

If you havent done this already,

Go to your bootcamp code folder:

- cd sydneyTestersBootcamp/
- cd 03_ContinuousIntegration/

Go to CI_Server folder and start VM:

- cd CI_Server/
- vagrant up

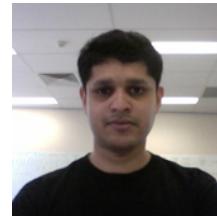
Test if it is up:

- vagrant ssh
- java –version

Repeat for the CI_Agent folder

Create account at Heroku.com and activate it

Continuous Integration



Hans Dushanthakumar
hans@thoughtworks.com



Alejandro Sanchez
sisalex@hotmail.com



Leo Salazar
[lSalazar@thoughtworks.com](mailto:lsalazar@thoughtworks.com)

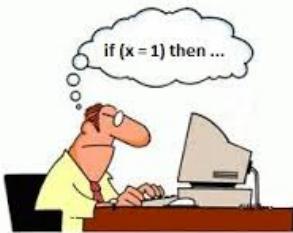
Agenda

- **Continuous Integration Intro**
- **Installing Jenkins server**
- **Configuring Jenkins**
- **Deployment using Jenkins**

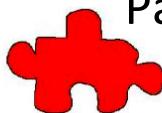


Jenkins

Development process



Feature 1



Feature 2,
Part 1



Feature 2,
Part 2

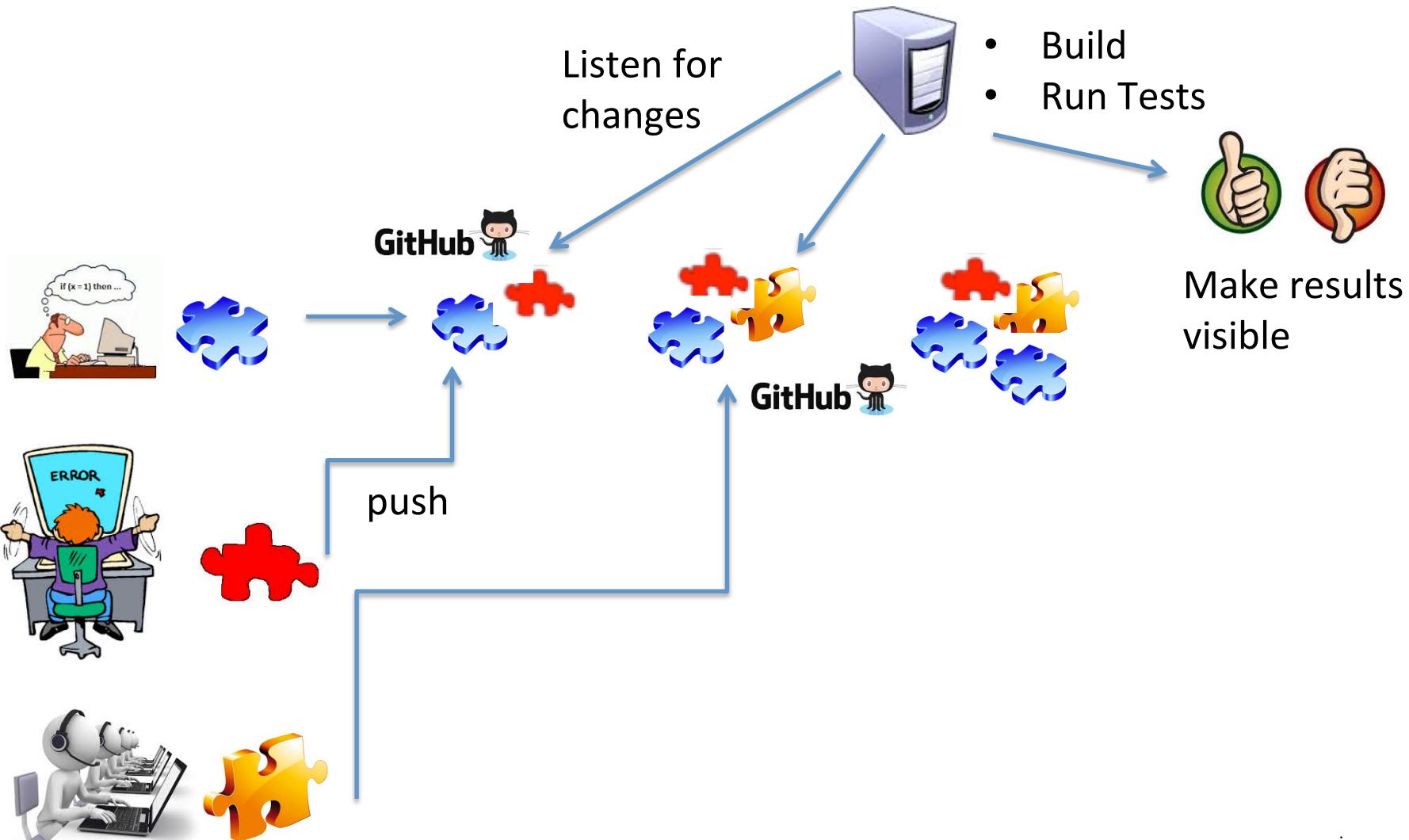


Merge

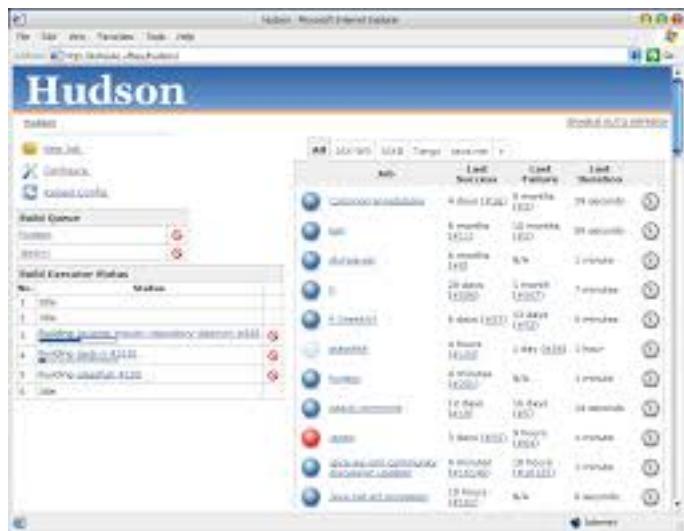


Integration
Test

Development process with CI



Jenkins



Overview

- **Install Jenkins on a VM (Centos Linux)**
- **Install plug ins**
- **Configuration of the Server**
- **Create a Job to watch a Git Repository and Start the test on change**

Start your VMs

Go to your bootcamp code folder:

- cd sydneyTestersBootcamp/
- cd 03_ContinuousIntegration/

Go to CI_Server folder and start VM:

- cd CI_Server/
- vagrant up

Test if it is up:

- vagrant ssh
- java –version

Repeat for the CI_Agent folder

Installation

Installation:

- sudo yum install jenkins

Installation from local installer:

- sudo rpm -i /Installers/jenkins....rpm

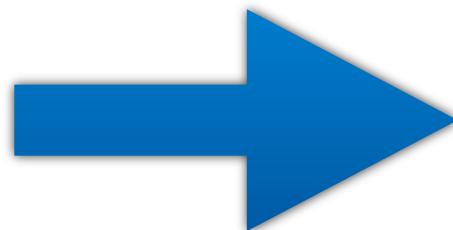
Start/Stop Jenkins service:

- sudo service jenkins start

Access jenkins server from host machine:

- <http://localhost:9080>

Configuring Jenkins Server: Jobs



Jenkins

log in search

ENABLE AUTO REFRESH

All All Disabled All Failed Infrastructure Jenkins core Libraries Other Projects

S	W	Name	Last Success	Last Failure	Last Duration	LC
●	●	core_selenium-test	N/A	1 yr 10 mo - #18	12 min	■
●	●	jenkins_its_branch	13 days - #183	2 mo 20 days - #170	33 min	■
●	●	jenkins_main_maven-3.1.0	1 yr 1 mo - #7	1 yr 1 mo - #6	1 hr 11 min	■
●	●	jenkins_main_trunk	2 days 17 hr - #3693	N/A	57 min	■
●	●	jenkins_pom	13 days - #261	N/A	40 sec	■
●	●	jenkins_rc_branch	6 days 3 hr - #461	4 mo 2 days - #424	35 min	■
●	●	jenkins_ui-changes_branch	2 yr 3 mo - #32	1 yr 11 mo - #33	4 min 55 sec	■
●	●	remoting	1 yr 3 mo - #4	1 yr 3 mo - #3	6 min 19 sec	■
●	●	selenium-tests	N/A	1 yr 10 mo - #11	22 sec	■

Icon: S M L

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

Jenkins > All Disabled > infra_main_svn_to_git > configuration

Project name: infra_main_svn_to_git

Description:

[Raw HTML] Preview

Discard Old Builds

Strategy:

Build History (trend) →

#351 Nov 21, 2010 12:01:51 PM 452kB
#350 Nov 20, 2010 7:46:39 AM 452kB
#349 Nov 19, 2010 9:46:54 PM 452kB
#348 Nov 19, 2010 8:17:51 PM 452kB
#347 Nov 19, 2010 7:46:35 PM 453kB
#346 Nov 19, 2010 4:02:18 PM 453kB
#345 Nov 19, 2010 3:12:27 PM 453kB
#344 Nov 19, 2010 12:45:50 PM 460kB
#343 Nov 19, 2010 12:43:16 PM 7KB
#342 Nov 19, 2010 12:40:11 PM 7KB
#341 Nov 19, 2010 12:06:04 PM 553kB
#340 Nov 17, 2010 6:19:08 PM 7KB
#339 Nov 17, 2010 3:17:19 PM 7KB
#338 Nov 17, 2010 1:22:25 PM 7KB
#337 Nov 16, 2010 6:46:59 PM 7KB
#336 Nov 16, 2010 9:32:45 PM 7KB
#335 Nov 15, 2010 8:32:45 PM 7KB
#334 Nov 15, 2010 8:02:37 PM 7KB
#333 Nov 15, 2010 7:54:50 PM 7KB
#332 Nov 15, 2010 6:48:17 PM 9KB
#331 Nov 15, 2010 4:47:03 PM 6KB
#330 Nov 14, 2010 10:32:08 AM 7KB
#329 Nov 13, 2010 9:46:54 PM 7KB
#328 Nov 13, 2010 8:31:43 PM 8KB
#327 Nov 13, 2010 5:46:37 AM 7KB
#326 Nov 11, 2010 12:02:19 PM 7KB
#325 Nov 11, 2010 10:17:07 AM 7KB
#324 Nov 11, 2010 3:04:49 PM 7KB
#323 Nov 10, 2010 11:04:34 AM 7KB
#322 Nov 10, 2010 9:46:48 PM 7KB
#321 Nov 9, 2010 3:47:29 PM 7KB

Enable project-based security GitHub project

This build is parameterized

Throttle Concurrent Builds

Disable Build (No new builds will be executed until the project is re-enabled.)

Execute concurrent builds if necessary JDK (Default)

Restrict where this project can be run Label Expression apb

There's no slave/cloud that matches this assignment. Did you mean 'rhel' instead of 'apb'?

Advanced Project Options

Source Code Management

CVS CVS Projectset Git None Subversion

Repository URL: https://hudson.dev.java.net/evn/hudson/m/

Local module directory (optional):

Repository depth: infinity

Ignore externals:

Add more locations...

Check-out Strategy: Use 'svn update' as much as possible

Repository browser: (Auto)

Things to configure

- **Code Repository to watch**
 - <https://github.com/SydneyTestersBootcamp/QuickQuoteCi.git>
- **Trigger (ie when to build)**
 - * * * * *
- **Build Steps (ie how to build)**
 - bundle install –path ./
 - Bundle exec rake
- **Post Build Actions**

Jenkins Plugins

- **Git Plugin**



Source Code Management

- None
- CVS
- CVS Projectset
- Git

Repositories

Repository URL

<https://github.com/SydneyTestersBootcamp/QuickQuoteCi.git>

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Things to configure

- **Code Repository to watch**
 - <https://github.com/SydneyTestersBootcamp/QuickQuoteCi.git>
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 - Bundle exec rake
- **Post Build Actions**

Demo:

- **Make a change to the repo**
- **Watch the tests run**

Jenkins Plugins: Cucumber

Passed

(from View Premium for Quote)

- 001 **Feature** View Premium for Quote
- 003 **Scenario** View correct premium for different combinations of age, gender, state etc
- 004 **Given** I am on the SydneyTesters Car Insurance page
- 005 **When** I submit my details age: '23', gender: 'male', state: 'New South Wales' & car make: 'BMW' for a car insurance quote
- 006 **Then** I should see the correct premium '\$55.54' shown
- 007 **And** when I purchase it with my credit card
- 008 **Then** I should see a 'Payment Sucessful' message



Cucumber Test Result Plugin

results/cucumber.json

Jenkins Plugins: Code Coverage

Rcov coverage report

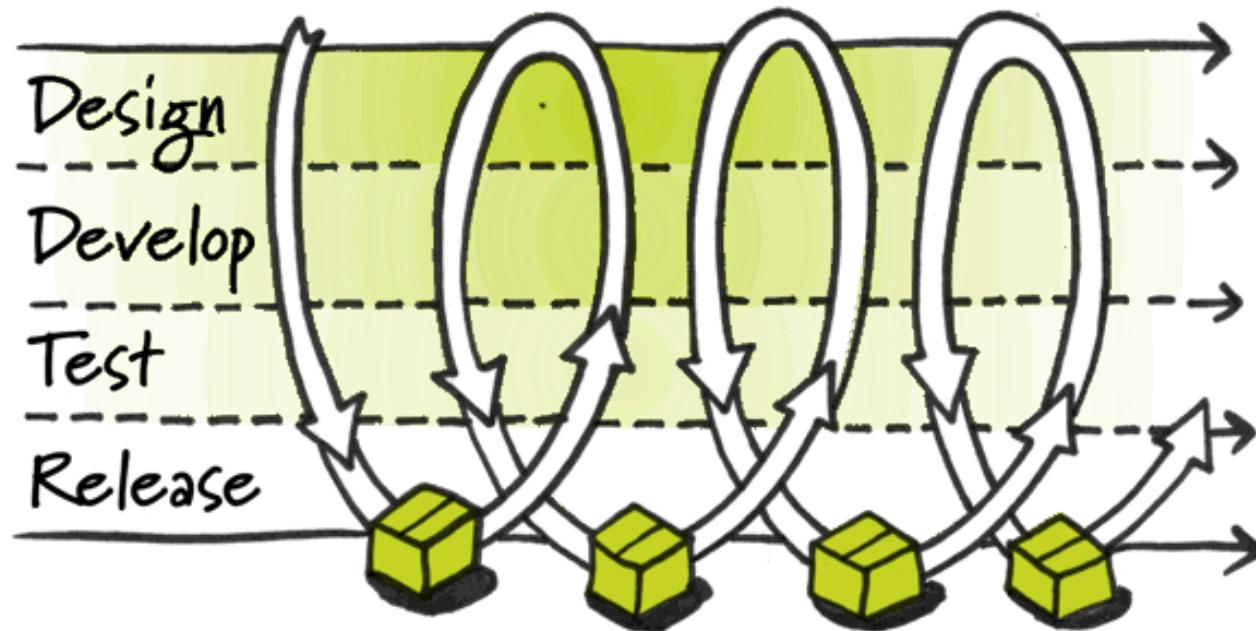
Name	Total lines	Lines of code	Total coverage	Code coverage
TOTAL	219	134	97.26%	<div style="width: 97.26%; background-color: green; height: 10px;"></div> 95.52%
app.rb	99	64	94.95%	<div style="width: 94.95%; background-color: green; height: 10px;"></div> 92.19%
lib/carPremiumCalculator.rb	15	9	100.00%	<div style="width: 100%; background-color: green; height: 10px;"></div> 100.00%
lib/carQuote.rb	25	16	100.00%	<div style="width: 100%; background-color: green; height: 10px;"></div> 100.00%
lib/emailValidator.rb	11	4	100.00%	<div style="width: 100%; background-color: green; height: 10px;"></div> 100.00%
lib/lifePremiumCalculator.rb	15	9	100.00%	<div style="width: 100%; background-color: green; height: 10px;"></div> 100.00%
lib/lifeQuote.rb	24	15	100.00%	<div style="width: 100%; background-color: green; height: 10px;"></div> 100.00%
lib/quote.rb	30	17	96.67%	<div style="width: 96.67%; background-color: green; height: 10px;"></div> 94.12%



RubyMetrics plugin

coverage/rcov

Deployment to Test Environment



Build/Deploy Pipelines



Deploy to Heroku

The image shows a screenshot of a web browser displaying the Heroku homepage. The browser window title is "Heroku | Cloud Application". The address bar shows "Heroku, Inc. [US] https://www.heroku.com". The page has a dark purple header with the Heroku logo and navigation links for Features, Pricing, Add-ons, Blog, Documentation, Support, Contact, Log in or Sign up. Below the header is a large white "H" logo. A button labeled "Sign up for Heroku for free" is visible. Two promotional sections are shown: "Powerful platform built by developers for developers" with a link "Focus on building great apps →" and "Massively scalable, high performance cloud platform" with a link "Engage customers with transformative apps →". On the right side of the image, a modal dialog box titled "New App" is overlaid. It contains fields for "App Name (optional)" (with placeholder text "Leave blank and we'll choose one for you."), "Region" (radio buttons for "United States" and "Europe"), and a large blue "Create App" button at the bottom.

Continuous Delivery with Jenkins

Build Triggers

Build after other projects are built

Projects to watch

RunTests

No such project ‘RunTests’. Did you mean ‘Test’?

- Trigger only if build is stable
- Trigger even if the build is unstable
- Trigger even if the build fails

Build periodically

Poll SCM

Jenkins Plugins: Pipelines

Build Pipeline

The screenshot shows the Jenkins Build Pipeline plugin interface. At the top, there are navigation icons: Run, History, Configure, Add Step, Delete, and Manage. Below these, there are two main sections for pipelines:

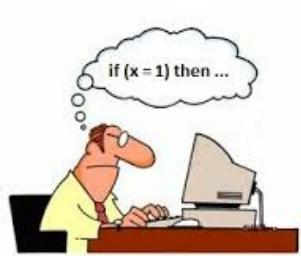
- Pipeline #7:** Contains a single stage: #7 Test (Oct 20, 2014 1:50:15 AM, 22 sec). It has a green border.
- Pipeline #6:** Contains two stages: #6 Test (Oct 20, 2014 1:45:15 AM, 22 sec) and #3 Deploy (Oct 20, 2014 1:45:45 AM, 43 sec). Both have green borders.

Green arrows point from the #7 Test stage to the #4 Deploy stage, and from the #6 Test stage to the #3 Deploy stage, indicating a sequential flow between them.

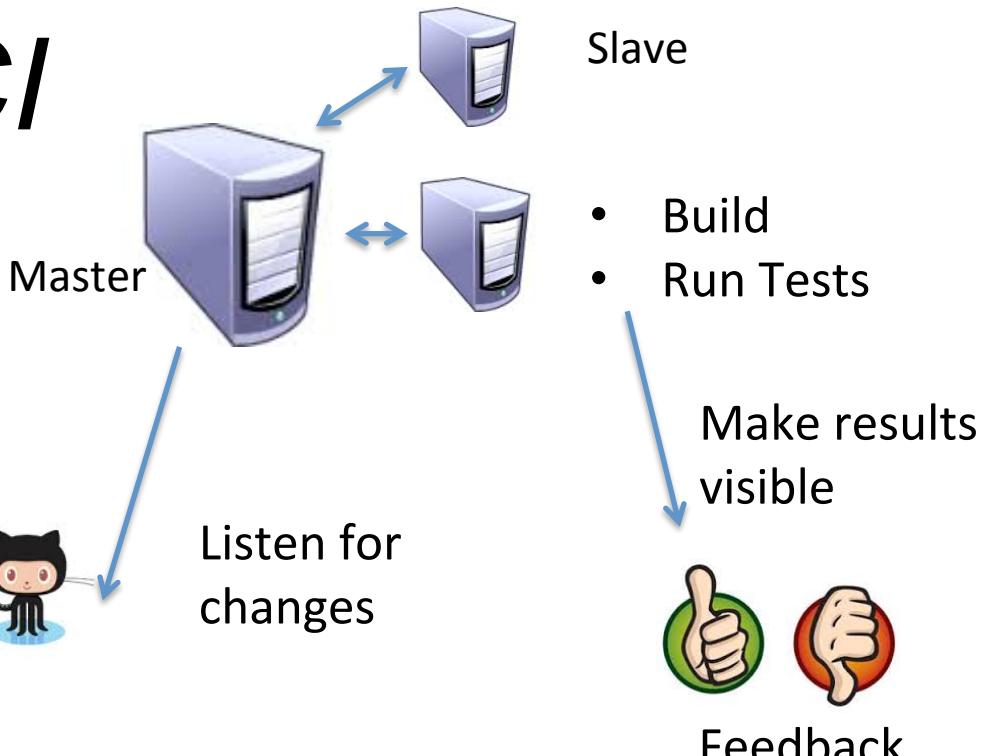
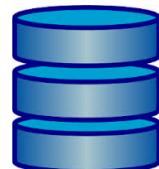


Build Pipeline Plugin

Distributed CI



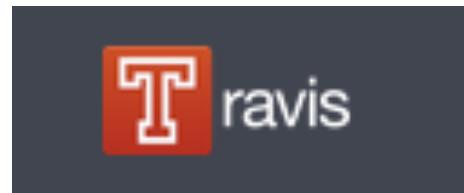
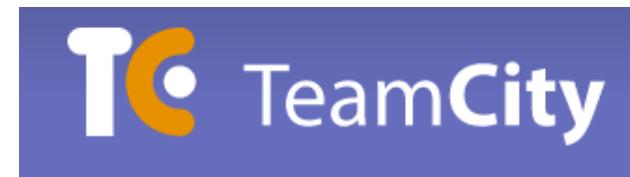
push
→



Distributed CI: Setup

- **Start up a slave machine**
- **Configure slave node in Jenkins**
 - **Remote Path**
/vagrant
 - **Host**
'vagrant ssh' into the CI Agent VM and run 'ifconfig' to find IP address of CI Agent
 - **Username/password**
username: vagrant, password: vagrant

Other CI/CD Tools



Recap

- **Why CI**
- **Installing/Configuring Jenkins server**
- **Installed/configured plugins**
- **Deployed to Heroku**



Questions & Comments?