

CI and CD



Jenkins



Somkiat Puisungnoen

Somkiat Puisungnoen

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Home About



CI and CD



Jenkins



Agenda

Concept of Continuous Integration
Concept of Continuous Delivery
Build pipeline



Agenda

All about Jenkins
Installation and configuration
Using plugins
Setup build pipeline with Jenkins
Build and deploy with Jenkins
Perform testing with Jenkins
Using metrics to improve quality



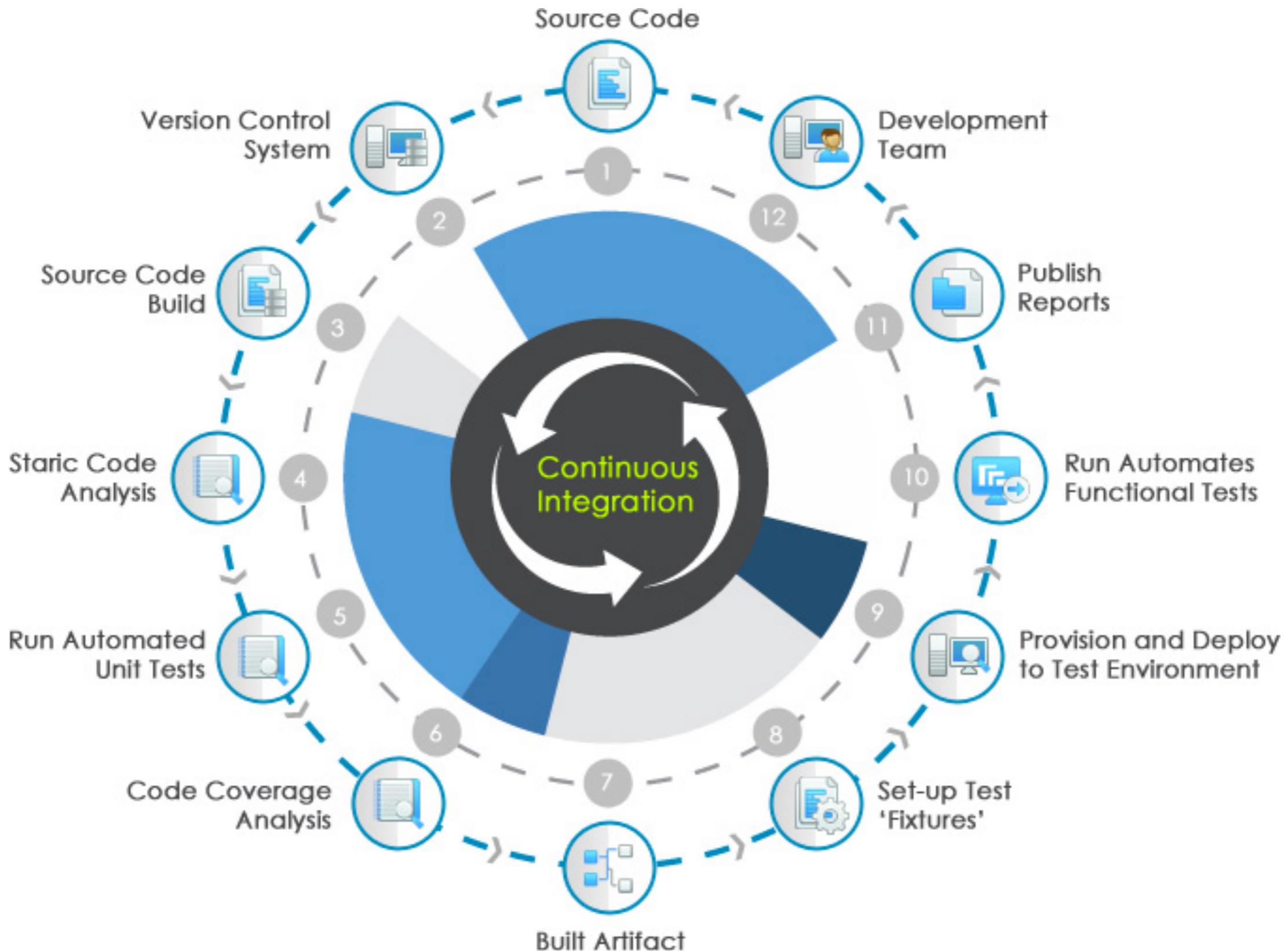
Agenda

Backup and Restore data
Understand the Master/Slave



Continuous Integration







Jenkins

Bamboo



TeamCity

> go™



Hudson





Jenkins



Bamboo

CI is about what people do
not about what tools they use



Hudson



CI is a practice

Discipline to integrate frequently



CI is a practice

Strive to make **small change**

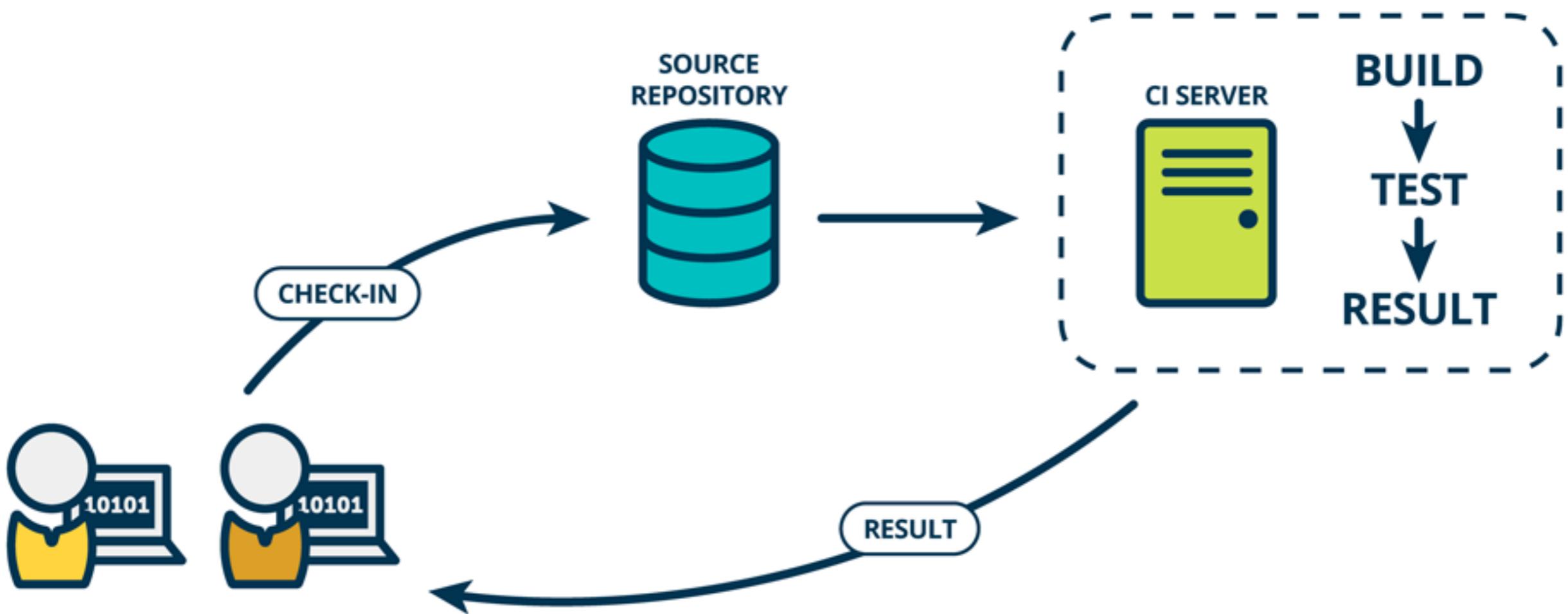


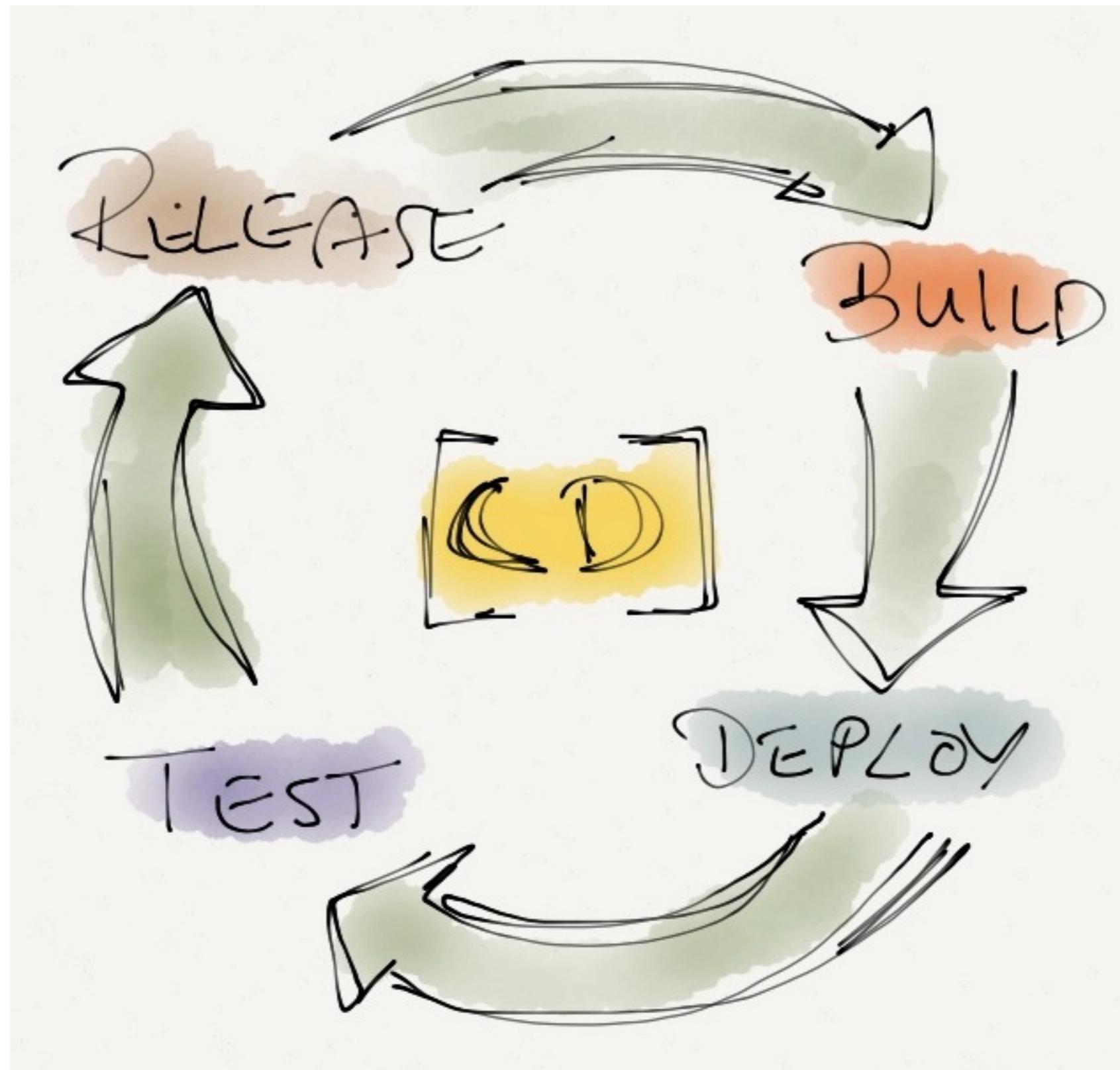
CI is a practice

Strive for **fast feedback**



Continuous Integration





CONTINUOUS DELIVERY



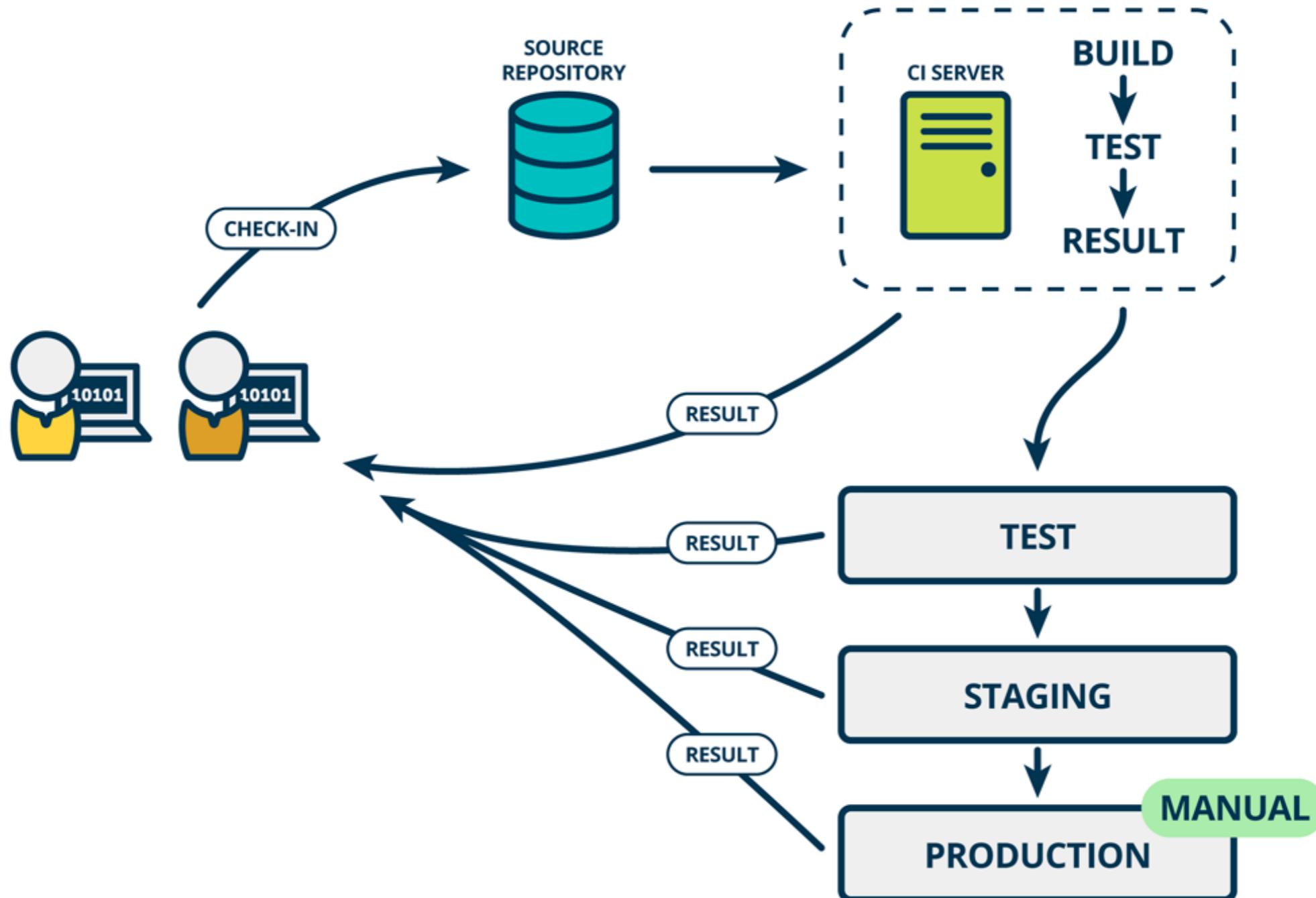
CONTINUOUS DEPLOYMENT



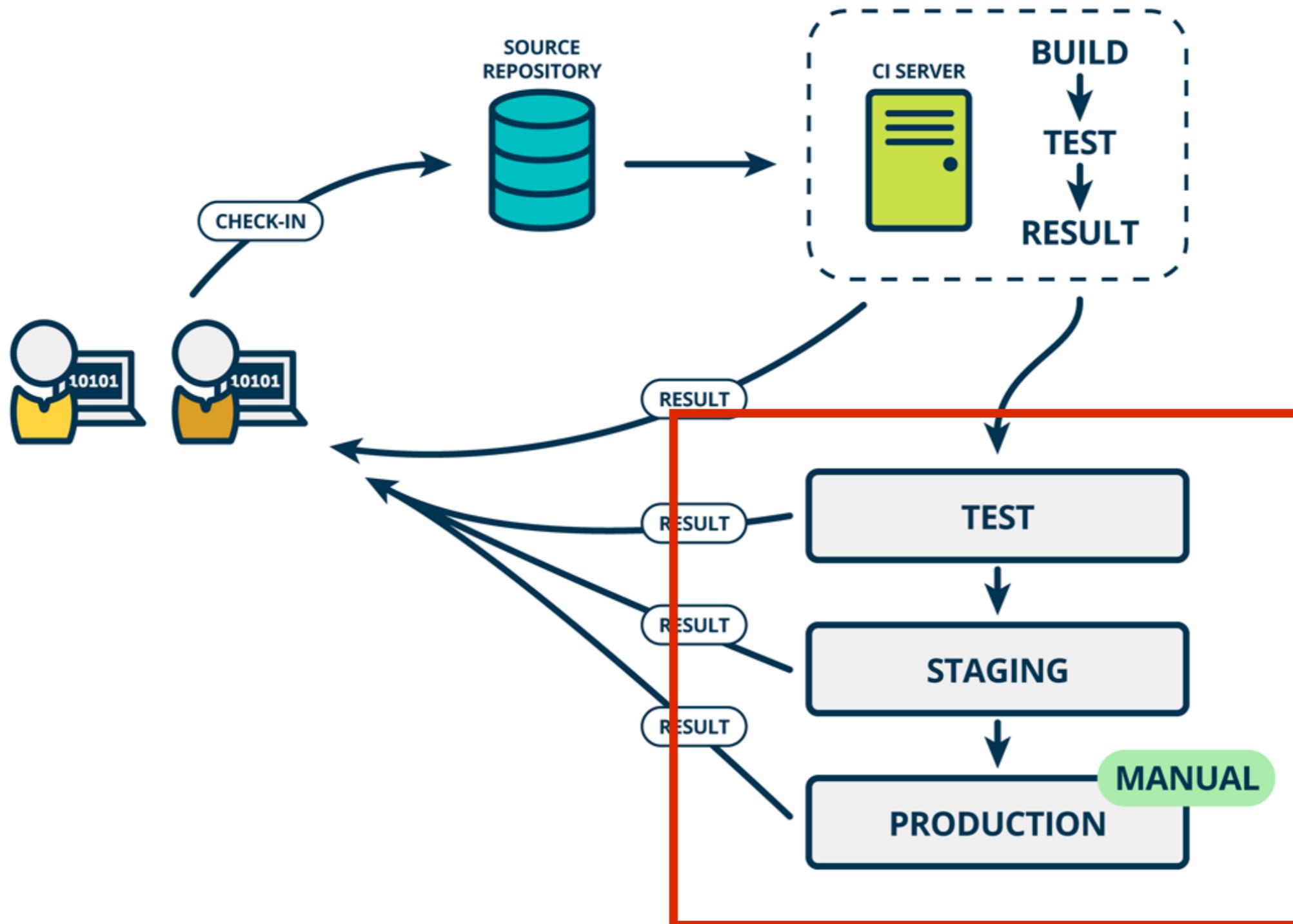
<http://blog.crisp.se/2013/02/05/yassalsundman/continuous-delivery-vs-continuous-deployment>



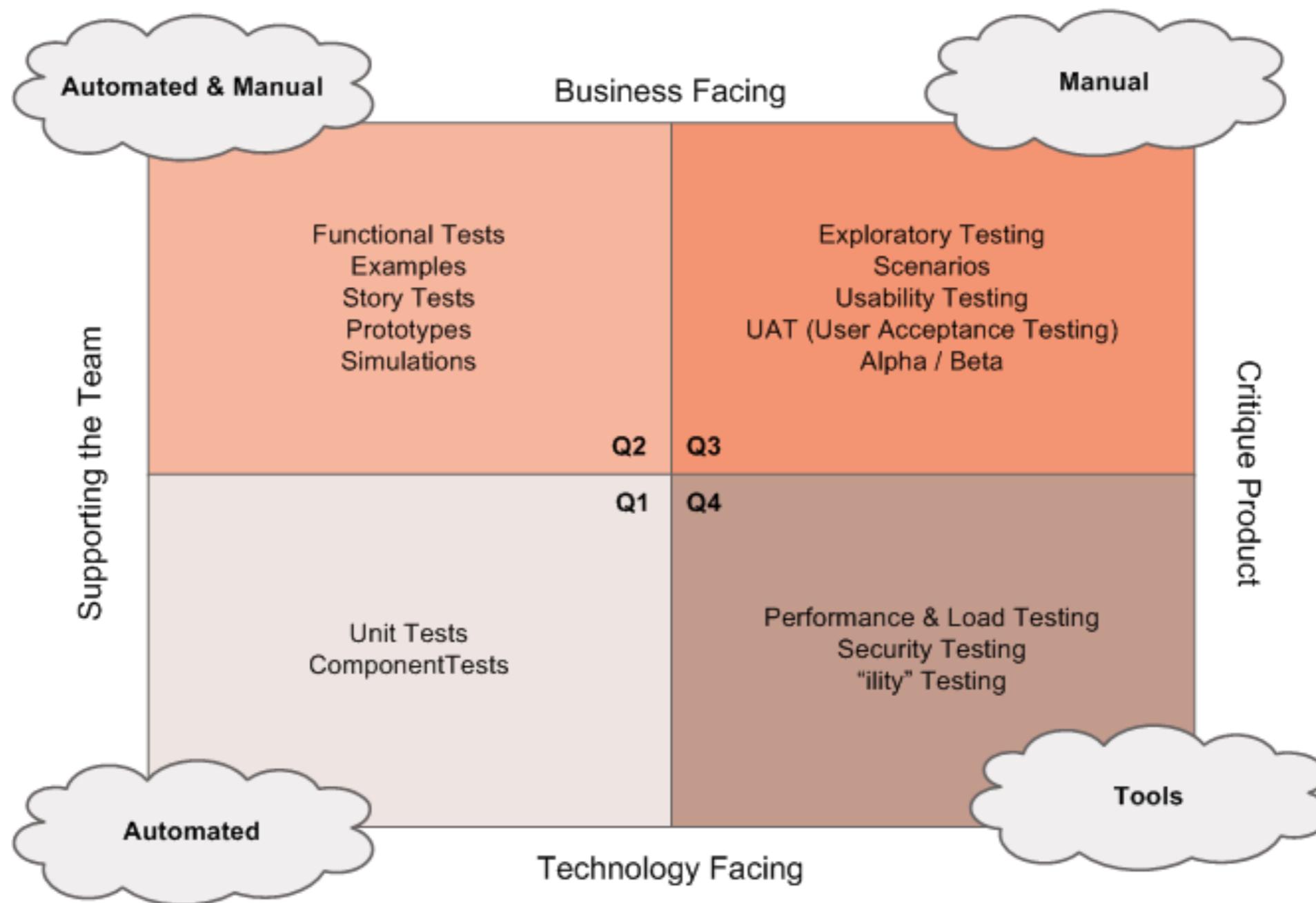
Continuous Delivery



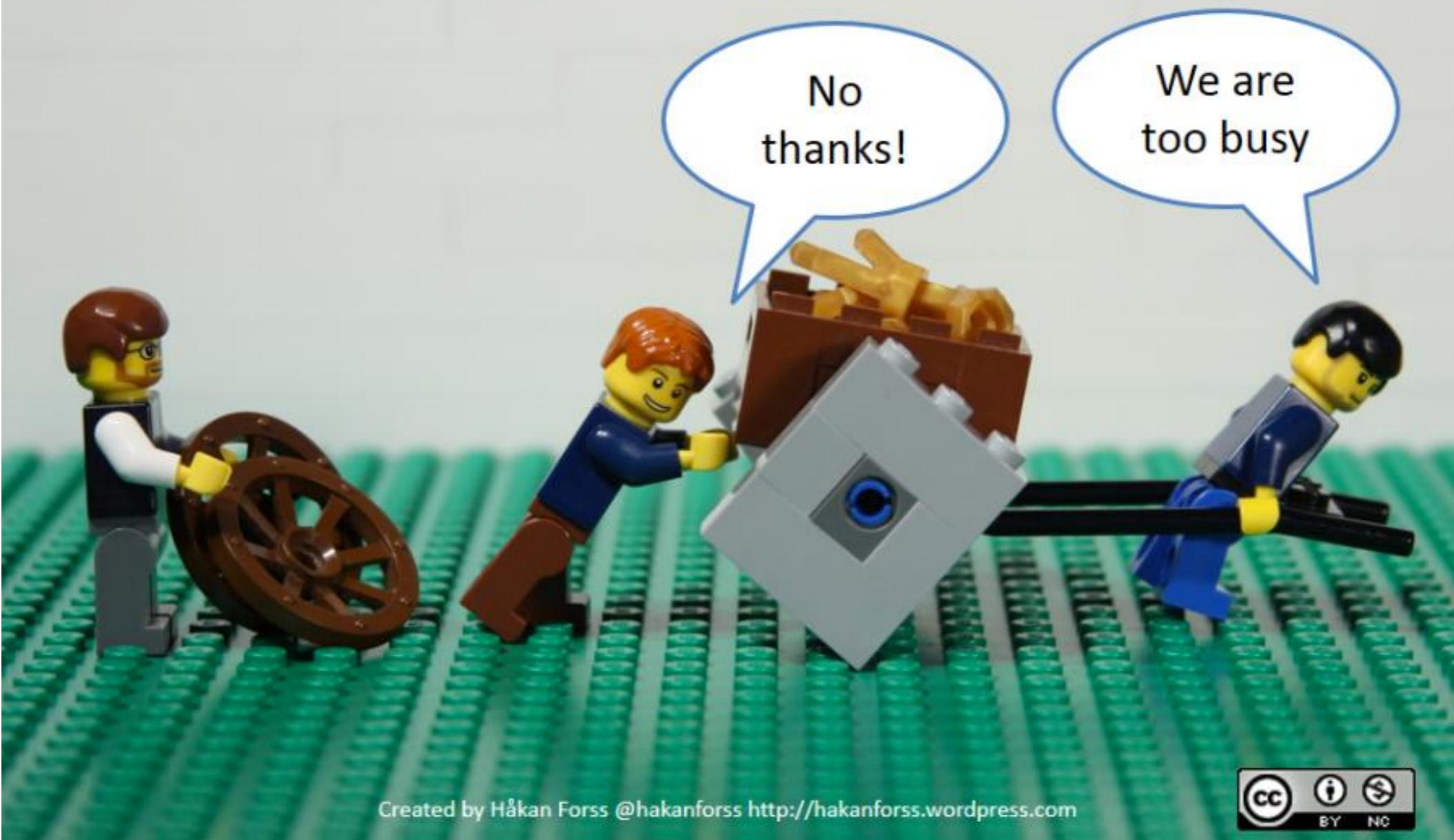
Rising of DevOps



Agile Testing Quadrants



Are you too busy to improve?



Continuous Integration

is a software development practices



1. Maintain a Single Source Repository



2. Automate the Build



3. Make your build Self-Testing



**4. Everyone commit change
to the mainline everyday**



5. Every commit should Build on an Integration Machine



6. Keep the build fast



7. Testing in a clone of the production environment



**8. Make it easy for everyone
to get the latest executable**



9. Everyone can see what's happening



10. Automate Deployment



Good habits with CI



Developer should work in the private workspace



Rebase frequently from the mainline



Check-in/push frequently



Frequent build



Automate the testing as much as possible



Don't check-in/push when the build is broken



Automate the deployment

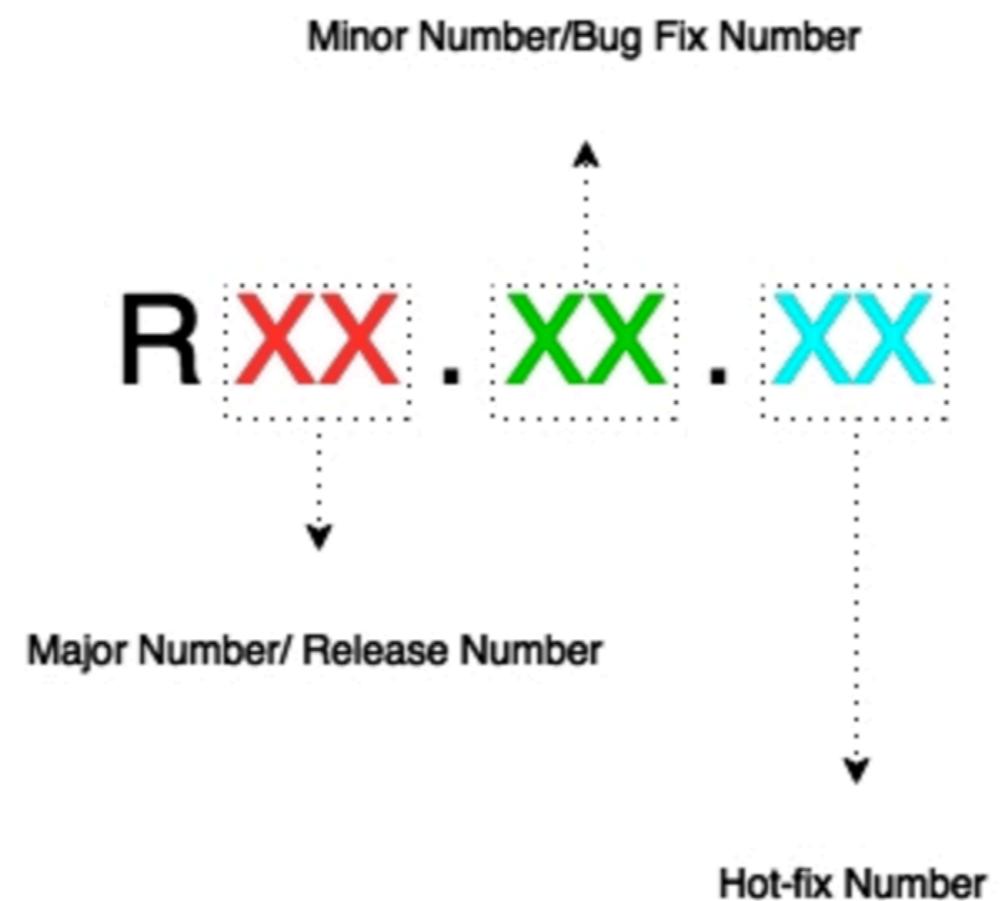


Have a labeling strategy fore releases



Instant notification





Public Release Number
(New features require a
new major number)

Sprint number
the release was
branched off

Bug Fix Revision
(Incremental every time
a bug-fix release is made)

v 1.12.1



"Behind every successful agile project, there is a **Continuous Integration server."**



Let's start with Jenkins



What is Jenkins ?

Application and framework
manage and monitor
the execution of **repeated tasks**



Why Jenkins ?

Easy !!

Extensible

Scalable

Flexible

Open source

Community support

Lots of plugins

Cloud support



Who use Jenkins ?

We thank the following organizations for their major commitments to support the Jenkins project.



We thank the following organizations for their support of the Jenkins project through free and/or open source licensing programs.

Atlassian

Datadog

JFrog

Mac Cloud

PagerDuty

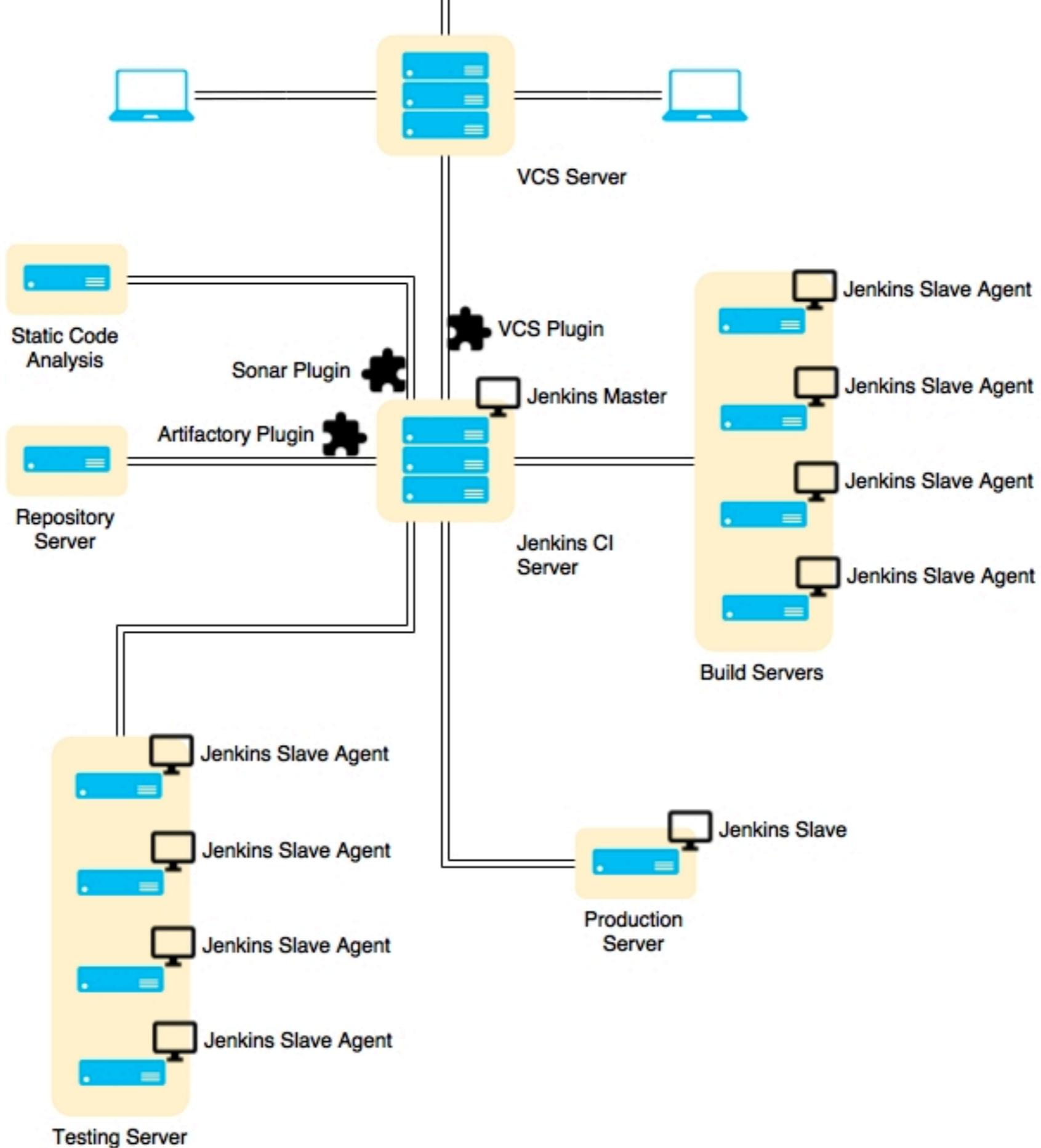
XMission

<https://wiki.jenkins-ci.org/pages/viewpage.action?pageId=58001258>



Jenkins => Centralize CI Server





Hardware requirements

Jenkins master server

RAM +2GB and up to +60GB

More CPU

More disk space for job running

Jenkins slave server

More RAM for connect to master server



Setting up Jenkins



Jenkins in container

Apache Tomcat

JBoss

Jetty

WebLogic

IBM Websphere

Glassfish



Download



The Jenkins logo is a cartoon character with a large, round head and a wide, smiling mouth. It has short, dark hair and is wearing a red bow tie over a white shirt. It is dressed in a blue suit jacket and white cuffs. It is holding a white coffee cup in its right hand.

Jenkins

Build great things at any scale

The leading open source automation server, Jenkins provides hundreds of plugins to support building, deploying and automating any project.

[Documentation](#) [Download](#)

<https://jenkins.io/index.html>



Use Long-term support (LTS)

Getting started with Jenkins

The Jenkins project produces two release lines, LTS and weekly. Depending on your organization's needs, one may be preferred over the other.

Both release lines are distributed as `.war` files, native packages, installers, and Docker containers.

Long-term Support (LTS)

LTS (Long-Term Support) releases are chosen every 12 weeks from the stream of regular releases as the stable release for that time period. [Learn more...](#)

[Changelog](#) | [Upgrade Guide](#) | [Past Releases](#)

 [Deploy Jenkins 2.46.3](#)

 [Deploy to Azure](#)

 [Download Jenkins 2.46.3 for:](#)

Docker

FreeBSD

Weekly

A new release is produced weekly to deliver bug fixes and features to users and plugin developers.

[Changelog](#) | [Past Releases](#)

 [Download Jenkins 2.65 for:](#)

Arch Linux

Docker

FreeBSD

Gentoo



Start Jenkins

```
$java -jar jenkins.war
```



Change Port of Jenkins (8080)

```
$java -jar jenkins.war --httpPort=<port>
```



Open in browser

http://localhost:8080

The screenshot shows the Jenkins 'Unlock Jenkins' setup page. At the top left, there's a 'Getting Started' link. Below it, the title 'Unlock Jenkins' is displayed in large, bold font. A text block explains that a password has been written to the log and a file on the server. It provides the file path: `/Users/somkiat/data/slide/ci-cd/swpark/software/keep/secrets/initialAdminPassword`. A note below asks the user to copy the password from either location and paste it into a text input field. This input field is highlighted with a red rounded rectangle. At the bottom right of the page is a blue 'Continue' button.

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`/Users/somkiat/data/slide/ci-cd/swpark/software/keep/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

Continue



Copy password from console

```
*****  
*****  
*****
```

Jenkins initial setup is required. An admin user has been created.

Please use the following password to proceed to installation:

a4b3a5231b8048419192d0c5afd3fce8

This may also be found at: /Users/somkiat/data/slide/ci-cd/swpa/initialAdminPassword

```
*****  
*****  
*****
```



Custom your plug-ins

Getting Started

X

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.46.3



Waiting ...

Getting Started

Getting Started

<input type="radio"/> Folders Plugin	<input type="radio"/> OWASP Markup Formatter Plugin	<input type="radio"/> build timeout plugin	<input type="radio"/> Credentials Binding Plugin
<input type="radio"/> Timestamper	<input type="radio"/> Workspace Cleanup Plugin	<input type="radio"/> Ant Plugin	<input type="radio"/> Gradle Plugin
<input type="radio"/> Pipeline	<input type="radio"/> GitHub Organization Folder Plugin	<input type="radio"/> Pipeline: Stage View Plugin	<input type="radio"/> Git plugin
<input type="radio"/> Subversion Plug-in	<input type="radio"/> SSH Slaves plugin	<input type="radio"/> Matrix Authorization Strategy Plugin	<input type="radio"/> PAM Authentication plugin
<input type="radio"/> LDAP Plugin	<input type="radio"/> Email Extension Plugin	<input type="radio"/> Mailer Plugin	

** - required dependency

Jenkins 2.46.3



Success

Getting Started

Installation Failures

Some plugins failed to install properly, you may retry installing them or continue with

✓ Folders Plugin	✓ OWASP Markup Formatter Plugin	✓ build timeout plugin	✓ Credentials Binding Plugin
✓ Timestamper	✓ Workspace Cleanup Plugin	✓ Ant Plugin	✓ Gradle Plugin
✓ Pipeline	✓ GitHub Organization Folder Plugin	✓ Pipeline: Stage View Plugin	✓ Git plugin
✓ Subversion Plug-in	✓ SSH Slaves plugin	✓ Matrix Authorization Strategy Plugin	✓ PAM Authentication plugin
✓ LDAP Plugin	✓ Email Extension Plugin	✓ Mailer Plugin	

Jenkins 2.46.3

[Continue](#)

[Retry](#)



Create new user

Getting Started

Create First Admin User

Username:

Password:

Confirm password:

Full name:

E-mail address:

Jenkins 2.46.3

[Continue as admin](#)

[Save and Finish](#)



Ready !!

Getting Started

Jenkins is ready!

Your Jenkins setup is complete.

[Start using Jenkins](#)

Jenkins 2.46.3



Welcome to Jenkins

Jenkins  search  somkiat | log out [ENABLE AUTO REFRESH](#)

New Item  add description 

People 

Build History 

Manage Jenkins 

My Views 

Credentials 

Welcome to Jenkins!

Please [create new jobs](#) to get started.

Build Queue
No builds in the queue.

Build Executor Status
1 Idle
2 Idle

Page generated: Jun 14, 2017 2:08:57 PM ICT [REST API](#) [Jenkins ver. 2.46.3](#)

Create first Jenkins job



1. Create new job

The screenshot shows the Jenkins dashboard. At the top left is the Jenkins logo. The main header says "Jenkins". Below the header is a navigation menu with the following items:

- New Item (highlighted with a red oval)
- People
- Build History
- Manage Jenkins
- My Views
- Credentials

In the center, there is a large "Welcome to Jenkins!" message. Below it, a teal-colored box contains the text "Please create new jobs to get started." This text and the box are also highlighted with a red oval.

At the bottom left, there is a "Build Queue" section with the sub-section "No builds in the queue."



2. Fill in name

Enter an item name

hello

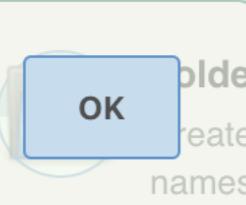
» Required field

 **Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

 **Pipeline**
Orchestrates long-running activities that can span multiple build slaves. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

 **External Job**
This type of job allows you to record the execution of a process run outside Jenkins, even on a remote machine. This is designed so that you can use Jenkins as a dashboard of your existing automation system.

 **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

 **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate space, so you can have multiple things of the same name as long as they are in different folders.



3. choose type

Enter an item name

hello

» Required field

Freestyle project



This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Pipeline



Orchestrates long-running activities that can span multiple build slaves. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

External Job



This type of job allows you to record the execution of a process run outside Jenkins, even on a remote machine. This is designed so that you can use Jenkins as a dashboard of your existing automation system.

Multi-configuration project



Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.



Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate space, so you can have multiple things of the same name as long as they are in different folders.



4. Config in General

General Source Code Management Build Triggers Build Environment Build Post-build Actions

Project name: hello

Description:

[Plain text] [Preview](#)

Discard old builds [?](#)

GitHub project [?](#)

This project is parameterized [?](#)

Throttle builds [?](#)

Disable this project [?](#)

Execute concurrent builds if necessary [?](#)

[Advanced...](#)

Source Code Management

None



See help !!

General Source Code Management Build Triggers Build Environment Build Post-build Actions

[Plain text] [Preview](#)

Discard old builds 

This determines when, if ever, build records for this project should be discarded. Build records include the console output, archived artifacts, and any other metadata related to a particular build.

Keeping fewer builds means less disk space will be used in the *Build Record Root Directory*, which is specified on the *Configure System* screen.

Jenkins offers two options for determining when builds should be discarded:

1. Build age: discard builds if they reach a certain age; for example, seven days old.
2. Build count: discard the oldest build if a certain number of builds already exist.

These two options can be active at the same time, so you can keep builds for 14 days, but only up to a limit of 50 builds, for example. If either limit is exceeded, then any builds beyond that limit will be discarded.

You can also ensure that important builds are kept forever, regardless of the setting here — click the *Keep this build forever* button on the build page.

The last stable and last successful build are also excluded from these rules.

In the *Advanced* section, the same options can be specified, but specifically for build **artifacts**. If enabled, build artifacts will be discarded for any builds which exceed the defined limits. The builds themselves will still be kept; only the associated artifacts, if any, will be deleted.

For example, if a project builds some software and produces a large installer, which is archived, you may wish to always keep the console log and information about which source control commit was built, while for disk space reasons, you may want to keep only the last three installers that were built.

This can make sense for projects where you can easily recreate the same artifacts later by building the same source control commit again.



5. Advance project options

General Source Code Management Build Triggers Build Environment Build Post-build Actions

Project name: hello

Description:

[Plain text] [Preview](#)

Discard old builds [?](#)

GitHub project [?](#)

This project is parameterized [?](#)

Throttle builds [?](#)

Disable this project [?](#)

Execute concurrent builds if necessary [?](#)

[Advanced...](#)

Source Code Management

Save Apply

None



Advance project options

The screenshot shows the 'General' tab selected in the Jenkins build configuration interface. The tab bar also includes 'Source Code Management', 'Build Triggers', and 'Build Environment'. The 'General' tab contains the following settings:

- Quiet period
- Retry Count
- Block build when upstream project is building
- Block build when downstream project is building
- Use custom workspace

Below these options is a 'Display Name' field, which is currently empty. At the bottom of the section is another checkbox:

- Keep the build logs of dependencies



7. Source code management

General **Source Code Management** Build Triggers Build Environment Build Post-build Actions

Source Code Management

None
 Git
 Subversion

Build Triggers

Trigger builds remotely (e.g., from scripts)
 Build after other projects are built
 Build periodically
 GitHub hook trigger for GITScm polling
 Poll SCM



8. Build Triggers

General Source Code Management **Build Triggers** Build Environment

Build Triggers

- Trigger builds remotely (e.g., from scripts)
- Build after other projects are built
- Build periodically
- GitHub hook trigger for GITScm polling
- Poll SCM



Build periodically

General Source Code Management **Build Triggers** Build Environment Build Post-build Actions

Build Triggers

- Trigger builds remotely (e.g., from scripts) ?
- Build after other projects are built ?
- Build periodically ?

Schedule

H 23 * * *

⚠ No schedules so will never run

- GitHub hook trigger for GITScm polling ?
- Poll SCM ?

Run every day around 11.59 PM

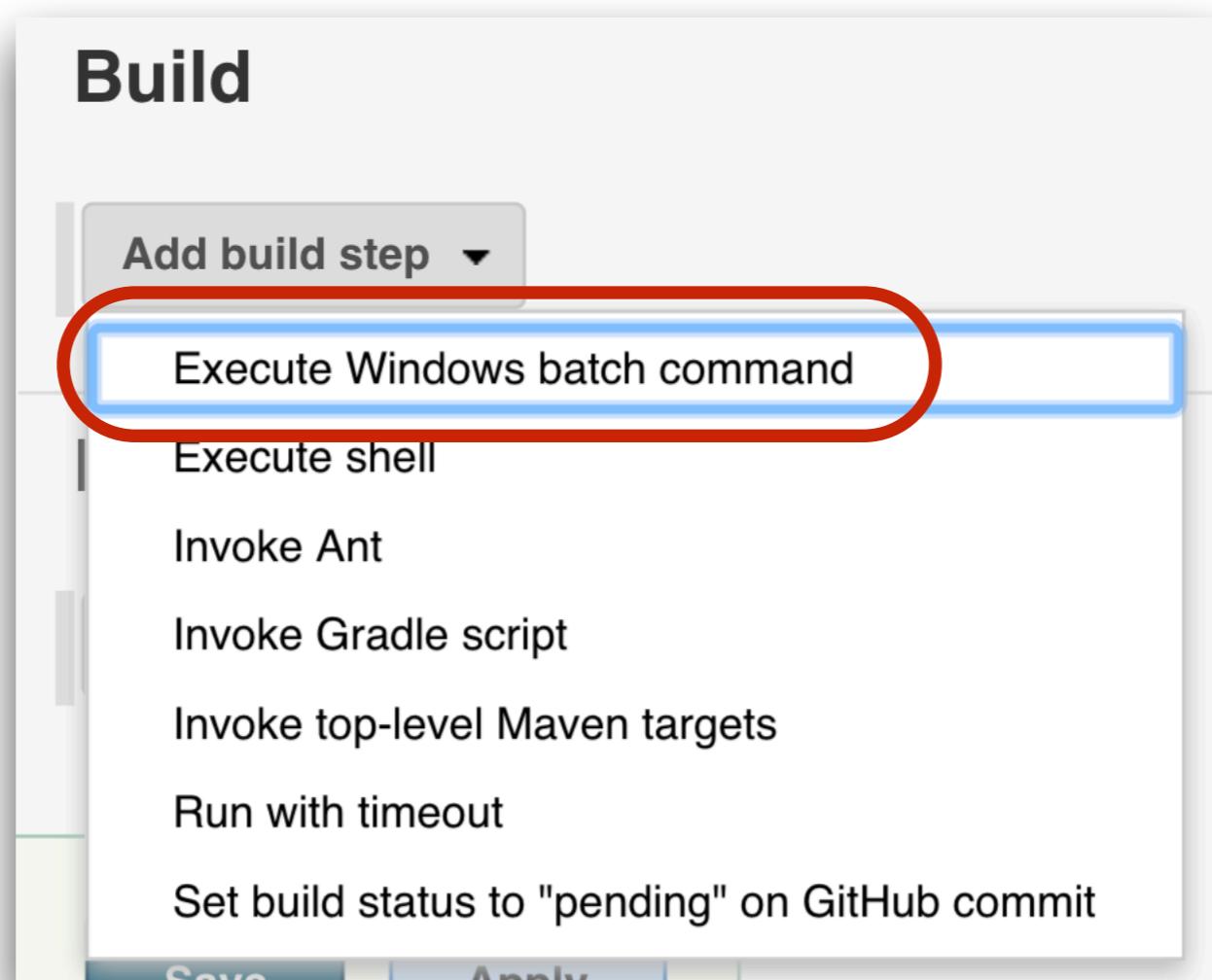


9. Add a Build step

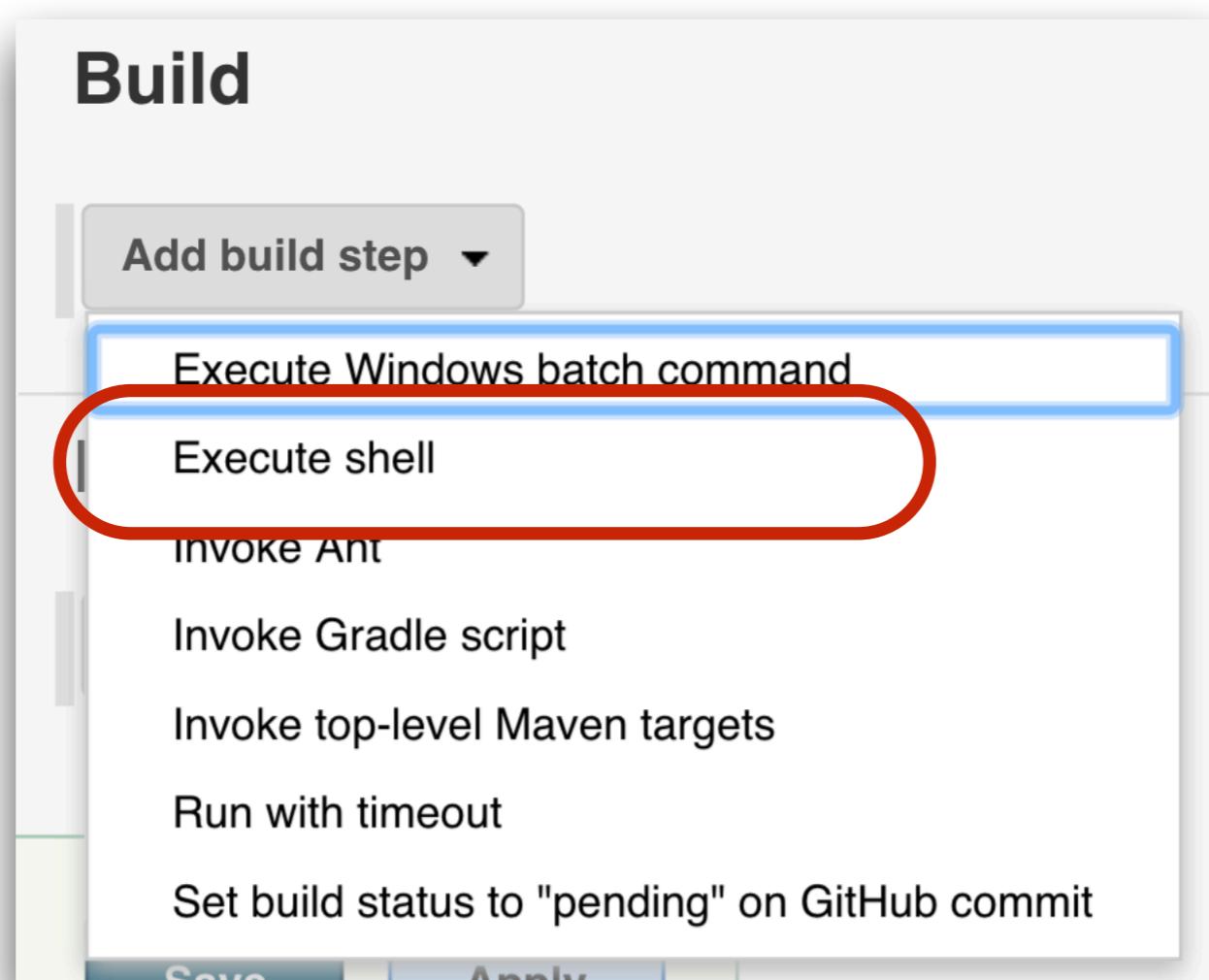
The screenshot shows a software interface for managing build configurations. At the top, there are tabs for General, Source Code Management, Build Triggers, Build Environment, **Build**, and Post-build Actions. The **Build** tab is currently active. Below the tabs, there's a section titled "BUILD ENVIRONMENT" containing four checkboxes: "Delete workspace before build starts", "Abort the build if it's stuck", "Add timestamps to the Console Output", and "Use secret text(s) or file(s)". Under the "Build" tab, there's a "Build" section with a "Add build step" button. A dropdown menu is open from this button, listing several options: "Execute Windows batch command" (which is highlighted with a blue border), "Execute shell", "Invoke Ant", "Invoke Gradle script", "Invoke top-level Maven targets", "Run with timeout", and "Set build status to "pending" on GitHub commit". At the bottom of the dropdown menu are two buttons: "Save" and "Apply".



For Windows



For UNIX/Mac



10. Post-build actions

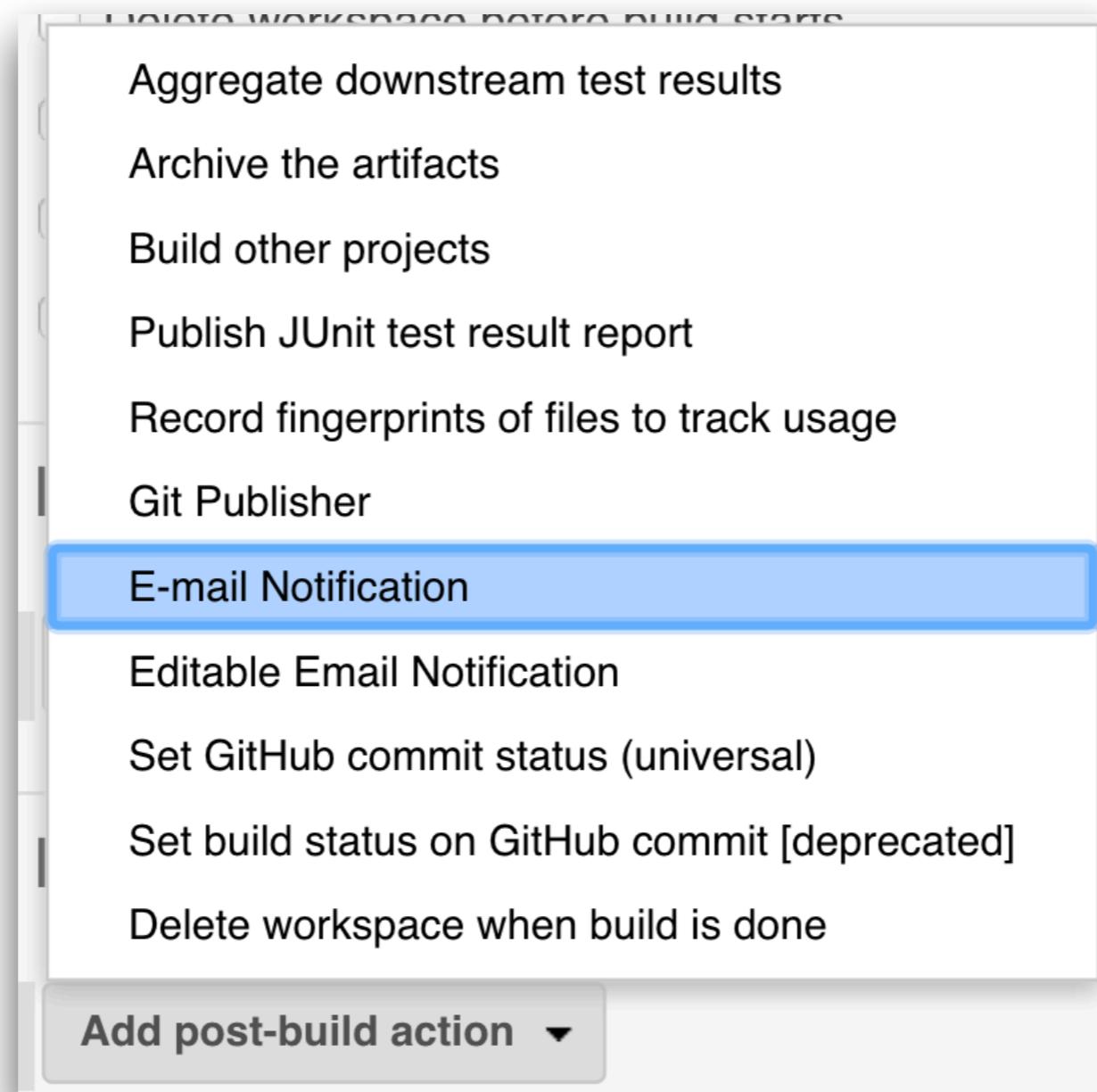
The screenshot shows a software interface for managing build configurations. The top navigation bar includes tabs for General, Source Code Management, Build Triggers, Build Environment, Build, and Post-build Actions. The Post-build Actions tab is currently active. Below the tabs, a section titled "BUILD ENVIRONMENT" is visible. On the left, a vertical sidebar lists several actions: Delete workspace before build starts, Aggregate downstream test results, Archive the artifacts, Build other projects, Publish JUnit test result report, Record fingerprints of files to track usage, Git Publisher, E-mail Notification (which is highlighted with a blue background), Editable Email Notification, Set GitHub commit status (universal), Set build status on GitHub commit [deprecated], and Delete workspace when build is done. At the bottom left of the main area, there is a button labeled "Add post-build action ▾". In the bottom right corner of the main area, there are two buttons: "Save" and "Apply".



Email notification



Email notification



Add Recipients

Post-build Actions

E-mail Notification

Recipients

Whitespace-separated list of recipient addresses. May reference build parameters like \$PARAM. E-mail will be sent when a build fails, becomes unstable or returns to stable.

Send e-mail for every unstable build

Send separate e-mails to individuals who broke the build

[?](#)

Add post-build action ▾



Configure SMTP server

Manage Jenkins -> Configure System

The screenshot shows the Jenkins Manage Jenkins interface. On the left, there is a sidebar with several options: New Item, People, Build History, Manage Jenkins (which is highlighted with a red circle labeled '1'), My Views, and Credentials. Below this is a Build Queue section indicating 'No builds in the queue.' At the bottom is a Build Executor Status section. On the right, under the heading 'Manage Jenkins', there are five configuration links: 'Configure System' (highlighted with a red circle labeled '2'), 'Configure Global Security', 'Configure Credentials', 'Global Tool Configuration', and 'Reload Configuration from Disk'. Each link has a brief description below it.

Link	Description
Configure System	Configure global settings and paths.
Configure Global Security	Secure Jenkins; define who is allowed to access/use
Configure Credentials	Configure the credential providers and types
Global Tool Configuration	Configure tools, their locations and automatic instal
Reload Configuration from Disk	Discard all the loaded data in memory and reload eve



Configure SMTP server

E-mail Notification

SMTP server 

Default user e-mail suffix 

 **Advanced...**

Test configuration by sending test e-mail

Save **Apply**



Configure SMTP server

E-mail Notification

SMTP server	<input type="text"/>	?
Default user e-mail suffix	<input type="text"/>	?
<input type="checkbox"/> Use SMTP Authentication	<input type="checkbox"/>	?
Use SSL	<input type="checkbox"/>	?
SMTP Port	<input type="text"/>	?
Reply-To Address	<input type="text"/>	
Charset	<input type="text" value="UTF-8"/>	
<input type="checkbox"/> Test configuration by sending test e-mail		

Action Buttons

Save **Apply**



11. Run your job !!

Jenkins

search somkiat | log out

New Item People Build History Manage Jenkins My Views Credentials

ENABLE AUTO REFRESH

Add description

All +

S	W	Name ↓	Last Success	Last Failure	Last Duration
		hello	N/A	N/A	

Icon: [S](#) [M](#) [L](#)

Legend RSS for all RSS for failures RSS for just latest builds

Build Queue

No builds in the queue.

Build Executor Status

1 Idle
2 Idle

The screenshot shows the Jenkins dashboard. A red oval highlights the central area where the job 'hello' is listed. The job has a grey circle icon, a yellow sun icon, the name 'hello', and N/A for both last success and last failure. Below this table are links for RSS feeds. To the left, there's a sidebar with links like New Item, People, and Manage Jenkins. At the bottom, there are sections for Build Queue and Build Executor Status, both currently showing no activity.



Job status

The screenshot shows a Jenkins job status page. At the top, there are two buttons: 'All' (selected) and '+'. To the right is a 'add description' button with a pencil icon. Below the buttons is a table header with columns: S, W, Name (sorted by name), Last Success, Last Failure, and Last Duration. A row below the header shows a job named 'hello'. The 'S' column contains a gray circle icon, which is circled in red. The 'W' column contains a yellow sun icon. The 'Name' column shows 'hello'. The 'Last Success' and 'Last Failure' columns both show 'N/A'. The 'Last Duration' column shows a green and yellow circular icon. Below the table, there is a note 'Icon: S M L' and three RSS feed links: 'RSS for all', 'RSS for failures', and 'RSS for just latest builds'.

S	W	Name ↓	Last Success	Last Failure	Last Duration
		hello	N/A	N/A	

Icon: [S](#) [M](#) [L](#)

[Legend](#) [RSS for all](#) [RSS for failures](#) [RSS for just latest builds](#)

Blue = success

Red = failure

Gray = disabled/never execute



Job health

S	W	Name ↓	Last Success	Last Failure	Last Duration
	(circled in red)	hello	N/A	N/A	N/A

Icon: [S](#) [M](#) [L](#)

[Legend](#) [RSS for all](#) [RSS for failures](#) [RSS for just latest builds](#)

Sunny = 100% success rate

Cloudy = 60% success rate

Raining = 40% success rate



Job name

[add description](#)

All

S	W	Name ↓	Last Success	Last Failure	Last Duration
		hello	N/A	N/A	N/A

Icon: [S](#) [M](#) [L](#)

[Legend](#) [RSS for all](#) [RSS for failures](#) [RSS for just latest builds](#)



Build job

[!\[\]\(c9eeb7e2f20788628e80272a2841f0be_img.jpg\) add description](#)

All [!\[\]\(b41facf15a3e2841562827ebcb83c652_img.jpg\)](#)

S	W	Name ↓	Last Success	Last Failure	Last Duration
		hello	N/A	N/A	N/A

Icon: [S](#) [M](#) [L](#)

[Legend](#)  [RSS for all](#)  [RSS for failures](#)  [RSS for just latest builds](#)



Jenkins build log

The screenshot shows the Jenkins dashboard for a job named "hello". The job status is "Success" (blue circle) and the last build duration was 0.23 seconds. A context menu is open over the "Last Success" entry for build #1, which is highlighted in blue. The menu options are:

- Changes
- Console Output
- Edit Build Information
- Delete Build

A red box highlights the "Console Output" option, which is currently selected. To the right of the menu, there are links for "SS for failures" and "RSS for just latest builds".



Console output



Console Output

Started by user [somkiat](#)

Building in workspace /Users/somkiat/data/slide/ci-cd/swpark/

Finished: SUCCESS



Jenkins Home directory



Default Jenkins Home

Manage Jenkins -> Configure System

The screenshot shows the Jenkins home page. On the left, there is a sidebar with several links: 'New Item', 'People', 'Build History', 'Manage Jenkins' (which is highlighted with a red circle labeled '1'), 'My Views', and 'Credentials'. Below the sidebar, there are two collapsed sections: 'Build Queue' (No builds in the queue) and 'Build Executor Status'. On the right, the main content area is titled 'Manage Jenkins'. It contains five items, each with an icon and a link: 'Configure System' (highlighted with a red circle labeled '2'), 'Configure Global Security', 'Configure Credentials', 'Global Tool Configuration', and 'Reload Configuration from Disk'. The 'Configure System' item also has a descriptive text below it.

Jenkins

New Item

People

Build History

1 Manage Jenkins

My Views

Credentials

Build Queue

No builds in the queue.

Build Executor Status

Manage Jenkins

2

Configure System

Configure global settings and paths.

Configure Global Security

Secure Jenkins; define who is allowed to access/use

Configure Credentials

Configure the credential providers and types

Global Tool Configuration

Configure tools, their locations and automatic instal

Reload Configuration from Disk

Discard all the loaded data in memory and reload eve



Default Jenkins Home

Jenkins configuration

New Item Home directory /Users/somkiat/data/slide/ci-cd/swpark/software/keep Advanced...

People System Message

Build History # of executors 2

Manage Jenkins Labels

My Views Usage Use this node as much as possible

Credentials Quiet period 5

Build Queue SCM checkout retry count 0

Build Executor Status Restrict project naming

Global properties

Environment variables

Save Apply

A red box highlights the "Home directory" section.



Default Jenkins Home

Jenkins configuration

New Item People Build History Manage Jenkins My Views Credentials

Build Queue: No builds in the queue.

Build Executor Status: 1 Idle, 2 Idle

System Message: [Plain text] [Preview](#)

Home directory: /Users/somkiat/data/slide/ci-cd/swpark/software/keep

Workspace Root Directory: \${JENKINS_HOME}/workspace/\${ITEM_FULLNAME}

Build Record Root Directory: \${ITEM_ROOTDIR}/builds

of executors: 2

Labels:

Usage: Use this node as much as possible

Quiet period: 5

The "Home directory", "Workspace Root Directory", and "Build Record Root Directory" fields are highlighted with a red border.



Change Jenkins's Home

For Windows

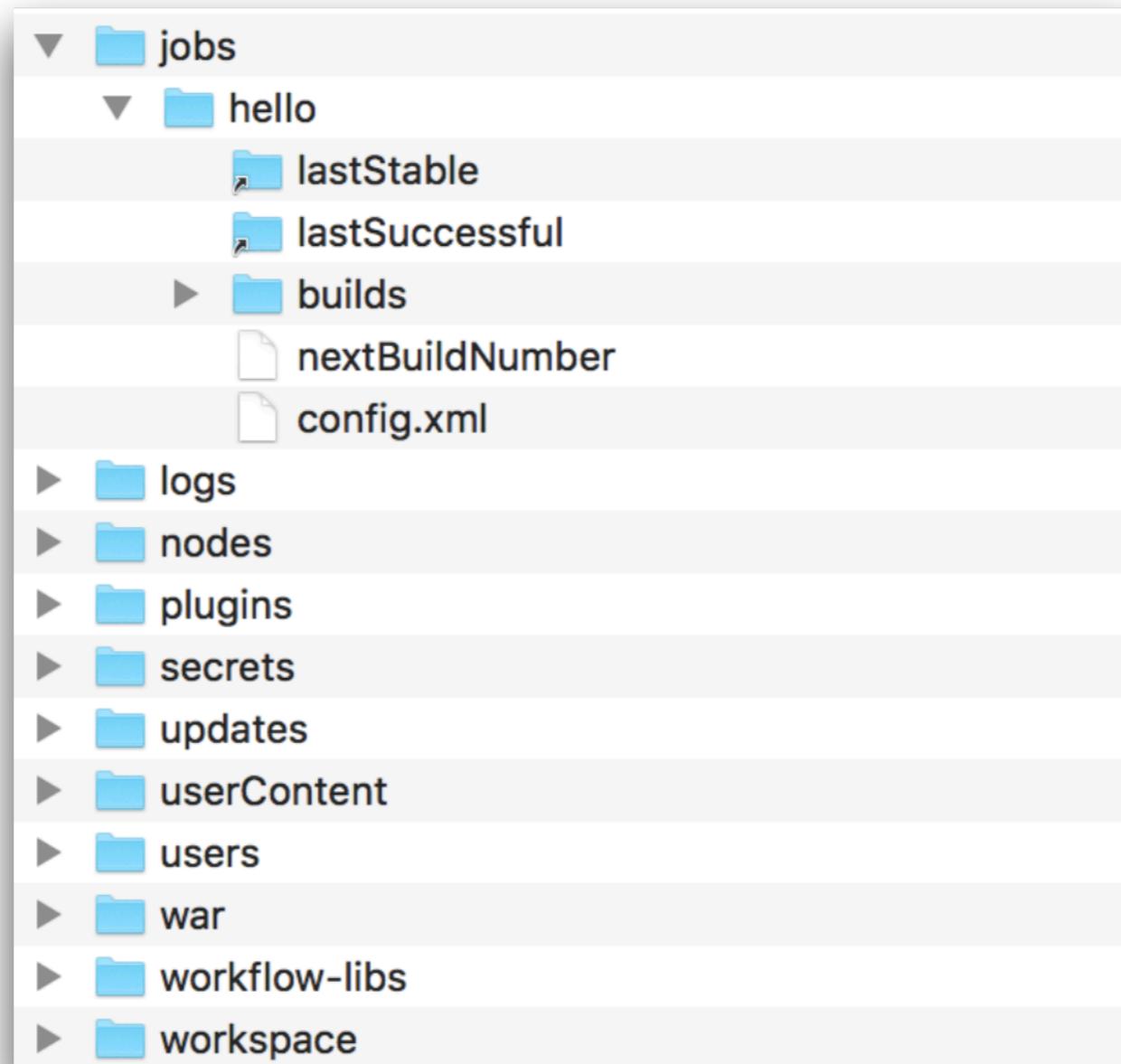
```
$set JENKINS_HOME=<your path>
```

For UNIX/MAC

```
$export JENKINS_HOME=<your path>
```



Jenkins home structure



Jenkins Job

config.xml

+ jenkins job configuration

workspace folder

+ contains the output/content of build

builds folder

+ log information of all builds



Manage & Config plugins



Jenkins Plugins

Power from plugins
+1000 community

<https://jenkins.io/doc/book/managing/plugins/>



Find your plugins



The screenshot shows the Jenkins Plugins Index page. At the top, there is a navigation bar with links: Jenkins, Blog, Documentation, Plugins (which is underlined in red), Use-cases ▾, Participate, Sub-projects ▾, and Resources ▾. Below the navigation bar is a large blue header section. On the left side of the header is a circular icon featuring a cartoon character wearing a white flight helmet and goggles, surrounded by red and grey mechanical components. To the right of the icon, the text "Plugins Index" is displayed in a large, white, sans-serif font. Below this title is a subtitle: "Discover the 1000+ community contributed Jenkins plugins to support building, deploying and automating any project." At the bottom of the blue header is a search bar with a red background. The search bar contains the text "Find plugins..." and a magnifying glass icon on the right end.

<https://plugins.jenkins.io/>



Manage Plugins

Manage Jenkins -> Manage Plugins

The screenshot shows the Jenkins Manage Jenkins interface. On the left, there's a sidebar with links: New Item, People, Build History, **Manage Jenkins**, My Views, and Credentials. The 'Manage Jenkins' link is circled with a red circle labeled '1'. Below the sidebar, there are two sections: 'Build Queue' (No builds in the queue) and 'Build Executor Status' (1 Idle, 2 Idle). On the right, under 'Manage Jenkins', there are several configuration options: Configure System, Configure Global Security, Configure Credentials, Global Tool Configuration, Reload Configuration from Disk, Manage Plugins (which is circled with a red circle labeled '2'), System Information, System Log, and Load Statistics.

Jenkins

search ? somkiat | log out

ENABLE AUTO REFRESH

New Item

People

Build History

Manage Jenkins

My Views

Credentials

Build Queue

No builds in the queue.

Build Executor Status

1 Idle

2 Idle

Configure System

Configure Global Security

Configure Credentials

Global Tool Configuration

Reload Configuration from Disk

Manage Plugins

System Information

System Log

Load Statistics



Plugin manager

Jenkins  somkiat | log out

search

Jenkins ▶ Plugin Manager

Back to Dashboard Manage Jenkins Update Center

Updates Available Installed Advanced

Install	Name ↓	Version	Installed
No updates			

Filter:

Update information obtained: 9 hr 35 min ago [Check now](#)

Select: [All](#), [None](#)

This page lists updates to the plugins you currently use.

Disabled rows are already upgraded, awaiting restart. Shaded but selectable rows are [in progress or failed](#).



Plugin manager

Filter:

Updates Available Installed Advanced

Install ↓	Name	Version
.NET Development		
CCM Plug-in	<input type="checkbox"/> This plug-in generates the trend report for CCM, an open source static code analysis program.	3.1
FxCop Runner plugin	<input type="checkbox"/>	1.1
MSBuild Plugin	<input type="checkbox"/>	1.27
MSTest plugin	<input type="checkbox"/> Generates test reports for MSTest.	0.19
MSTestRunner plugin	<input type="checkbox"/>	1.3.0
NAnt Plugin	<input type="checkbox"/>	1.4.3
NCover plugin	<input type="checkbox"/>	0.3
PowerShell plugin	<input type="checkbox"/>	1.3
Violation Comments to Bitbucket Server Plugin	<input type="checkbox"/> Finds violations reported by code analyzers and comments Bitbucket Server (or Stash) pull requests (or commits) with them.	1.50
Violations plugin	<input type="checkbox"/>	0.7.11

Install without restart Download now and install after restart Update information obtained: 9 hr 37 min ago Check now



Updated tab

List of updates for the plugins installed
on the current Jenkins instance



Available tab

List of all the plugins available
from Jenkins community



Installed tab

List of all the plugins installed
on the current Jenkins instance



Advanced tab

Configure internet settings
and update Jenkins plugins manually



Advanced tab

Updates Available Installed Advanced

HTTP Proxy Configuration

Server ?

Port ?

User name ?

Password

No Proxy Host ?

Advanced...

Submit



Advanced tab

Upload Plugin

You can upload a .hpi file to install a plugin from outside the central plugin repository.

File: Choose File No file chosen

Upload

Update Site

URL

Submit

<https://updates.jenkins-ci.org/download/plugins/>



Install Jenkins plugins



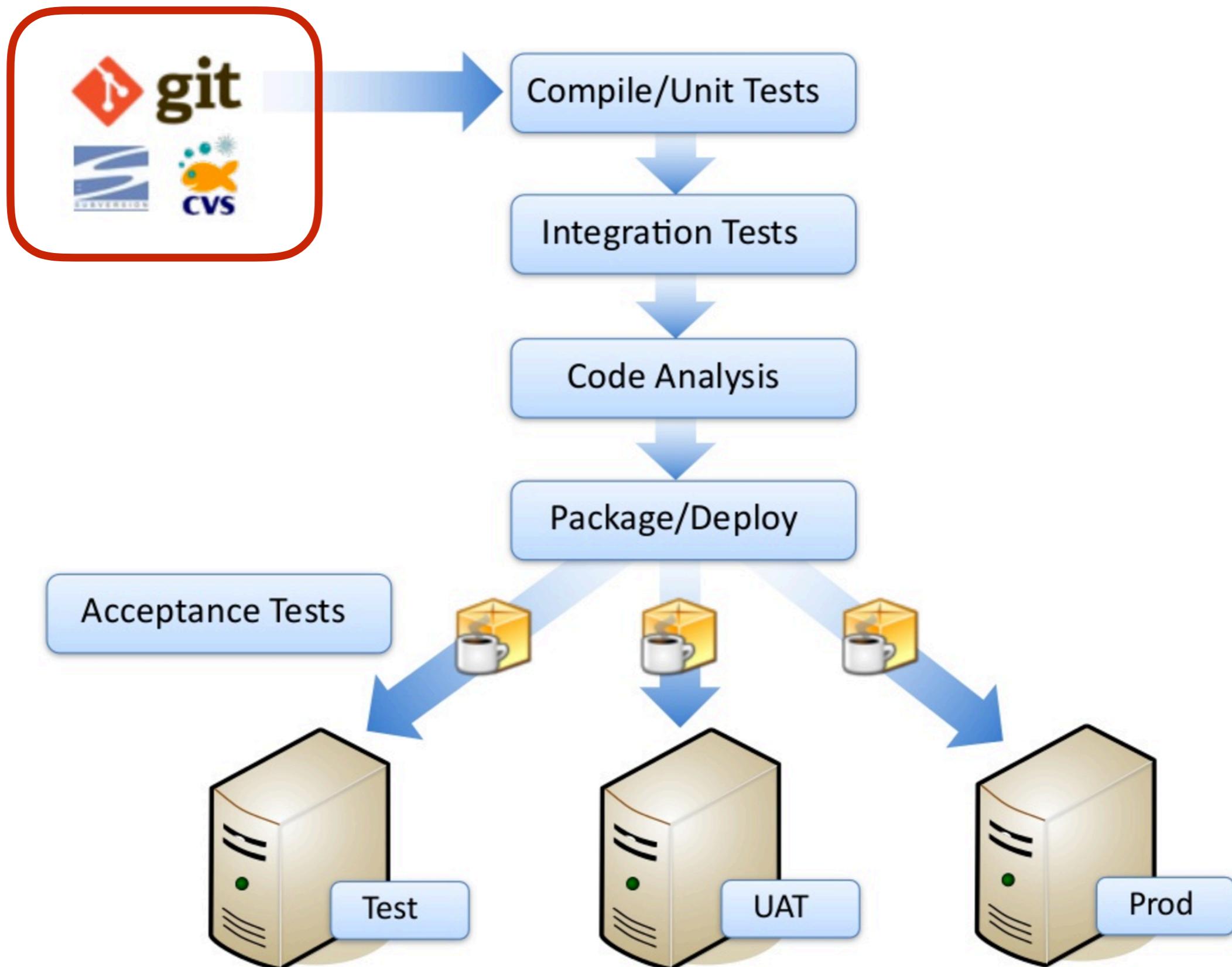
Jenkins driven by Plugins

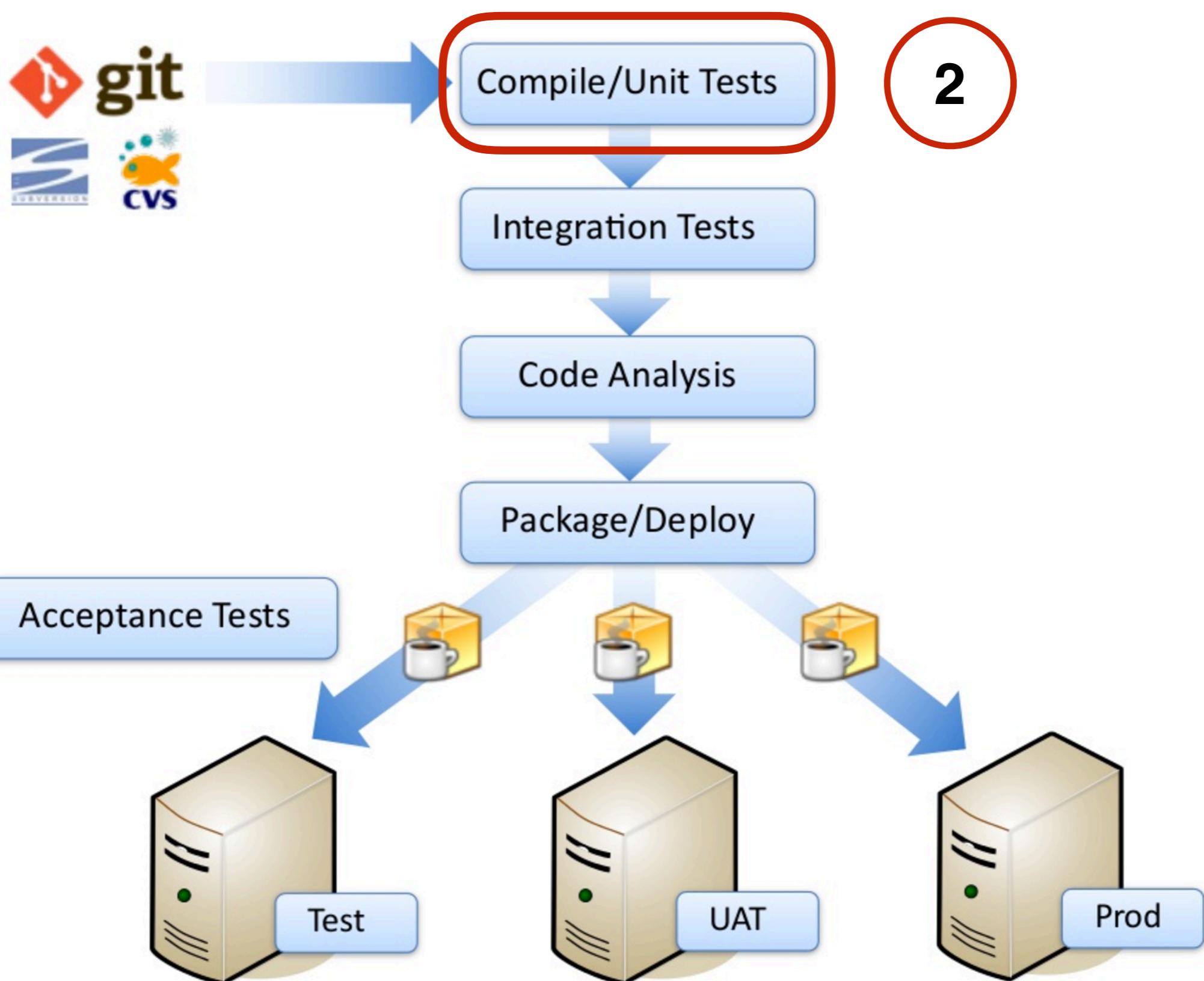


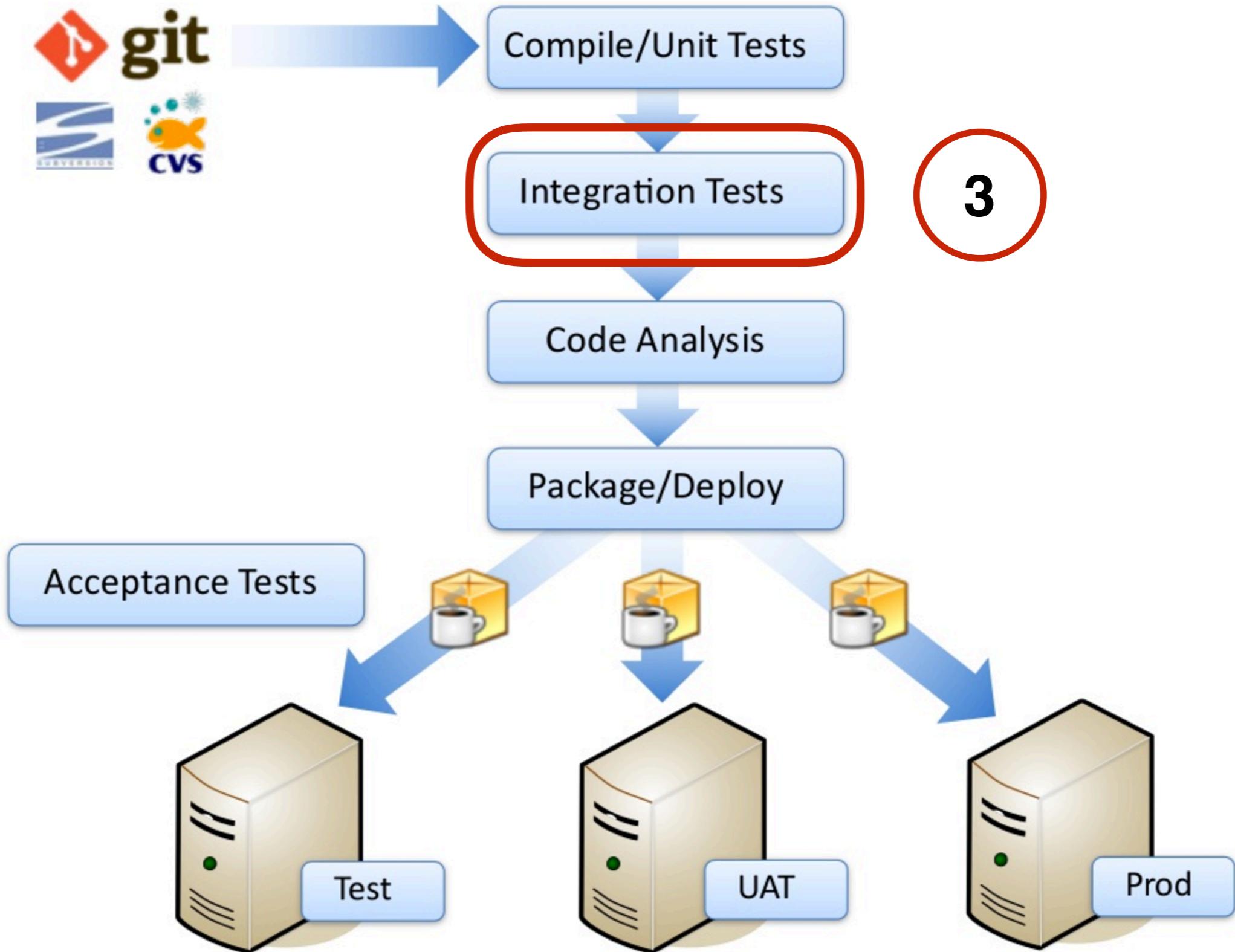
Let's start with Jenkins

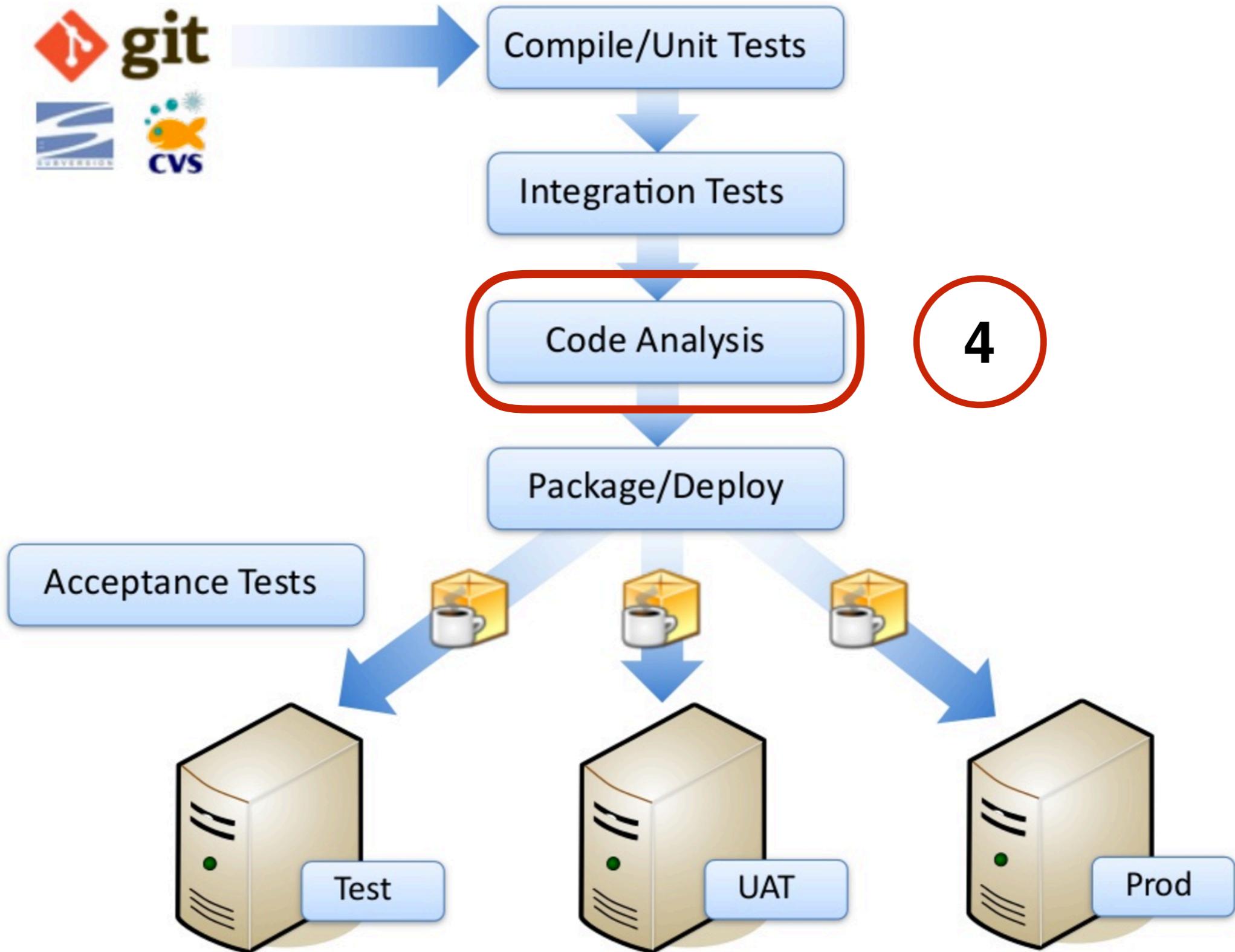


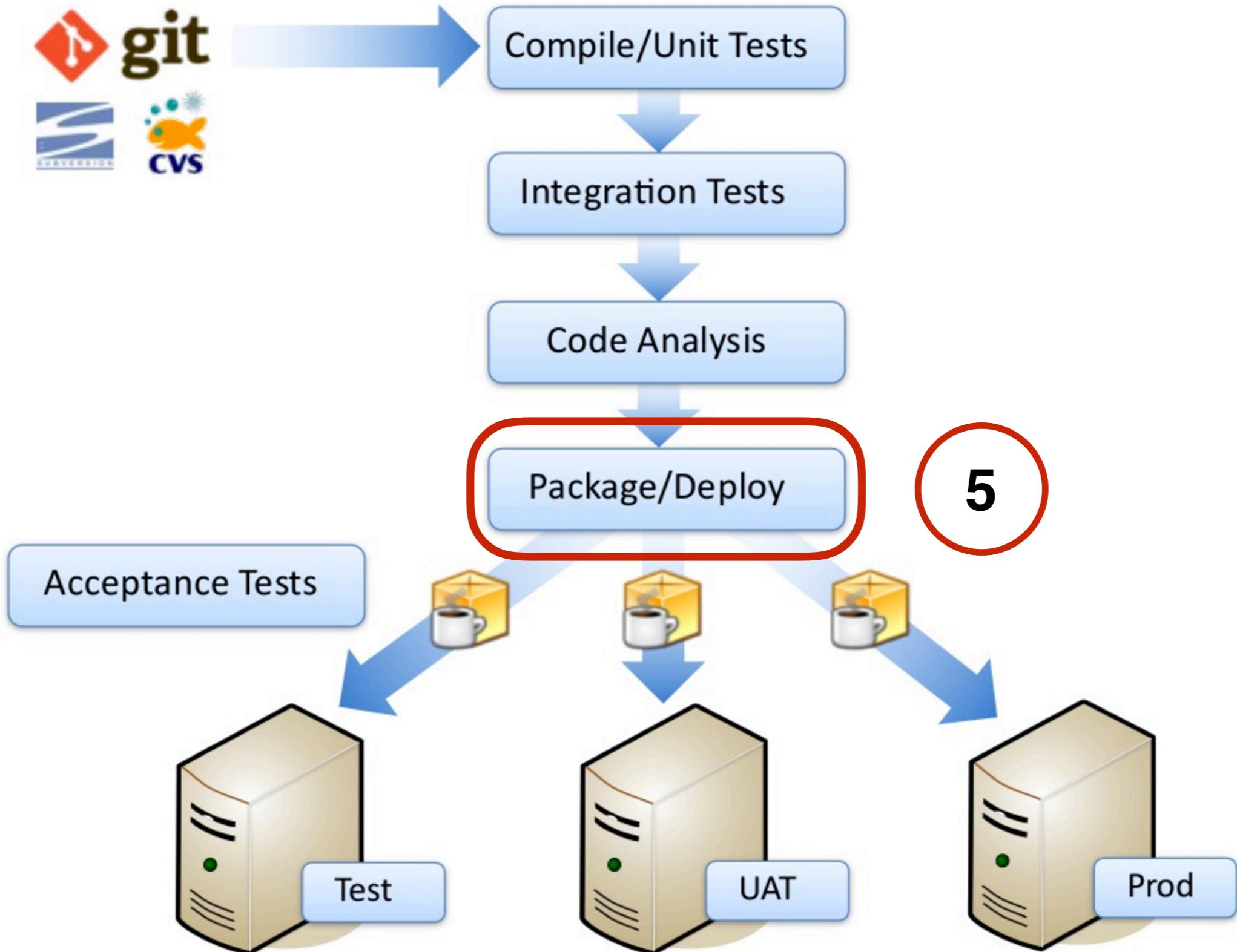
1

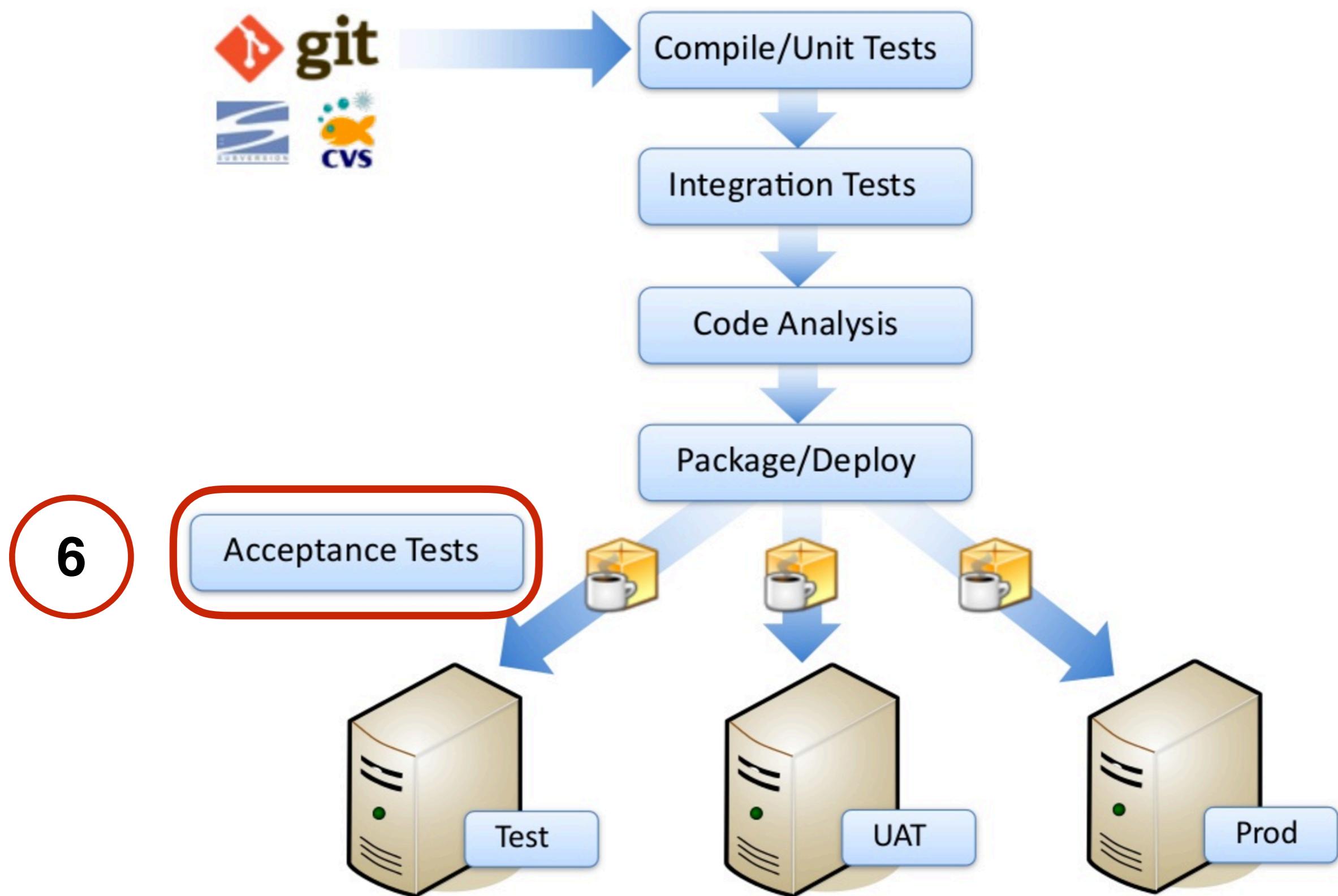


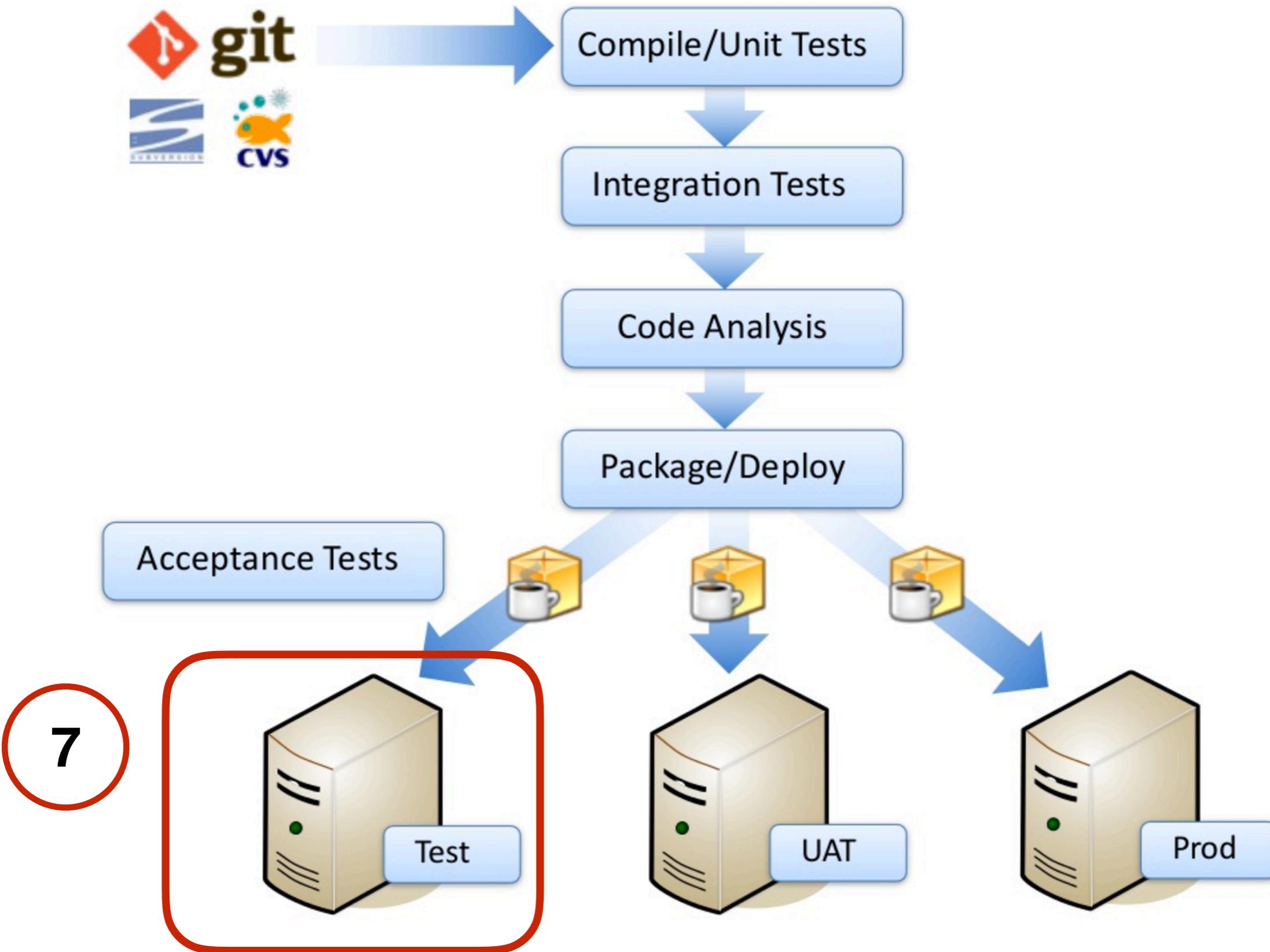


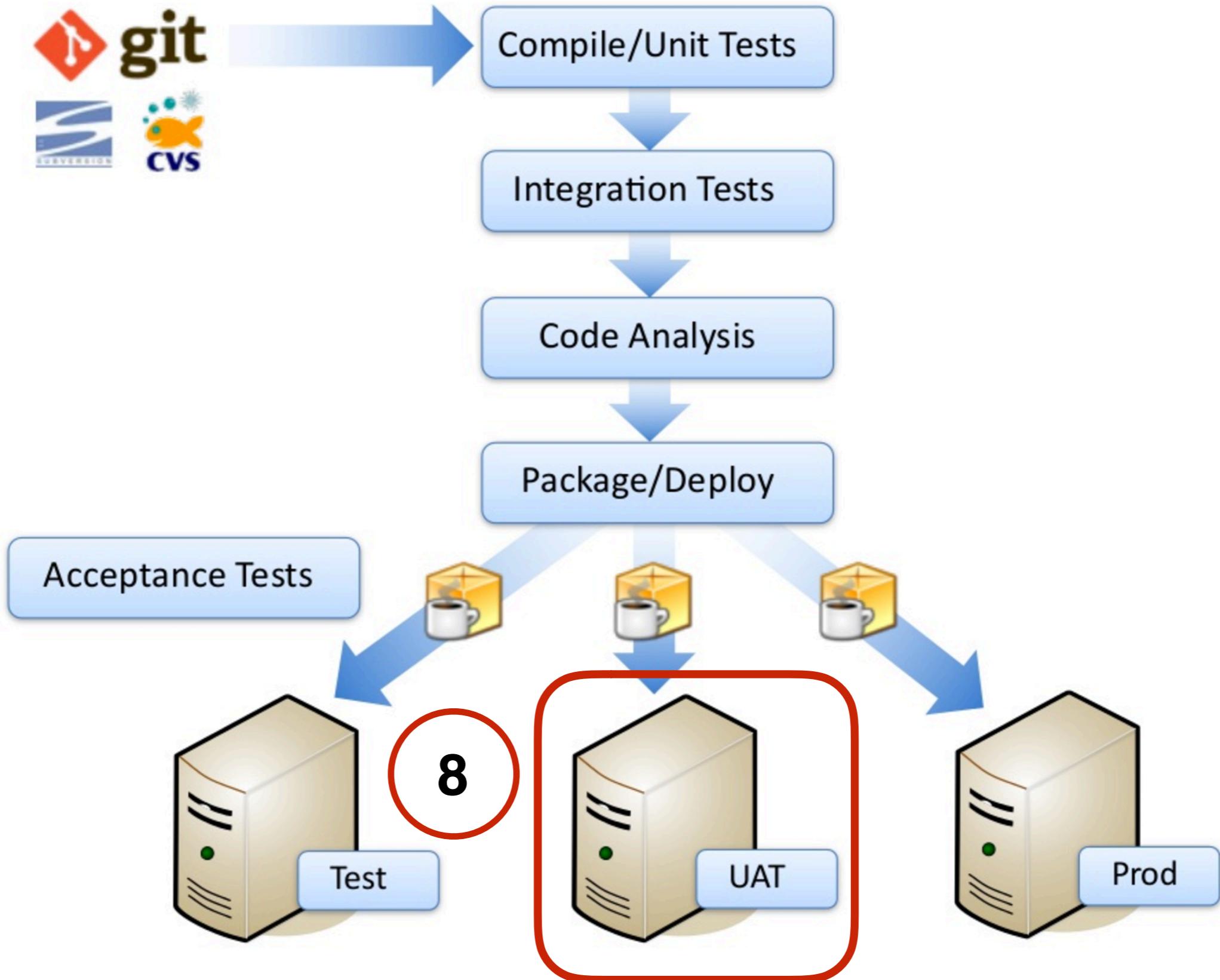


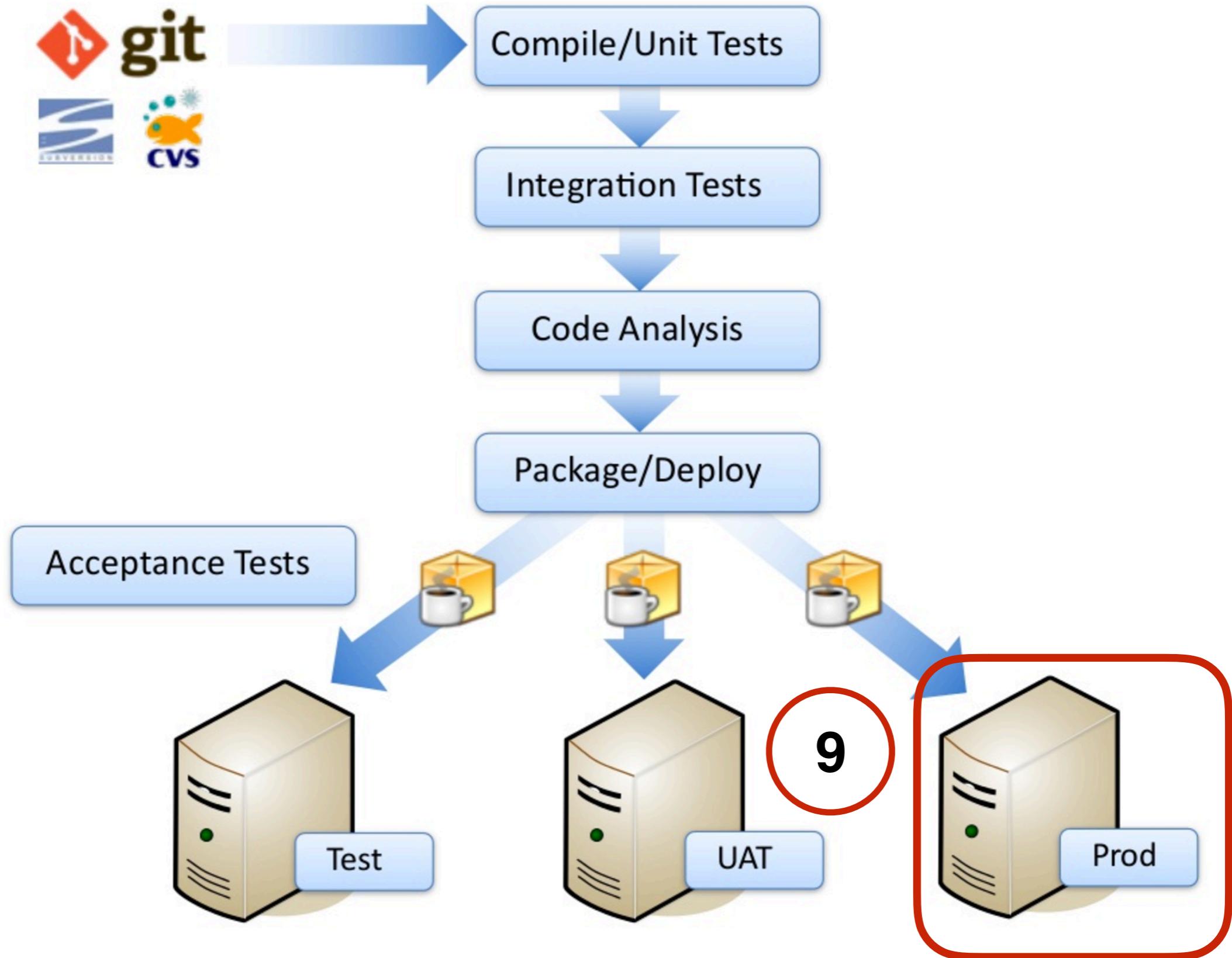












Run acceptance tests

Try to test Web UI with Robotframework



Install Robotframework

```
$pip install robotframework
```

```
$pip install robotframework-selenium2library
```



Run Robotframework

```
$pybot
```

```
[ ERROR ] Expected at least 1 argument, got 0.  
Try --help for usage information.
```



Robotframework plugin

Filter:

Updates Available Installed Advanced

Install ↓	Name	Version
<input type="checkbox"/> Robot Framework	Shows Robot Framework test results in project	1.6.4

[Install without restart](#) [Download now and install after restart](#) Update information obtained: ·



Add build step to run with Robot

Build

Execute shell

Command `pybot *.robot`

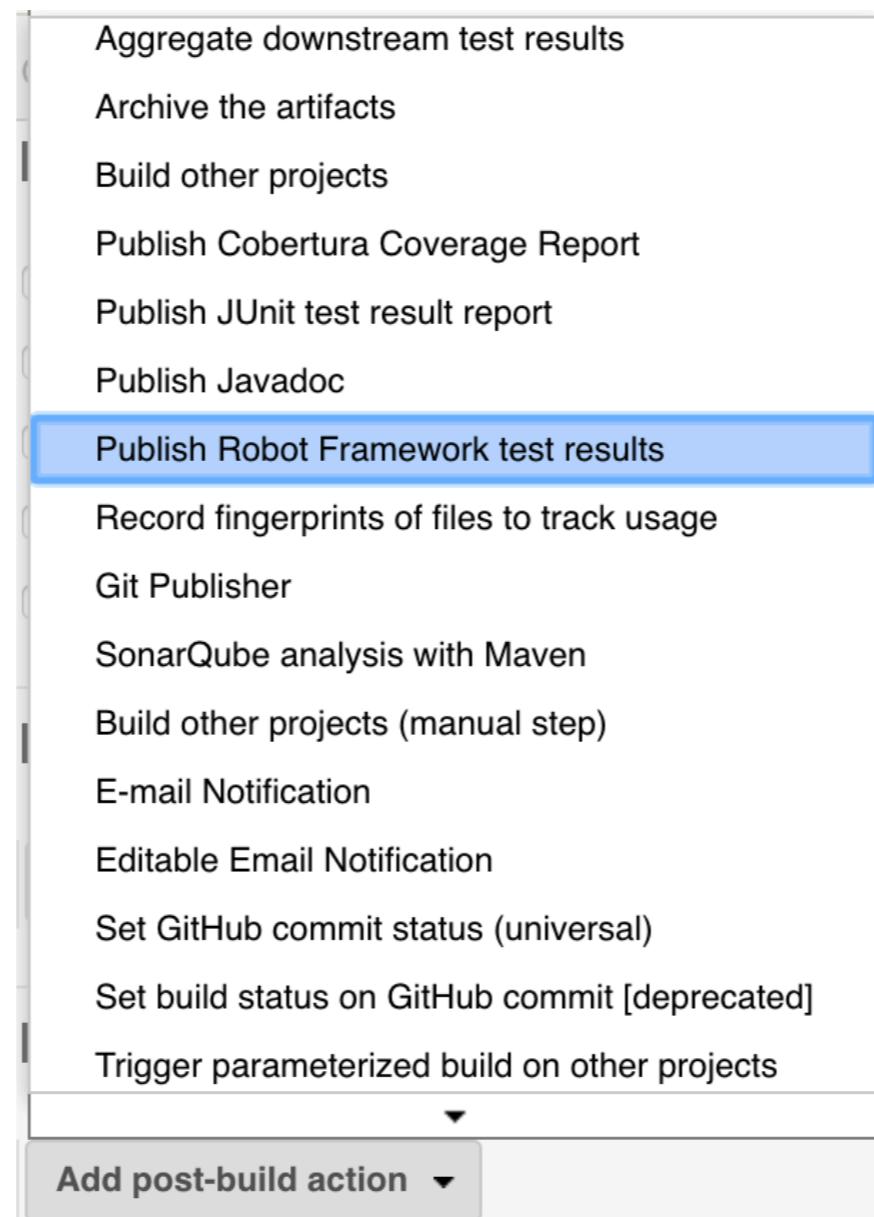
pybot *.robot

See [the list of available environment variables](#)



Add Robotframework report

Add post build action => Publish Robot Framework



Add Robotframework report

Configuration your report

Post-build Actions

Publish Robot Framework test results

Directory of Robot output

Path to directory containing robot xml and html files (relative to build workspace) Advanced...

Thresholds for build result

Yellow icon: % **Entry must be percentage value between 0-100**

Green icon: % **Entry must be percentage value between 0-100**

Use thresholds for critical tests only

Add post-build action ▾



Report

 [add description](#)

[Disable Project](#)



[Workspace](#)



[Recent Changes](#)



Latest Robot Results:

	Total	Failed	Passed	Pass %
Critical tests	1	1	0	0.0
All tests	1	1	0	0.0

- [Browse results](#)
- [Open report.html](#)
- [Open log.html](#)

Robot Framework Tests Trend (all tests)

