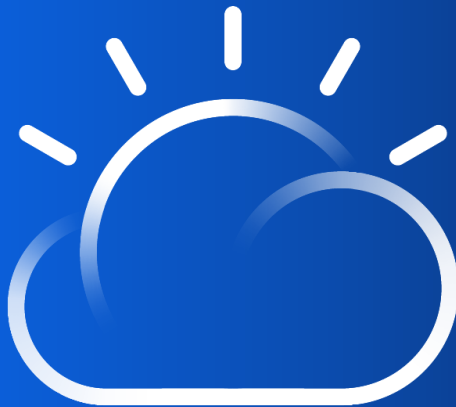


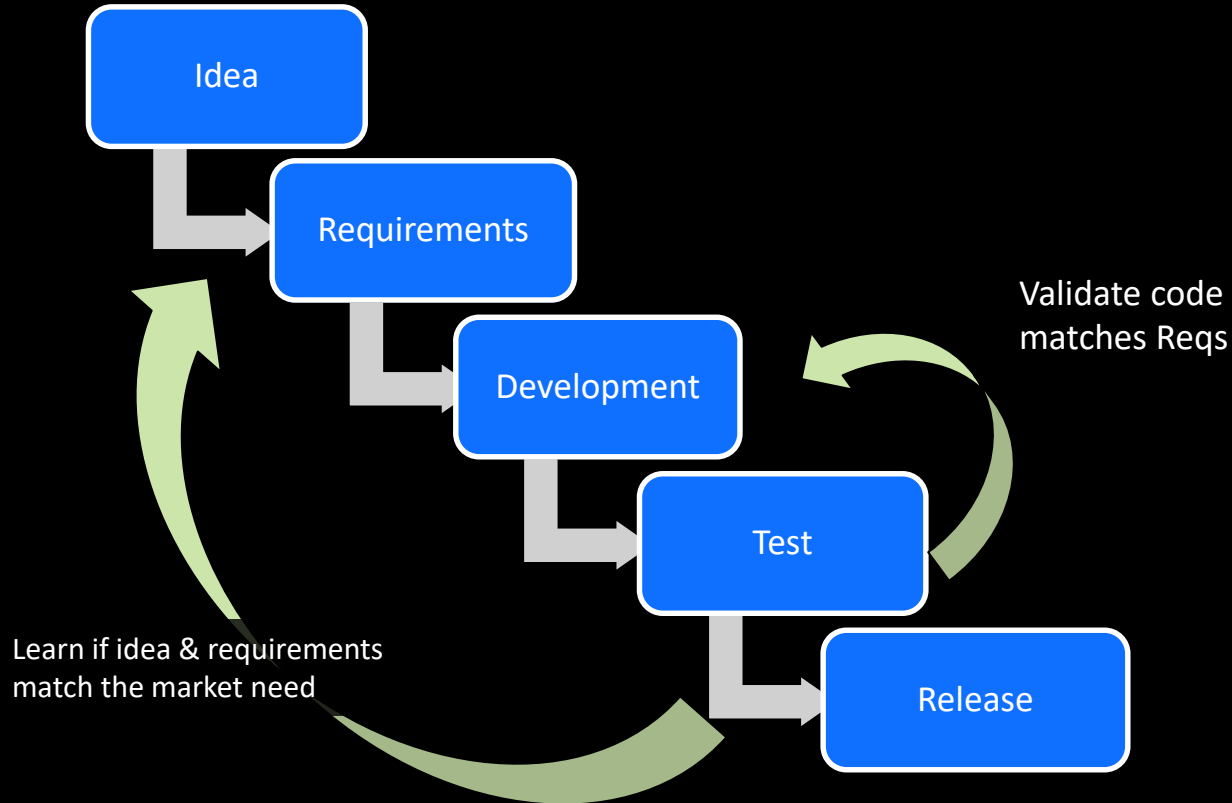
# Orchestrating Across Jenkins Pipelines



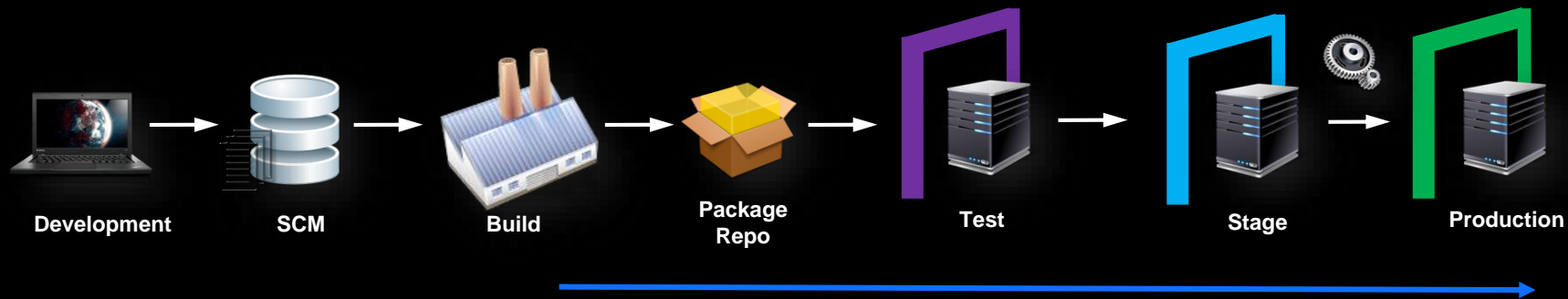
**IBM Cloud**

# Why Agile not Waterfall?

## Learn faster



# How?



## A build pipeline!

# Tools make pipelines look easy

IBM Bluemix DevOps

Toolchain  
hello-world-20170703112411947 | Delivery Pipeline

**BUILD** STAGE PASSED  
LAST INPUT: Last commit by Philippe Mulet source: vulnerable.php 6d ago  
JOBS: Container build Passed 3m ago  
LAST EXECUTION RESULT: Container build 1

**VALIDATE** STAGE PASSED  
LAST INPUT: Stage: BUILD / Job: Contai... Container build 1  
JOBS: Vulnerability Adv... Passed 4m ago  
LAST EXECUTION RESULT: No results

**DEPLOY**  
Average stage times: (Average full run time: ~5min 11s)  
#127 Apr 12 23:34 No Changes  
#126 Apr 12 23:27 4 commits  
#125 Apr 12 23:16 2 commits  
#124 Apr 12 23:10 2 commits  
#123 Apr 12 22:55 2 commits

Stages Deliver

	Checkout/Merge to Master	Build & Validate	Deep Quality Scan	Deploy to QA	Test	Package and Publish	Approve	Deploy to Prod	Roll Prod Server
Average stage times:	1min 25s	30s	1min 0s	10s	20s	24ms	55ms	20ms	74ms
#127 Apr 12 23:34	6s	30s	1min 0s	10s	20s	24ms	55ms	20ms	74ms
#126 Apr 12 23:27	7s	30s	1min 0s	10s	20s	10ms	25ms	12ms	67ms
#125 Apr 12 23:16	6s	30s	1min 0s	10s	20s	13ms	178ms	34ms	65ms
#124 Apr 12 23:10	7s	30s	1min 0s	10s	20s	13ms	178ms	34ms	65ms
#123 Apr 12 22:55	7s	30s	1min 0s	10s	20s	13ms	178ms	34ms	65ms

Approve for Production? x  
Deploy to Prod-Blue Abort

IBM Cloud Continuous Delivery:  
<https://ibm.co/2urWTFY>

Cloudbees Jenkins: <http://bit.ly/2HcpXHC>

# This is not new

anthillpro by urban[code]

Hello admin | [logout](#) | [profile](#) | [announcements](#) | [tools](#) | [help](#)

[Dashboard](#) | [Current Activity](#) | [Search](#) | [Reports](#) | [Administration](#) | [Agents](#) | [System](#)

Dashboard > XPetstore - SVN / Bugzilla > Trunk Build > BuildLife 1023

1.0.238 | 1.0.240

Main | [Reports](#) | [Artifacts](#) | [Dependencies \(2\)](#) | [Changes \(1\)](#) | [Tests \(1\)](#) | [Coverage](#) | [Issues \(1\)](#) | [Analytics \(1\)](#) | [Notes \(1\)](#)

Status Name	Workflow/Job
Prod	Deploy - Post Deployment Job (5326)
Approved	Approve for Production - Approve (5272)
QA	Deploy - Post Deployment Job (5266)
success	Trunk Build - Build Job (5261)

Stamp Value	Style	Workflow/Job
1.0.238	Build	Trunk Build - Build Job (5261)

Property Name	Value
No build life properties	

[Run Secondary Process](#)

[Inactivate](#)

[Delete](#)

[Archive](#)

Trunk Build (Repository request by anthill. [View Request](#), [View Context](#), [View Configuration](#))

Workflow / Job / Step / Command	Environment / Agent	Start / Offset	Duration	Status	Actions
Trunk Build	Build-Farm	2010-09-08 2:36:50 PM PDT	00:01:13	Complete	<a href="#">View</a> <a href="#">Refresh</a>

Deploy in QA environment (Manual request by admin. [View Request](#), [View Context](#), [View Configuration](#))

Workflow / Job / Step / Command	Environment / Agent	Start / Offset	Duration	Status	Actions
Deploy	QA environment	2010-09-08 2:57:01 PM PDT	00:00:09	Complete	<a href="#">View</a> <a href="#">Cancel</a> <a href="#">Refresh</a>
Validate Approvals	qa-app	00:00:00	00:00:00	Success	<a href="#">View</a> <a href="#">Refresh</a>
Deploy Database Job [1]	qa-db	00:00:01	00:00:03	Success	<a href="#">View</a> <a href="#">Refresh</a>
Deploy Webapp Job [1]	qa-app	00:00:02	00:00:06	Success	<a href="#">View</a> <a href="#">Refresh</a>
Post Deployment Job	qa-db	00:00:08	00:00:00	Success	<a href="#">View</a> <a href="#">Refresh</a>

Request Approval in Build-Farm (Manual request by admin. [View Request](#), [View Context](#), [View Configuration](#))

Workflow / Job / Step / Command	Environment / Agent	Start / Offset	Duration	Status	Actions
Request Approval	Build-Farm	2010-09-08 2:59:55 PM PDT	00:00:02	Complete	<a href="#">View</a> <a href="#">Cancel</a> <a href="#">Refresh</a>

Approve for Production in Production (Task request by admin. [View Request](#), [View Context](#), [View Configuration](#))

10 years ago:  
Stages went top  
to bottom

So... are we done here?

Nope!

# “The Airline Napkin Problem”

**Hypothetical Premise:** We’re following the competition in adopting “Pay for Napkins”



We are doing some microservices

—Our teams can be fed with 2 pizzas

Buzzword Compliant

—Kubernetes, Serverless, etc

## The Napkin Update

Selling Napkins requires updating many systems

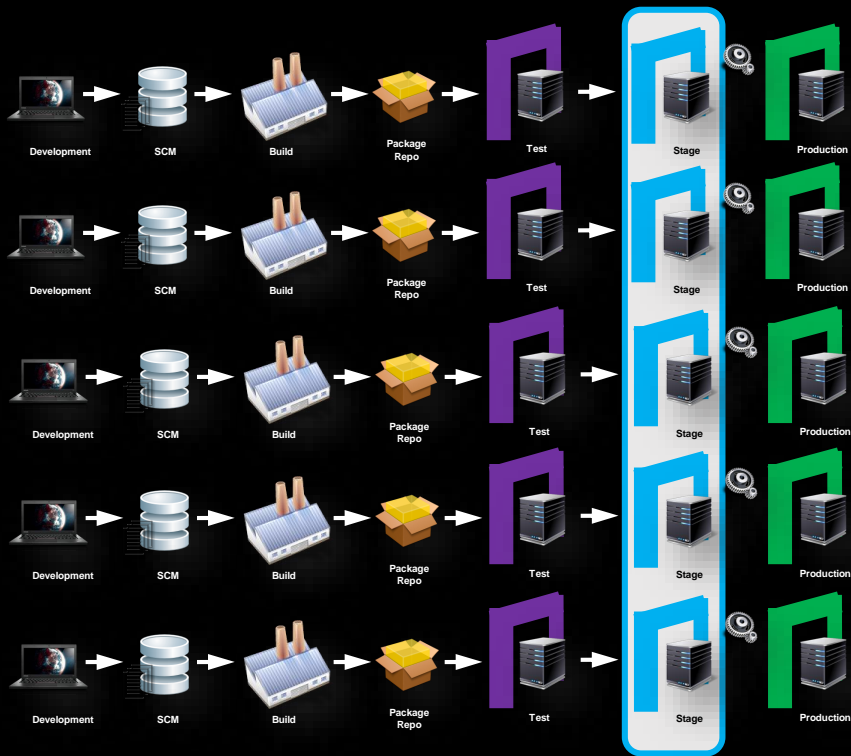
- On-plane point of sales, DotCom, airport kiosks, customer service terminals, mileage program, etc
- Perhaps 15 systems and 100 microservices or components are impacted

### **Need:**

- ✓ Test the System
- ✓ Deploy the System
- ✓ Release the System

# Systems of systems. Pipelines of pipelines.

- Test the System
- Deploy the System
- Release the System

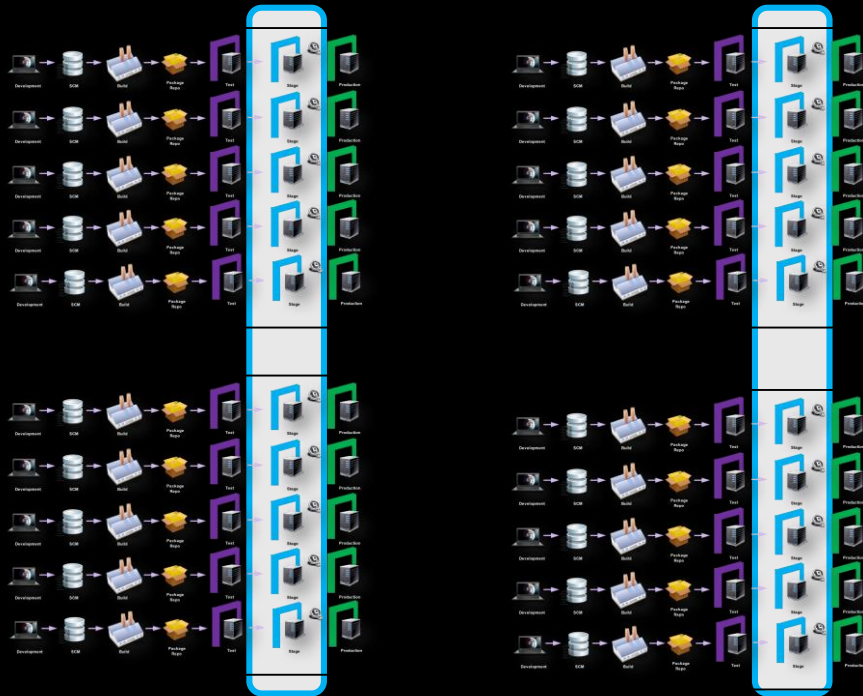
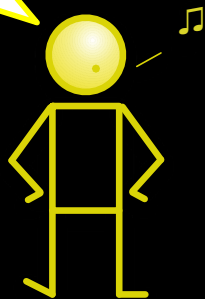




# Systems of systems. Pipelines of pipelines

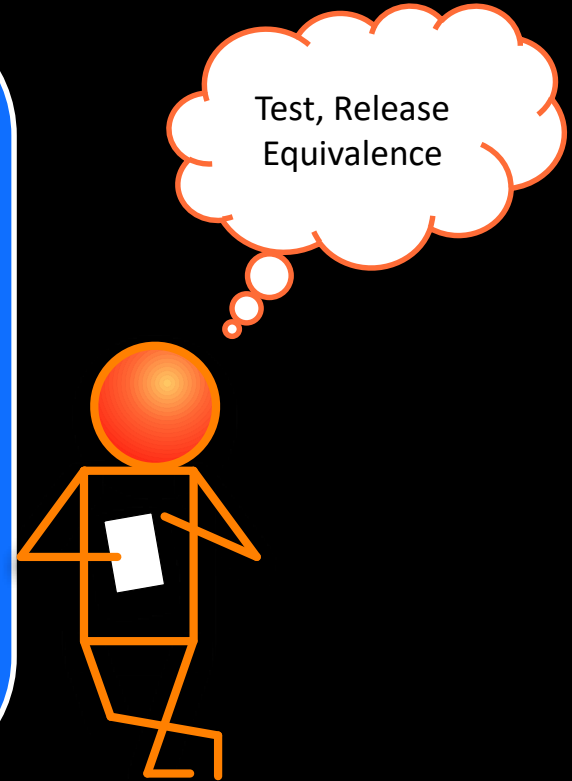
- Test the System
- Deploy the System
- Release the System

Simpler  
than mine?



# One Rule

If you test it together  
Then ship it together



Feature Flags?

Maybe

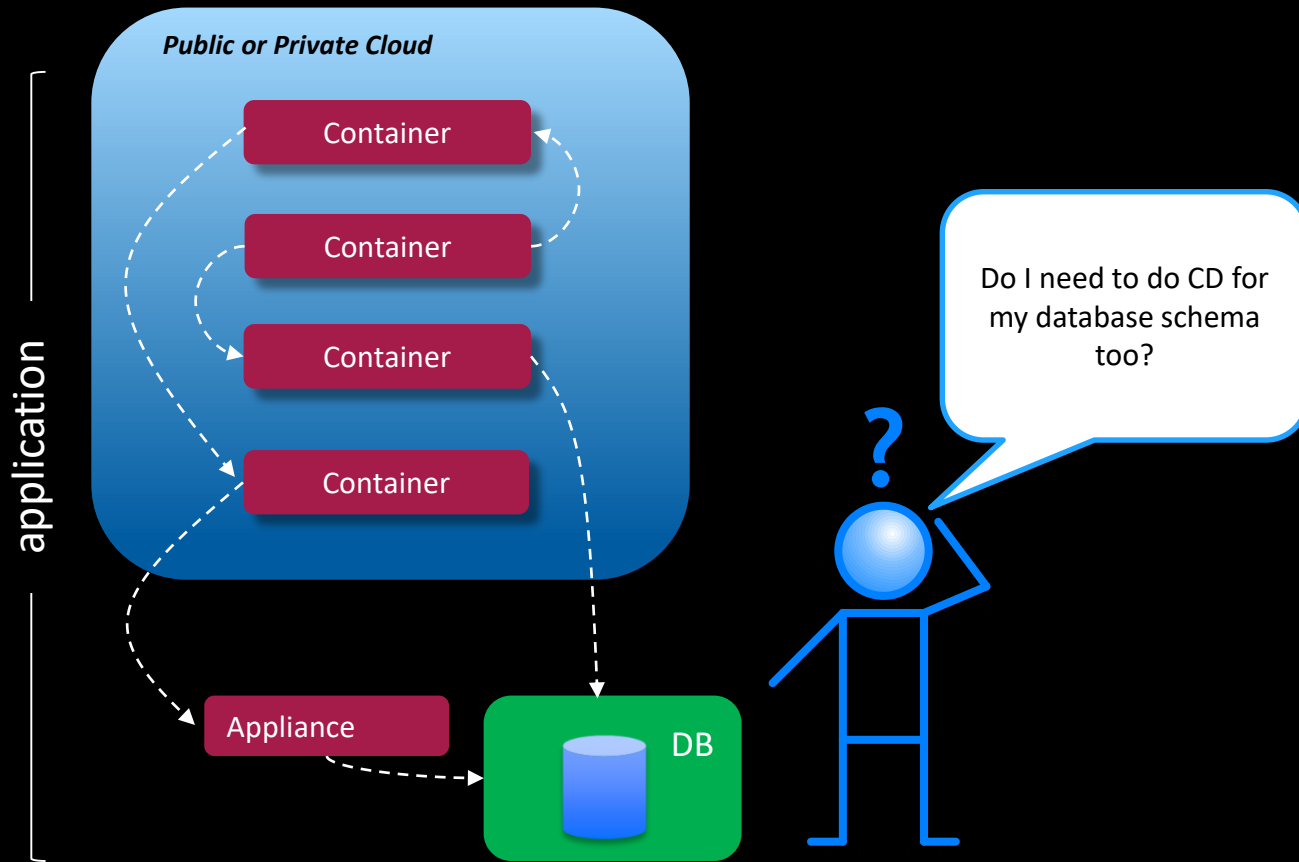
# Cloud native bigger than a microservice?

Bosh

Kubernetes Helm Charts

Docker Compose

# Your app isn't perfectly "12 Factor" anyway



So... now what?

Three Paths

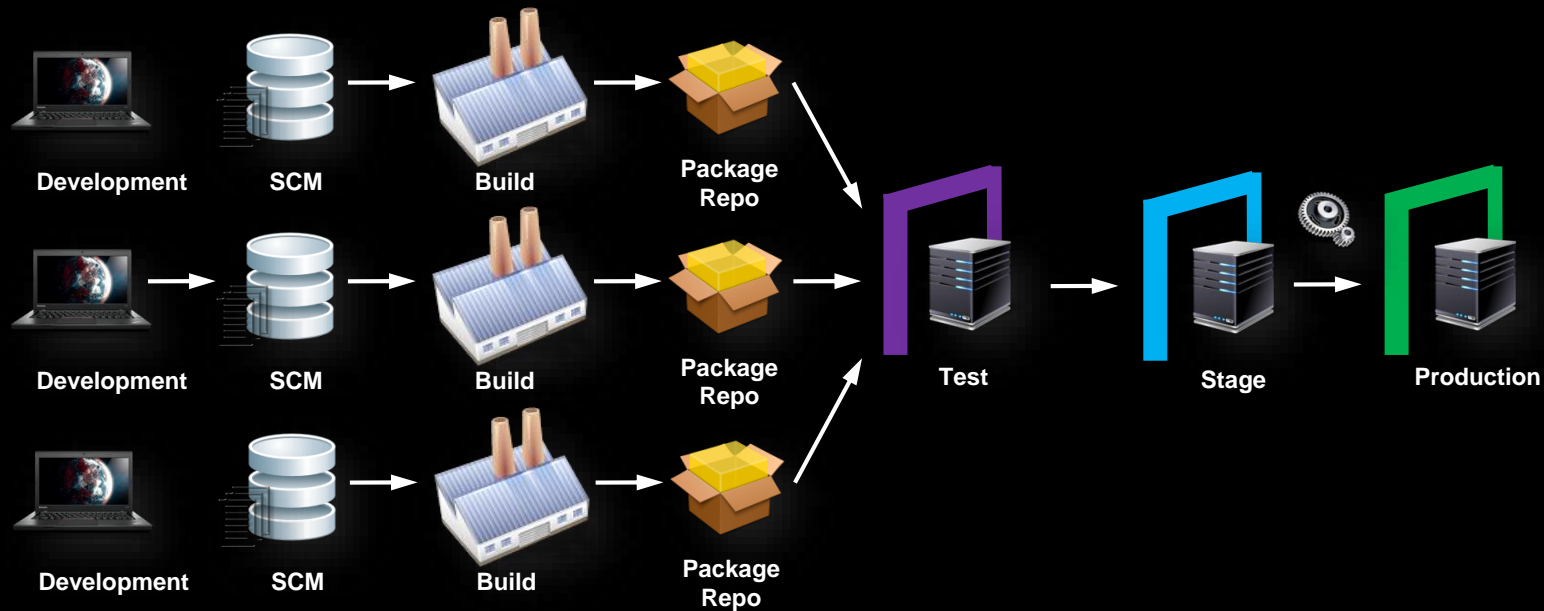
# 1. Earn build pipelines



Good Enough Here

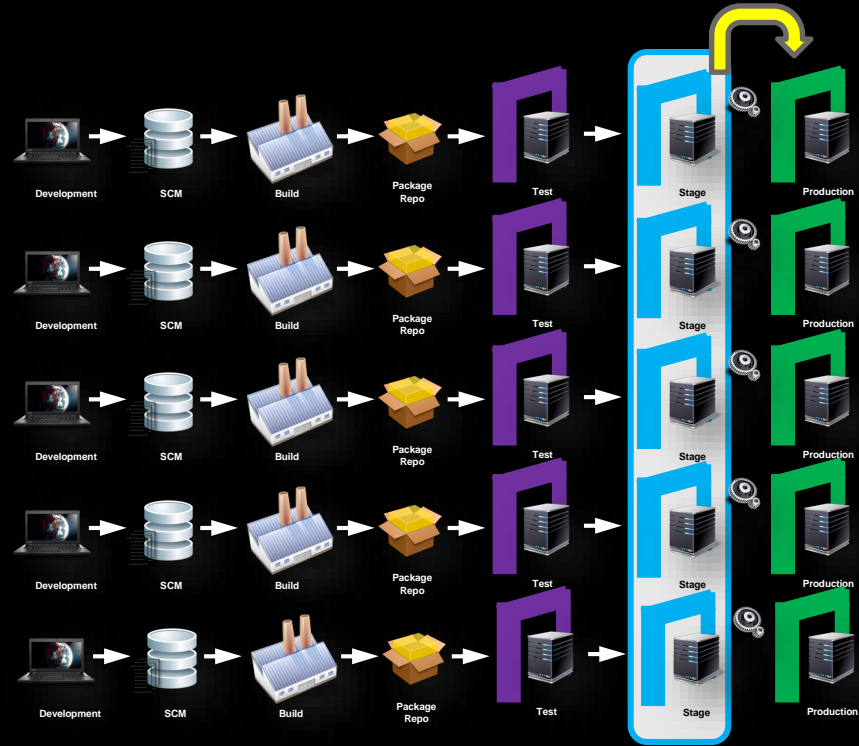
- ✓ Fully decouple microservices
- ✓ Eliminate external dependencies (APIs help)
- ✓ Prove you can manage big changes through feature flags  
(have a pipeline for those too)

## 2. Release automation tools



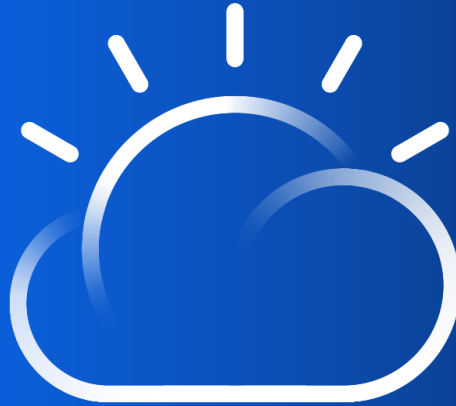


### 3. Coordinate pipelines together

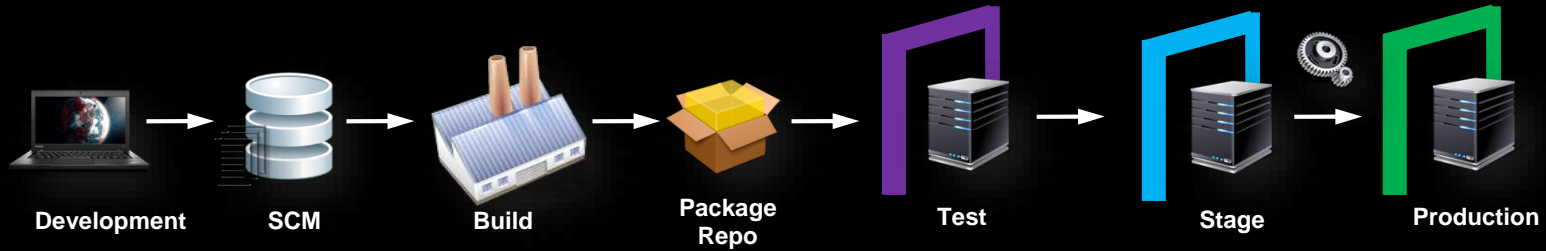


# Demo of Option 3:

## UrbanCode Velocity



# Are simple pipelines dead?



# The promise is still real

“Two Pizza” teams are still good

Changes are still bigger than what a single squad owns

And that's OK! Tools can help

