Jenkins Training

March 2016

Ground Rules for Face-to-face Classrooms

Everyone participates	Respect individual opinions and diversities
Be open and honest	Give headlines, be concise
One speaker at a time	Make language a non-issue
Stick to time contracts	Seek first to understand, and then to be understood
Clean desk / room policy	No mobile phone, No computer (except for surveys, polls etc)
Clients & Leadership are often around, please remember that	Maintain a spirit of fun and enthusiasm

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Ground Rules for Virtual Classrooms

Participate actively in each session

- Share experiences and best practices
- Bring up challenges, ask questions
- Discuss successes
- Respond to whiteboards, polls, quizzes, chat boxes
- Hang up if you need to take an urgent phone call, don't put this call on hold

Communicate professionally with others

- Mute when you're not speaking
- Wait for others to finish speaking before you speak
- Each time you speak, state your name
- Build on others' ideas and thoughts
- Disagreeing is OK –with respect and courtesy

Be on time for each virtual session

- As a best practice…be just a few minutes early!

Module at a Glance

Target Audience:	
Course Level:	*Basic*
Duration (in hours):	30 mins
Pre-requisites, if any:	NA
Post-requisites, if any:	*Submit Session Feedback*
Relevant Certifications:	None

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Learning &
Culture

Introductions (for Virtual Classrooms)

SME to provide the photos and names of the facilitators.

Business Photo

Business Photo

Facilitator
Name
Role

Moderator
Name
Role

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Learning & Culture

Agenda

1	What is Jenkins?
2	Installing Jenkins
3	Creating a Simple Job
4	Plug-ins
5	The Big Picture

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Module Objectives

What you will learn

At the end of this module, you will learn:

- What is Jenkins

What you will be able to do

At the end of this module, you be able to:

- Understand what is Jenkins

- State how to install Jenkins

- Describe how to create a Simple Job in Jenkins

- List the Plug-ins used in Maven

- Explain the big picture of Jenkins

What is Jenkins?

About Jenkins

Web Based Java Tool

Open Source

Highly Extensible

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History

Started around 2007 as Hudson

Rapid rise in popularity in 2008

2009-2010 Turmoil in the ranks

2011 The great fizzure
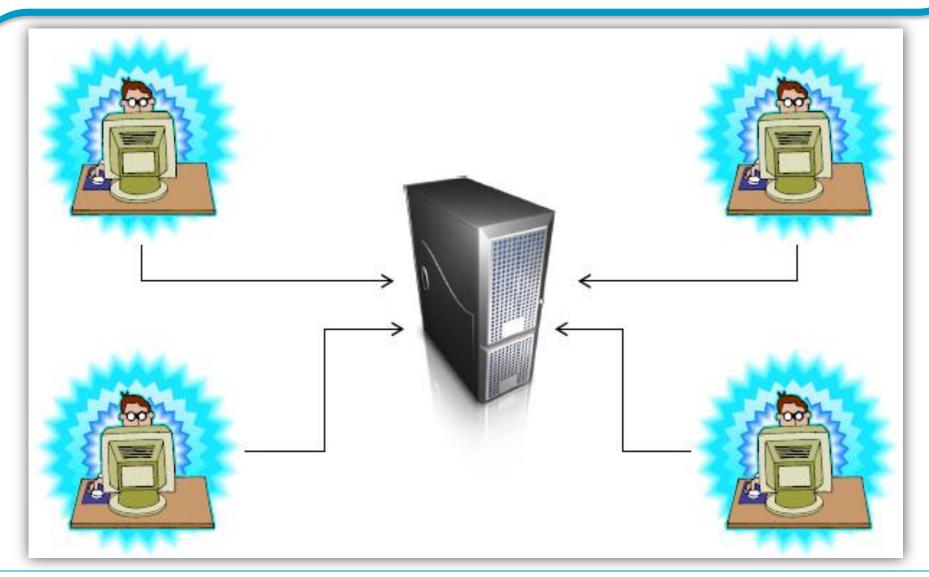
The Problem!

Integration is painful!
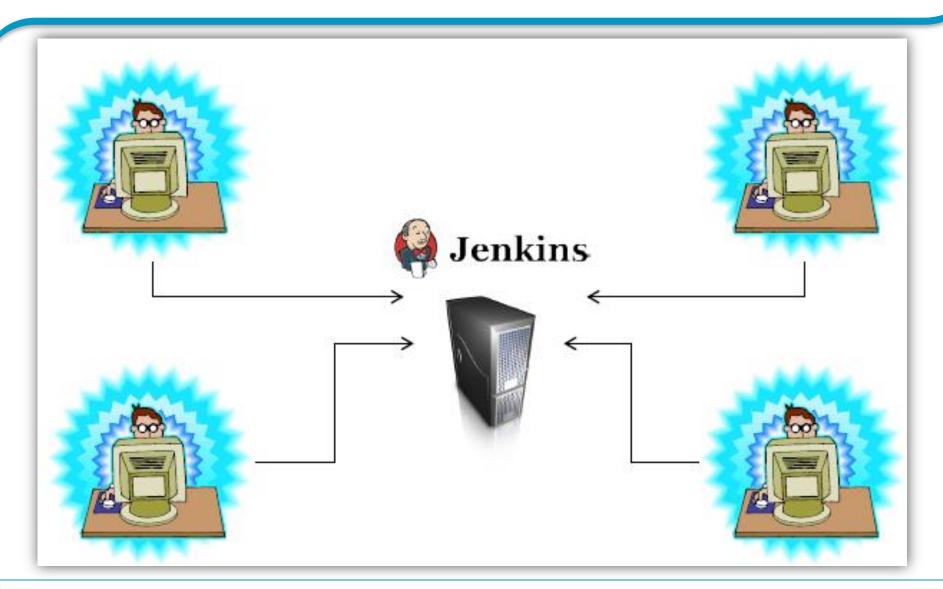
What is Continuous Integration (CI)?
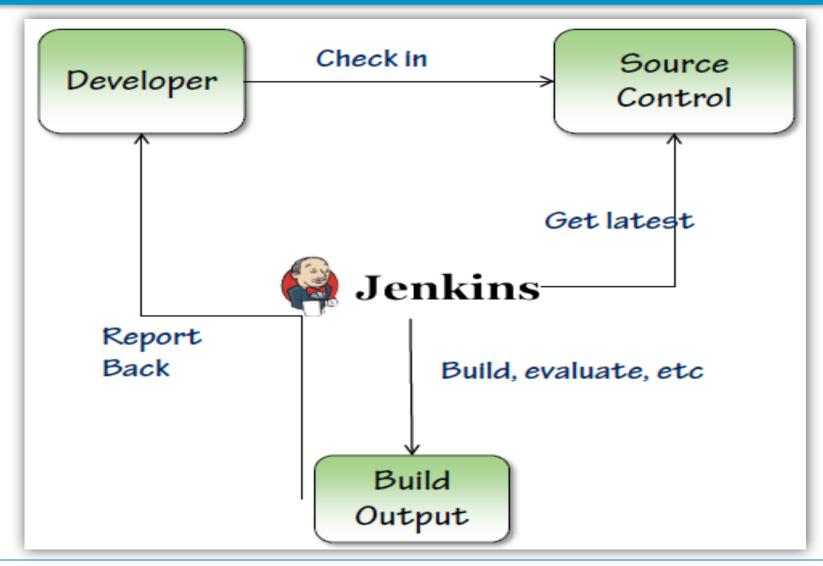
Where Jenkins Fits In

Where Jenkins Fits In (contd.)
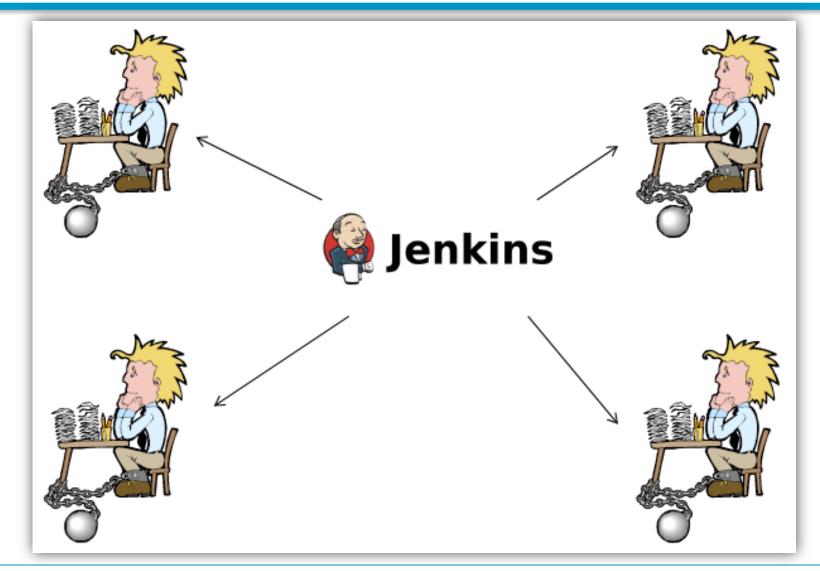
Installing Jenkins

Prerequisites

Java 1.5 or higher

Java in your path (optional, but preferred)

Web server (only if you want to host outside of Jenkins)

Nodes

Node Uses

References

Installation options

- **https://wiki.jenkins-ci.org/display/JENKINS/Starting+and+Accessing+Jenkins**

Node info
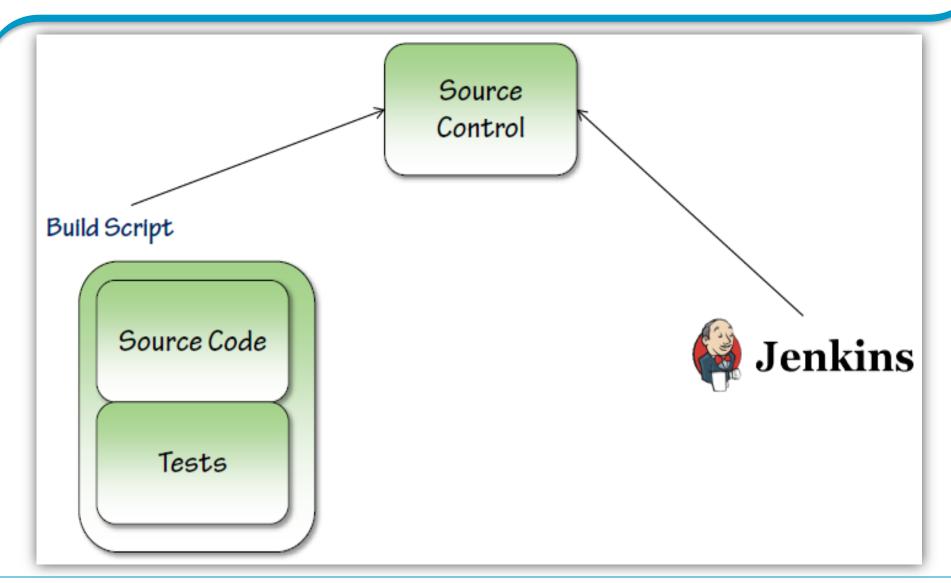
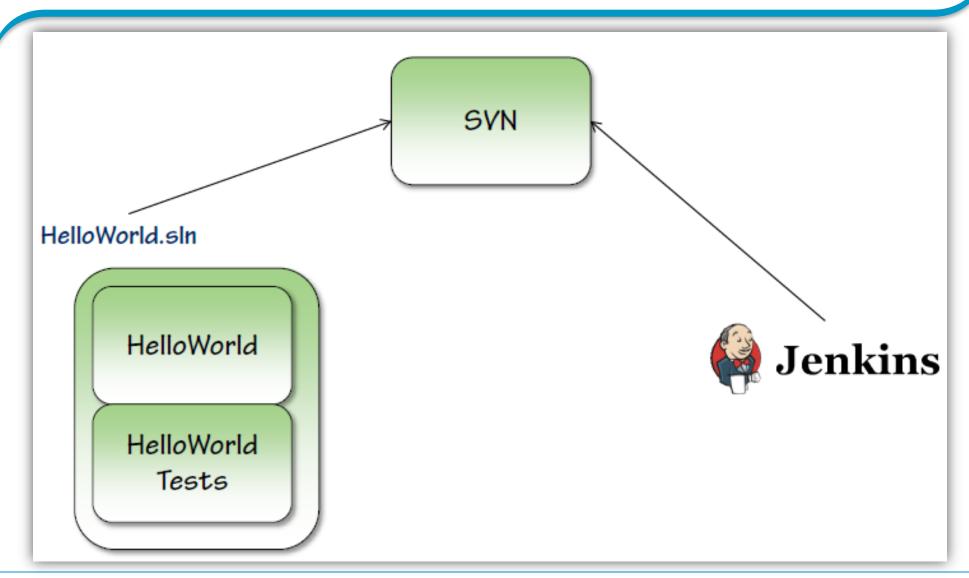- **https://wiki.jenkins-ci.org/display/JENKINS/Distributed+builds**
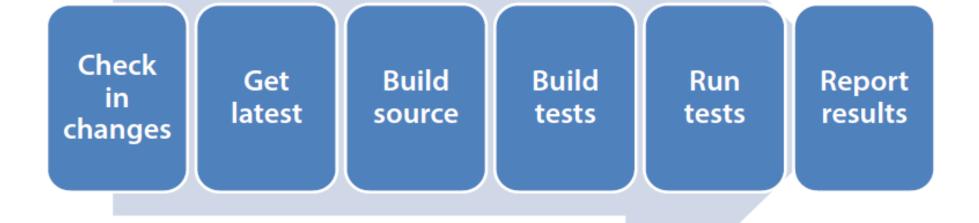
Creating a Simple Job

Our Project

Our Project (contd.)

Our Build Process

Moving to Jenkins

Diagram manual process.

Follow manual steps.

Get most basic automation working.

Add each step.

Never leave the build in a failed state.
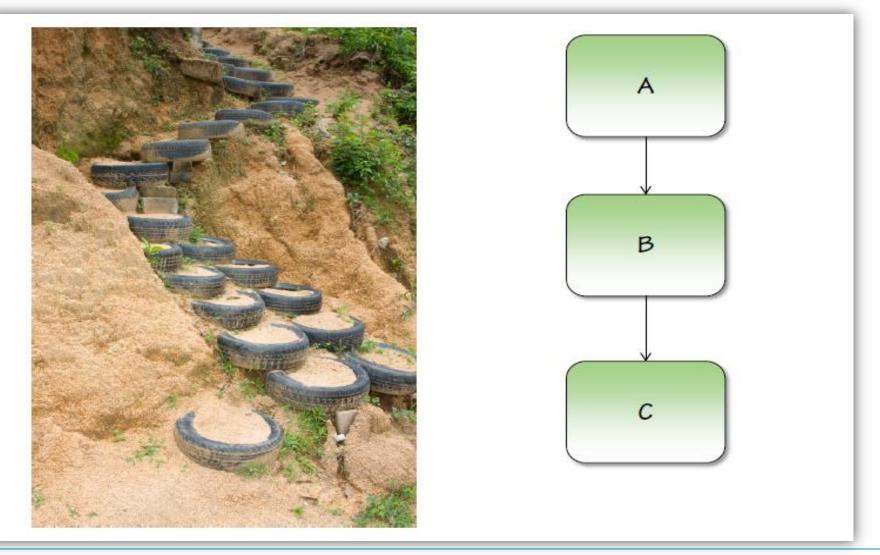
Build Triggers

After other projects

Periodically

Poll source control
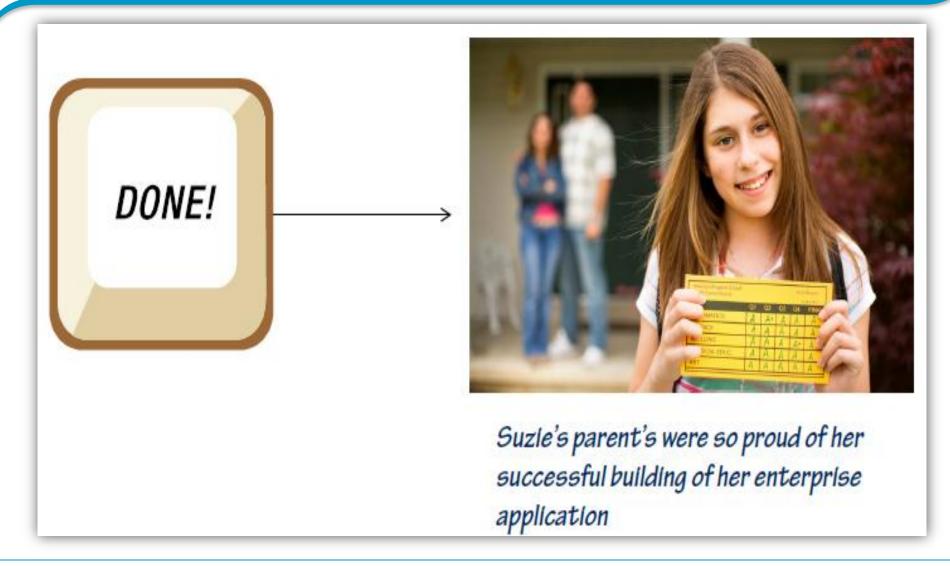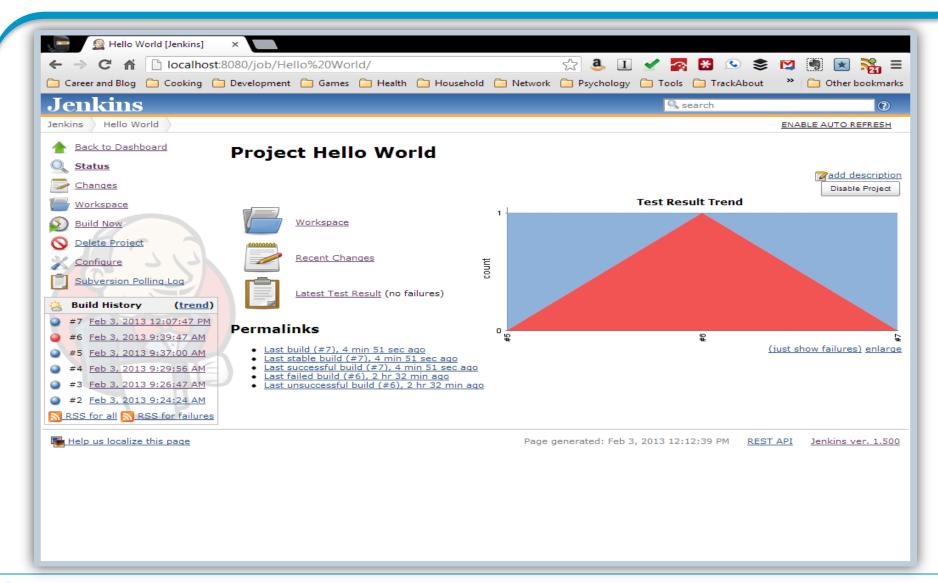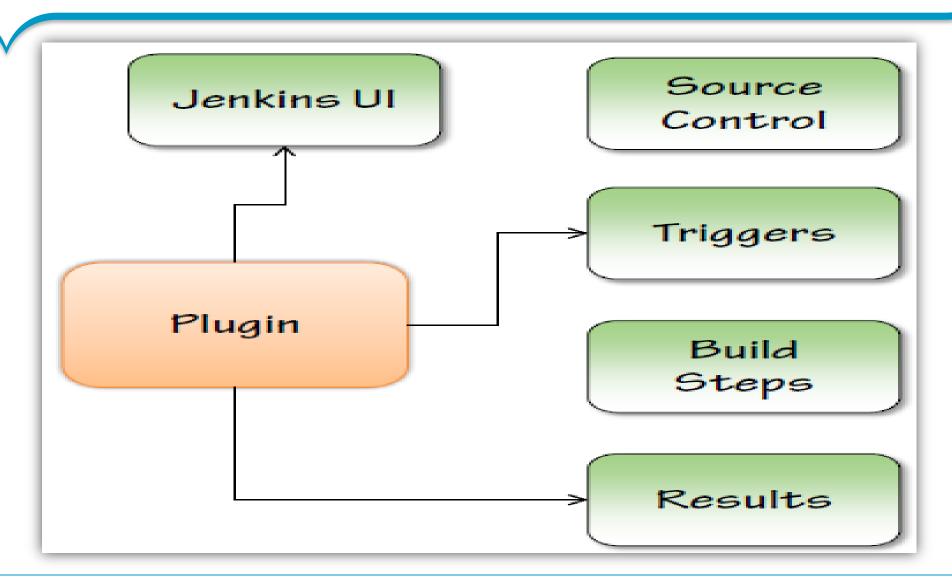
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Build Steps

Post Build Actions

DONE!

Suzie's parent's were so proud of her successful building of her enterprise application

Summary

Plug-ins

Plug-in Architecture

Useful Plug-ins Overview

Source Code

Git

Mecurial

TFS

Triggers

Github Pull Request

Join

Locks and Latches

Build Tools

- **Copy artifacts**
- **Fitness**
- **MSBuild**
- **MSTest Runner**
- **NAnt**
- **Powershell**
- **Promoted Builds**

Wrappers

Selenium RC

VMWare

VirtualBox

Notifiers

Hipchat

IRC

Twitter

Jabber

Reporting

- **Cobertura**
- **Findbugs**
- **MSTest**
- **NCover**
- **PMD**

Artifacts / UI

Artifact deployer

Deploy

Chuck Norris

Emotional Jenkins

Claim

CI Game

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Summary

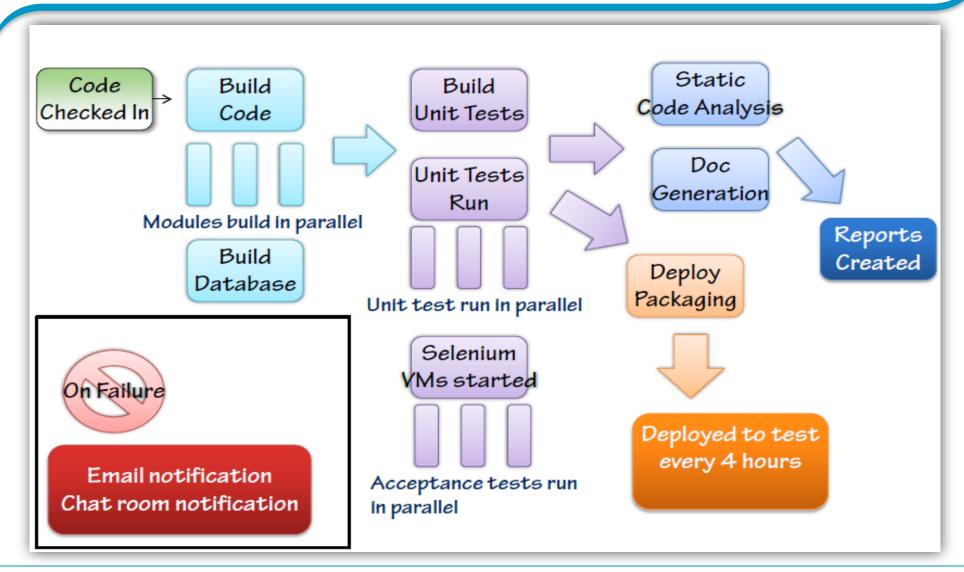|	
Jenkins Wiki	• **Extend Jenkins: https://wiki.jenkins-ci.org/display/JENKINS/Extend+Jenkins** • **Plugin List: https://wiki.jenkins-ci.org/display/JENKINS/Plugins**
MSBuild	• **https://wiki.jenkins-ci.org/display/JENKINS/MSBuild+Plugin**
MSTest	• **http://msdn.microsoft.com/en-us/library/ms182486.aspx**

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The Big Picture

The Flow

Areas of Discipline

Unit Testing

Test Coverage

Acceptance Testing

Code Quality Metrics

Notifications

Documentation

Deployments

Unit Testing

- **Depends on source code being built**
- **Never let them fail**
- **Keep them unit size**
- **Keep them short**

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Test Coverage

- **Coverage doesn't mean quality!**
- **Perhaps fail the build.**

Acceptance Testing

Acceptance Testing

Can be slow.

Takes serious effort.

Blog series:

- **http://simpleprogrammer.com/getting-up-to-bat-series/**

Code Quality Metrics

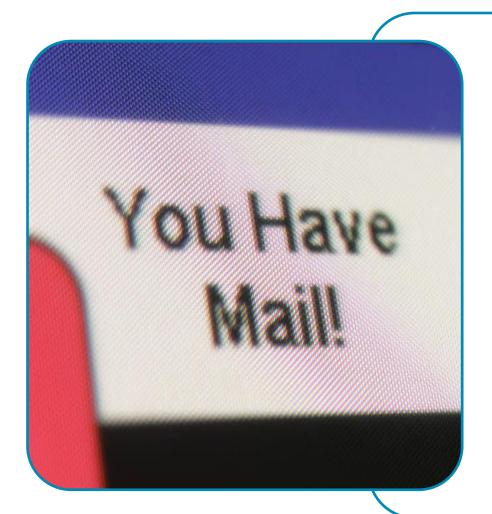**Static Analysis**

Java Tools
- PMD
- FindBugs

.NET Tools
- FxCop
- StyleCop

Set a threshold
- Things should not get worse.

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Notifications

- Make failures known
- **Don't false fail**
- **Multiple channels**
- **Analyze failures**

Documentation

- **Source code doc generators**
- **Help file generation**
- **API documentation**

Deployments

Jenkins is great for deploying

Periodic deployments

Manual deployments

Reporting built in

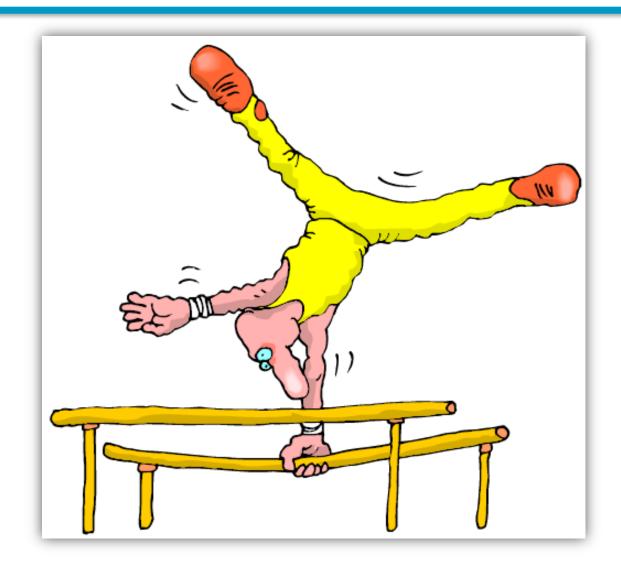# Growing

Parallelization is Key

VMs are Your Friend

To the Cloud!

![Capgemini — Consulting. Technology. Outsourcing] People matter, results count.
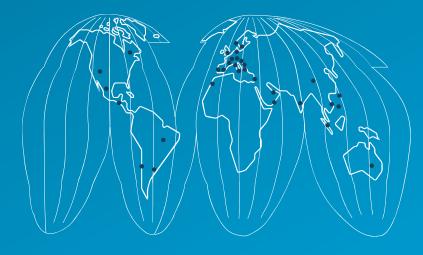
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