

# Continuous Integration



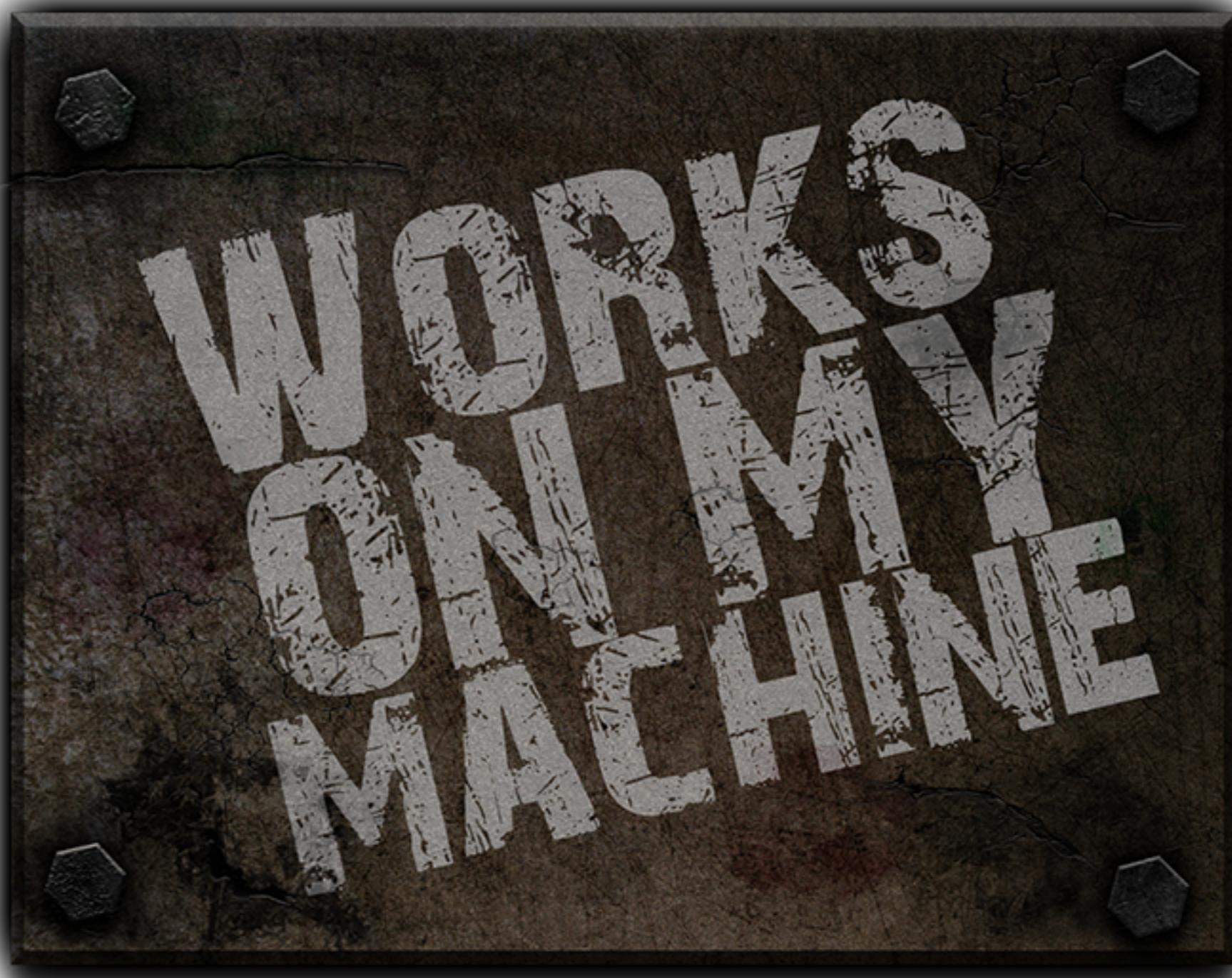
SPRINT3R

Siam Chamnankit Co., Ltd., Odd-e (Thailand) Co., Ltd. and Alliance

# Problem



# Problem



# What we need ?



# **Continuous Integration**

**Software development practice**

**What people do, not about what tools**

**Integrate frequently**

**Fast feedback**



# Jenkins



# Jenkins

An extensible open source continuous integration server

[BLOG](#)[CONNECT](#)[BUG TRACKER](#)[WIKI](#)[CI](#)[TUTORIALS](#)[ARCHIVES](#)[DONATION](#)[ABOUT](#)

## Jenkins User Conference 2015

Don't miss out on the latest from the Jenkins Community!

U.S. East - June 18-19

Europe - June 23-24

Israel - July 16

U.S. West - September 2-3

**Early Bird Ends May 15th - REGISTER NOW**



## Meet Jenkins

Find out what Jenkins is and get started.



## Use Jenkins

See how to get more out of your Jenkins.

## Download Jenkins

[Release](#)[Long-Term Support Release](#)

### Java Web Archive (.war)

[Latest and greatest \(1.614\)](#)[changelog](#) | [past releases](#) | [RC](#)[upgrading from Hudson?](#)

### Or native package

[Windows](#)[Ubuntu/Debian](#)

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# Building



# Building ?

Source code

Test script

# Building ?

Source code

Test script



# Source code



GitHub



# Install git

<https://git-scm.com/>

The screenshot shows the official Git website at <https://git-scm.com/>. The header features the Git logo and the tagline "distributed-is-the-new-centralized". A search bar is located in the top right corner. The main content area includes a brief introduction to Git's distributed nature, highlighting its speed and efficiency. It also emphasizes its ease of learning and performance, comparing it favorably to other version control systems like Subversion, CVS, Perforce, and ClearCase. A call-to-action button "Learn Git in your browser for free with Try Git." is present. To the right, there is a diagram illustrating the distributed nature of Git, showing multiple repositories connected by bidirectional arrows. Below this, a section for the "Latest source Release 2.4.1" is displayed, featuring a download link for Mac. The footer contains links to "About", "Documentation", "Downloads", and "Community".

**git** --distributed-is-the-new-centralized

Search entire site...

Git is a **free and open source** distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git is **easy to learn** and has a **tiny footprint with lightning fast performance**. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like **cheap local branching**, convenient **staging areas**, and **multiple workflows**.

Learn Git in your browser for free with [Try Git](#).

**About**  
The advantages of Git compared to other source control systems.

**Documentation**  
Command reference pages, Pro Git book content, videos and other material.

**Downloads**  
GUI clients and binary releases for all major platforms.

**Community**  
Get involved! Bug reporting, mailing list, chat, development and more.

Latest source Release  
**2.4.1**  
Release Notes (2015-05-13)  
[Downloads for Mac](#)

# Baby step with git

\$git init

\$git status

\$git add

\$git commit

# Create account



Search GitHub

Explore Features Enterprise Blog

Sign up

Sign in

# Build software better, together.

Powerful collaboration, code review, and code management for open source and private projects. Need private repositories?

Upgraded plans start at \$7/mo.

Pick a username

Your email

Create a password

Use at least one lowercase letter, one numeral, and seven characters.

Sign up for GitHub

By clicking "Sign up for GitHub", you agree to our [terms of service](#) and [privacy policy](#). We will send you account related emails occasionally.

# Working with github

\$git remote

\$git push

\$git pull

Let's start with



Jenkins

# Start jenkins server

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

# Goto localhost:8080

The screenshot shows the Jenkins web interface. At the top, there is a navigation bar with the Jenkins logo, a search bar, and an "ENABLE AUTO REFRESH" button. Below the navigation bar, the page title is "00-PERFORMANCE". On the left side, there is a sidebar with various Jenkins management links: "New Item", "People", "Build History", "Edit View", "Delete View", "Project Relationship", "Check File Fingerprint", "Manage Jenkins", "Credentials", and "Sounds". In the center, there is a main content area with tabs for "00-PERFORMANCE", "ANDROID", "All", "BUILD-BOARD", "DEMO-MOBILE", "HELLO", "PG-BOARD", "XXX", and "robot". Under the "00-PERFORMANCE" tab, there are sub-links: "robot build board", "robot build pipeline", "yyy", and a "+" button. A message in the center states: "This view has no jobs associated with it. You can either [add some existing jobs](#) to this view or create a [new job](#) in this view." At the bottom of the main content area, there are two collapsed sections: "Build Queue" (which says "No builds in the queue.") and "Build Executor Status" (which lists "1 Idle" and "2 Idle").

# Create new job

Jenkins search

Jenkins > 00-PERFORMANCE >

New Item People Build History Edit View Delete View Project Relationship Check File Fingerprint Manage Jenkins Credentials Sounds

Item name **PERFORMANCE-TESTING**

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

**Maven project**  
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the time required to build your project.

**External Job**  
This type of job allows you to record the execution of a process run outside Jenkins, even on a different machine, so that you can use Jenkins as a dashboard of your existing automation system. See [the documentation](#).

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

**Copy existing Item**  
Copy from

Build Queue   
No builds in the queue.

Build Executor Status   
1 Idle  
2 Idle

OK

# Source control management

## Source Code Management

- None
- CVS
- CVS Projectset
- Git

Repositories

Repository URL

git@github.com:up1/demo-performance-testing.git

Credentials

- none -

 Add

# Add build step

## Build

### Execute shell



Command

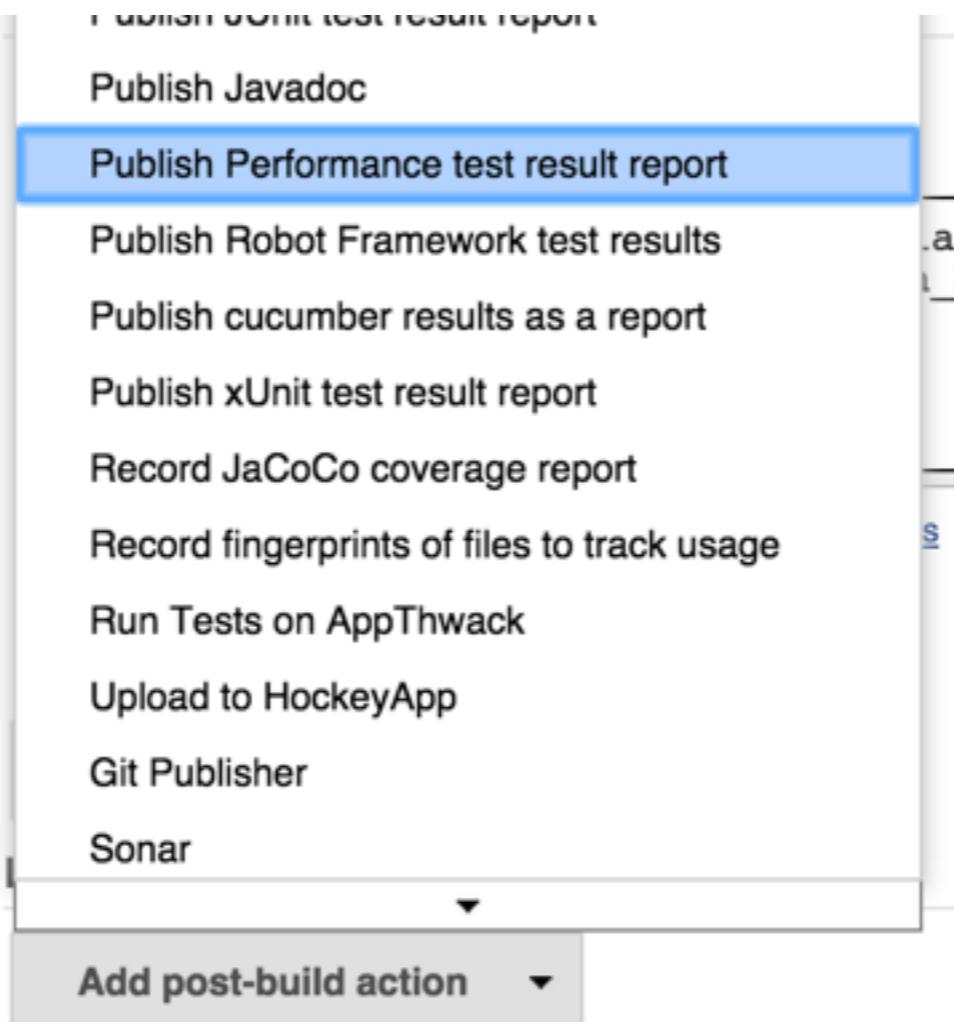
```
export PATH=.:~/Users/somkiat/data/slide/jmeter/apache-jmeter-2.13/bin:$PATH  
jmeter -n -t kaidee_search_by_keyword.jmx -l my_result.jtl
```

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

Delete

# Post build action

Generate report of each build



# Publish performance test result

## Post-build Actions

 **Publish Performance test result report** (?)

Performance report Add a new report ▾

Select mode:  Relative Threshold  Error Threshold

Use Error thresholds on single build: Unstable  Failed

Advanced...

Use Relative thresholds for build comparison: (-) (+)

Unstable % Range

Failed % Range

Compare with previous Build  Compare with Build number

Compare based on Average Response Time ▾

Performance display  Performance Per Test Case Mode  
 Show Throughput Chart

Delete

# Performance test :: jMeter

## Post-build Actions

### Publish Performance test result report



Performance report

Select mode:

Use Error thresholds on single build:

Use Relative thresholds for build comparison:

Add a new report ▾

Iago

JMeter

JMeterCSV

JUnit

JmeterSummarizer

wrk

Error Threshold

Advanced...

(-)

(+)

Unstable % Range

Failed % Range

Compare with previous Build  Compare with Build number

Compare based on

Average Response Time

Performance display

Performance Per Test Case Mode

Show Throughput Chart

Delete

# Config with report file

## Post-build Actions

■ Publish Performance test result report

Performance report

JMeter Report files my\_result.jtl (?) Delete

Add a new report ▾

Relative Threshold  Error Threshold

Select mode:

Use Error thresholds on single build:

Unstable Failed Advanced...

Use Relative thresholds for build comparison:

(-) (+)

Unstable % Range Failed % Range

Compare with previous Build  Compare with Build number (+) Advanced...

Compare based on Average Response Time ▾

Performance display

Performance Per Test Case Mode  Show Throughput Chart Delete

# Build and See report

Jenkins

search ?

Jenkins > 00-PERFORMANCE > PERFORMANCE-TESTING >

ENABLE AUTO REFRESH

Back to Dashboard Status Changes Workspace Build Now Delete Project Configure Performance Trend

add description Disable Project

## Project PERFORMANCE-TESTING

Workspace Last Successful Artifacts dashBoard\_my\_result.xml 456 B view Recent Changes

### Performance Trend

### Throughput

Requests Per Seconds

0 #3 #4

Requests Per Seconds

### Responding time

ms

1000  
800  
600  
400  
200  
0

ms

#3 #4

90% line average median

### Percentage of errors

RSS for all RSS for failures

Build History trend

- #4 Jun 11, 2015 12:02 AM
- #3 Jun 11, 2015 12:02 AM
- #2 Jun 10, 2015 11:46 PM
- #1 Jun 10, 2015 11:44 PM

RSS for all RSS for failures

# Auto build ?

Build trigger => check every minute

## Build Triggers

- Build after other projects are built
- Build periodically
- Poll SCM

Schedule

\*\*\*\*\*

---

**⚠ Do you really mean "every minute" when you say "\*\*\*\*\*"? Perhaps  
\*\*\* to poll once per hour**

Ignore post-commit hooks

# Try it by yourself