



Jenkins

Diego Pacheco

A thin brown L-shaped line is located in the bottom right corner of the slide.

About Me



- ❑ Cat's Father
- ❑ Principal Software Architect
- ❑ Agile Coach
- ❑ SOA/Microservices Expert
- ❑ DevOps Practitioner
- ❑ Speaker
- ❑ Author



diegopacheco



@diego_pacheco



<http://diego-pacheco.blogspot.com.br/>



Jenkins



Kohsuke Kawaguchi

- ❑ 2004 as Sun Microsystem project (Hudson)
- ❑ 2011 was renamed to Jenkins
- ❑ Built with Java, of course :-)
- ❑ Super easy to use
- ❑ Lots of plugins
- ❑ Pretty much everybody uses it
- ❑ Used for CI/CD, Builds, Deploys, Ops
- ❑ Distributed - It can work with multiple machines
- ❑ Support for most of languages

[Back to Project](#)[Status](#)[Changes](#)[Console Output](#)[View as plain text](#)[View Build Information](#)[Git Build Data](#)[Previous Build](#)

Console Output

Skipping 1.196 KB.. [Full Log](#)

KoEttlJQNjBwdnF2sVayAwD4vuoDpQAAAA==[0mskipping: [teamwiesn.com]

```
TASK [smtp-server : include] *****
skipping: [teamwiesn.com]
```

```
TASK [ssl : include] *****
included: /var/lib/jenkins/jobs/Rollout-system/workspace/roles/ssl/tasks/setup.yml for
teamwiesn.com
```

```
TASK [ssl : install ssl packages] *****
ok: [teamwiesn.com] => (item=[u'ssl-cert', u'sslscan'])
```

```
TASK [ssl : Install ssl certificates] *****
ok: [teamwiesn.com] => (item=teamwiesn.crt)
```

```
TASK [ssl : Install ssl keys] *****
ok: [teamwiesn.com] => (item=teamwiesn.key)
```

```
TASK [ssl : Generate dhparam key] *****
ok: [teamwiesn.com]
```

```
TASK [ssl : Check ssl forward secrecy key permission] *****
ok: [teamwiesn.com]
```

```
TASK [ssl : include] *****
skipping: [teamwiesn.com]
```

```
TASK [pip : Check to see if pip is already installed.] *****
ok: [teamwiesn.com]
```

Jenkins Plugins

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Plugins Index

Discover the 1000+ community contributed Jenkins plugins to support building, deploying and automating any project.

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- [Platforms](#)
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- [Administration](#)
- [Source code management](#)
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- [Warnings Next Generation](#)
- [Analysis Model API](#)
- [Link Column](#)
- [List Git Branches Parameter](#)
- [Tuleap Git Branch Source](#)
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- [Working Hours](#)
- [Multibranch Job Tear Down](#)

Recently updated

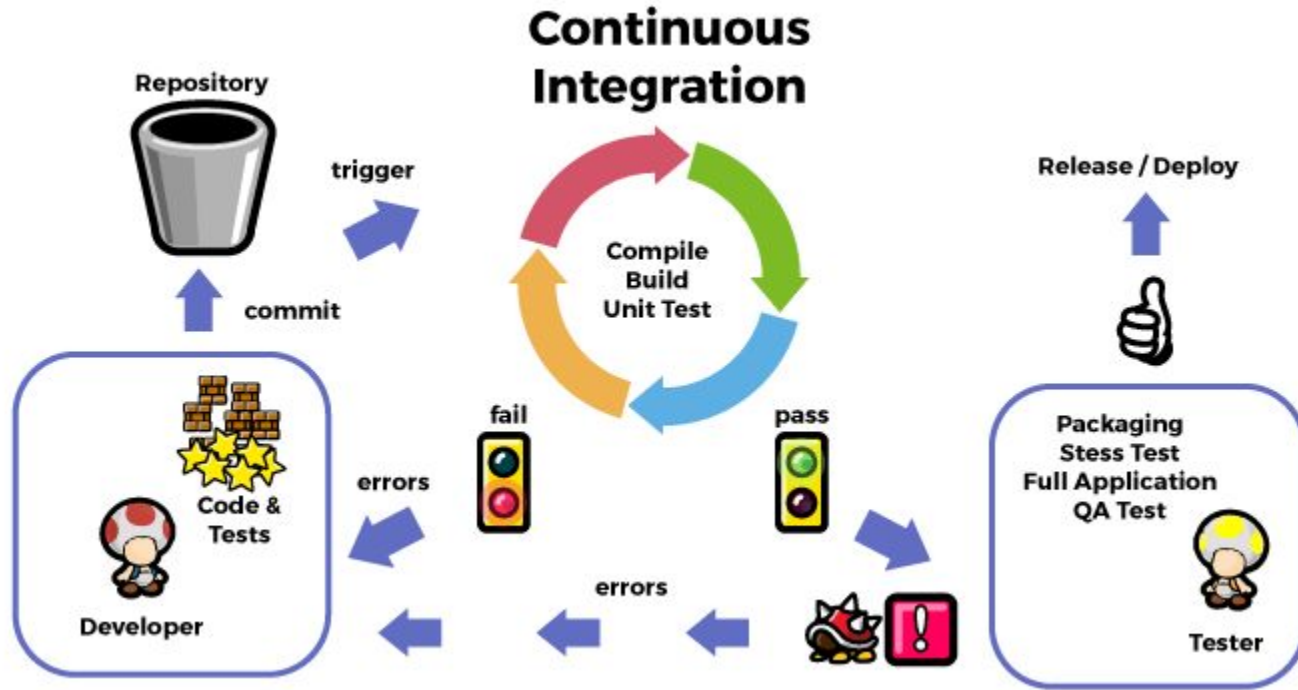
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- [RocketChat Notifier](#)
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- [Multijob](#)
- [Kubernetes Cli](#)
- [Kubernetes](#)
- [Sidebar Link](#)

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- [Lockable Resources](#)
- [JDK Tool](#)
- [Command Agent Launcher](#)
- [Apache HttpComponents Client 4.x API](#)
- [JSch dependency](#)
- [Jackson 2 API](#)
- [Pipeline: Declarative Extension Points API](#)
- [Authentication Tokens API](#)
- [Pipeline: Model API](#)
- [Docker Pipeline](#)

<https://plugins.jenkins.io/>

CI / CD == Pipelines with Jenkins



Pipelines for everything



Agile Development



Continuous Integration



Continuous Delivery



Continuous Deployment



DevOps



Jenkins Pipelines / DSL

Jenkinsfile (Declarative Pipeline)

```
pipeline {
  agent any
  stages {
    stage('Test') {
      steps {
        sh 'echo "Fail!"; exit 1'
      }
    }
  }
  post {
    always {
      echo 'This will always run'
    }
    success {
      echo 'This will run only if successful'
    }
    failure {
      echo 'This will run only if failed'
    }
    unstable {
      echo 'This will run only if the run was marked as unstable'
    }
    changed {
      echo 'This will run only if the state of the Pipeline has changed'
      echo 'For example, if the Pipeline was previously failing but is now successful'
    }
  }
}
```

Jenkinsfile (Declarative Pipeline)

```
pipeline {
  agent any
  stages {
    stage('Deploy') {
      steps {
        retry(3) {
          sh './flakey-deploy.sh'
        }

        timeout(time: 3, unit: 'MINUTES') {
          sh './health-check.sh'
        }
      }
    }
  }
}
```


Jenkins Pipelines / DSL

ApacheConf.groovy x

```
1  class ApacheConf {
2      static void main(String[] args) {}
3      static conf() {
4          [
5              "mainjob":
6              [
7                  "email": "diego.pacheco.it@gmail.com"
8              ]
9          ]
10     }
11 }
12
```

Jenkins Pipelines / DSL

```
15 ApacheConf.conf().each { groupname, app ->
16
17     freeStyleJob("JenkinsDSLJob") {
18         properties {
19
20             label("master")
21
22             def emailAdd = '$BUILD_USER_EMAIL ' + app.dev_email
23
24             publishers {
25                 mailer(emailAdd, false, true)
26             }
27
28             parameters {
29                 stringParam("APACHE_VERSION", "2.4.18", "Apache Version")
30             }
31
32             def item = hudson.model.Hudson.instance.getItem('JenkinsDSLJob')
33             def value = item.lastBuild.getEnvironment(null).get('APACHE_VERSION')
34
35             steps {
36                 shell("sudo chmod 777 build_install_apache.sh && sudo ./build_install_apache.sh " + value)
37             }
38         }
39     }
40 }
```

Jenkins Pipelines / DSL

build_install_apache.sh x

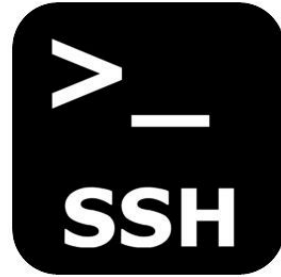
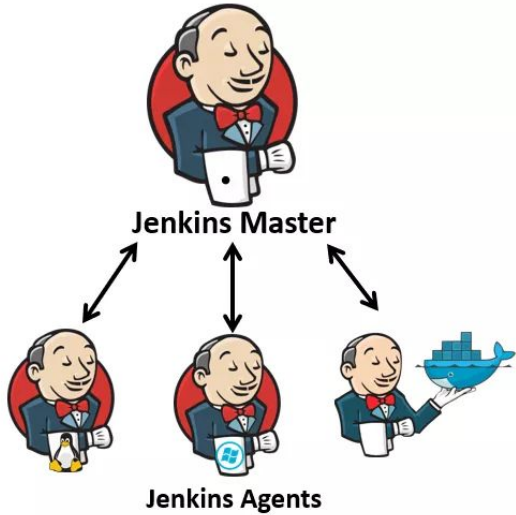
```
1  #!/bin/bash
2
3  #APACHE_VERSION=2.4.18
4  apacheVersion="$1"
5  echo "Building apache [ $apacheVersion ]... "
6
7  sudo rm -rf httpd*
8
9  sudo apt-get install -y libapr1-dev libaprutil1-dev
10
11  sudo wget http://www.carfab.com/apachesoftware//httpd/httpd-$apacheVersion.tar.gz
12  sudo tar xvf httpd-$apacheVersion.tar.gz
13  cd httpd-$apacheVersion
14  sudo ./configure
15  sudo make
16  sudo make install
```

Jenkins Pipelines / DSL

Important Things - To Keep in Mind!

- ❑ Jenkins DSL is great for Microservices or any REPEATING TASK with multiple repositories
- ❑ For Generic Jobs use good abstraction and DevOps Engineering
- ❑ You should not do Jenkins DSL for all JOBS just because is CODE
- ❑ Jenkins DSL is less productive than using the UI which is OK for generic jobs.
- ❑ You need to enable BACKUPS in Jenkins since you won't have jenkins DSL for everything.

Master and Agents



```
$ java -jar agent.jar -jnlpUrl http://yourserver:port/computer/agent-name/slave-agent.jnlp
```

Make sure to replace "agent-name" with the name of your agent.

<https://wiki.jenkins.io/display/JENKINS/Distributed+builds>

Running Jenkins 2 on Docker

run-jenkins-docker.sh x

```
1  #!/bin/bash
2
3  echo "GOTO: http://localhost:8282/jenkins"
4
5  docker stop jenkins; docker rm jenkins;
6
7  docker run --name jenkins -p 8282:8080 -p 50000:50000 -v /var/jenkins/ jenkins/jenkins
8
```



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