



Jenkins User Conference

Continuous Delivery with Jenkins and IBM UrbanCode Deploy

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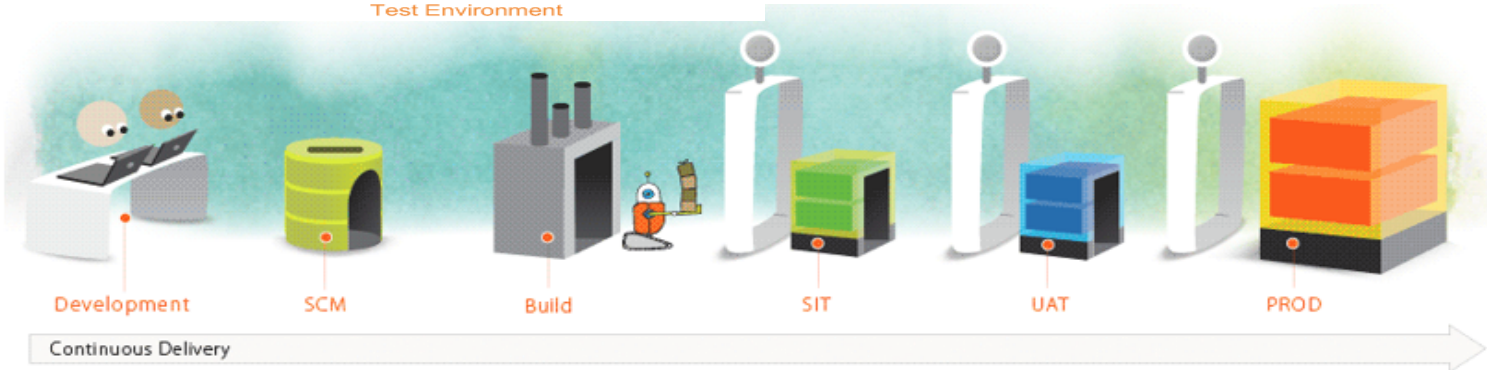
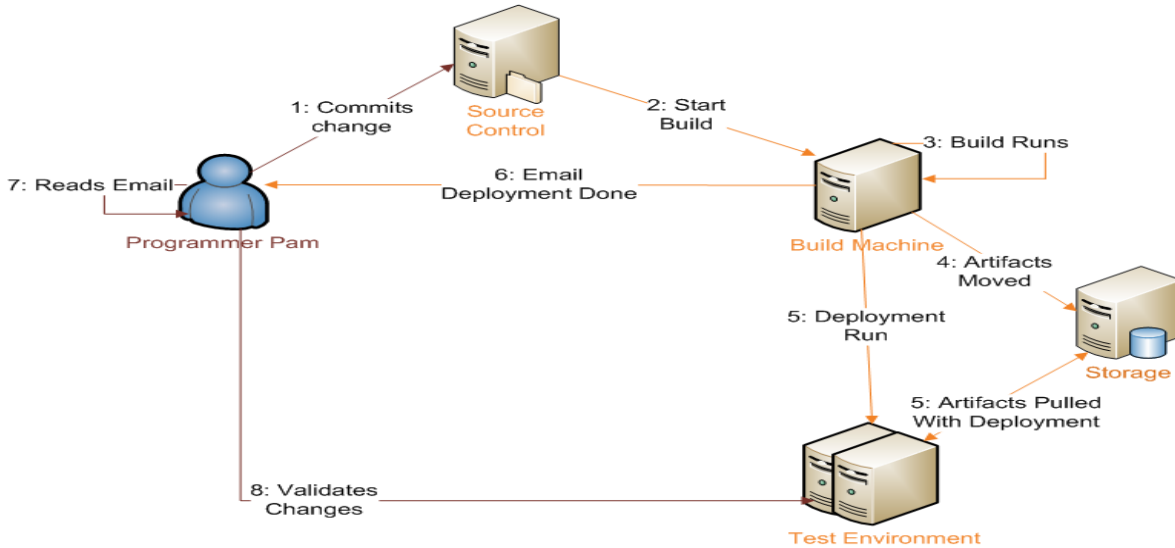
Santa Clara, CA, September 2-3

Agenda

- So, you are a Jenkins rock star, what next?
- The world is demanding, is your enterprise ready?
- Introducing IBM UrbanCode Deploy
- Like chocolate and peanut butter, only with better (ROI)
- Your future is cloudy
- Introducing UrbanCode Deploy's Pattern Designer

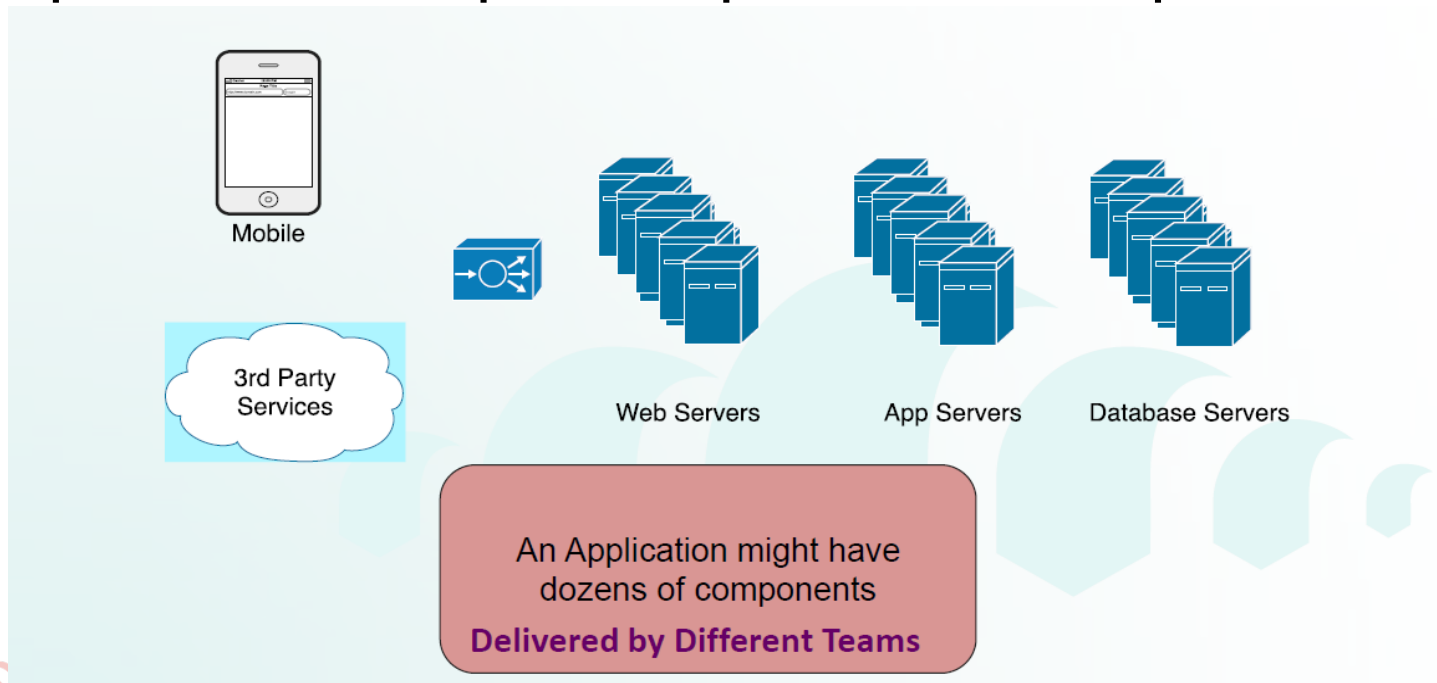
"Classic" Continuous Delivery is easy

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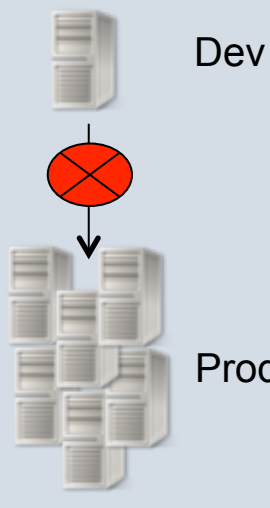
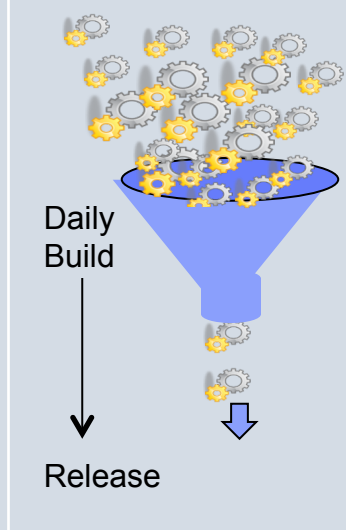
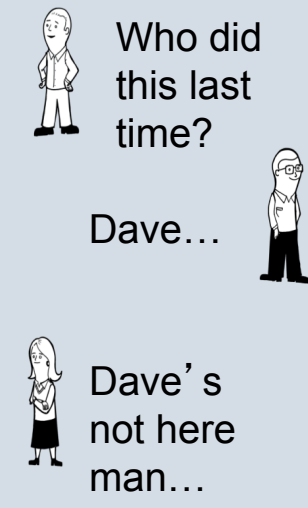
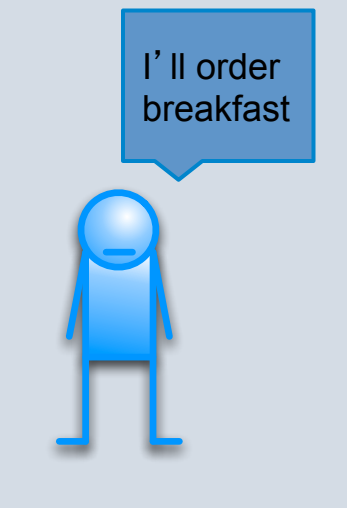
But, enterprises have composite apps

- Multiple tiers, multiple components, multiple teams



What can go wrong will go wrong

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Failures due to differences in dev and ops environments	Time to market pressure for more frequent releases	Manual (tribal) processes for release lack repeatability/speed	Major releases take days, 100 people and are managed by a spreadsheet
 <p>Dev</p> <p>Prod</p>	 <p>Daily Build</p> <p>Release</p>	 <p>Who did this last time?</p> <p>Dave...</p> <p>Dave's not here man...</p>	 <p>I'll order breakfast</p>

Common Solution Delivery Pain Points

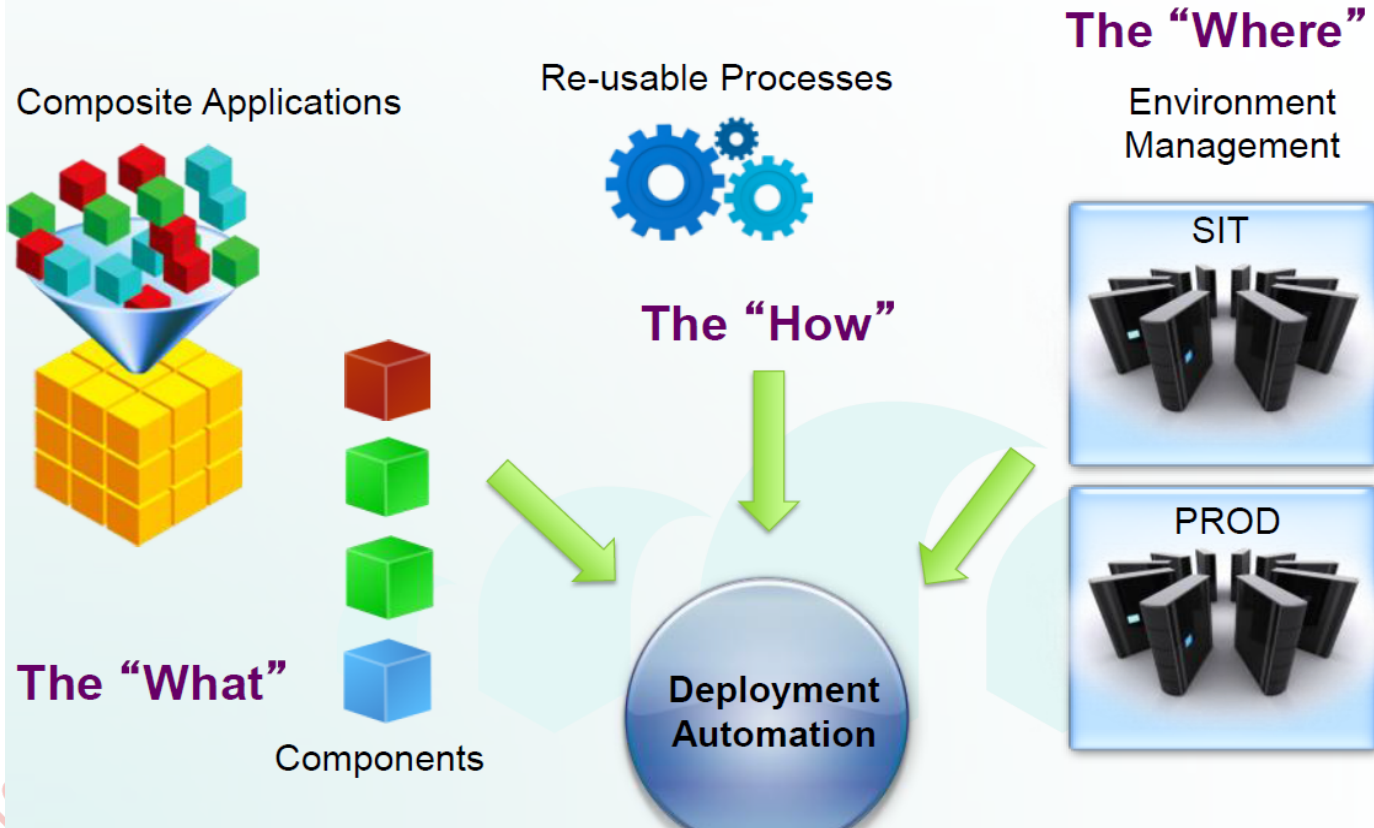
Even after solving continuous integration

- Multiple systems required
- Heavy reliance on email for communication
- Inconsistent environment setup
- Only a few “heroes” did deployments
- Error prone deployments
 - Wrong information provided in ticketing system
 - Tons of customized scripts
 - Complex deployment procedures
 - Manual steps involved in pre and post deployment
- High maintenance cost
 - Configuration management
 - Host inventory
 - Deployment scripts



What if we had...

Intuitive and Scalable Model Driven Deployment

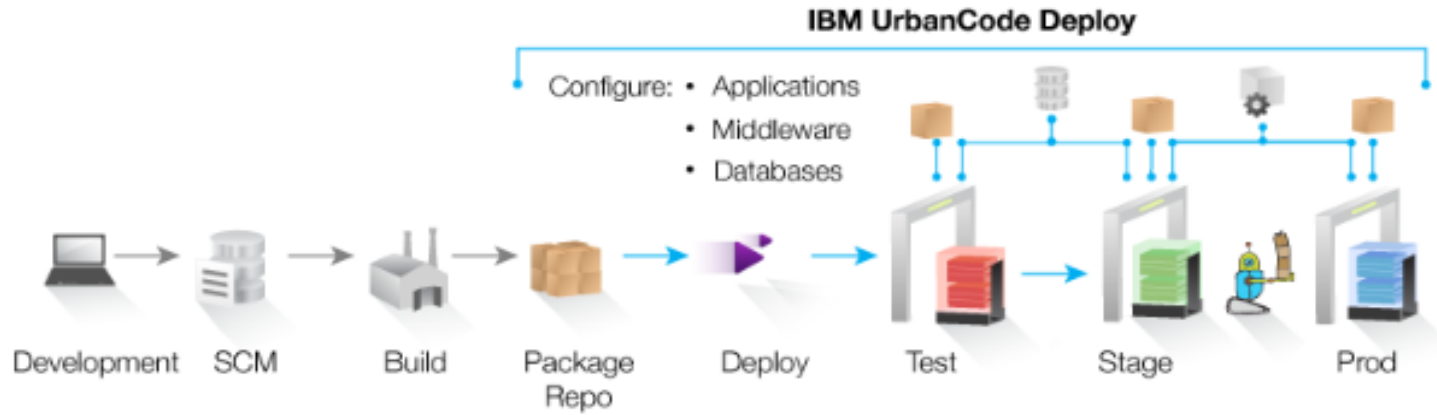


The "Where"

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Introducing IBM UrbanCode Deploy

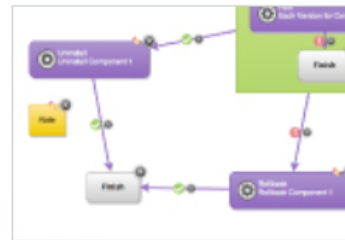
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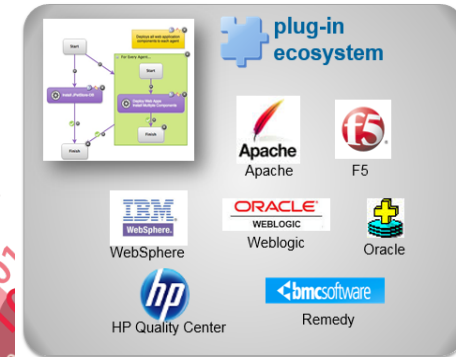
Quality Gates and Approvals



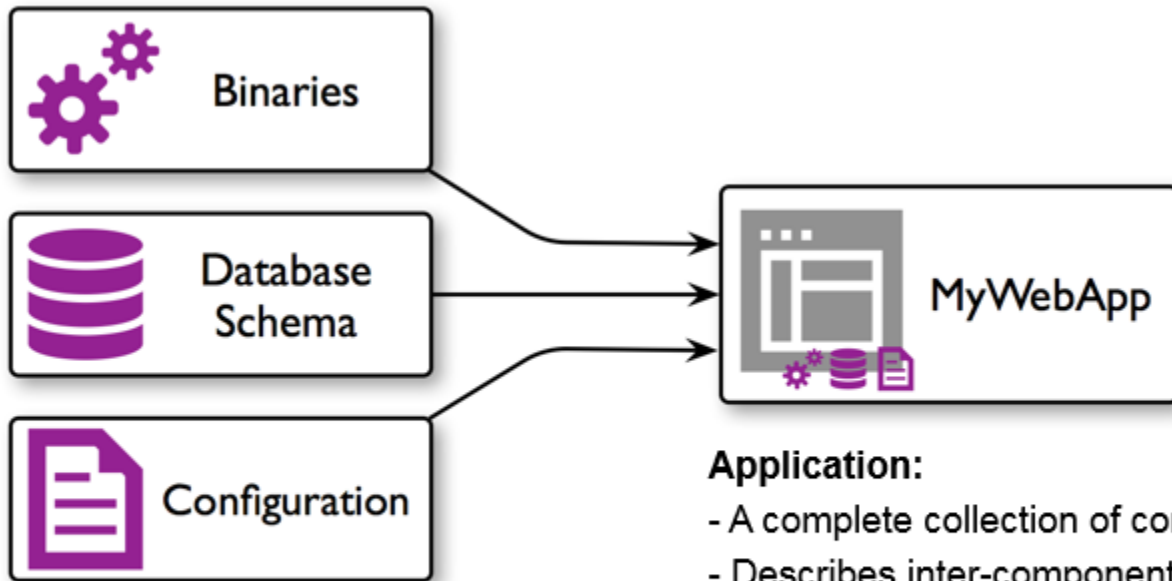
Easy Process Designer



Scalable Distributed Automation



Applications are made of Components



Application:

- A complete collection of components
- Describes inter-component dependencies

Components:

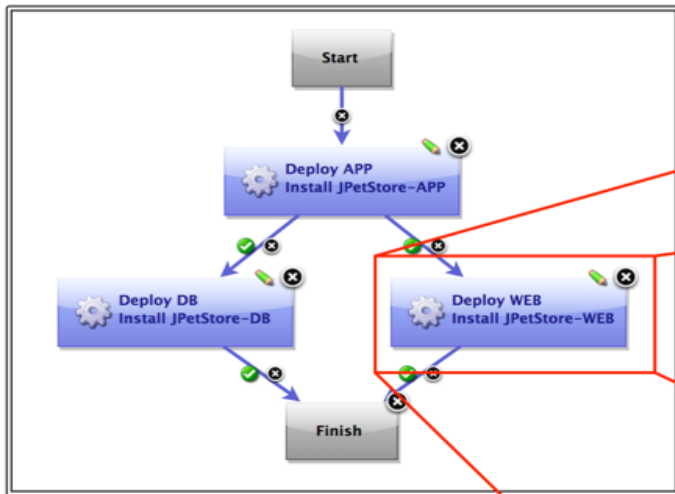
- Individual deployable projects



Application Deployments orchestrate Component Deployments

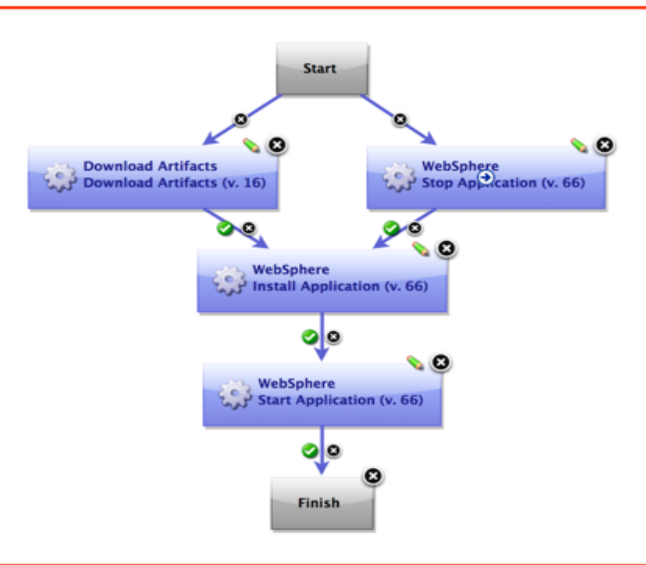
Deploy Application

- Orchestrate deployment of many components
- Represents deploy-time dependencies



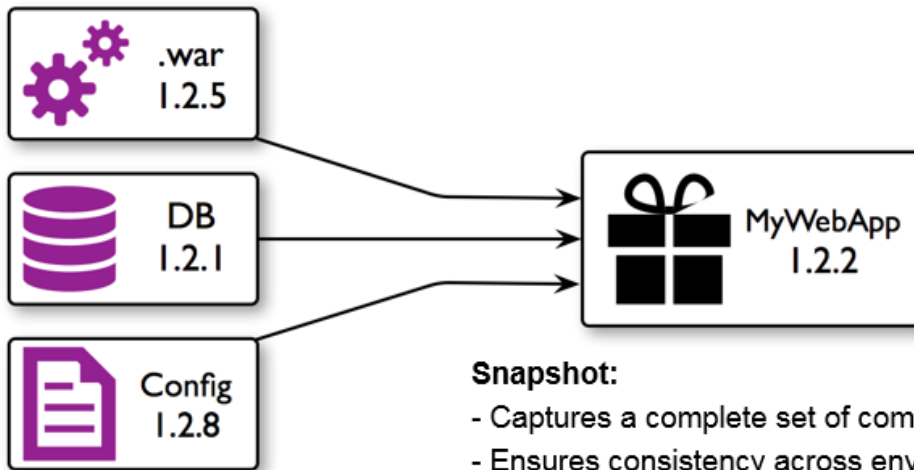
Deploy Component

- Create a fully automated workflow to be executed on target servers



- ✓ Drag-and-Drop Workflow Designer
- ✓ Precise Control of Execution Flow
- ✓ Hundreds of Integration Steps Provided
- ✓ Create Custom Steps

Snapshots promote tested versions



Snapshot:

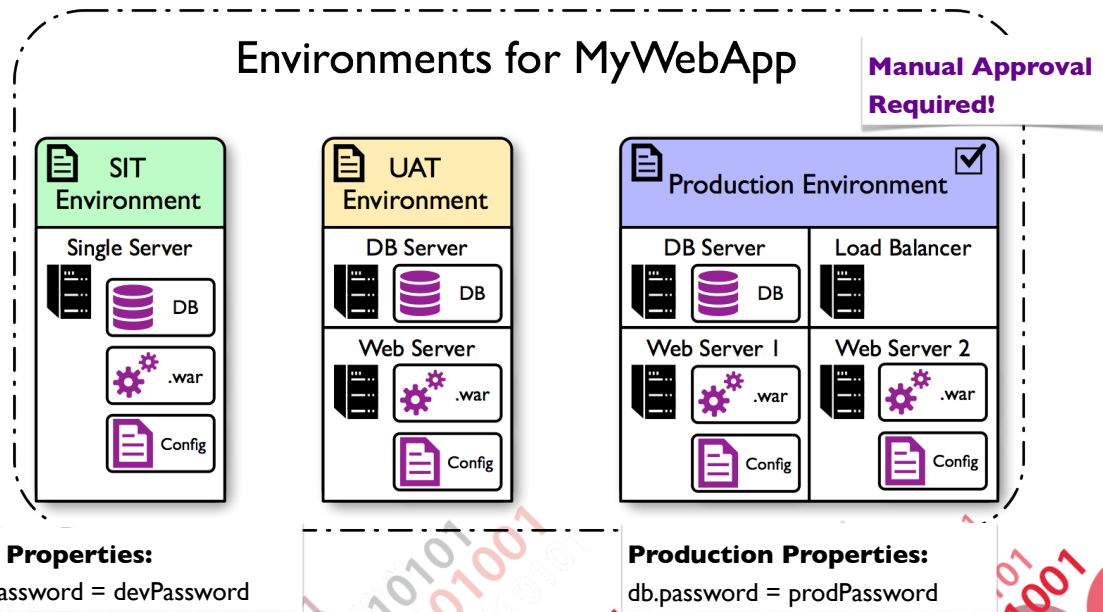
- Captures a complete set of components, configuration
- Ensures consistency across environments

Component Version:

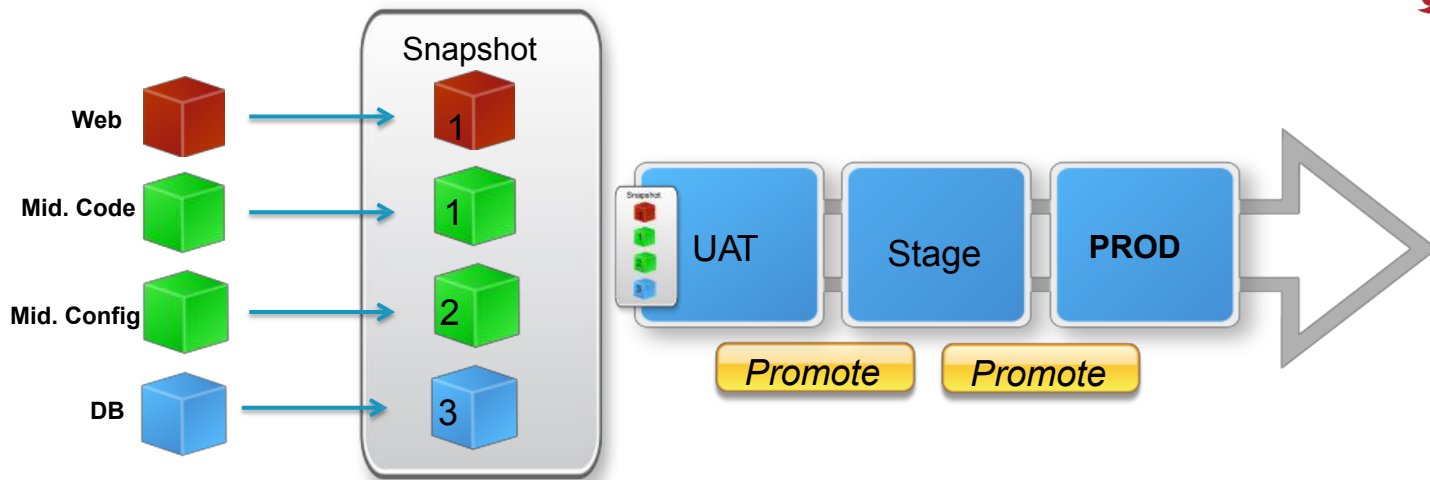
- Artifacts/configuration for a specific version of a component
- Built-in versioned file repository, or your own storage

Application Environment models

- Model different topologies for the same application
- Set environment-specific configuration
- Environments may require manual approvals for deployments



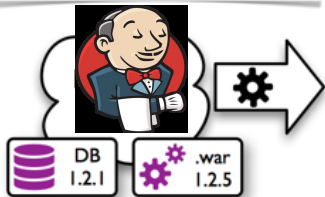
Snapshots promote tested versions



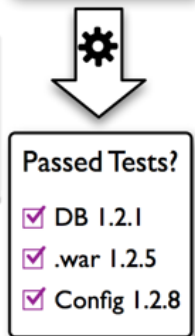
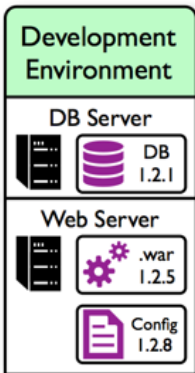
- Manage a set of tested component versions as a single unit
- Guarantee the validated versions of related components are deployed together
- Ease of promoting applications between environments

Putting it all together

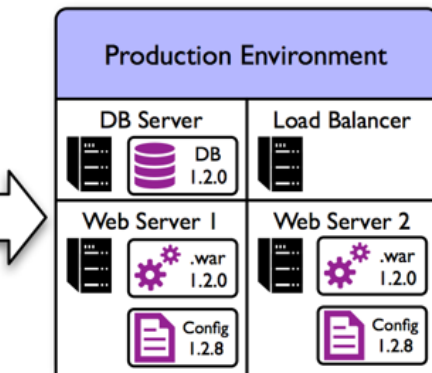
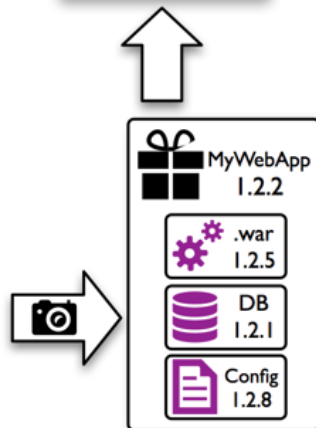
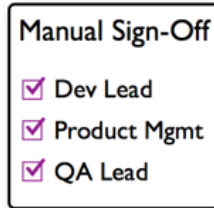
On build completion, the latest artifacts are published to UrbanCode Deploy and deployed to a development or SIT environment.



After deployment, automated tests are started. If they pass, we mark the tested versions as such.



Before any deployments to production, manual approvals are required.



The exact combination of component versions which passed tests is captured in a snapshot.

A look at the integration in Jenkins

Plugin to push files / trigger deploys

Jenkins can Easily:

- Tell UC Deploy about new versions
- Trigger deployments to dev and test environments

Use Workflow to promote through independent testing environments.

Post-build Actions

Publish artifacts to IBM UrbanCode Deploy

IBM UrbanCode Deploy Server:

Component:

Base Artifact Directory:

Directory Offset:

Version:

Version Description:

Version Properties:

Exclude:

Skip publishing (e.g., temporarily) ☐

Deploy ☒

Deploy Application:

Deploy Environment:

Deploy Process:

- Push artifacts as new component version



v1.0.\${BUILD_NUMBER}



urbancode
deploy

Other approaches

- If a post-build action is not appropriate for your team, or you want to push artifacts from a single build into multiple components, you have some other options
 - Use the command line client as part of your build to push new versions
 - Deliver each component to an alternate repository that UCD is monitoring such as a file system drop area or Maven repository

Getting Started with UCD and Jenkins

- Review the integration [documentation](#)
- Install the UrbanCode Deploy [plugin](#) and restart Jenkins
- Add a profile for your UrbanCode Deploy server
- Configure a post-build action to publish artifacts to UrbanCode Deploy

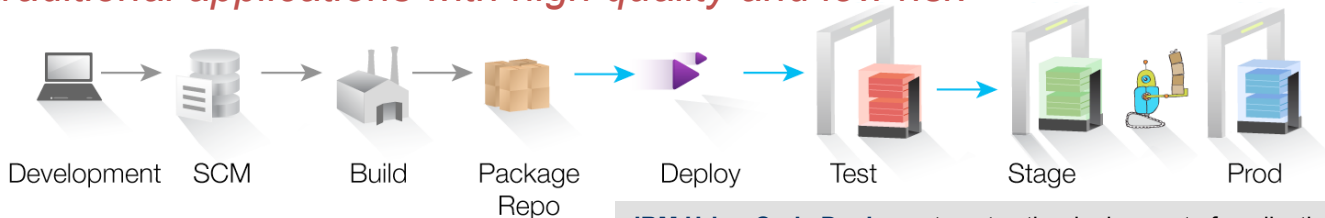
	<input checked="" type="checkbox"/>	IBM UrbanCode Deploy Plugin This plugin can be used to upload project artifacts to an IBM UrbanCode Deploy server.	1.0		<button>Uninstall</button>
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There's more!

Release and Deployment Automation

Enabling clients to more rapidly deliver mobile, cloud, big data and traditional applications with high quality and low risk

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Drive down cost

Reduce amount of manual labor, resource wait-time, and rework by eliminating errors & providing self-service environments

Speed time to market

Increase frequency of software delivery through automated, repeatable deployment processes across development, test and production

Reduce risk

Robust configuration management, coordinated release processes, audits, and traceability

IBM UrbanCode Deploy automates the deployment of applications, databases and configurations into development, test and production environments, helping to drive down cost, speed time to market with reduced risk.

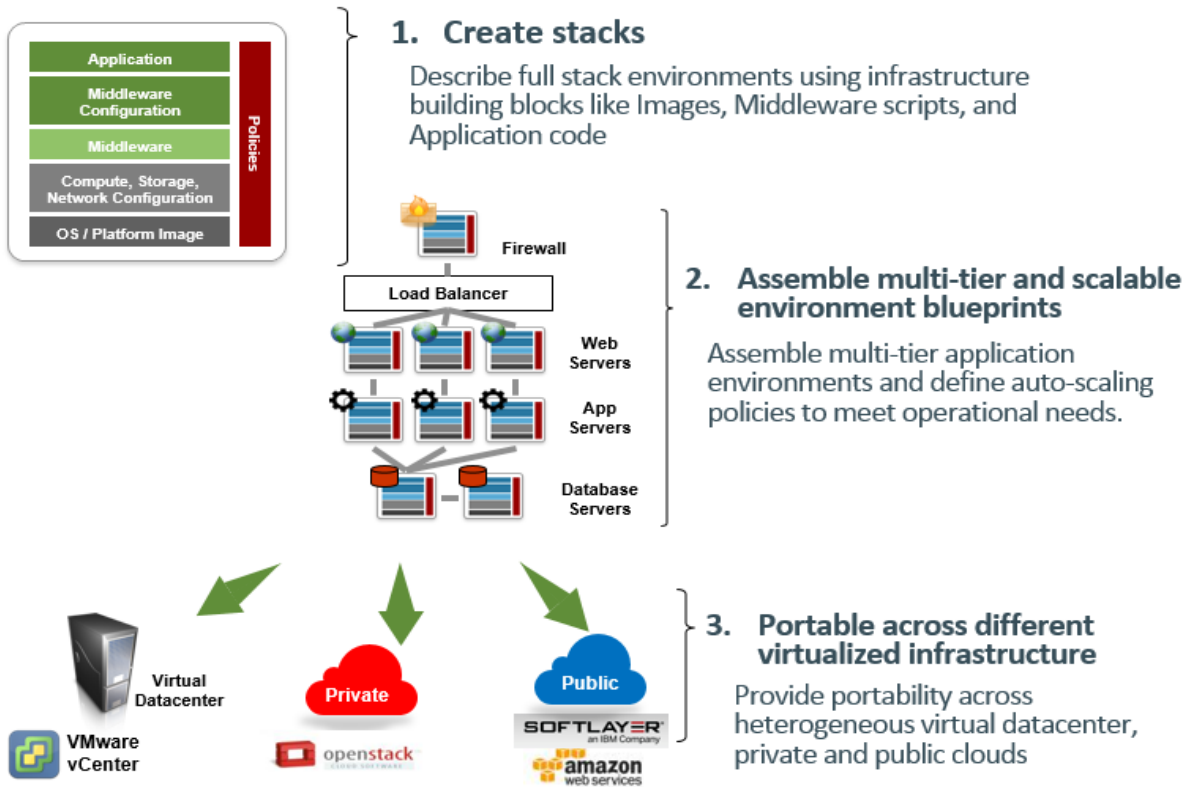
IBM UrbanCode Deploy with Patterns is a full-stack environment management and deployment solution that enables users to design, deploy and update full-stack environments to multiple clouds

IBM UrbanCode Release is an intelligent collaboration release management solution that replaces error-prone manual spreadsheets and streamlines release activities for application and infrastructure changes.

IBM UrbanCode Build is a continuous integration and build management server optimized for the enterprise

What does UrbanCode Deploy with Patterns do?

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- Enterprise Calendaring
- Release Process Checklist Templates
- Environment Reservation



- Impact Analysis

Continuous Delivery with Automation / Au Progression

- IBM UrbanCode Deploy integration

Increased Visibility and Control

- Pipeline View
- Federated Dashboard

UCD & UCR Terminology for Release Management and Automation

	UC Deploy	UC Release
Application Release Automation		
Automate deployments	✓	
Visual process designer	✓	
Plug-in actions for application containers, web servers, network devices, database deployment, etc.	✓	
Model environments & deployment targets	✓	
Release Management		
Enforce quality gates for environments	✓	✓
Orchestrate changes across multiple applications		✓
Manage infrastructure in addition to application changes		✓
Real-time status for long production releases		✓
Track the allocation of environments to releases		✓

IBM UrbanCode Deploy delivers real results

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International Investment Firm *Driving Down Costs*

Release process required considerable effort and delayed by manually-introduced errors

- **Solution:** Automated release process
- **Results:** Cost avoidance of over \$2.3M/year, reduced release time from 2-3 days to 1-2 hours and virtually eliminated test team “down-time”



Online Retailer *Speeding Time-to-Market*

Significant delays getting application changes to production

- **Solution:** Scaled up continuous deployment
- **Results:** Deployment time reduced by over **95%** with easy scale and deploying to **over 250 servers within 2 months** of implementation



Higher Education *Speeding Time-to-Market*

Agile development teams constrained by slow deployment to dev and test environments

- **Solution:** Accelerate deployment by enabling development teams to self deploy with automation
- **Results:** Deployment cut from hours to minutes, to a greater number of servers, with fewer resources

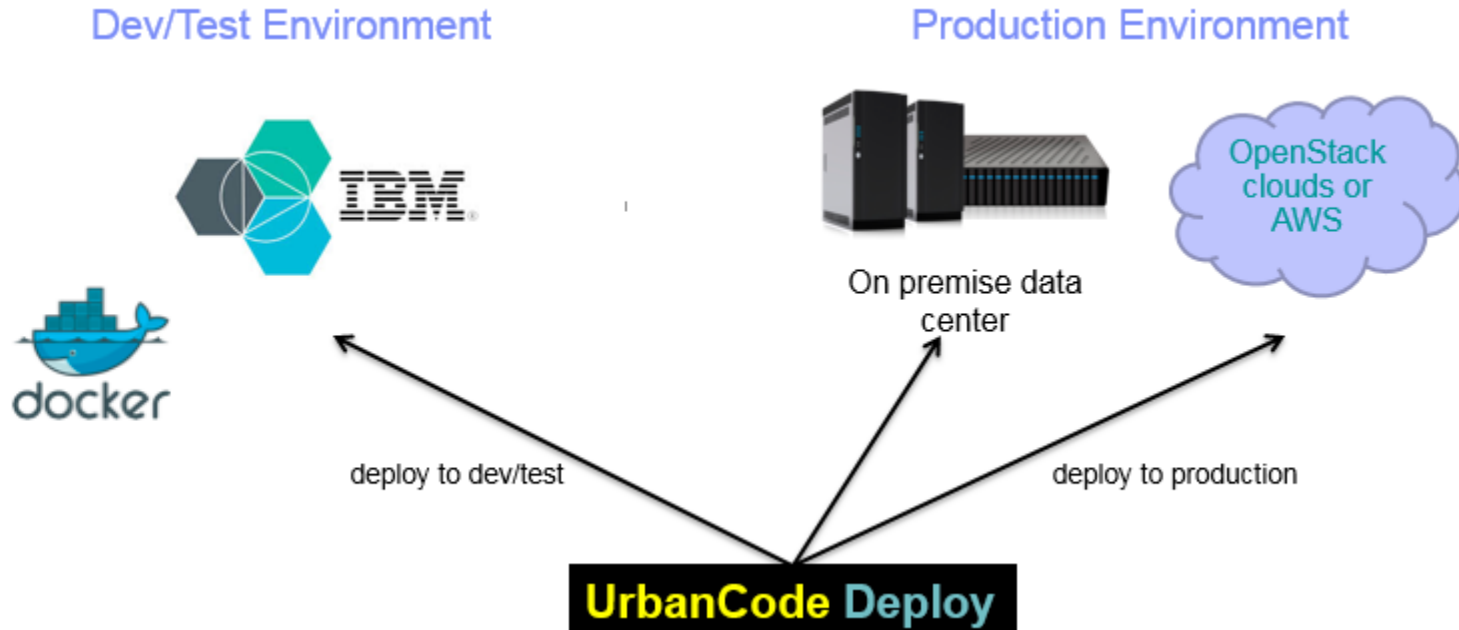


SaaS Software Provider *Reducing Risk*

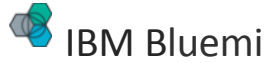
Difficulty managing multiple customer configurations and versions of software deployed across servers

- **Solution:** Automate managing configuration and version deployment
- **Results:** Execute customer specific releases, reduced deployment outages by over 90%

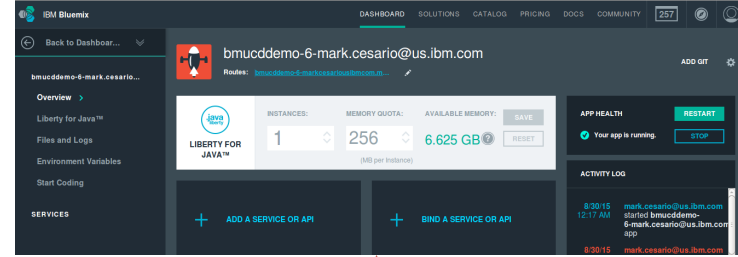
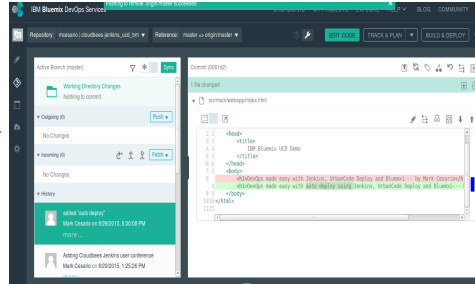
Where are we going with UCD?



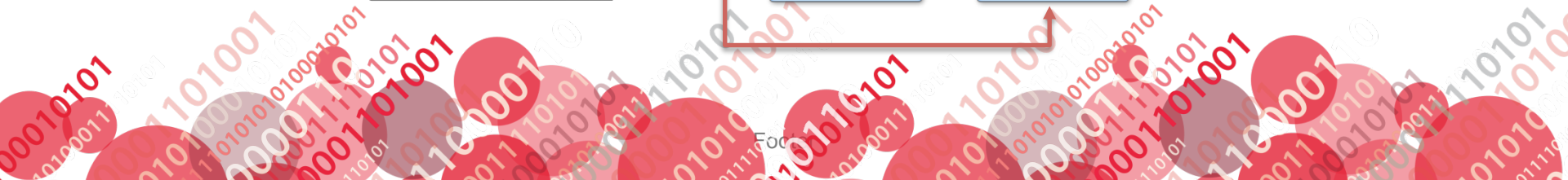
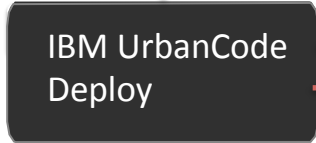
Jenkins, UrbanCode Deploy and Bulemix Demo



Off-Prem



On-Prem



Any Questions?

Thank You

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