

# Enabling Continuous Delivery with Oracle Cloud Services

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# Agenda

- 1 Continuous Delivery (CD)
- 2 Using Oracle Cloud Services for CD

# Familiar?

DevOps seeks to solve this



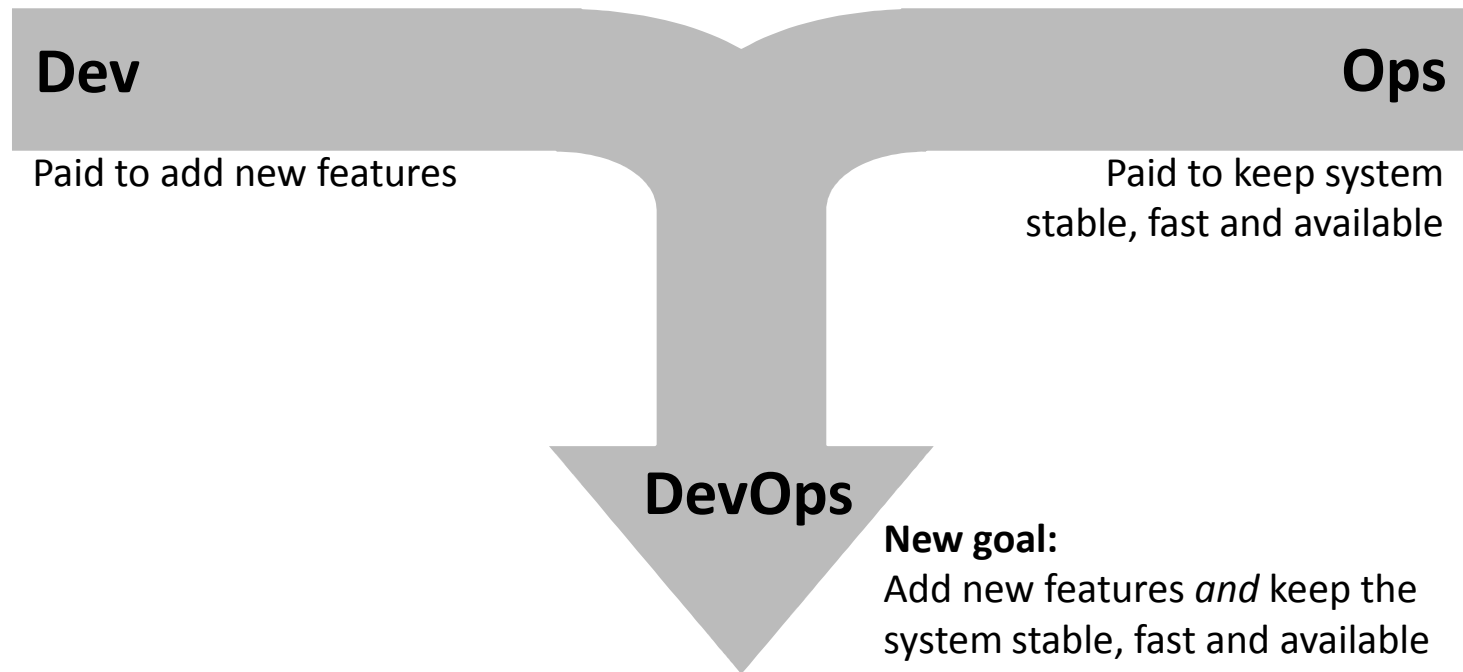
# Dev and Ops Constantly Argue

*“Code is written...it’s your problem now”*



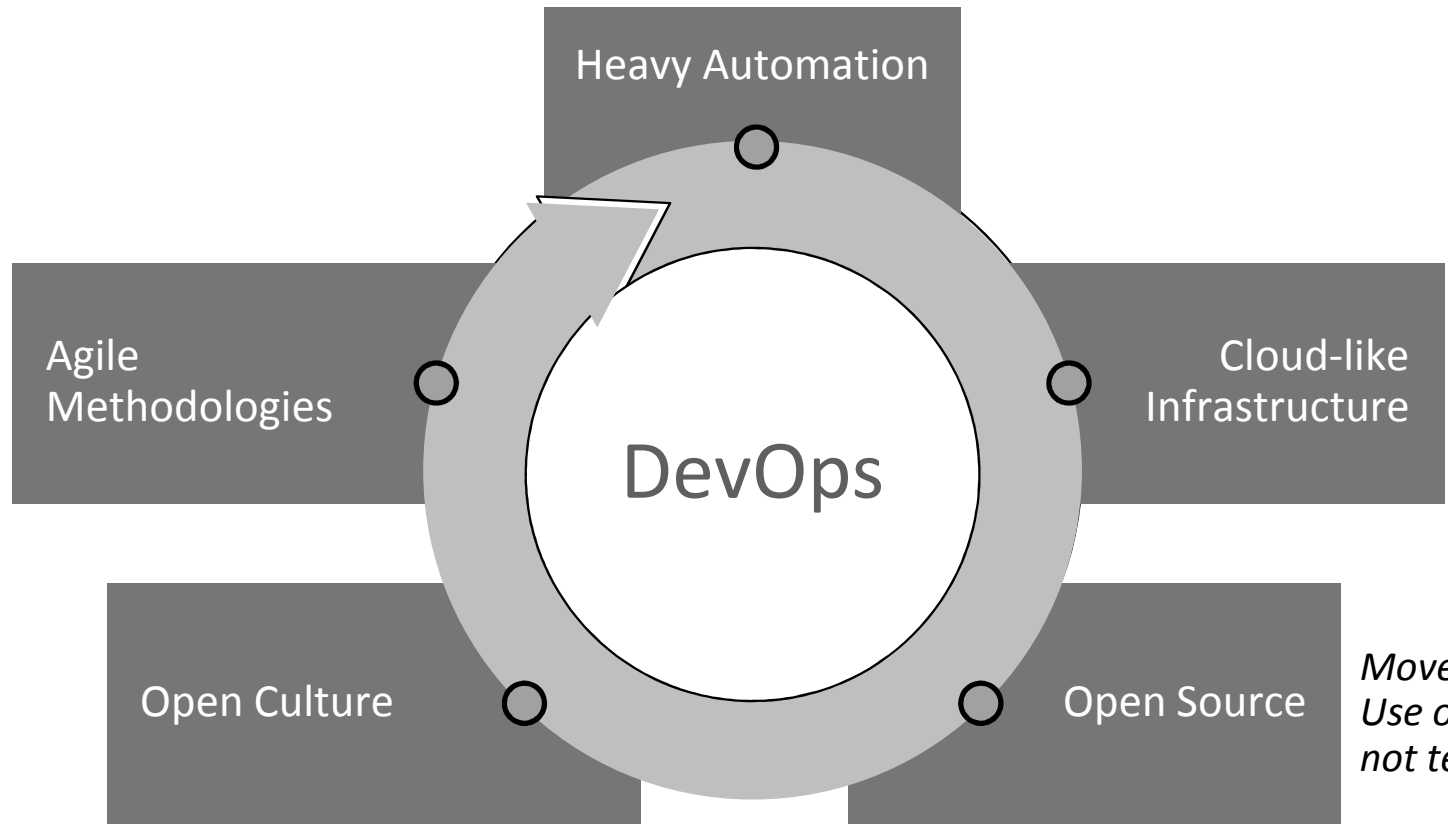
# DevOps Principles

Cultural movement enabled by technology



# Characteristics of DevOps Movement

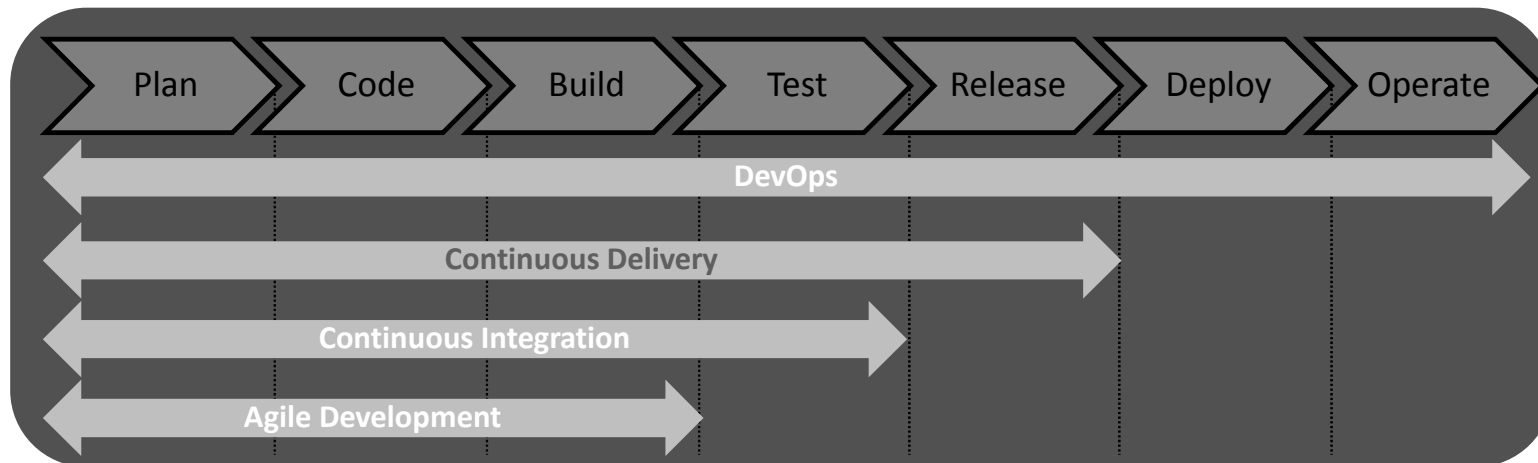
Principles have been around for decades



*Movement began in startup community. Use of open source seen as integral but not technically necessary*

# Big Picture

## Continuous Integration, Continuous Delivery and DevOps

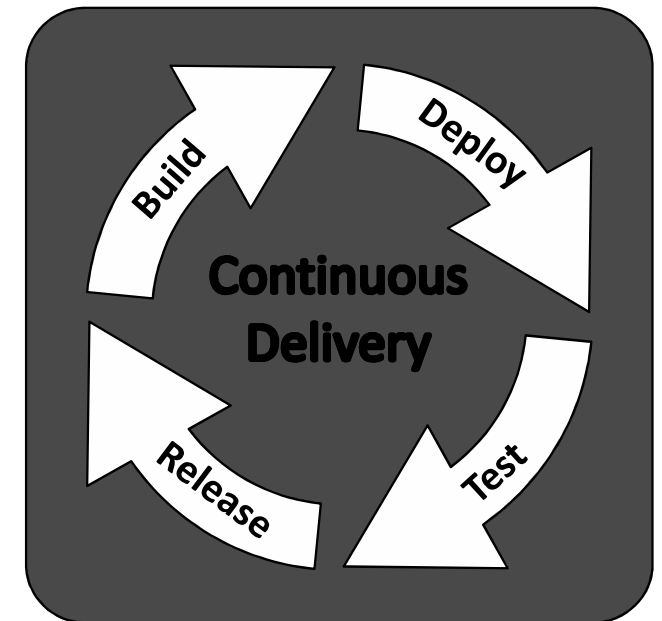


- CI is a key component of Agile Development practices. It forces developers to integrate their individual work with each others as early as possible. This exposes integration issues and conflicts on a regular basis.
- CD will give the tools and best of breed practices to deliver quality software quickly. At the end of every CI build, it would be delivered to the QA team for testing and then to the operations team (the *Ops* in DevOps) for delivery to the production system.
- DevOps would help in establishing the behaviors, culture, and ways of working to fully utilize CD.



# What is Continuous Delivery (CD) ?

- A Software Engineering discipline aimed at building, testing and releasing software in a flow
- Requires a set of collaboration practices, engineering techniques, skills and tools
- Produce Software in short cycles
- Produce a deployable-to-production build regularly
- Reduce the cost, time and risk of delivering incremental changes

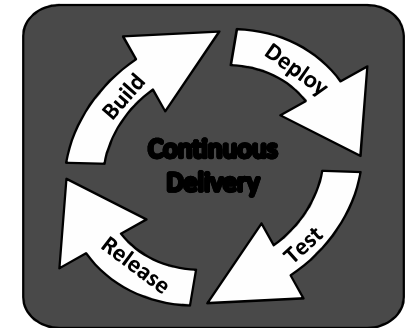


"If Agile Was the Opening Act, Continuous Delivery is the Headliner"

- Kurt Bittner, Principal Analyst, Forrester Research

FORRESTER

# Advantages of CD



- Reduced Risks – early and frequent releases
- Reduced Waste – more automation reduce manual work in testing, deployment
- Increased Quality – reuse the lessons learnt over multiple cycles
- Increased Resilience – remediation plans in case of bugs/showstoppers
- Increased Responsiveness – reduced lead time for change management
- Increased Innovation – ability to release early and often

# What the Analysts Say



By 2017, 35% of new applications will use cloud-enabled Continuous Delivery and DevOps lifecycles for faster rollout of new features and business innovation.

Source: IDC Reveals Cloud Predictions for 2015  
<https://www.idc.com/getdoc.jsp?containerId=prUS25350114>



Continuous Delivery Is Reshaping The Future Of ALM

Source: Application Development & Delivery Professionals on July 22, 2013



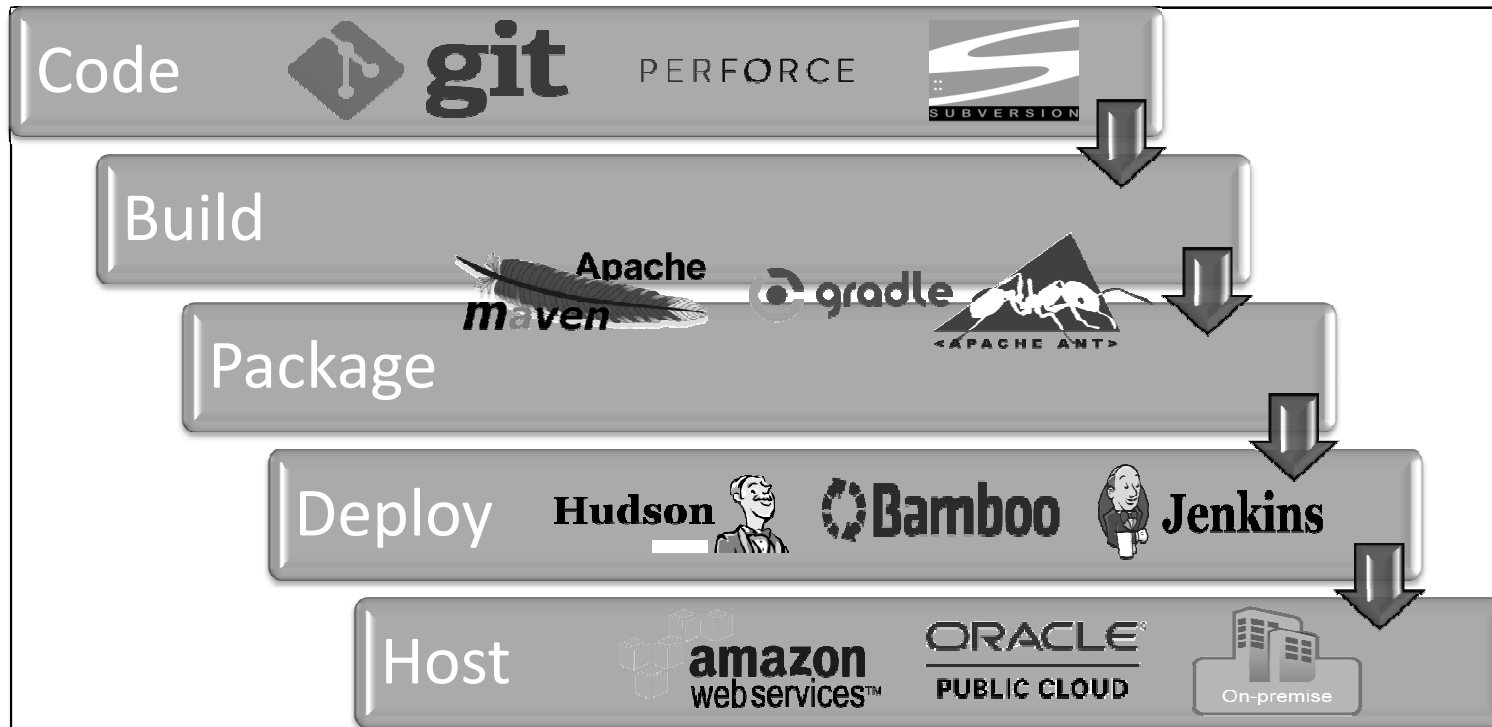
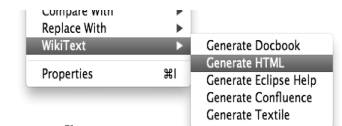
Using a Continuous Delivery method to deploy smaller bits of functionality more often, development teams can lessen the overall risk of their releases.

Source: Exploit Continuous Delivery Patterns for Successful Release Management on September 03, 2013



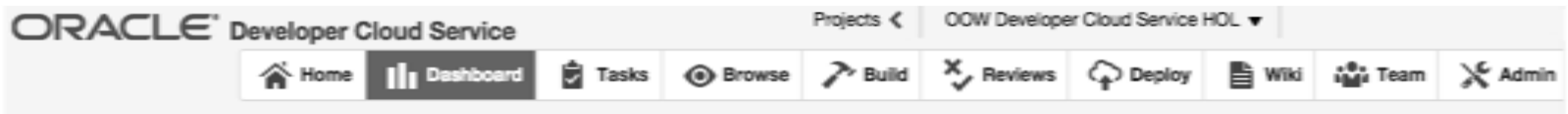
# CD Pipeline and Tools used commonly

## CD Tools for Team Infrastructure



# Introducing...Oracle Developer Cloud Service

<https://cloud.oracle.com/developer>



- Free with Java Cloud Service or Database Cloud Service
- Already used by 21 different product development organizations within Oracle
- Features include:
  - Project based, multi-tenant
  - Integrated wiki server
  - Integrated task/defect service
  - IDE integration
  - Code review
  - Flexible source repository
  - Maven integration
  - Continuous integration



# Developer Cloud Service Features

## Simplify Development

- Automatically provisioned
- Preconfigured and integrated
- Automated builds and deployments
- Web based administration

## Collaborate & Manage

- Integrated team source repository
- Continuous integration with breakage notifications
- Task/defect tracking with activity stream and notifications

## Deploy Automatically

- Deploy into Oracle Java Cloud Service automatically
- Workflow ensures proper build and test

## Integrated With IDEs

- JDeveloper
- Eclipse
- NetBeans

# Developer Cloud Service Use Cases

## Extending/Integration Oracle SaaS Apps (With Java Cloud Service)

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- Pre-integrated deployment
- Setup correctly for Java/ADF development with fusion apps
- Templates for fusion apps available

## Java EE Development (With Java Cloud Service)

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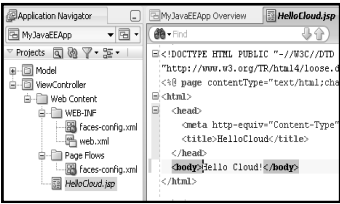
- Automated deployment through CI
- Familiar infrastructure
- Monitoring and management of Java Cloud Service

## Integrated ALM (Standalone Developer Cloud Service)

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- Hosted no-setup experience
- Team collaboration/management

# Many Ways to Interact with Developer Cloud Service



JDeveloper,  
NetBeans  
and Eclipse



REST  
Interface



Mylyn



Web  
Dashboard

SSH to GIT

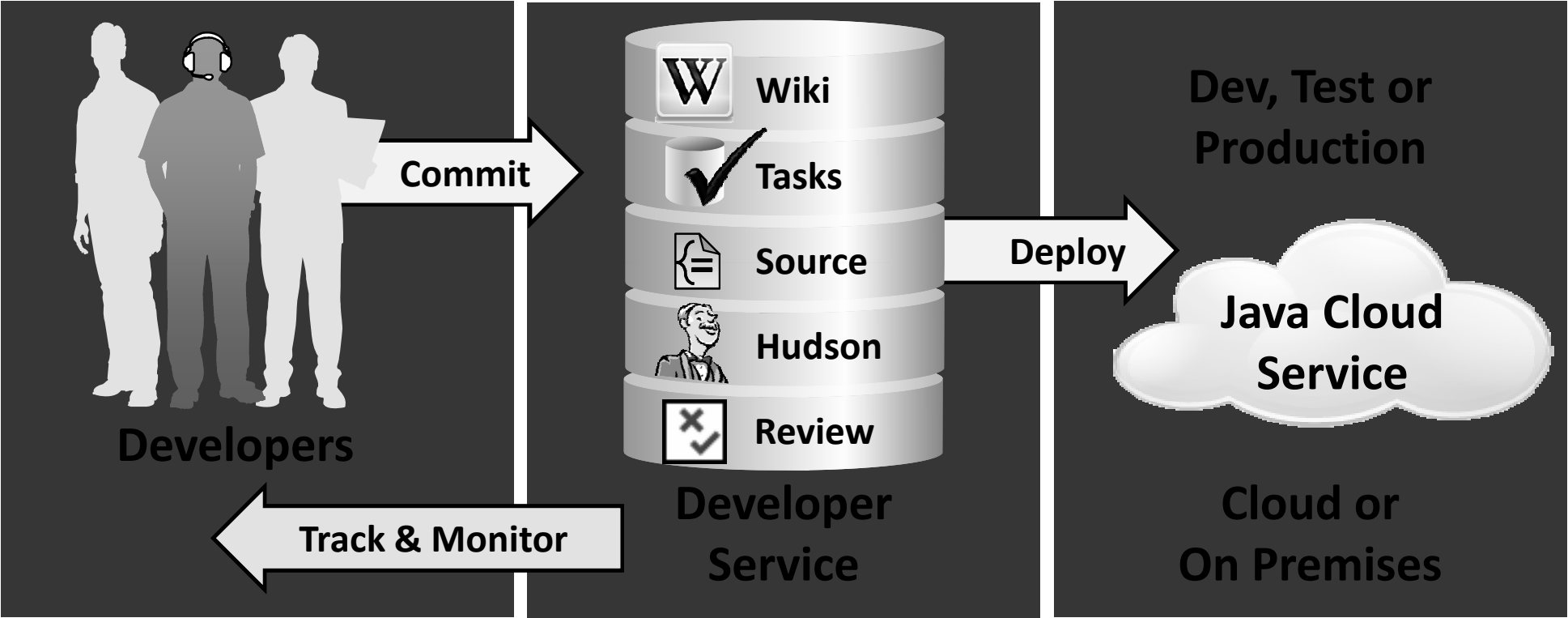
Partners

Developer Cloud Service





# Developer Cloud Service: Bringing it All Together for CD



# Key Features of Oracle Developer Cloud Service (DevCS)

## Application Lifecycle Management

- Source code version management - Git
- Build automation - Maven & Ant
- Continuous Integration – Hudson
- Deployment service

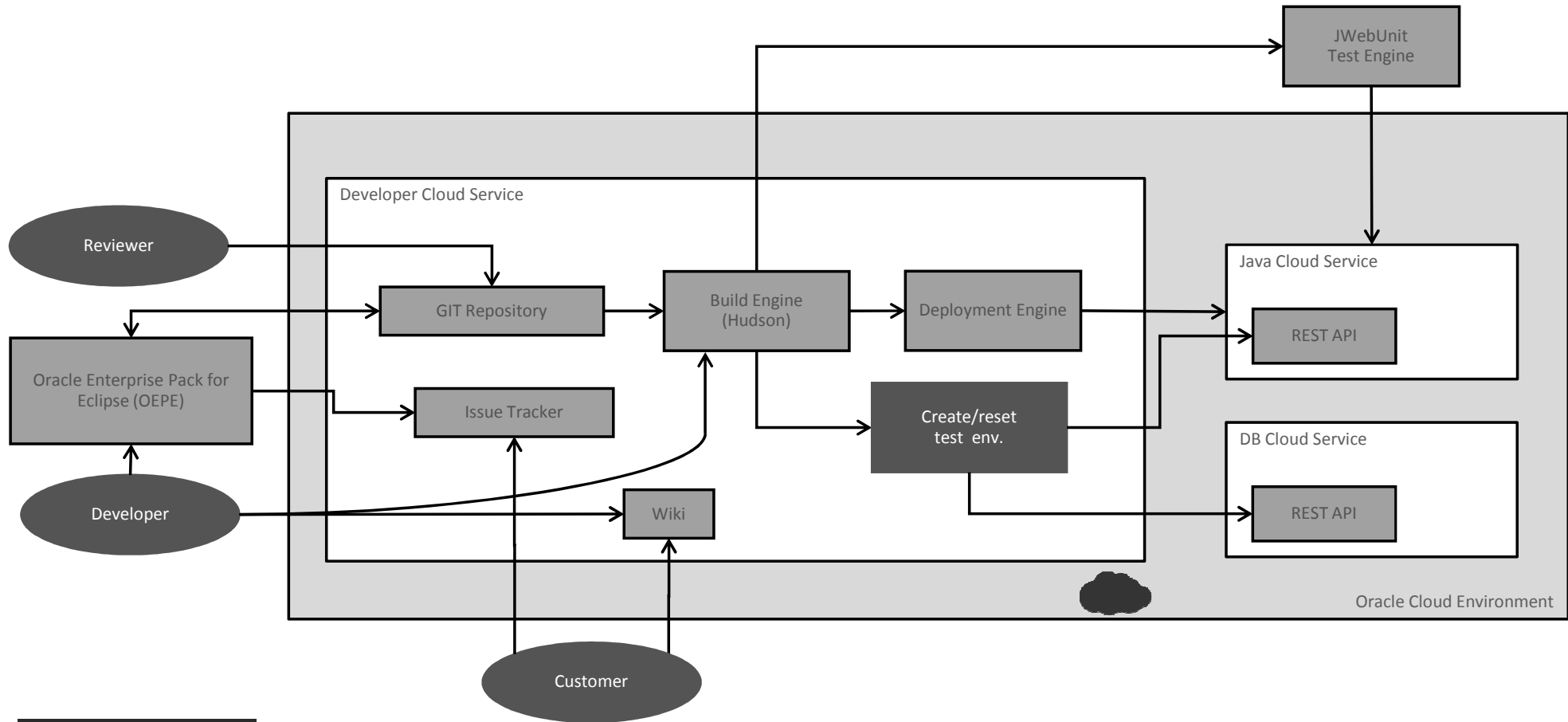
## Team collaboration and management

- Task/Requirements tracking system
- Peer code reviews
- Wiki server
- Project Templates
- Team activity tracking
- Team administration

## Accessibility

- Web based interface
- IDE Integration
  - Eclipse, NetBeans , JDeveloper
- REST API
- Shell to Git
- Eclipse Mylyn integration

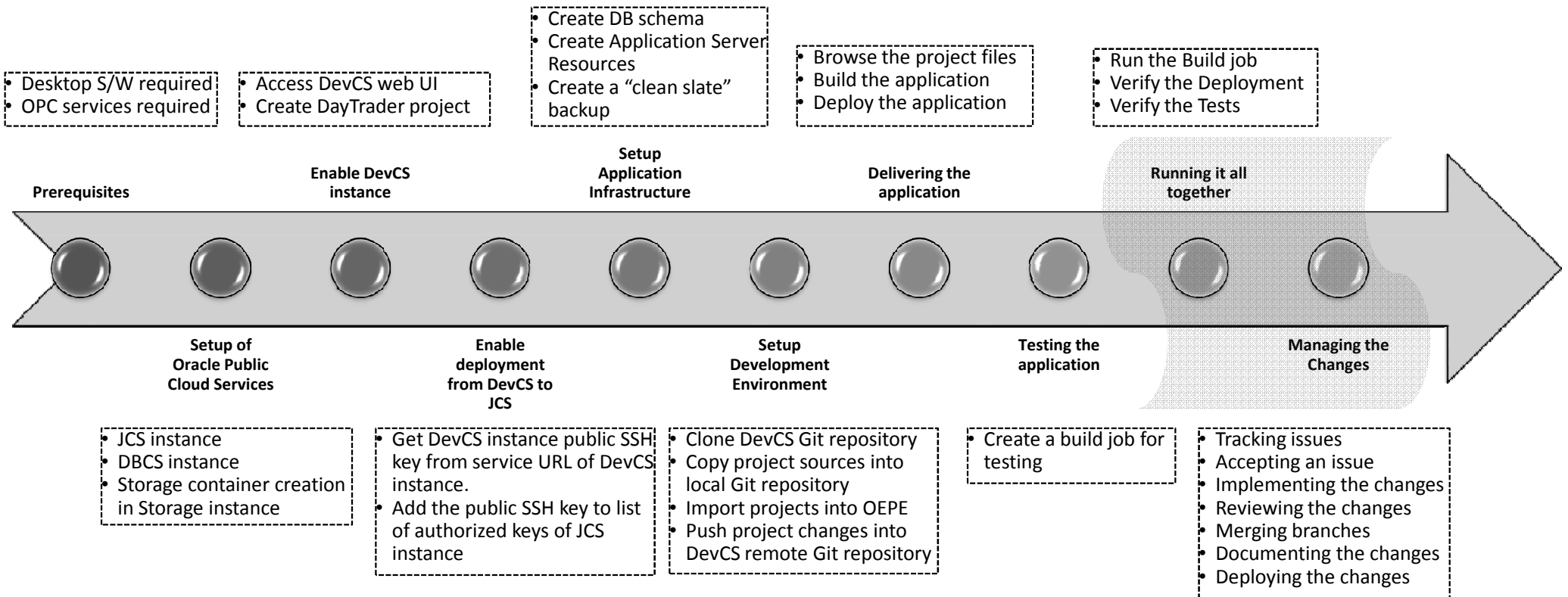
# CD Workflow in Oracle Cloud Services



# DayTrader Application

- DayTrader online stock trading application was built by IBM, donated to Apache Geronimo community.
- This application has been ported to WebLogic for this use case demonstration
- This application is built upon core Java EE technologies
  - Java Servlets and Java Server Pages (JSPs) for the presentation layer
  - Java Database Connectivity (JDBC)
  - Enterprise JavaBeans (EJBs) and Message-Driven Beans (MDBs) for back-end business logic and persistence
- This application allows users to login, view their portfolio, lookup stock quotes, and buy or sell stock shares.
- Guided tour depicts the setup of Continuous Delivery model for DayTrader application

# Building the Tutorial





# Prerequisites

## Desktop Software

- Any SSH utility like Putty, OpenSSH etc.
- Any (S)FTP client like WinSCP
- CURL tool for making REST calls
- Git installation, if desktop environment is Windows
- JDK 1.7.0\_u45+
- Oracle Enterprise Pack for Eclipse (OEPE) v12.1.3.6+
- SQL Developer 4.0.3.16+

## OPC Requirements

- Oracle Public Cloud account
- Available Database Cloud Service (DBCS) instance
- Available Java Cloud Service (JCS) instance
- Available Developer Cloud Service (ODCS) instance
- Available Oracle Storage Cloud Service (SCS) container configuration
  - Container name , Username, Password
- Valid pair of SSH keys for accessing DBCS and JCS instances
- Basic command-line knowledge

# Additional CD implementation

- Some of the PaaS Blueprints are useful when designing complex application architecture for Continuous Delivery
  - Hudson build scripts to spin JCS and DBCS with REST APIs (Dev/Test/SIT/UAT/Production)
  - Integrate with Selenium test scripts with Hudson CI server
  - Move On-premise VCS (SubVersion or Perforce) to Cloud Git Repository

# CD with Oracle DevCS – Key Differentiators



## Flexible Deployment

On Premises or in the Cloud

- Integrated deployment with built-in templates for Oracle Cloud
- OOTB support for Oracle's platform
  - Currently - ADF, Fusion Apps, WebLogic, JDeveloper deployment profiles
  - In Future – SOA12c, Mobile etc.



## Self-Service

Web Dashboard: Quick & Easy

- Central management console
- Supports Oracle SaaS extensions
- OOTB Accessibility and Internationalization
- Faster Provisioning
- Multi-IDE integration



## Collaboration

Wiki, Code Review

- Both Team Collaboration and ALM are integrated
- Team Collaboration through both Wiki and Code Reviews



# Summary

## Oracle Developer Cloud Service



**Source Control Management**



**Issue Tracking**



**Hudson Continuous Integration**



**Wiki Collaboration**



**Flexible Deployment**

On Premises or in the Cloud



**Self-Service**

Web Dashboard: Quick & Easy



**Collaboration**

Wiki, Code Review

## Continuous Delivery

### CD reduces cost

- Small changes, released continuously results in fewer and less costly production incidents

### CD improves quality

- Automating release readiness decision ensures higher quality results

### CD results in better end-user satisfaction

- Quicker Innovation
- Quicker feedback leads to improved satisfaction

# Learn More

Oracle Cloud Platform as a Service (PaaS) offers a complete and comprehensive set of cloud services that allow developers to build rich applications and business users to harness the platform.

- Database: Your Oracle Database in the Cloud
- Java: Enjoy all the productivity of Java, without the IT
- Messaging: Dynamic Messaging for Business Workflow Agility
- Database Backup: Secured, protected, elastic cloud storage for Oracle database backups
- Documents: Enterprise File Sync and Share in the Oracle Cloud
- Developer: Java development in the cloud
- Business Intelligence: Agile Business Intelligence in the Cloud for Everyone
- Mobile: Simplify Enterprise Mobile Connectivity
- Big Data Preparation: Simplify Big Data Preparation
- Big Data: Big Data in the Cloud

[cloud.oracle.com/paas](http://cloud.oracle.com/paas)

Oracle Developer Cloud Service  
Simplify Your Development Life Cycle

Start Developing with Oracle Cloud  
Fast-forward through set-up and find the resources to help you explore and use the capabilities of Oracle Cloud Platform as a Service (PaaS).  
Get Started

Connect with the Cloud Community  
Interested in upcoming events? Reaching out to the Oracle Cloud developers' community for guidance? Or perhaps learning about best practices and new approaches from the seasoned veterans? It's all happening here.  
Learn More

Blogs View all Events View all

Oracle Cloud Developers

[developer.cloud.oracle.com](http://developer.cloud.oracle.com)

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All Places > Cloud Computing > Platform as a Service (PaaS)

Platform as a Service (PaaS)

Overview Content People Subspaces

Log in to follow, share, and participate in this community.

DEVELOP & DEPLOY IN THE CLOUD

Business Intelligence Database Database Backup Developer Documents Integration Java

Oracle Java

About: Oracle Cloud Platform as a Service (PaaS) offers a complete and comprehensive set of cloud services that...  
Goals: The goals of the Cloud Developer Community Spaces are to provide rich content and the means to pose c...

Featured PaaS Service:

- START DEVELOPING with Java Cloud
- MIGRATE On Prem to Java Cloud
- DEPLOY an app to Java Cloud

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Oracle Cloud Zone @OracleCloudZone 1h  
The #iCloud: customers expect personalization, connectivity and #security and an easy relationship with their provider ora.ci/PhX Expand

Oracle Cloud Zone @OracleCloudZone 21 Jun  
#OraclePaaS: allowing you to use native @Java for #cloud or mobile applications: ora.ci/Ou... Expand

RECENT BLOG POSTS

NEW: Fundamental How-to Tutorials for IT Ops & Developers  
Posted by Eric Renaud-Oracle Jun 17, 2015

We've just released new content to help developers get started quickly with Oracle Cloud Platform.

In four new how-to tutorials we provide developers and IT ops roles with some quick guides to common tasks

[community.oracle.com](http://community.oracle.com)

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# Keep Up with Oracle Cloud Platform



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Youtube.com channel 'Oracle Cloud – Developers'



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