Best Practices for using Hudson as part of your Agile Strategy

Susan Duncan, Winston Prakash
Agile Strategy?

• Iterative, incremental, collaborative, rapid, flexible

• Improving our development process
  – Better builds, faster
  – Better testing
  – Better visibility
  – Better feedback
  – Better metrics
Continuous Integration (CI)

- Software Development Process
  - Keep your work in a repository
  - Integrate your work frequently
  - Each integration is automatically built
  - Test integrated with build
- Discovers errors more quickly thereby reducing fix time
- Makes the project available to everyone to install
- Everyone is involved and therefore takes a stake in maintenance
- Commit Builds/Nightly Build
What is Required of Good CI?

• Run automatically
  – SCM operation triggered
  – Build and deploy
  – Integrated tests

• Feedback
  – Email, IM, RSS feeds, etc...

• Analysis
  – reporting, graphs . . .
Introduction to Hudson CI

• Eclipse Foundation Top Level Project
  • M2 release

• Easy installation and configuration

• Web-based interface

• Extendable through plug-ins
  • Maintained outside Eclipse
  • Tiered
Hudson CI = Good CI

- Runs automatically
  - SCM: SVN, Git, CVS, Perforce ...
  - Builds: Ant, Maven, scripts ...
  - Integrate tests: JUnit, Selenium, Abbott...
  - Deploy: files, App server...
- Feedback via
  - Email, IM, RSS feeds ...
- Analysis
  - reporting, graphs: Clover, Sonar, PMD ...
- Much more . . .
Make it Modular!
Making it Modular

- Upstream/Downstream Jobs – fingerprints
- Parameterized Trigger
- Promoted Builds
- Build Pipeline
- Join
Cascading Jobs

- Standard job properties
- Inherited by jobs
- Over-write as needed
Configure Job Standards

• Use Clean Builds from SCM
• Integrate with Issues
• Generate trend reports
• Use Maven3 integration
Distribute the Load

Master/Slave mode
  – Distributes load
  – Executors
  – Matrix
  – Managed/Unmanaged
  – Active Managed (cloud)
Maintain and Backup

• Setup on partition with most free space
• Archive unused jobs for performance
• Limit # of kept builds
• Backup job configurations (*thinbackup*)
• Version job configuration (*versioning*)
Run and Secure

- Standalone/Java EE server
- Front with HTTP proxy
- Configure as service
- Enable Security
- Integrate with SSO

http://hudson.eclipse.org/hudson
BOF Tonight

Is Continuous Integration Achievable?

What does it mean?

Informal discussion 7pm Regency Ballroom B