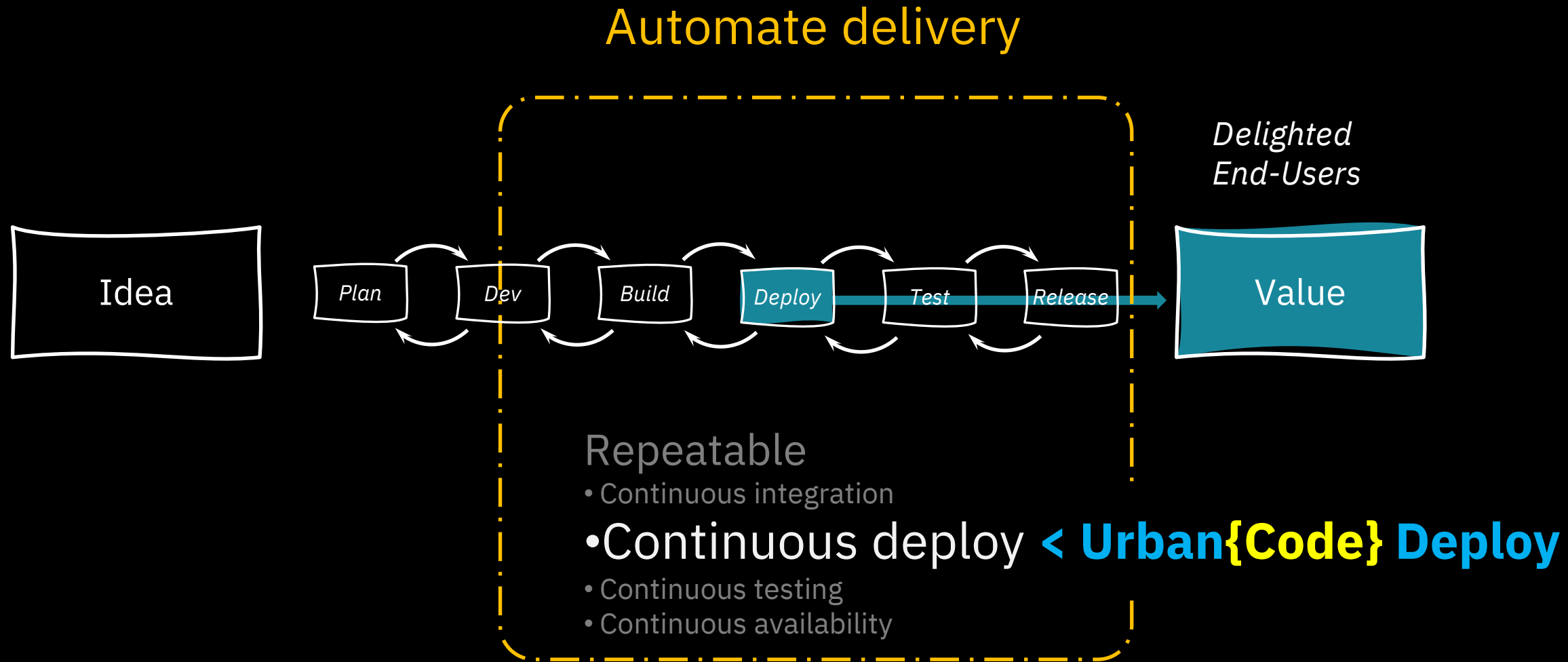
Application

Components

Environments

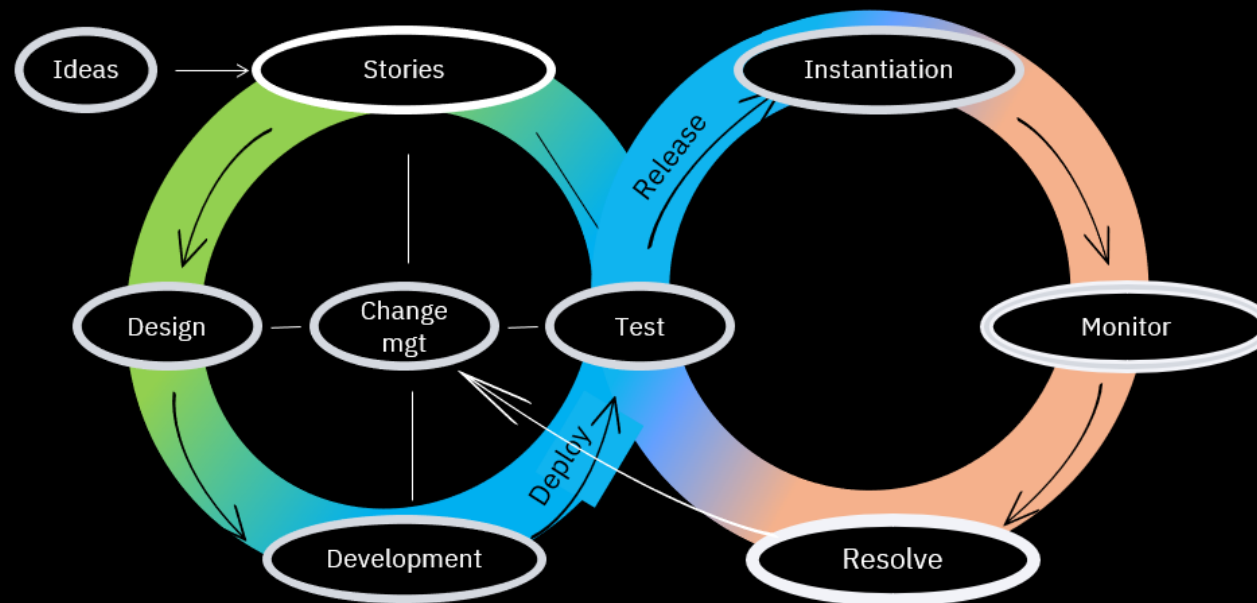
Deployment Process

# DevOps pipeline – Automate the repeatable





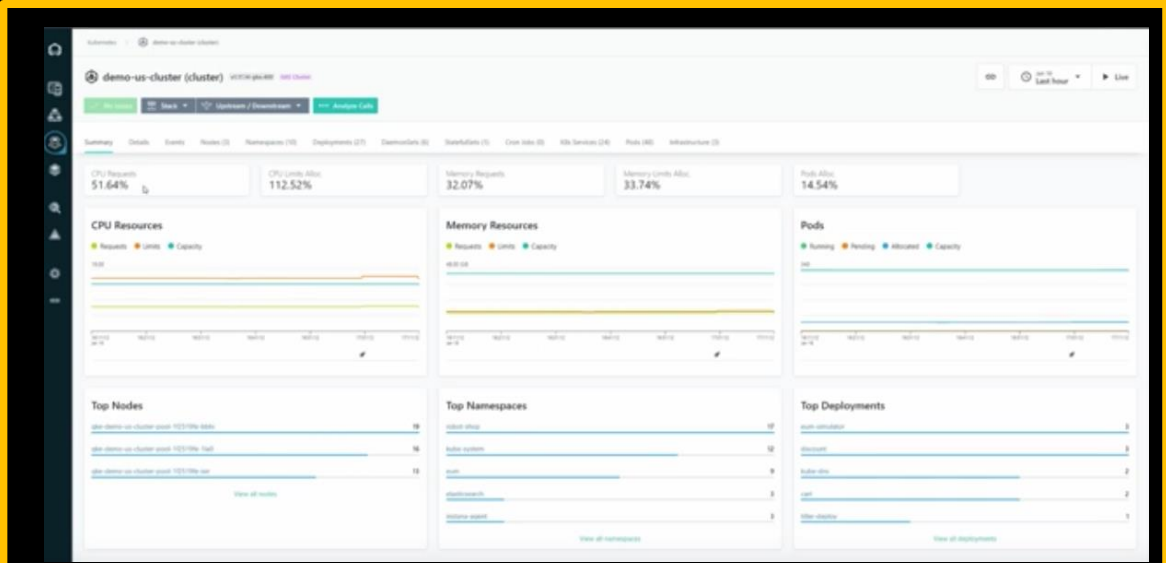
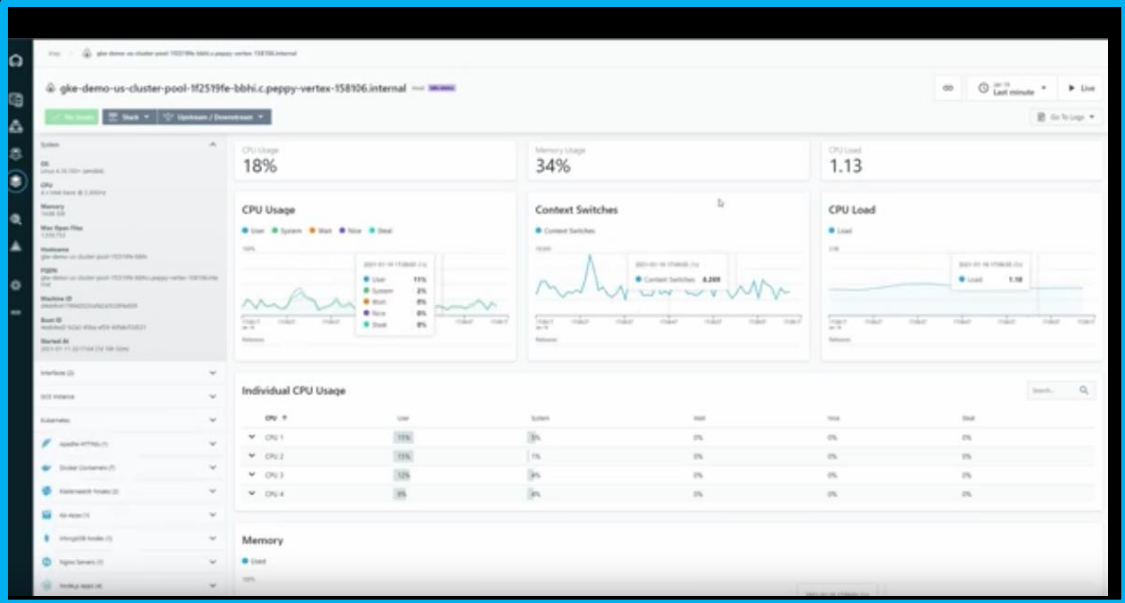
# MTTR



# Instana and Observability

Instana helps with observability from four different perspectives:

- 1. Automatic Backend Tracing
- 2. Front-end Application (website or mobile application)
- 3. Infrastructure (high fidelity metrics for host, cpu, memory and down to jvms, nodejs processes, etc.)
- 4. Platform – Kubernetes, Cloud Foundry (now VMWare Tanzu), and VMWare ESXI



# Instana Agent – Easy Install

The first challenge in adopting an observability tool is how do you deploy the solution.

Instana is built around idea that everything should be as automatic as possible. This includes the installation of the Instana Agent



Installing Instana Agents

Search...

PLATFORM

- AWS
- Azure
- Google Cloud
- Docker
- Kubernetes
- OpenShift
- Cloud Foundry and BOSH
- VMware Tanzu

OS

- Linux
- Mac OS
- Unix
- Windows

Linux

Technology Automatic installation (One-liner)

Dynamic agent with Zulu JVM Interactive installation

☐ Install and start as service (only supported for SystemD-based systems)

```
#!/bin/bash
curl -o setup_agent.sh https://setup.instana.io/agent && chmod 700 ./setup_agent.sh && sudo ./setup_agent.sh -a V7u0qd5nRMKPQeAGZx3Rx4 -t dynamic -e ingress-red-saas.instana.io:443
```

Copy

Supported Operating Systems

- Ubuntu Linux (14.04 / 16.04 / 18.04 / 20.04)
- CentOS (6 / 7 / 8)
- Debian (9 / 10)
- Suse Linux Enterprise Server (SLES) (12)
- Redhat Enterprise Linux (RHEL) (6 / 7 / 8)
- Amazon Linux (1 / 2)

Need a colleague to install the Instana agent?

# Instana Discovery

Instana will automatically discover what is on the host configure itself based on what it finds. It will also alert you of issues.

The screenshot shows the Instana Infrastructure Map view. The main area displays a 3D grid of containers, each represented by a small cube. A sidebar on the left provides details for the selected host: kube-bqfgtatf01ihf60vte8g-rhcai2clus-default-0000026d.i ks.ibm. The sidebar includes a link to the Open Dashboard, a warning icon indicating 1 issue, and a list of system details: OS (Linux 3.10.0-1160.36.2.el7.x86\_64 (amd64)), CPU (8 x Intel Xeon Gold 6140 @ 2.30GHz), Memory (62.75 GiB), Max Open Files (10,000,000), Hostname (kube-bqfgtatf01ihf60vte8g-rhcai2clus-default-0000026d), FQDN (kube-bqfgtatf01ihf60vte8g-rhcai2clus-default-0000026d.i ks.ibm), Machine ID (ac23019df79f4864ad761d08eb2b7e20), Boot ID (ff275bc6-6833-4251-890f-1ae3dc54de56), and Started At (2021-08-04, 05:02:23 (15d 4h 33m)).

The screenshot shows the Instana Host Details panel for the host kube-bqfgtatf01ihf60vte8g-rhcai2clus-default-0000026d.i ks.ibm. The panel includes a link to the Open Dashboard, a warning icon indicating 1 issue, and a list of system details: OS (Linux 3.10.0-1160.36.2.el7.x86\_64 (amd64)), CPU (8 x Intel Xeon Gold 6140 @ 2.30GHz), Memory (62.75 GiB), Max Open Files (10,000,000), Hostname (kube-bqfgtatf01ihf60vte8g-rhcai2clus-default-0000026d), FQDN (kube-bqfgtatf01ihf60vte8g-rhcai2clus-default-0000026d.i ks.ibm), Machine ID (ac23019df79f4864ad761d08eb2b7e20), Boot ID (ff275bc6-6833-4251-890f-1ae3dc54de56), and Started At (2021-08-04, 05:02:23 (15d 4h 33m)).

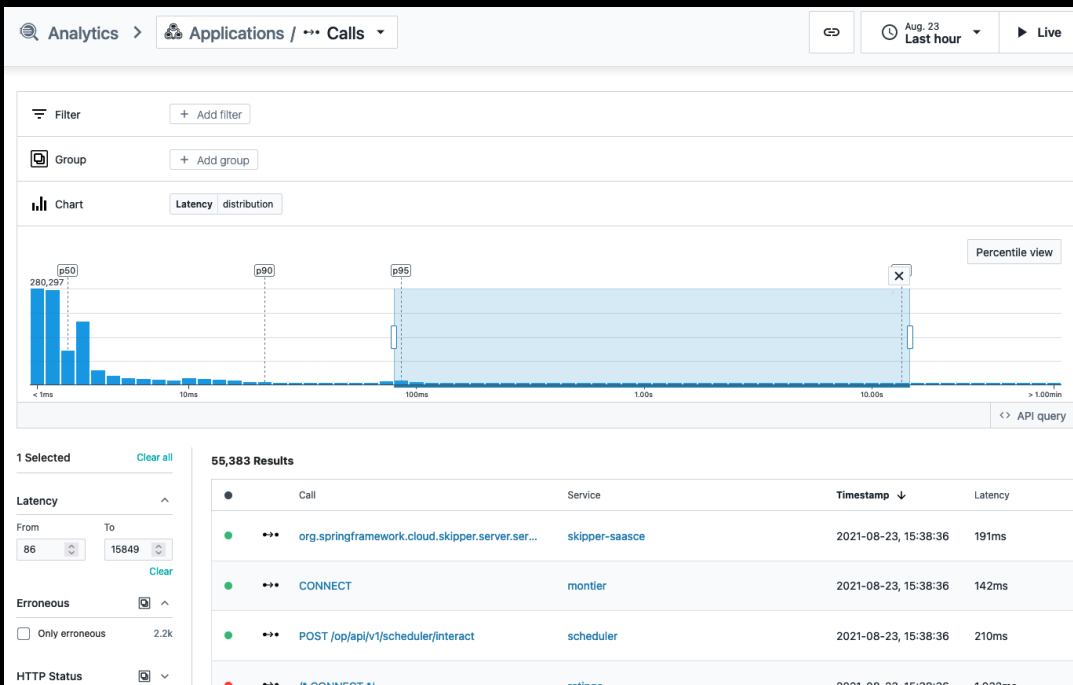
Below the system details, a list of discovered services is shown, each with a dropdown arrow:

- Interfaces (3)
- Kubernetes
- CRI-O Containers (128)
- HAProxy (3)
- Nginx Server (1)
- PostgreSQL DB (1)
- Processes (9)
- Redis Nodes (3)
- Spring Boot App (1)

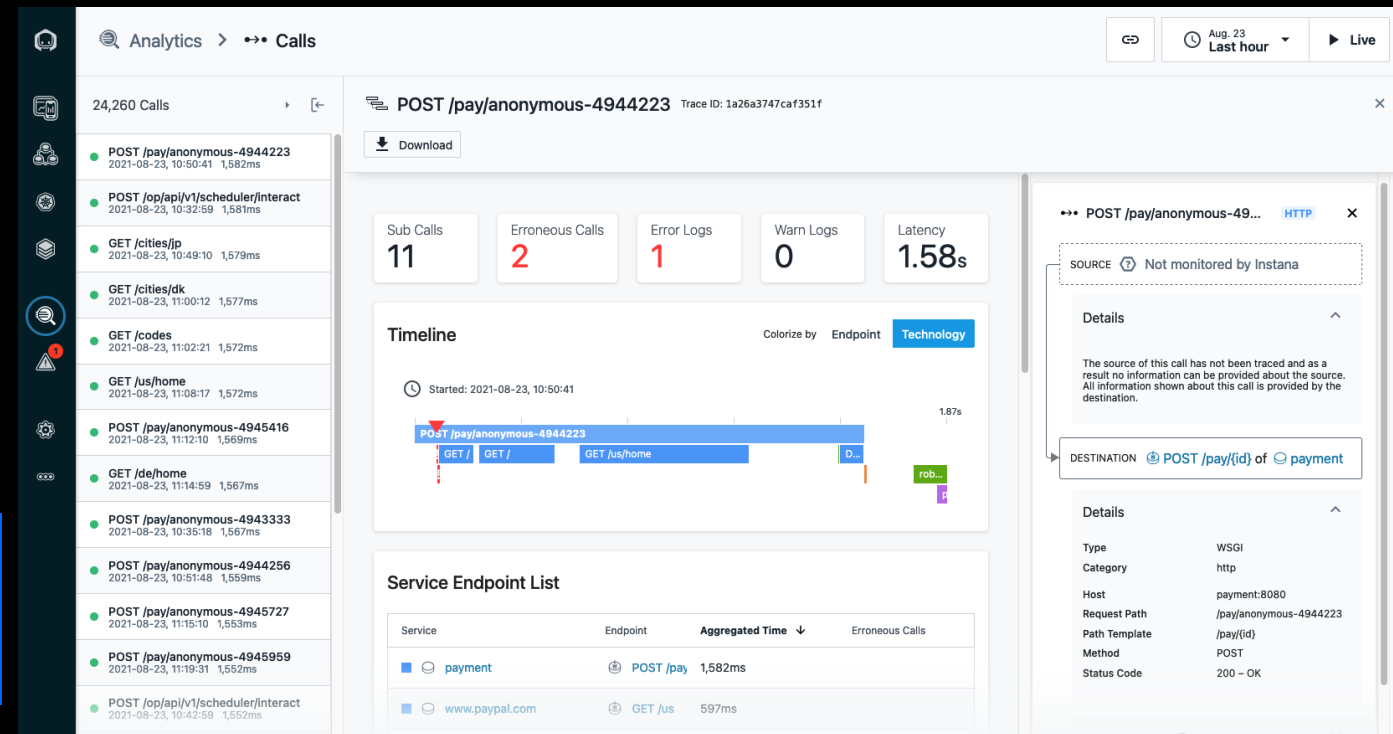
# Instana Analytics

Instana is an Application Performance Management (APM) tool at heart. The application tracing capability using Instana “AutoTrace” found in the Analytics area of the solution allows you to quickly identify issues.

Immediately understand the cause of a slow running service

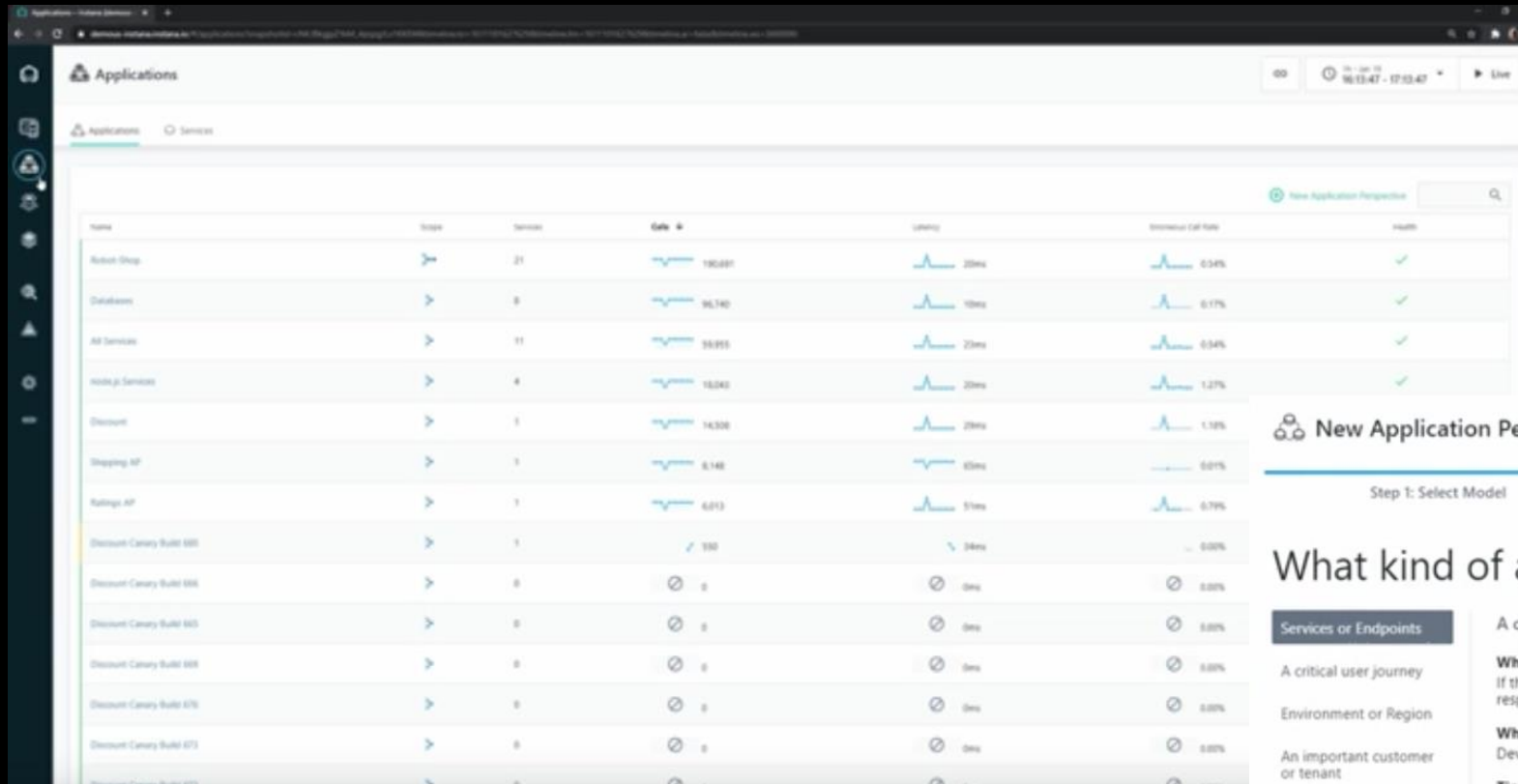


Capture a trace of every single request, from the end user's browser through all microservices with Instana AutoTrace



# Instana Analytics - Application Perspectives

Being able to decipher analytic details is not a trivial task. You are typically a well-seasoned operator that is very familiar with the application and what to look for. This is especially hard for a new DevOps Engineer that you bring into your team.



Simplicity and  
Automation

Extract ROI Quickly

The screenshot shows the 'New Application Perspective' wizard. It has three steps: Step 1: Select Model, Step 2: Specify Application, and Step 3: Provide Details. The current step is Step 1, which asks 'What kind of application would you like to model?'. There are two main options: 'Services or Endpoints' and 'A collection of services or endpoints'. The 'Services or Endpoints' option is selected and shows a list of filters: A critical user journey, Environment or Region, An important customer or tenant, Kubernetes or Container, Request Attributes, Technology, and Custom Tags. The 'A collection of services or endpoints' option is also shown with a description and a 'When to use?' section.

### New Application Perspective

Switch to Advanced Mode X

Step 1: Select Model Step 2: Specify Application Step 3: Provide Details

## What kind of application would you like to model?

**Services or Endpoints**

A critical user journey

Environment or Region

An important customer or tenant

Kubernetes or Container

Request Attributes

Technology

Custom Tags

**A collection of services or endpoints**

**When to use?**

If the services or endpoints are well known and the group won't change soon. This is often an application that a specific team is responsible for, or which provides a single function (eg. Payment Application). This is the simplest approach.

**Who should use?**

DevOps, Operations, SRE, Developer, QA, Support, Business owner.

**Tips for using**

- Use string operators (e.g., like "contains", "starts with") to select several services with one filter.
- Add setup, environment, or custom tags to narrow the scope.
- Use "No downstream services" and "Inbound calls" for the source's perspective.
- Use "All downstream services" and "All calls" for the end-to-end view.
- Use "Immediate downstream services" to include the direct database or messaging services.

# Instana - Pipeline Feedback Release Marker

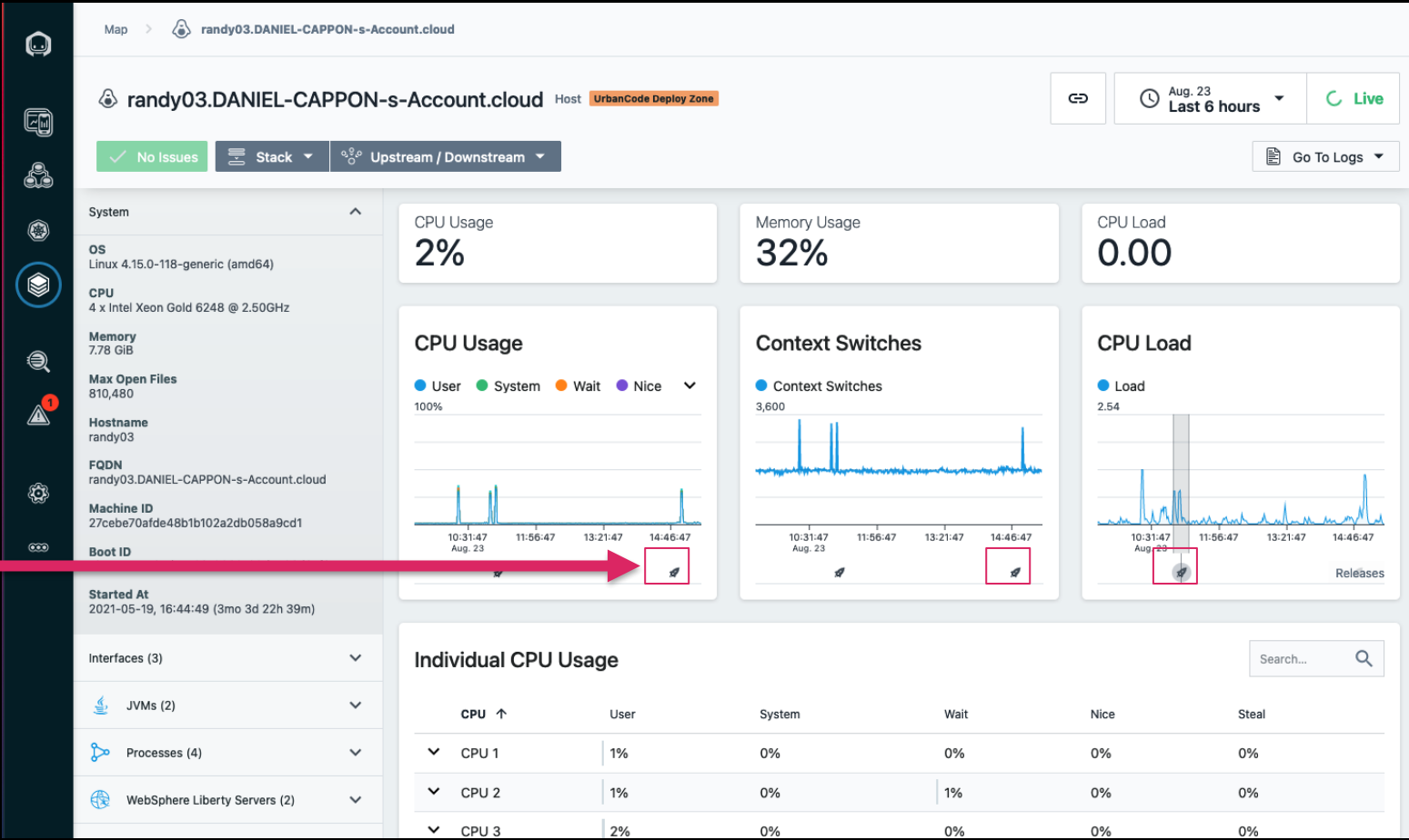


Documentation:  
[https://www.instana.com/docs/pipeline\\_feedback/configuration-and-api/](https://www.instana.com/docs/pipeline_feedback/configuration-and-api/)

Time Range Releases

Filter...

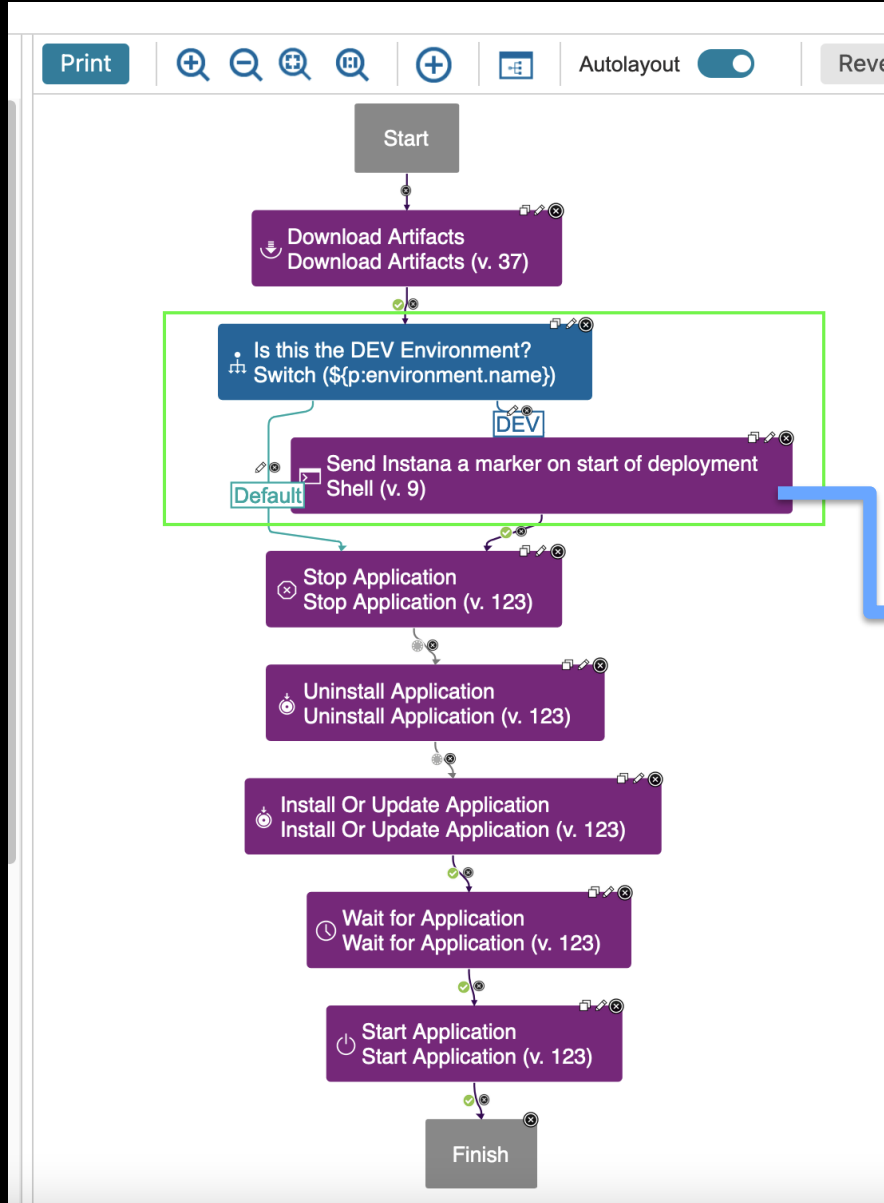
Name	Scope	Release time ↓
Sum-App-DEV	Global	2021-08-23, 14:59:18
Sum-App-DEV	Global	2021-08-23, 11:06:11
Sum-App-DEV	/opt/IBM/liberty/wlp/bin/tools/ws-server.jar defaultServer	- Sum-App-DEV 2021-08-23, 10:59:35
Sum-App-DEV	/opt/IBM/liberty/wlp/bin/tools/ws-server.jar defaultServer	- Sum-App-DEV 2021-08-23, 10:19:26
PlantsByWebSphere-DEV	Global	2021-08-17, 15:14:52



You can observe the application performance at deployment time using the markers for your telemetry data at infrastructure, service, and application perspectives



# Instana - Pipeline Feedback using IBM UrbanCode Deploy



## Edit Shell

Save



Go to line



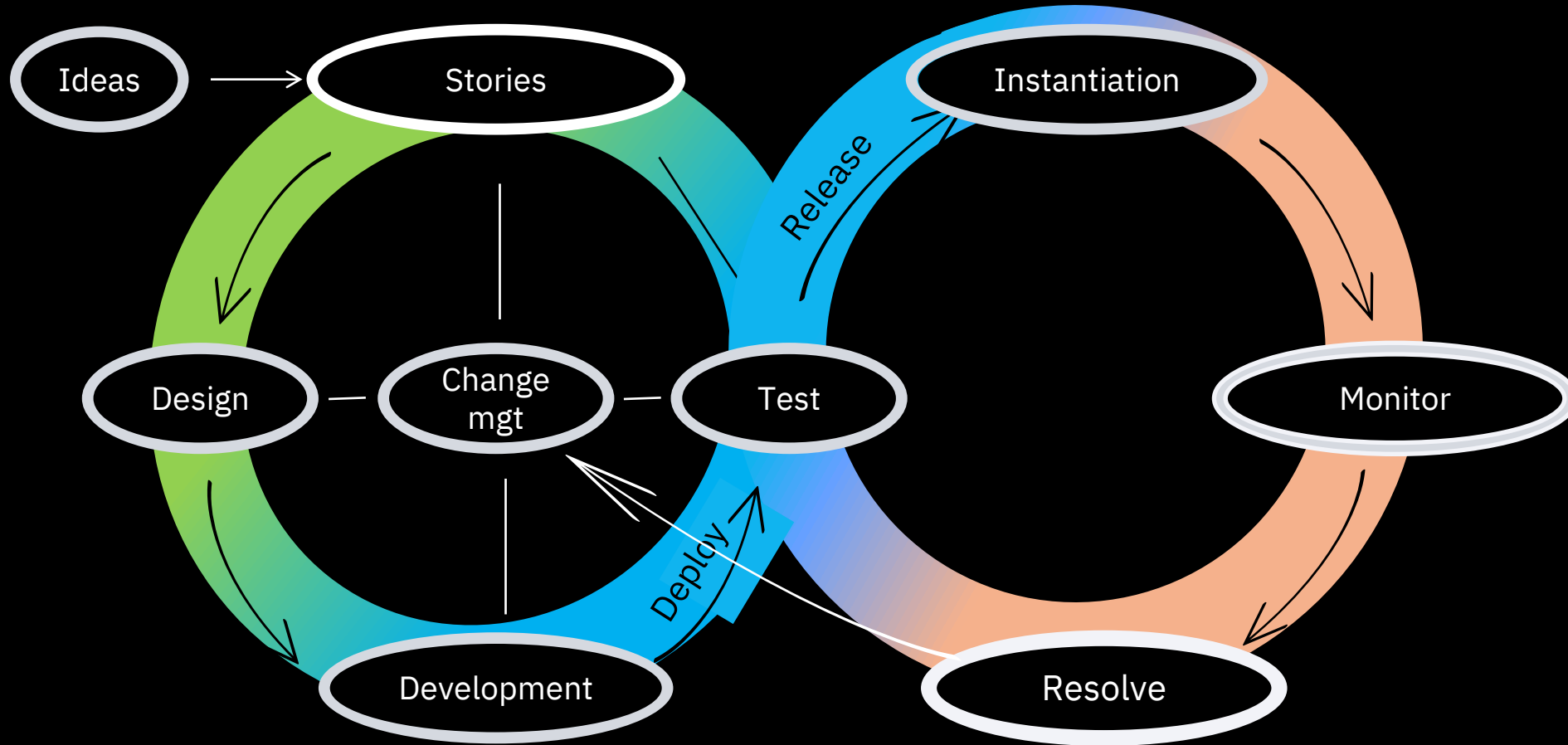
#

```
1 export timestamp=`date +%s000`
2 echo $timestamp
3
4 curl -k --location --request POST "${p:instana_url}/api/releases" \
5   --header "Authorization: apiToken ${p:instana_apiToken}" \
6   --header "Content-Type: application/json" \
7   --data "{
8     \"name\": \"${p:pipeline_name}\",
9     \"start\": $timestamp
10  }"
```

An example of a “Global” scope pipeline release marker using the Instana Release API



# IBM DevOps : How it fits together





# Deliver the right solution the first time!

**IBM DevOps:** Innovation and AI-powered automation for software development and delivery

## **Improve delivery operations**

Apply data driven delivery then automate and augment as much of the delivery lifecycle as possible

## **Reduce security and compliance risk**

Automate testing as early as possible and get insights from the relationships between activities and data

## **Deliver reliable solutions faster**

Orchestrate automatically across multiple delivery pipelines

Learn more: [ibm.com/cloud/devops](https://ibm.com/cloud/devops)  
[ibm.com/cloud/instana](https://ibm.com/cloud/instana)

# Thank you.



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<https://community.ibm.com/community/user/wasdevops/communities/devops-home>

