



Continuous Integration - Jenkins

QA Automation Certification - Week 2



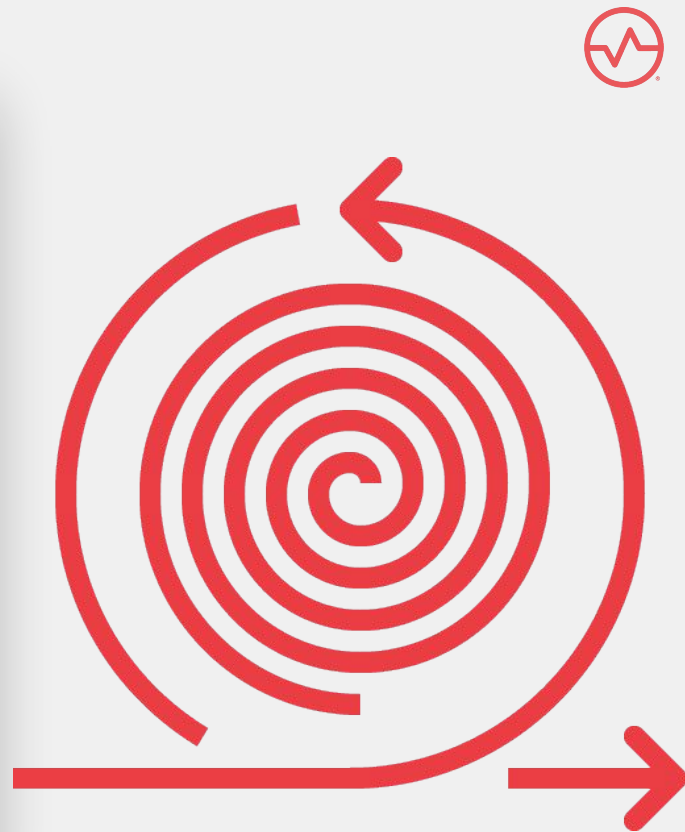
Agenda

- What is Continuous Delivery?
- Continuous Delivery Foundations
 - Comprehensive Management
 - Continuous Integration
 - Continuous Testing
- Jenkins CI
 - FrontEnd Testing Integration
 - BackEnd Testing Integration
 - Performance Testing Integration



What is Continuous Delivery?

- Continuous Delivery is the ability to get changes of all types into production, or into the hands of users safely and quickly in a sustainable way.
- It rests on three foundations: **comprehensive configuration management, continuous integration, continuous testing.**





Continuous Delivery Foundations

Configuration Management

Automation plays a vital role in ensuring we can release software **repeatedly** and **reliably**. The main purpose is to take repetitive manual processes and automate like: **builds, deployments, regression testing and infrastructure provisioning**.

Continuous Integration

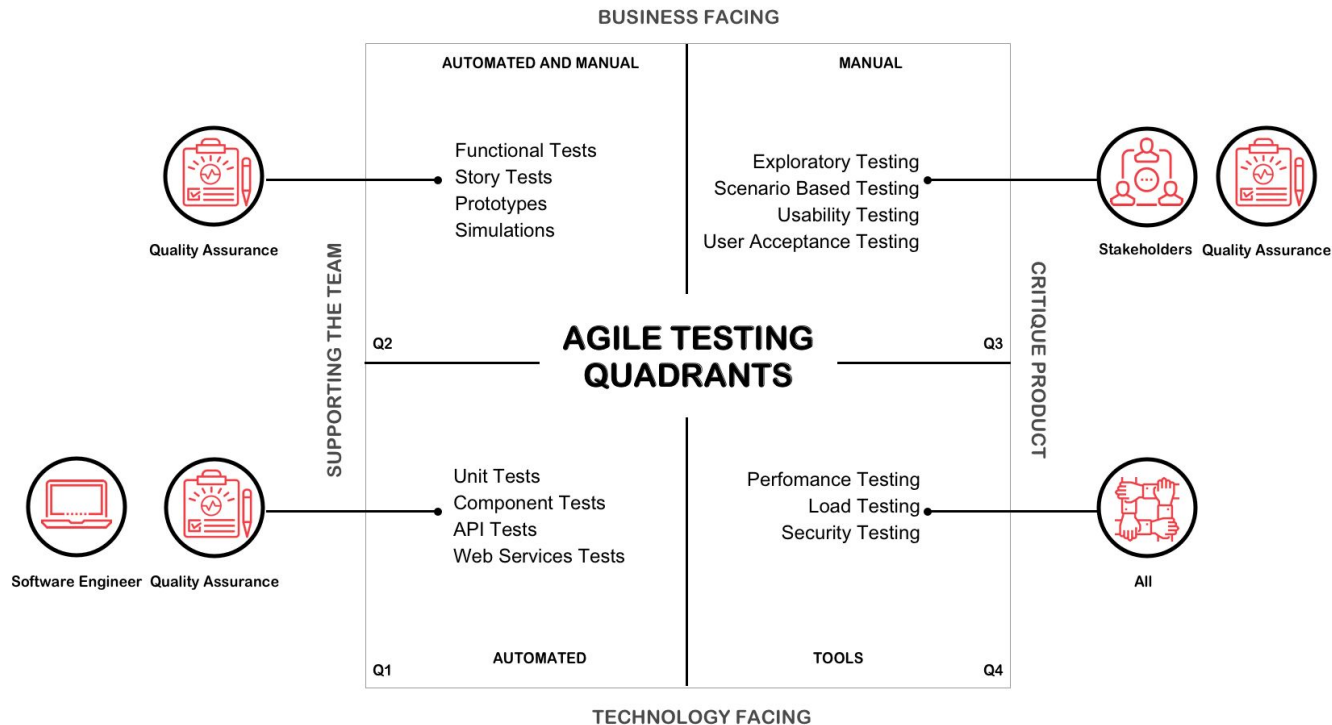
Developers integrate all their work into master (mainline) on a regular basis (at least daily). A set of **automated tests** is run before and after the merge to validate **that no regressions** are introduced. If fails, build is not valid so needs to be fixed.

Continuous Testing

In order to **build quality** in to software, we need to run many different types of tests—both **manual** and **automated—continually** throughout the delivery process. The types of tests we want to run are nicely laid out the agile quadrants diagram created by Brian Marick seen on week 1.



Agile Testing Quadrants





Jenkins Installation

Download Jenkins LTS for your OS from [here](#). Run the installer and follow the onscreen instructions. Be sure to have Java 8 installed since jenkins does not support newer versions.

Once installed it should automatically open your browser at localhost:8080 if not just run `java -jar jenkins.war` If it's the first time accessing jenkins it will ask for an admin password which was displayed during the installation. If you can't locate this password it is located in `/Users/Shared/Jenkins/Home/secrets/initialAdminPassword` in Mac and in `JENKINS_HOME/secrets/initialAdminPassword` in windows. Install the suggested plugins, define your user and password and set a jenkins URL (You can leave the default localhost:8080). Save and finish and start using jenkins.

Jenkins Installation



The screenshot shows the Jenkins web interface. At the top is a black header with the Jenkins logo (a cartoon man) and the word "Jenkins" in white. To the right of the header is a search bar with a magnifying glass icon and a question mark icon. Below the header is a yellow bar with the text "Jenkins" and a right-pointing arrow. The main content area is white. On the left side, there is a vertical navigation menu with five items: "New Item" (with a folder icon), "People" (with a group of people icon), "Build History" (with a notepad icon), "Manage Jenkins" (with a gear icon), and "My Views" (with a group of people icon). In the center of the main content area, there is a large heading "Welcome to Jenkins!" followed by a light blue box containing the text "Please **create new jobs** to get started." Below this, there are two sections: "Build Queue" and "Build Executor Status". The "Build Queue" section has a header "Build Queue" and a sub-header "No builds in the queue." The "Build Executor Status" section has a header "Build Executor Status" and a list of two items: "1 Idle" and "2 Idle".

Jenkins

search

Jenkins

New Item

People

Build History

Manage Jenkins

My Views

Welcome to Jenkins!

Please **create new jobs** to get started.

Build Queue

No builds in the queue.

Build Executor Status

- 1 Idle
- 2 Idle

Jenkins configuration



← → ↻ ⌂ ⓘ localhost:8080/configure 🔑 ☆

Jenkins > configuration

- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins
- My Views
- Credentials
- New View

Build Queue

No builds in the queue.

Build Executor Status

| | |
|---|------|
| 1 | Idle |
| 2 | Idle |

System message

[Plain text] [Preview](#)

of executors

Labels

Usage

Quiet period

SCM checkout retry count

☐ Restrict project naming

Global properties

☒ Environment variables

List of variables

| | |
|-------|------------------------------------------------------------------------------------|
| Name | <input type="text" value="PATH"/> |
| Value | <input type="text" value="/usr/lib:/usr/local/bin:/usr/bin:/bin:/usr/sbin:/sbin"/> |

[Delete](#)

[Add](#)

☐ Tool Locations

[Save](#) [Apply](#)

Jenkins credentials



localhost:8080/credentials/

Jenkins 2 search admin log out

Jenkins > Credentials

- New Item
- People
- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins
- My Views
- Credentials**
- System
- New View

Build Queue
No builds in the queue.

Build Executor Status

- 1 Idle
- 2 Idle

Credentials

| T | P | Store ↓ | Domain | ID | Name |
|---|---|-------------------------|--------------------------|------------------|----------------------------------|
| | | Jenkins | (global) | todoist-email | email |
| | | Jenkins | (global) | todoist-password | todoist-password |

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

Stores scoped to [Jenkins](#)


| P | Store ↓ | Domains |
|---|-------------------------|--------------------------|
| | Jenkins | (global) |


Jenkins Pipeline





Installing addOns

 chrome web store

 lizeth.heredia@wizeline.com ▾

 content security ... ✕

[« Home](#)

☐ Extensions

☐ Themes

Features

☐ Runs Offline

☐ By Google

☐ Free

Extensions



Disable Content-Security-P

Offered by: Phil Grayson

Disable Content-Security-Policy for w

★★★★★ 26 Developer Tools

Add to Chrome

More extensions



DEMO TIME



Thank you!

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<https://continuousdelivery.com/>