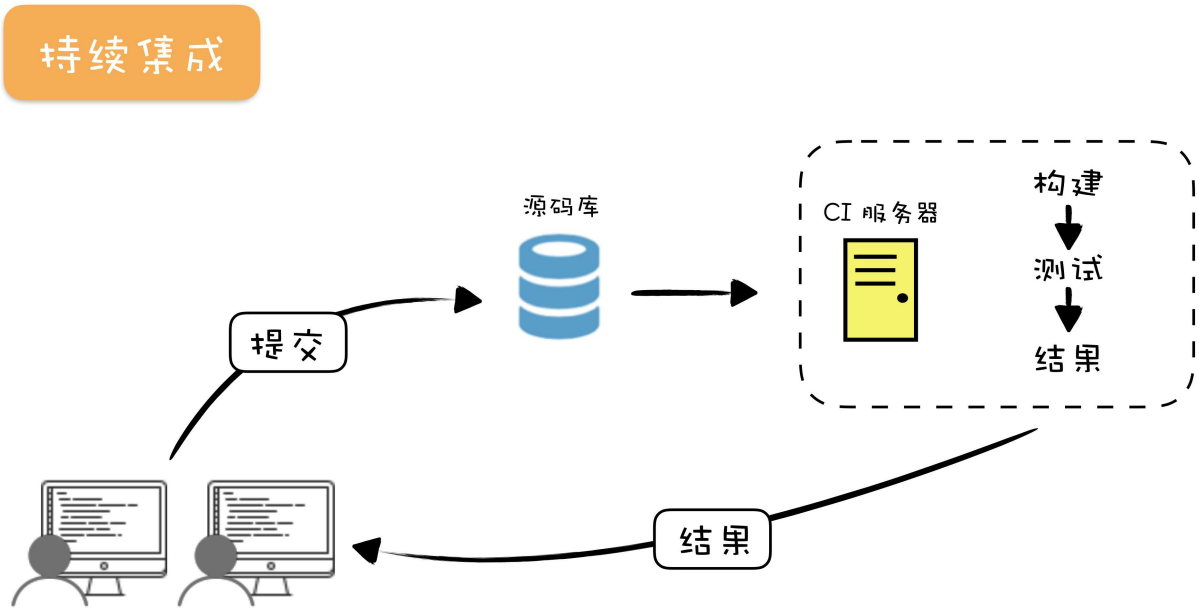
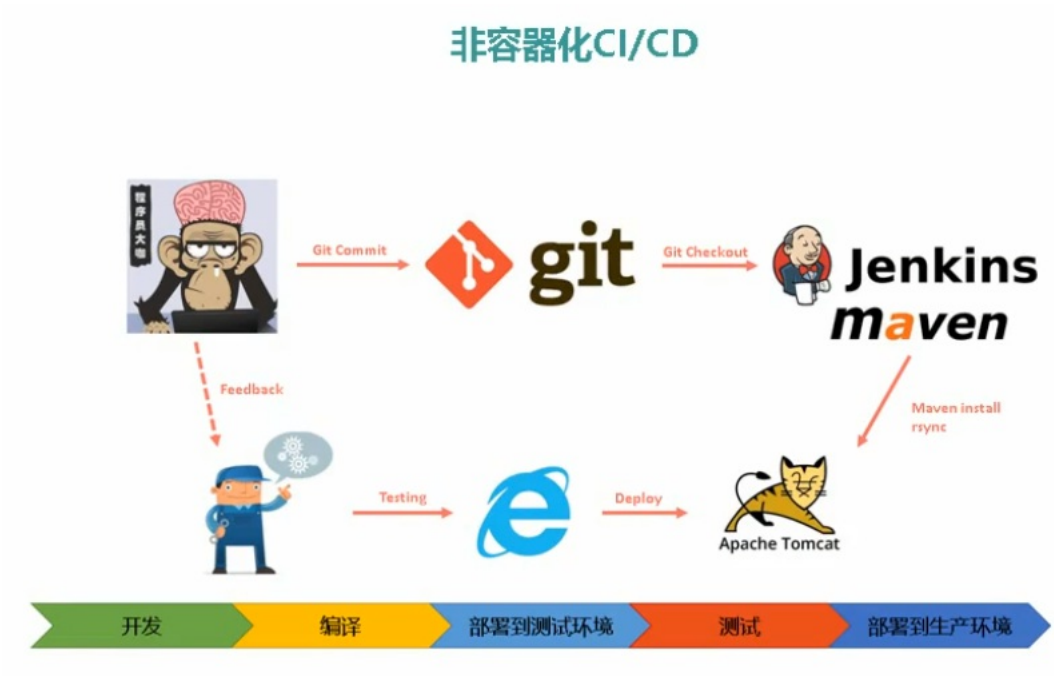
link: null
title: 珠峰架构师成长计划
description: null
keywords: null
author: null
date: null
publisher: 珠峰架构师成长计划
stats: paragraph=131 sentences=184, words=920

1. 持续集成

- 持续集成(Continuous Integration,CI) 代码合并、构建、布署、测试在一起，不断执行这个过程并对结果进行反馈
- 持续部署(Continuous Deloyment,CD) 部署到生产环境
- 持续交付(Continuous Delivery,CD) 部署到生产环境，给用户使用
- DevOps 是一个完整的面向IT运维的工作流，以 IT 自动化以及持续集成（CI）、持续部署（CD）为基础，来优化程式开发、测试、系统运维等所有环节



2. Jenkins



3. Git安装

3.1 git服务器

3.1.1 安装git

```
yum install -y git
```

3.1.2 创建git用户

```
useradd git
passwd git
```

3.1.3 创建仓库

```
su - git
mkdir -p ~/repos/app.git
cd ~/repos/app.git
git --bare init
```

3.2 git客户端(web服务器)

3.2.1 安装git

```
yum install -y git
```

```
cd /usr/local/src
git clone git@192.168.20.131:/home/git/repos/app.git
cd app
git config --global user.email "zhufengjiagou@126.com"
git config --global user.name "zhufengjiagou"
touch index.html
git add -A
git commit -m"init"
git push origin master
```

3.2.2 免密码登录

3.2.2.1 生成秘钥

- 先登录web服务器生成秘钥并拷贝公钥

```
ssh-keygen -t rsa
cat ~/.ssh/id_rsa.pub
```

3.2.2.2 拷贝公钥

- 再登录git服务器
- 要注意如果你要免登录 git用户，就需要把自己的公钥拷贝到 git用户的 authorized_keys文件里

```
ssh-keygen -t rsa
chmod 700 /home/git/.ssh
vi /home/git/.ssh/authorized_keys
chmod 600 /home/git/.ssh/authorized_keys
```

3.2.2.3 允许公钥登录

- 再登录git服务器
- vim /etc/ssh/sshd_config

```
PubkeyAuthentication yes
```

```
systemctl restart sshd
```

4. Jenkins

- jdk (https://www.oracle.com/technetwork/java/javase/downloads/index.html)
- jenkins官网 (https://jenkins.io)

4.1 安装JDK

- jdk (https://www.oracle.com/technetwork/java/javase/downloads/java-archive-javase10-4425482.html)

```
cd /usr/local/src
wget http:
tar -xzvf jdk1.8.0_211.tar.gz
cp -r /usr/local/src/jdk1.8.0_211 /usr/java
rm -rf /usr/bin/java  &&  ln -s /usr/java/jdk1.8.0_211/bin/java /usr/bin/java
```

4.2 修改配置文件

vi /etc/profile

```
JAVA_HOME=/usr/java/jdk1.8.0_211
export CLASSPATH=.:${JAVA_HOME}/jre/lib/rt.jar:${JAVA_HOME}/lib/dt.jar:${JAVA_HOME}/lib/tools.jar
export PATH=$PATH:${JAVA_HOME}/bin
```

4.3 生效配置

```
source /etc/profile
java --version
```

4.4 安装jenkins

```
wget -O /etc/yum.repos.d/jenkins.repo https:
rpm --import https:
yum install -y jenkins
```

4.5 关闭防火墙

```
systemctl stop firewalld.service
systemctl disable firewalld.service
```

```
javap -v JNLPMain.class
J2SE 8 = 52
J2SE 7 = 51
J2SE 6.0 = 50
J2SE 5.0 = 49
JDK 1.4 = 48
JDK 1.3 = 47
JDK 1.2 = 46
JDK 1.1 = 45
```

4.6 启动jenkins

```
systemctl start jenkins
systemctl daemon-reload
systemctl status jenkins
```

4.7 选择java版本

vi /etc/init.d/jenkins

```
candidates="
#/etc/alternatives/java
#/usr/lib/jvm/java-1.8.0/bin/java
#/usr/lib/jvm/jre-1.8.0/bin/java
#/usr/lib/jvm/java-1.7.0/bin/java
#/usr/lib/jvm/jre-1.7.0/bin/java
/usr/bin/java
"
```

4.8 运行用户

一定要改一下root用户，不然流水线SCM拉不到脚本 vi /etc/sysconfig/jenkins

```
JENKINS_USER="root"
```

4.8 访问jenkins

http://192.168.20.133:8080 (http://192.168.20.133:8080)

4.9 安装maven

```
yum install maven -y

# rpm -ql maven

/etc/m2.conf
/etc/maven
/etc/maven/settings.xml
/usr/bin/mvn
/usr/share/maven/conf/settings.xml
```

4.10 使用jenkins

- jenkins (https://plugins.jenkins.io/)
- OWASP(Open Web Application Security Project),开放式Web应用程序安全项目,它识别项目依赖关系，并检查是否存在任何已知的和公开的漏洞.
- PAM（Pluggable Authentication Modules ）是由Sun提出的一种认证机制。它通过提供一些动态链接库和一套统一的API，将系统提供的服务和该服务的认证方式分开，使得系统管理员可以灵活地根据需要给不同的服务配置不同的认证方式而无需更改服务程序，同时也便于向系统中添加新的认证手段。 PAM模块是一种嵌入式模块，修改后即时生效。
- LDAP（Light Directory Access Portocol）,它是基于X.500标准的轻量级目录访问协议

插件名称 插件作用 Folders (https://plugins.jenkins.io/cloudbees-folder),这个插件支持用户使用目录管理项目，目录支持嵌套，并且支持目录中创建视图 (https://plugins.jenkins.io/cloudbees-folder),这个插件支持用户使用目录管理项目，目录支持嵌套，并且支持目录中创建视图)

OWASP Markup Formatter OWASP标记格式化程序插件,使用OWASP Java HTML Sanitizer ， 可以在项目描述等中输入安全的HTML标记 Build Timeout 构建超时,此插件允许构建在指定的时间过后自动终止 Credentials Binding 证书绑定 Timestamper 将时间戳添加到控制台输出 Workspace Cleanup (https://plugins.jenkins.io/ws-cleanup),这个插件支持在构建前后 (https://plugins.jenkins.io/ws-cleanup),这个插件支持在构建前后)

删除或者部分删除workspace Ant 向Jenkins添加Apache Ant支持 Gradle 这个插件允许Jenkins直接调用Gradle构建脚本 Pipeline 管道,一套插件可让您协调自动化 Pipeline: GitHub Groovy Libraries 允许从GitHub动态加载Pipeline Groovy库 Pipeline: Stage View 查看每一步的执行结果 GitHub Branch Source GitHub组织文件夹插件 Git (https://plugins.jenkins.io/git),支持使用Github、GitLab、Gerrit等系统管理代码仓库 (https://plugins.jenkins.io/git),支持使用Github、GitLab、Gerrit等系统管理代码仓库)

Subversion (https://plugins.jenkins.io/subversion),支持Subversion系统管理源代码 (https://plugins.jenkins.io/subversion),支持Subversion系统管理源代码)

SSH Slaves SSH登录到一个远程服务器以执行必要的脚本 Matrix Authorization Strategy 矩阵授权策略插件,提供基于矩阵的安全授权策略（全局和每个项目） PAM Authentication 为Jenkins添加Unix可插入身份验证模块（PAM）支持 LDAP (https://plugins.jenkins.io/ldap),这个插件允许使用LDAP对用户进行认证，LDAP (https://plugins.jenkins.io/ldap),这个插件允许使用LDAP对用户进行认证，LDAP)

服务器可以为Active Directory 或者 OpenLDAP Email Extension 这个插件是Jenkins的电子邮件发布者的替代品。它允许配置电子邮件通知的各个方面：发送电子邮件时，应该收到谁以及电子邮件说明的内容 Mailer 发邮件服务 Localization: Chinese (Simplified) 本地化构建

4.11 下载插件加速

- mirrors (http://mirrors.jenkins-ci.org/status.html)
- update-center (https://mirrors.tuna.tsinghua.edu.cn/jenkins/updates/update-center.json)

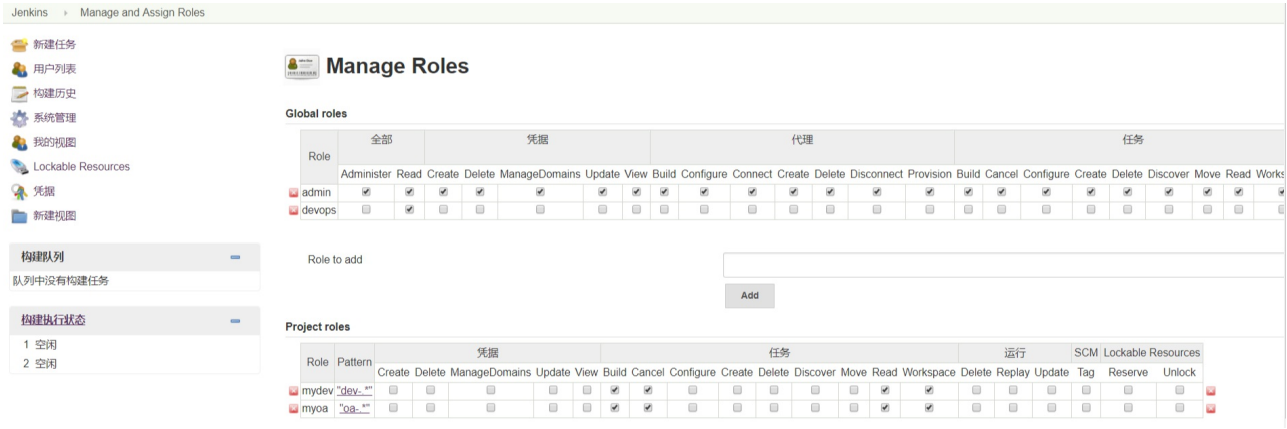
4.12 创建管理员用户

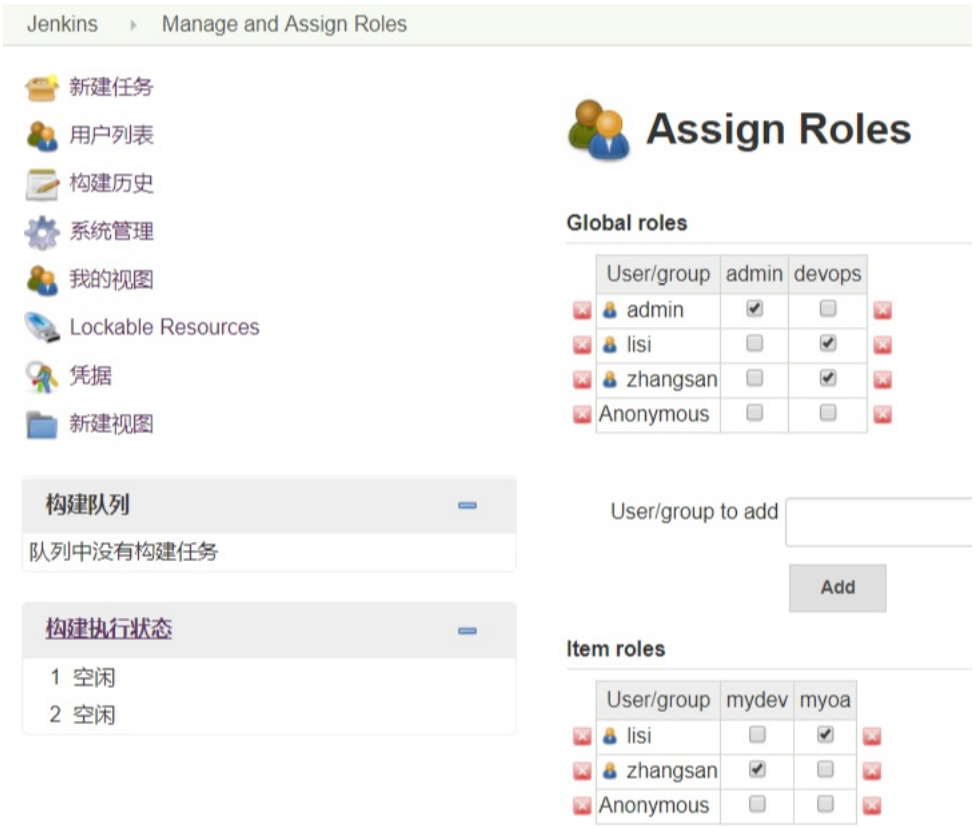
4.13 主要功能

- 新建任务
- 用户
- 构建历史
- 系统管理
- 我的视图
- Credentials
- 新建视图

5. 角色和用户管理

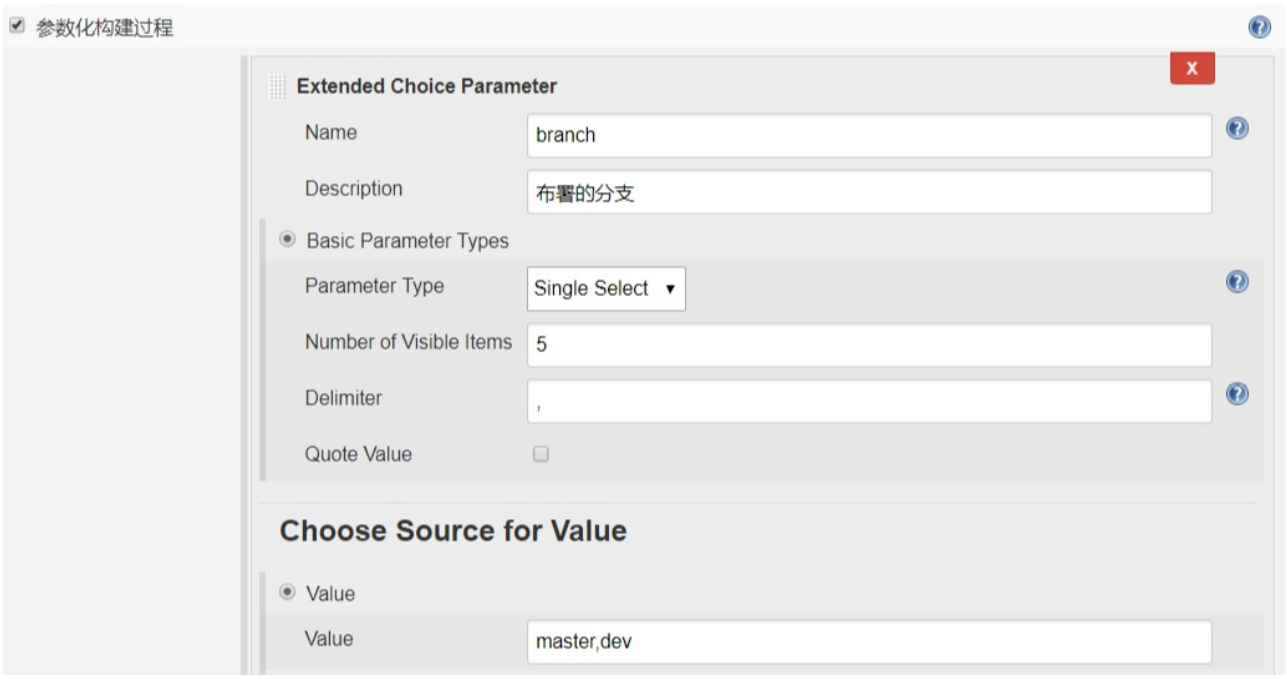
- 安装 Role-based Authorization Strategy 插件





6. 参数化构建

- Extended Choice Parameter 插件
- Git Parameter 插件

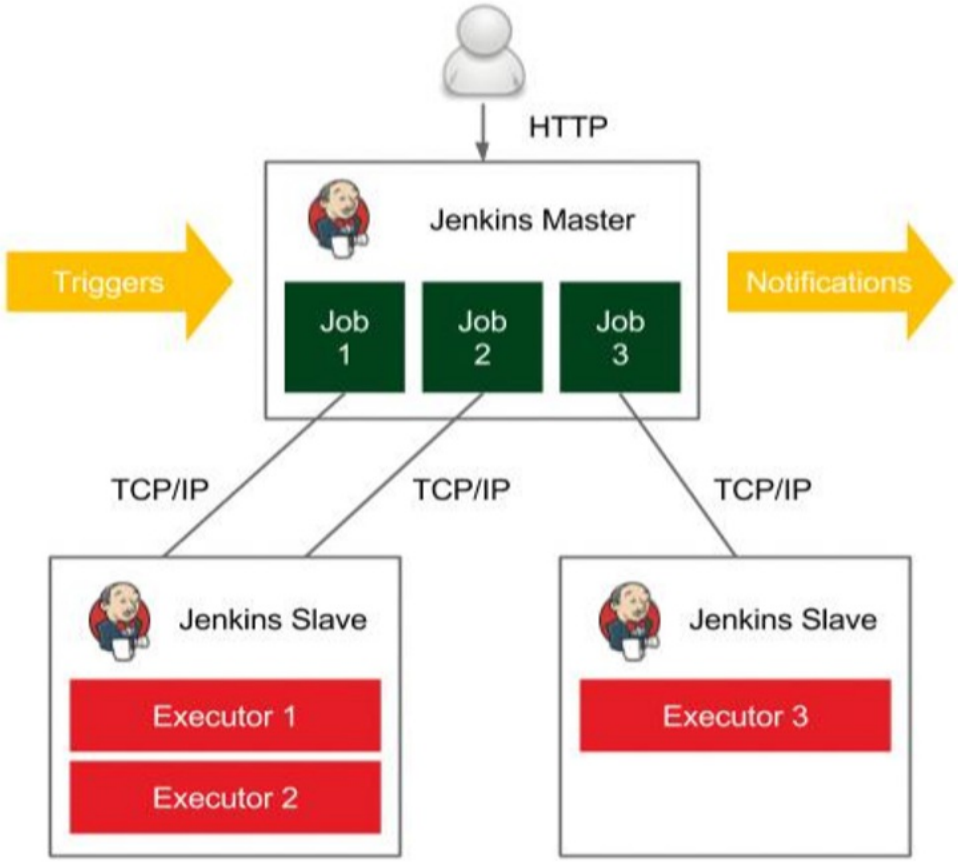


vi /etc/sysconfig/jenkins 一定要改一下root用户，不然流水线SCM拉不到脚本

```
JENKINS_USER="root"
```

```
git branch test
git checkout test
git branch
touch 5.txt
git add -A
git commit -m"add 5.txt"
git git push origin test
git push origin test
```

7. 主从模式



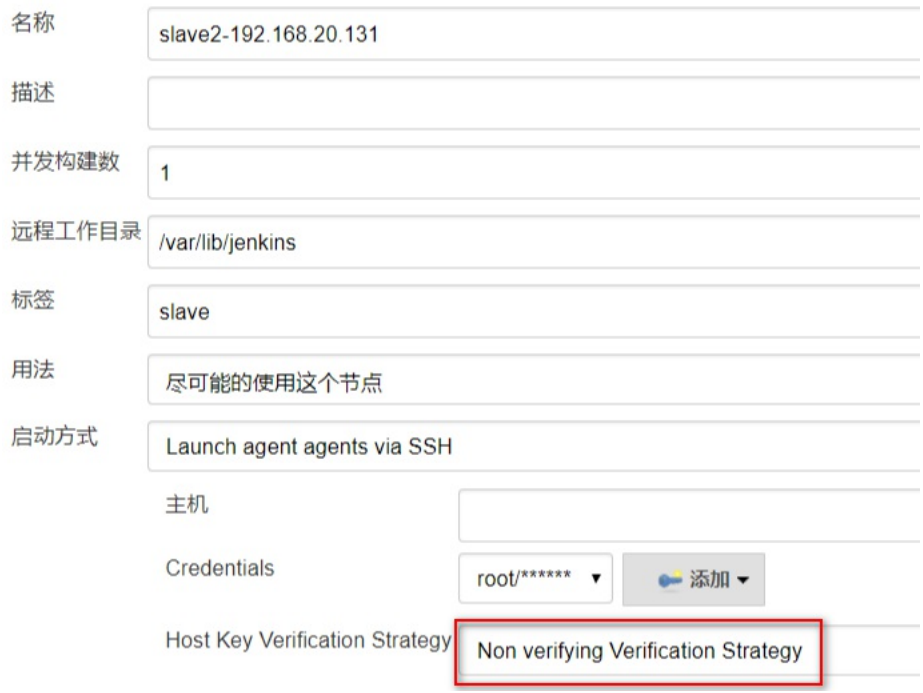
名称	slave1-192.168.20.132
描述	
并发构建数	1
远程工作目录	/var/lib/jenkins
标签	
用法	只允许运行绑定到这台机器的Job
启动方式	Launch agent agents via SSH
主机	192.168.20.132
Credentials	root/****** 添加
Host Key Verification Strategy	Known hosts file Verification Strategy

限制项目的运行节点

标签表达式 slave1-192.168.20.132

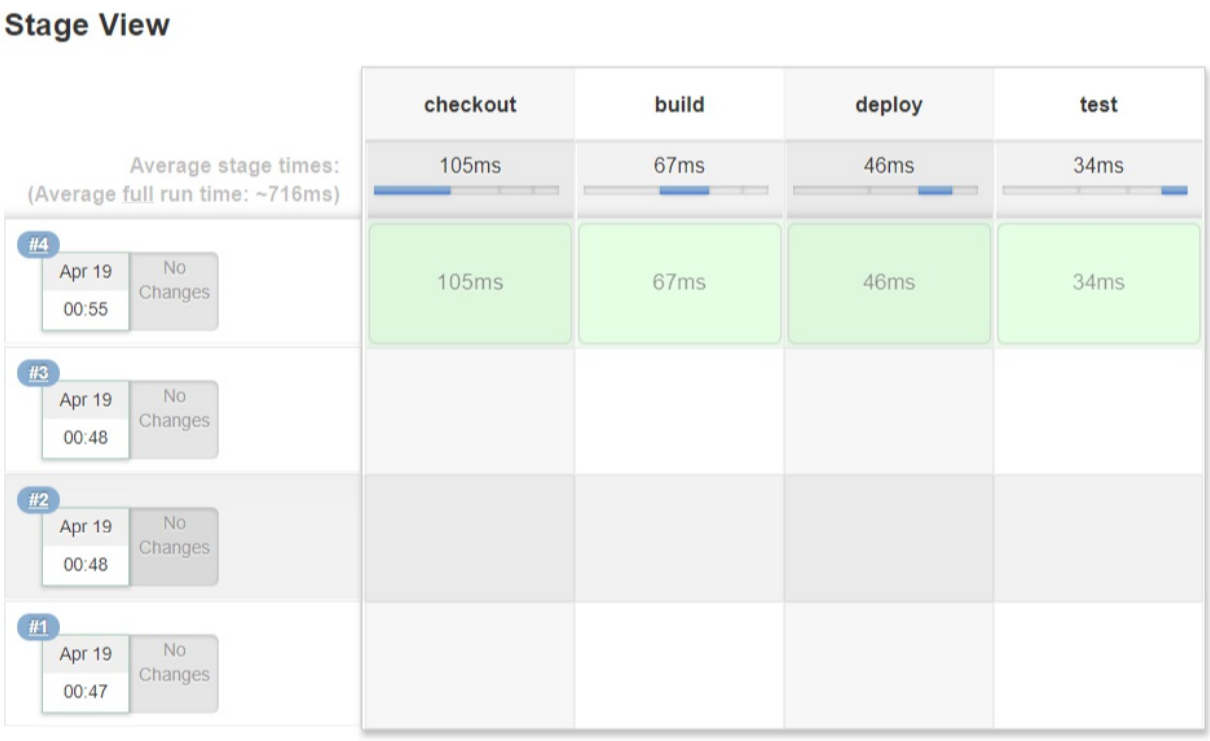
Label slave1-192.168.20.132 is serviced by 1 node. Permissions or other restrictions provided by plugins may prevent this job from running on those nodes.

高级...



8. 流水线 **#**

- Pipeline 插件



流水线

定义 Pipeline script

脚本

```
1  node {
2      stage ('checkout'){
3         echo "checkout"
4      }
5      stage ('build'){
6          echo "build"
7      }
8      stage ('deploy'){
9          echo "deploy"
10     }
11     stage ('test'){
12         echo "test"
13     }
14 }
```

使用 Groovy 沙盒

流水线语法

```
node {
    stage ('checkout'){
       echo "checkout"
    }
    stage ('build'){
        echo "build"
    }
    stage ('deploy'){
        echo "deploy"
    }
    stage ('test'){
        echo "test"
    }
}
```

流水线

定义 Pipeline script from SCM

SCM Git

Repositories

Repository URL git@192.168.20.131:/home/git/repos/pipeline.git

Credentials - 无 - 添加

高级...

Add Repository

Branches to build

Branch Specifier (blank for 'any') */master

Add Branch

源码库浏览器 (自动)

Additional Behaviours 新增

脚本路径 Jenkinsfile

```
node('slave') {
    stage ('checkout'){
       echo "checkout2"
       sleep time: 10, unit: 'SECONDS'
    }
    stage ('build'){
        echo "build"
    }
    stage ('deploy'){
        echo "deploy"
    }
    stage ('test'){
        echo "test"
    }
}
```

9. 邮件通知

- Email Extension Plugin 插件

10. 发布PHP项目

10.1 创建本地项目

- 先登录git服务器创建php仓库

```
mkdir -p /home/git/repos/dev-php.git
cd /home/git/repos/dev-php.git
git init --bare
```

10.2 拉取代码

- 拉取并初始化本地仓库

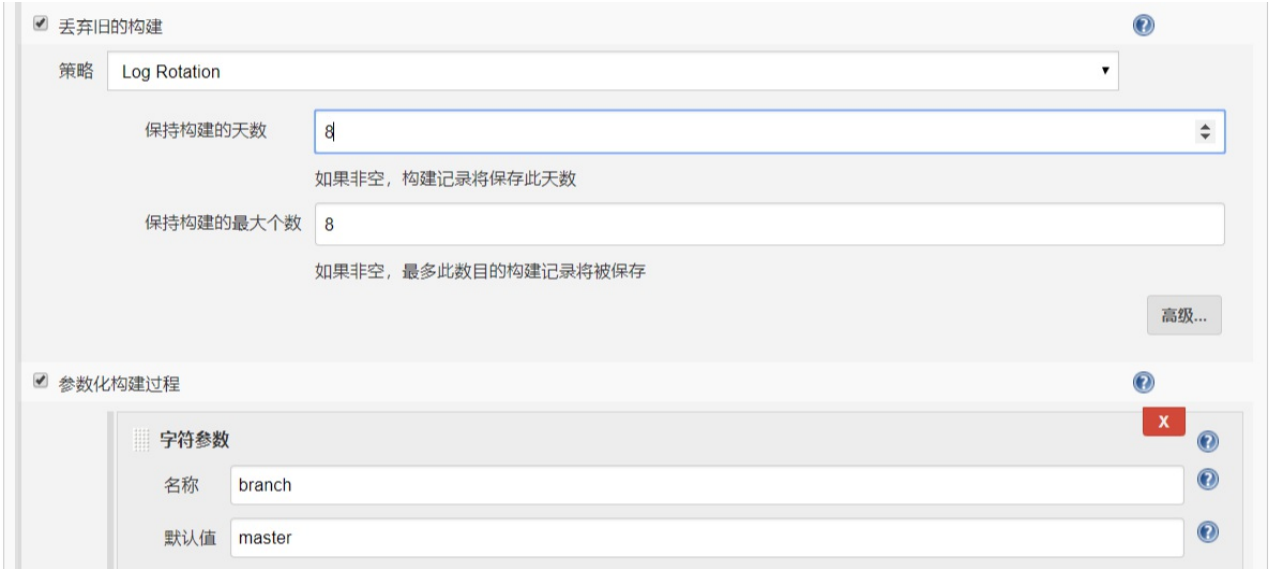
```
git clone  git@192.168.20.131:/home/git/repos/dev-php.git
cd php
echo "" > index.php
git add -A
git commit -m"add index.php"
git push origin master
```

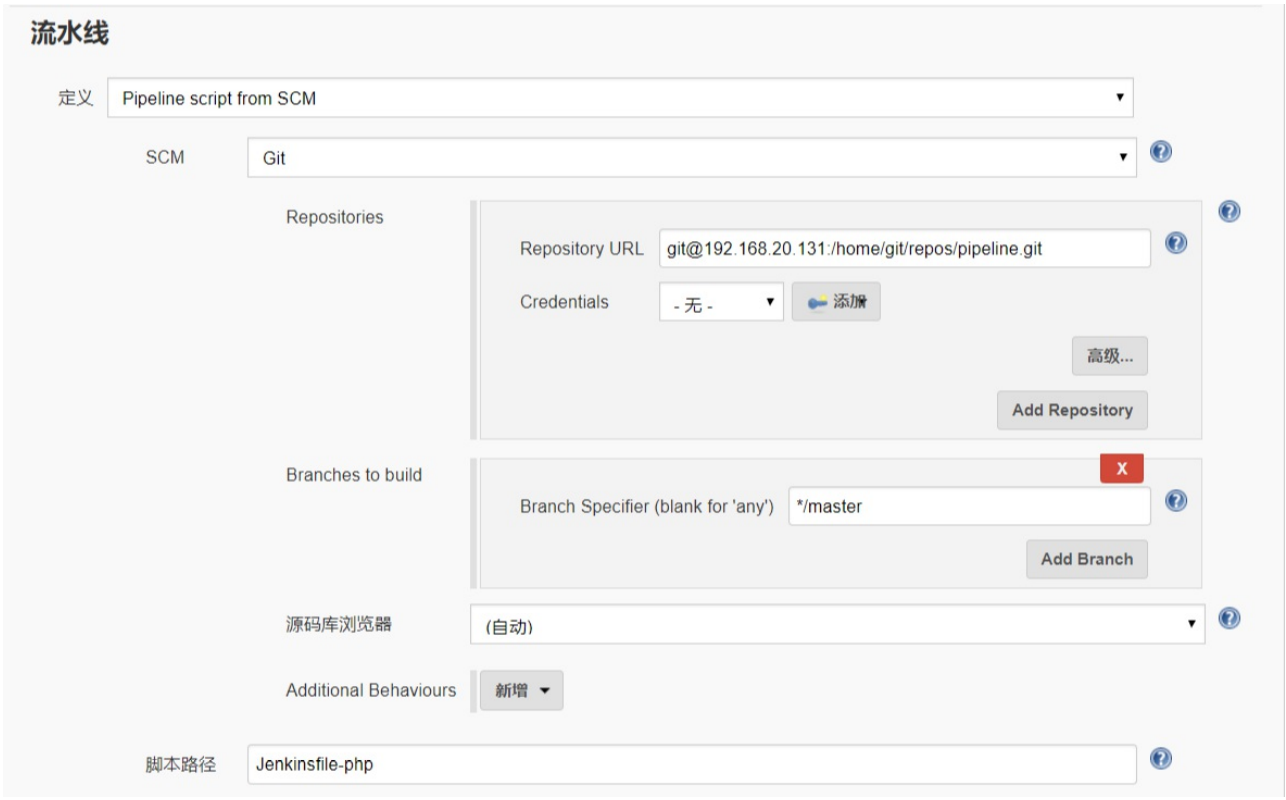
10.3 部署环境

- 安装php
- 安装nginx

10.4 创建项目

10.4.1 构建参数





10.4.2 pipeline脚本

- 先在git服务器里创建一个 dev-php项目
- 然后到web服务器上克隆此项目并在里面添加文件
- 在pipeline服务器里添加新的脚本
- 给web服务器添加标签名并在pipeline脚本中引用
- web服务器上的工作目录 /var/lib/jenkins/workspace/dev-php
- credentialsId git/git

cat /root/pipeline/Jenkinsfile-php

```
node('webserver') {
    stage ('checkout'){
       checkout([$class: 'GitSCM', branches: [[name: '*/master']], doGenerateSubmoduleConfigurations: false, extensions: [], submoduleCfg: [],
userRemoteConfigs: [[credentialsId: '8e8e63f9-4806-4f2e-8633-c92badbdefd7', url: "git@192.168.20.131:/home/git/repos/${JOB_NAME}.git"]])
    }
    stage ('build'){
       sh '''rm -rf ${WORKSPACE}/.git
       [ -e /data/backup ] ||  mkdir -p /data/backup
       [ -e /usr/share/nginx/html/${JOB_NAME} ] || mkdir /usr/share/nginx/html/${JOB_NAME}
       mv /usr/share/nginx/html/${JOB_NAME} /data/backup/${JOB_NAME}"-$(date +%F_%T)"
       cp -rf ${WORKSPACE} /usr/share/nginx/html'''
    }
    stage ('test'){
        sh "curl http://www.${JOB_NAME}.com/status"
    }
}
```

11. 发布Java项目

11.1 创建本地项目

- 先登录git服务器创建java仓库

```
mkdir -p /home/git/repos/dev-java.git
cd /home/git/repos/dev-java.git
git init --bare
```

10.2 拉取代码

- 拉取并初始化本地仓库

```
git clone git@github.com:zhufengnodejs/blog2.git
git clone git@192.168.20.131:/home/git/repos/dev-java.git
git add -A && git commit -m"blog2" && git push origin master
```

10.3 部署环境

- jdk
- maven
- tomcat

10.4 pipeline脚本

```
node ("webserver") {
   stage('git checkout') {
       checkout([$class: 'GitSCM', branches: [[name: '*/master']], doGenerateSubmoduleConfigurations: false, extensions: [], submoduleCfg: [],
userRemoteConfigs: [[credentialsId: '8e8e63f9-4806-4f2e-8633-c92badbdefd7', url: "git@192.168.20.131:/home/git/repos/${JOB_NAME}.git"]]])
   }
   stage('maven build') {
        sh '''export JAVA_HOME=/usr/java/jdk1.8.0_211
        /usr/bin/mvn clean package'''
   }
   stage('deploy') {
        sh '''
        JENKINS_NODE_COOKIE=dontkillme
        export JAVA_HOME=/usr/java/jdk1.8.0_211
        TOMCAT_NAME=tomcat
        TOMCAT_HOME=/usr/local/$TOMCAT_NAME
        WWWROOT=$TOMCAT_HOME/webapps/ROOT

        if [ -d $WWWROOT ]; then
           mv $WWWROOT /data/backup/${TOMCAT_NAME}-$(date +"%F_%T")
        fi
        unzip ${WORKSPACE}/target/*.war -d $WWWROOT
        PID=$(ps -ef |grep $TOMCAT_NAME |egrep -v "grep|$" |awk '{print $2}')
        [ -n "$PID" ] && kill -9 $PID
        /bin/bash $TOMCAT_HOME/bin/startup.sh'''
   }
   stage('test') {
       sh "curl http://www.de-java.com/status.html"
   }
}
```

12. Jenkins+Docker实现持续集成

```
node ("webserver") {
   stage('Git Checkout') {
        checkout([$class: 'GitSCM', branches: [[name: '$Tag']], doGenerateSubmoduleConfigurations: false, extensions: [], submoduleCfg: [], userRemoteConfigs:
[[url: 'git@192.168.0.219:/home/git/solo.git']]])
   }
   stage('Maven Build') {
        sh '''
        export JAVA_HOME=/usr/local/jdk1.8
        /usr/local/maven3.5/bin/mvn clean package -Dmaven.test.skip=true
        '''
   }
   stage('Build and Push Image') {
    sh '''
        REPOSITORY=192.168.0.2/project/dev-docker:${Tag}
        cat > Dockerfile << EOF
        FROM 192.168.0.2/library/tomcat-85:latest
        RUN rm -rf /usr/local/tomcat/webapps/ROOT
        COPY target/*.war /usr/local/tomcat/webapps/ROOT.war
        CMD ["catalina.sh", "run"]
        EOF
        docker build -t $REPOSITORY .
        docker login -u zhangrenyang -p xxx= 192.168.0.2
        docker push $REPOSITORY
    '''
   }
   stage('Deploy to Docker') {
        sh '''
        REPOSITORY=192.168.0.219/project/dev-docker:${Tag}
        docker rm -f dev-docker: |true
        docker image rm $REPOSITORY |true
        docker login -u zhangrenyang -p xxx= 192.168.0.2
        docker container run -d --name dev-docker -v /usr/local/jdk1.8:/usr/local/jdk -p 88:8080 $REPOSITORY
        '''
   }
}
```