P8-07-09 DevOps中的CI/CD环境搭建与调优

一、知识点回顾

链接：https://pan.baidu.com/s/1vP0XXpSzSQ6afHesJGm2Uw
提取码：data

P8架构项目中所需要的Canal 主要用户MySQL主从架构增量或全量备份/导入ES 或Kafka中

二、本节课的主要内容

Java项目 Spring 项目 开发过程开发团队中需要有不同的角色 maven编译

项目/质量管理 禅道(国内)/JIRA(国外)

需要项目管理软件 中小型的公司GitLab 代码托管 CI 持续集成

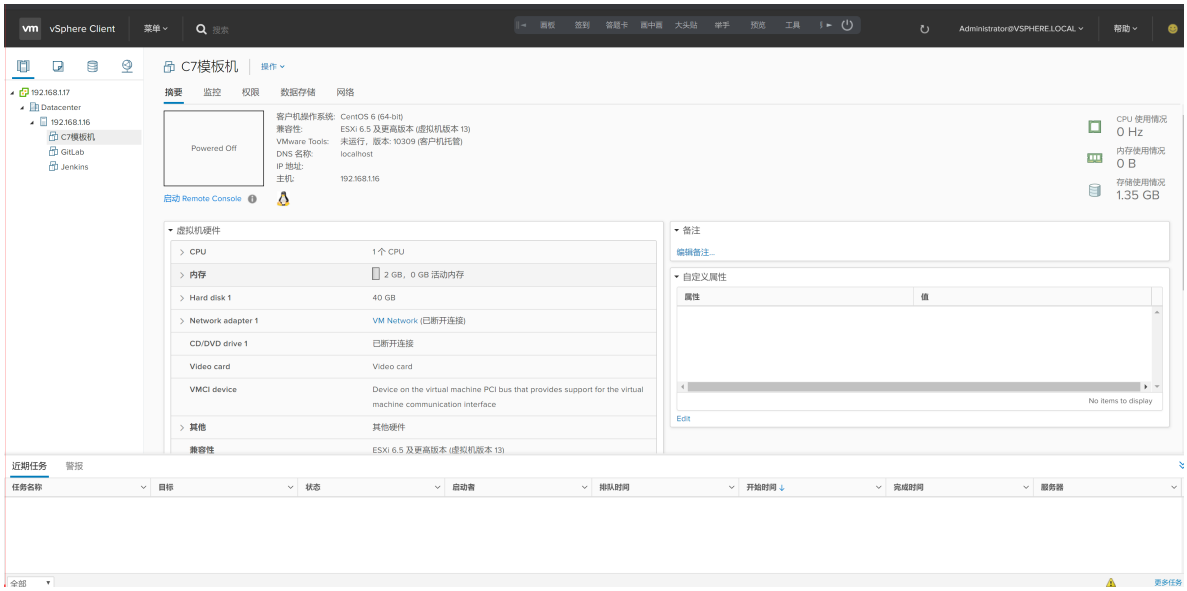
CI 持续集成 开发人员Dev分支开发 Bug修复 提交代码Dev分支 合并分支Master主分支

CD 持续部署 Jenkins/tecmCity

CM 持续监控 Zabbix/等

三、Gitlab 开源的管理软件(注意 阿里云 坑如果不注意/)

克隆一台虚拟机GitLab



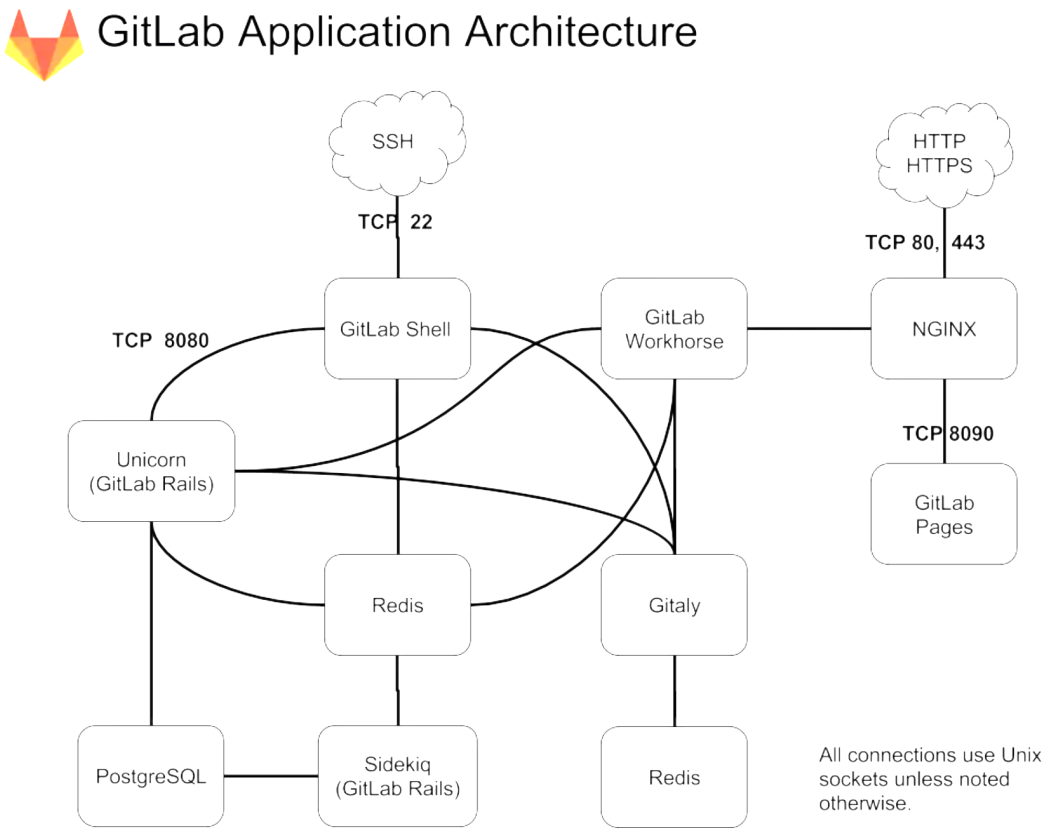
GitLab安装

1)在线安装的方式

主机规划

主机名称 hostname	主机规划 (内)	主机规划 (外)	安装基础软件	系统	服务器推荐配置
GitLab	10.0.0.10	123.57.13.5	yum install -y vim net-tools lrzsz tree	CentOS7x64 1810 7.6	4C 8G

0x1 GitLab架构

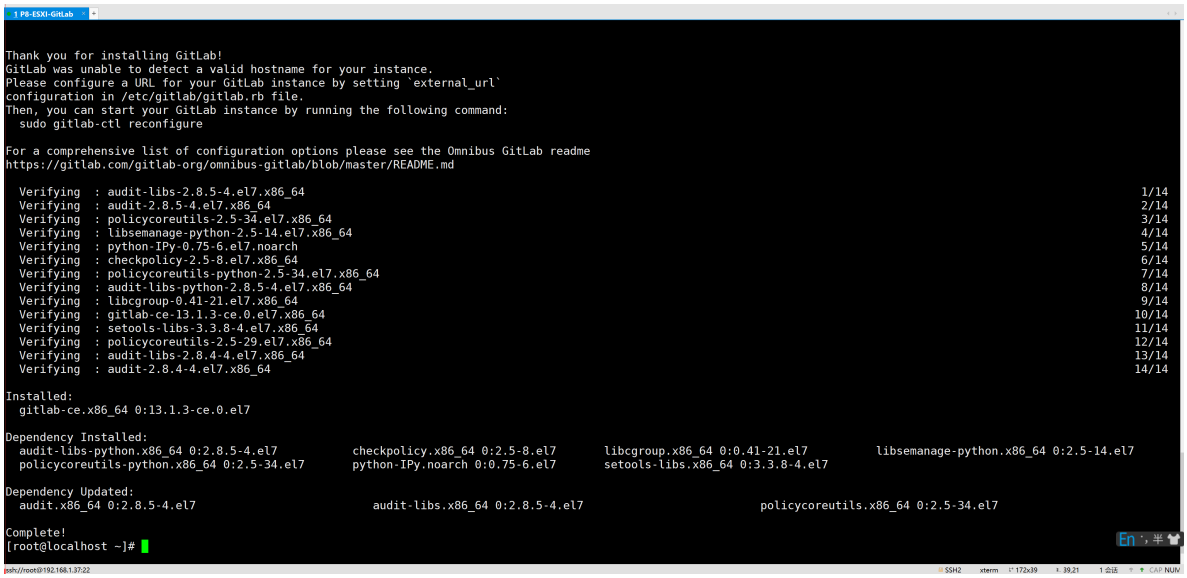


国内的源速度比较快/阿里源/清华源

vim /etc/yum.repos.d/gitlab-ce.repo

```
[gitlab-ce]
name=Gitlab CE Repository
baseurl=https://mirrors.tuna.tsinghua.edu.cn/gitlab-ce/yum/el$releasever/
gpgcheck=0
enabled=1
```

yum makecache && yum install -y gitlab-ce



PS：还可以自己搭建本地yum源的服务器，集群内部为了速度，可以搭建本地yum源

【面试题】SVN Git Gitlab GitHub Gitee/Gitlab坑很多 Redis搭建这个服务的时候有哪些要点?

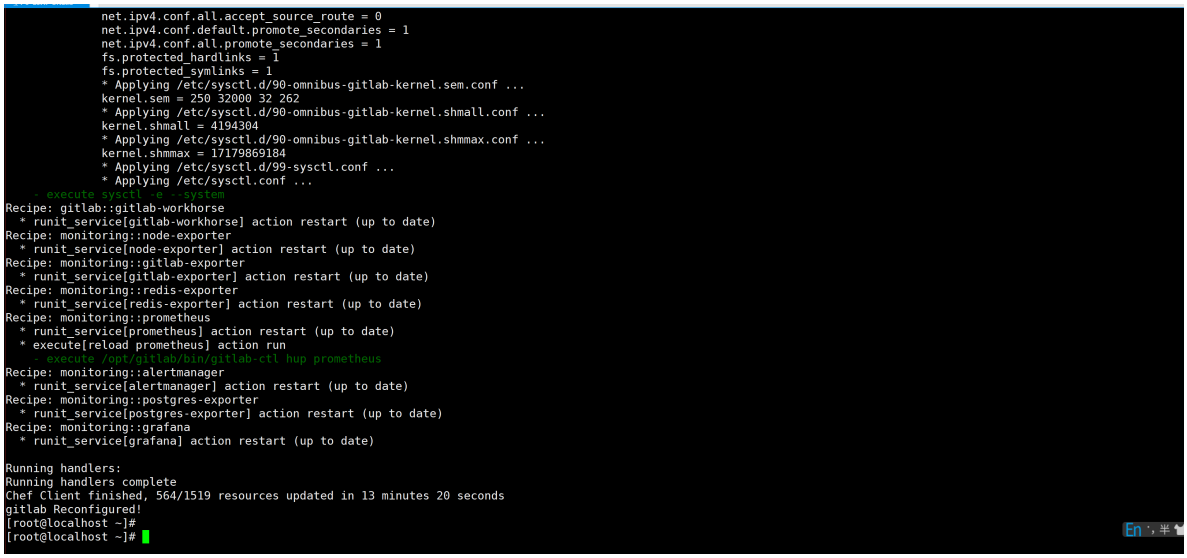
Redis 默认密码的问题/服务器不安全 有可能被黑。

修改配置文件进行配置

vim /etc/gitlab/gitlab.rb

```
external_url 'IP地址+端口号'
```

gitlab-ctl reconfigure



角色管理(思想很重要 开发(宏观) ---->机构师 （微观） ---->送外卖) P7企业不光是技术

团队管理+项目管理

注意

C7 的防火墙 firewalld

firewall-cmd --zone=public --add-port=8081/tcp --permanent

```
firewall-cmd --reload
```

C6 的防火墙 iptables

或者关闭防火墙（处于安全性的考虑 建议大家开着）

```
[root@localhost ~]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2020-07-09 08:25:47 EDT; 43min ago
     Docs: man:firewalld(1)
 Main PID: 5482 (firewalld)
   CGroup: /system.slice/firewalld.service
           └─5482 /usr/bin/python -Es /usr/sbin/firewalld --nofork --nopid

Jul 09 08:17:19 localhost.localdomain systemd[1]: Starting firewalld - dynamic firewall daemon...
Jul 09 08:25:47 localhost.localdomain systemd[1]: Started firewalld - dynamic firewall daemon.
[root@localhost ~]# systemctl stop firewalld
[root@localhost ~]# systemctl disable firewalld
Removed symlink /etc/systemd/system/multi-user.target.wants/firewalld.service.
Removed symlink /etc/systemd/system/dbus-org.fedoraproject.FirewallD1.service.
[root@localhost ~]#
```

如果你用的是云主机 阿里云/金山云/华为云/AWS等

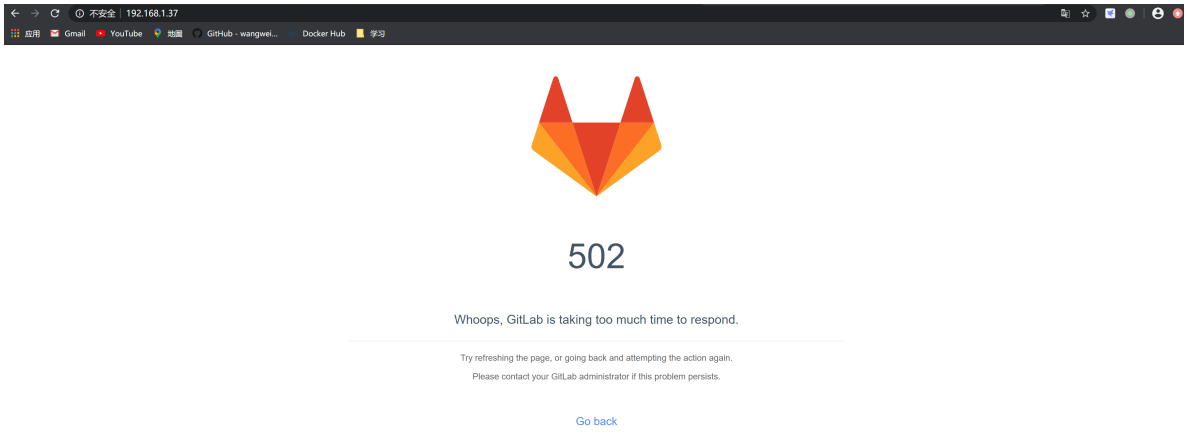
注意：需要把对应的端口添加到 安全组里 否则外网访问的时候出现问题

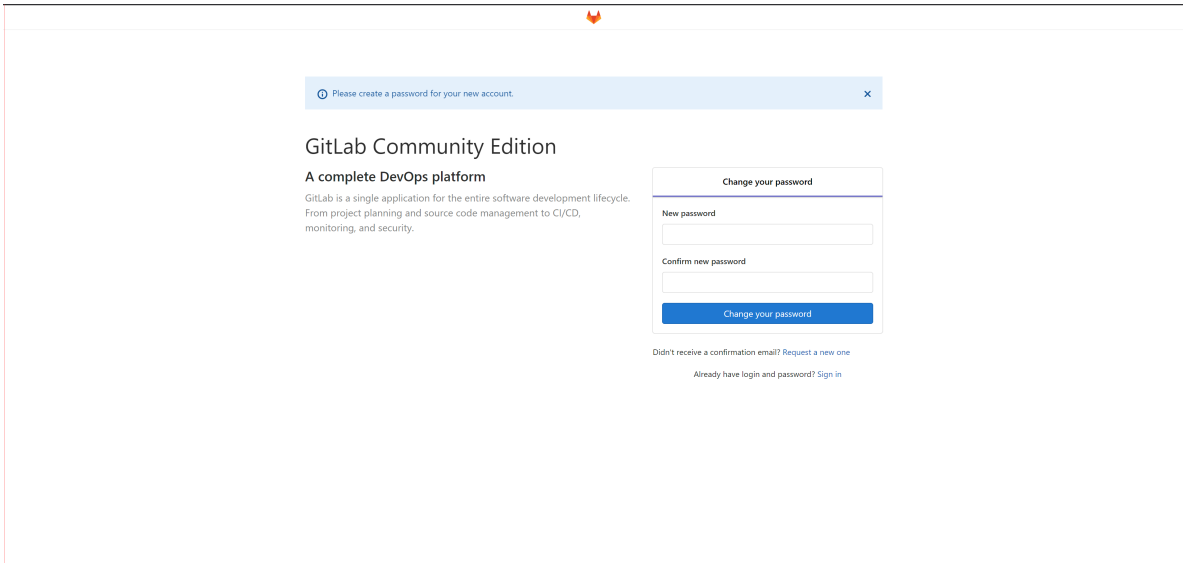
注意：云主机的配置内存不要太小 推荐配置4C 8G 内存太小的话容易出现一些问题。

gitlab-ctl restart

```
[root@localhost ~]# gitlab-ctl restart
ok: run: alertmanager: (pid 9160) 0s
ok: run: gitaly: (pid 9174) 0s
ok: run: gitlab-exporter: (pid 9182) 1s
ok: run: gitlab-workhorse: (pid 9190) 0s
ok: run: grafana: (pid 9198) 1s
ok: run: logrotate: (pid 9208) 0s
ok: run: nginx: (pid 9214) 1s
ok: run: node-exporter: (pid 9220) 0s
ok: run: postgres-exporter: (pid 9232) 1s
ok: run: postgresql: (pid 9244) 0s
ok: run: prometheus: (pid 9246) 0s
ok: run: puma: (pid 9345) 1s
ok: run: redis: (pid 9354) 0s
ok: run: redis-exporter: (pid 9362) 1s
ok: run: sidekiq: (pid 9375) 0s
[root@localhost ~]#
```

到浏览器中输入iP+端口访问





2)离线安装的方式

下载对应的安装包/没有网络/

四、Jenkins 持续部署工具(源码拉取 预处理 编译 构建 打包 镜像 发布)

传统的服务器可以部署

微服务Docker K8S中也可以使用

很多很成熟的插件 提升你的工作效率

hostnamectl set-hostname xxxx

主机hostname	主机规划（内）	主机规划（外）	基础软件	操作系统
Jenkins			vim wget jdk1.8以上	C7x64 1810

步骤一 安装openjdk

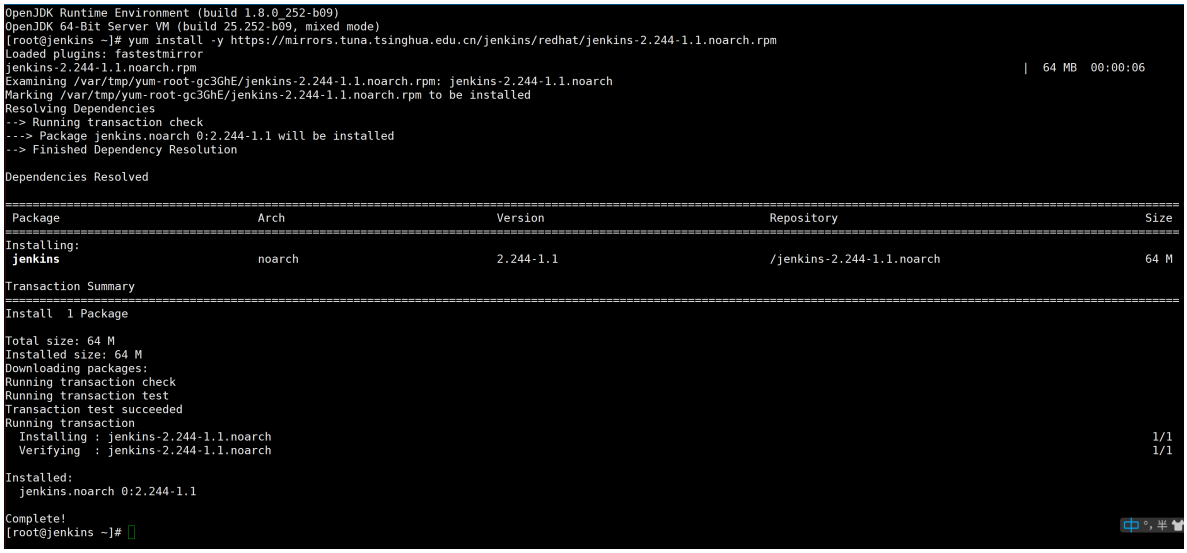
yum install -y java-1.8.0-openjdk*

步骤二 使用清华源进行安装的

https://mirrors.tuna.tsinghua.edu.cn/jenkins/redhat/jenkins-2.244-1.1.noarch.rpm

执行以下命令

yum install -y https://mirrors.tuna.tsinghua.edu.cn/jenkins/redhat/jenkins-2.244-1.1.noarch.rpm



步骤三 进行配置

vim /etc/sysconfig/jenkins

踩坑

JENKINS_USER = root

```
## Path:        Development/Jenkins
## Description: Jenkins Automation Server
## Type:        string
## Default:     "/var/lib/jenkins"
## ServiceRestart: jenkins
#
# Directory where Jenkins store its configuration and working
# files (checkouts, build reports, artifacts, ...).
#
JENKINS_HOME="/var/lib/jenkins"

## Type:        string
## Default:     ""
## ServiceRestart: jenkins
#
# Java executable to run Jenkins
# When left empty, we'll try to find the suitable Java.
#
JENKINS_JAVA_CMD=""

## Type:        string
## Default:     "jenkins"
## ServiceRestart: jenkins
#
# Unix user account that runs the Jenkins daemon
# Be careful when you change this, as you need to update
# permissions of $JENKINS_HOME and /var/log/jenkins.
#
JENKINS_USER="jenkins"

## Type:        string
## Default: "false"
## ServiceRestart: jenkins
#
# Whether to skip potentially long-running chown at the
# $JENKINS_HOME location. Do not enable this, "true", unless
# you know what you're doing. See JENKINS-23273.
#
"/etc/sysconfig/jenkins" 177L, 3937C
```

端口号 8080 tomcat/端口冲突/端口保活

```
JENKINS_JAVA_OPTIONS="-Djava.awt.headless=true"

## Type:        integer(0:65535)
## Default:     8080
## ServiceRestart: jenkins
#
# Port Jenkins is listening on.
# Set to -1 to disable
#
JENKINS_PORT="8080"

## Type:        string
## Default:     ""
## ServiceRestart: jenkins
#
# IP address Jenkins listens on for HTTP requests.
# Default is all interfaces (0.0.0.0).
#
JENKINS_LISTEN_ADDRESS=""

## Type:        integer(0:65535)
## Default:     ""
## ServiceRestart: jenkins
#
```

```
## Default:     "-Djava.awt.headless=true"
## ServiceRestart: jenkins
#
# Options to pass to java when running Jenkins.
#
JENKINS_JAVA_OPTIONS="-Djava.awt.headless=true"

## Type:        integer(0:65535)
## Default:     8080
## ServiceRestart: jenkins
#
# Port Jenkins is listening on.
# Set to -1 to disable
#
JENKINS_PORT="80"

## Type:        string
## Default:     ""
## ServiceRestart: jenkins
#
# IP address Jenkins listens on for HTTP requests.
# Default is all interfaces (0.0.0.0).
#
JENKINS_LISTEN_ADDRESS=""

## Type:        integer(0:65535)
## Default:     ""
## ServiceRestart: jenkins
#
# HTTPS port Jenkins is listening on.
# Default is disabled.
#
JENKINS_HTTPS_PORT=""

## Type:        string
## Default:     ""
## ServiceRestart: jenkins
#
-- INSERT --
```

【踩坑】国内访问国外安装插件的问题！！！ 国内插件加速！(重要的地方)

/var/lib/jenkins/updates/default.json 使用google的搜索 以及国外的服务器

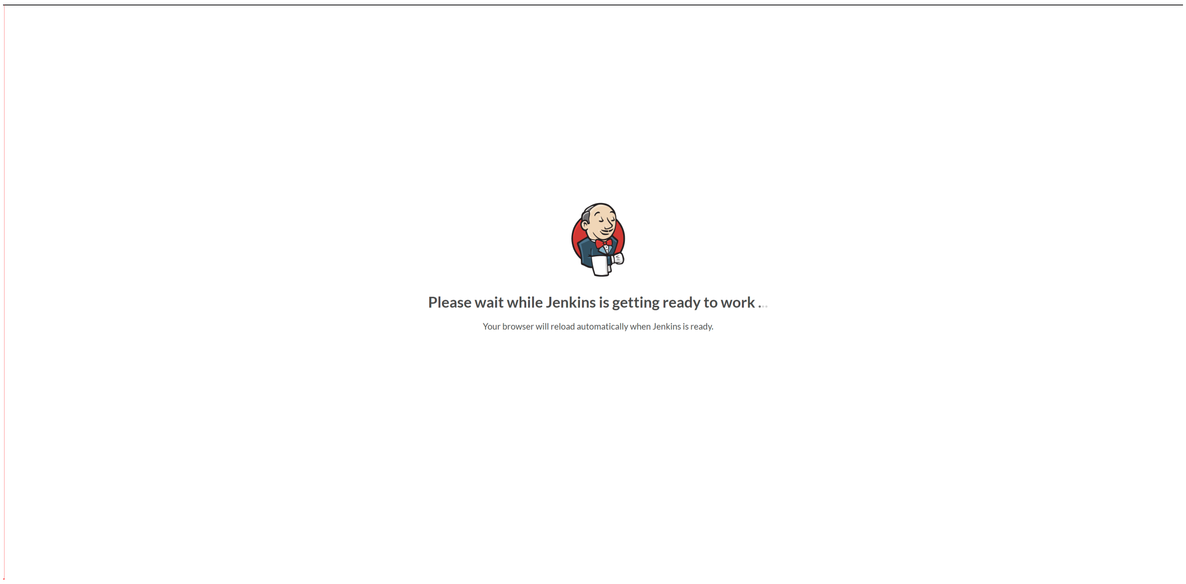
```
[root@jenkins updates]# ll
total 1932
-rw-r--r--. 1 jenkins jenkins 1969304 Jul  9 09:50 default.json
-rw-r--r--. 1 jenkins jenkins    5350 Jul  9 09:50 hudson.tasks.Maven.MavenInstaller
[root@jenkins updates]# pwd
/var/lib/jenkins/updates
[root@jenkins updates]#
```


```
sed -i 's/http:\/\/updates.jenkins-ci.org\/download/https:\/\/mirrors.tuna.tsinghua.edu.cn\/jenkins/g' default.json && sed -i 's/http:\/\/www.google.com/https:\/\/www.baidu.com/g' default.json
```

搜索替换成百度

```
[root@jenkins updates]# ll
total 1932
-rw-r--r--. 1 jenkins jenkins 1969304 Jul  9 09:50 default.json
-rw-r--r--. 1 jenkins jenkins    5350 Jul  9 09:50 hudson.tasks.Maven.MavenInstaller
[root@jenkins updates]# pwd
/var/lib/jenkins/updates
[root@jenkins updates]# more -5 default.json
{"connectionCheckUrl":"http://www.google.com/","core":{"buildDate":"Jul 07, 2020","name":"core","sha1":"Y+DvkbtdT9KEXB7/6bYYXXN2Eh4=","sha256":"kVJdlOgPLP8p1aQ+u/aKPk5HiBAQ
mylHp56ianNaBLY=","url":"http://updates.jenkins-ci.org/download/war/2.244/jenkins.war","version":"2.244"},"deprecations":{"PUCM":{"url":"https://wiki.jenkins.io/x/fIBVAw"},
"SCTMExecutor":{"url":"https://git.io/JfaQP"},"appthwack":{"url":"https://wiki.jenkins.io/x/cwchB"},"assembla-oauth":{"url":"https://groups.google.com/d/msg/jenkinsci-dev/T
Vz-D5etsUM/Knx9zXtEnSwJ"},"blackduck-hub":{"url":"https://git.io/JfaQa"},"blackduck-installer":{"url":"https://wiki.jenkins.io/x/nYHHB"},"build-flow-extensions-plugin":{"ur
l":"https://groups.google.com/d/msg/jenkinsci-dev/YKfydxnpvyE/mMN7LNBoBgAJ"},"build-flow-test-aggregator":{"url":"https://groups.google.com/d/msg/jenkinsci-dev/YKfydxnpvyE/
[root@jenkins updates]# sed -i 's/http:\/\/updates.jenkins-ci.org\/download/https:\/\/mirrors.tuna.tsinghua.edu.cn\/jenkins/g' default.json && sed -i 's/http:\/\/www.google
.com/https:\/\/www.baidu.com/g' default.json
[root@jenkins updates]# sed -i 's/http:\/\/updates.jenkins-ci.org\/download/https:\/\/mirrors.tuna.tsinghua.edu.cn\/jenkins/g' default.json && sed -i 's/http:\/\/www.google
.com/https:\/\/www.baidu.com/g' default.json
[root@jenkins updates]# sed -i 's/http:\/\/updates.jenkins-ci.org\/download/https:\/\/mirrors.tuna.tsinghua.edu.cn\/jenkins/g' default.json && sed -i 's/http:\/\/www.google
.com/https:\/\/www.baidu.com/g' default.json
[root@jenkins updates]# more -5 default.json
{"connectionCheckUrl":"https://www.baidu.com/","core":{"buildDate":"Jul 07, 2020","name":"core","sha1":"Y+DvkbtdT9KEXB7/6bYYXXN2Eh4=","sha256":"kVJdlOgPLP8p1aQ+u/aKPk5HiBAQ
mylHp56ianNaBLY=","url":"https://mirrors.tuna.tsinghua.edu.cn/jenkins/war/2.244/jenkins.war","version":"2.244"},"deprecations":{"PUCM":{"url":"https://wiki.jenkins.io/x/fIB
VAw"},"SCTMExecutor":{"url":"https://git.io/JfaQP"},"appthwack":{"url":"https://wiki.jenkins.io/x/cwchB"},"assembla-oauth":{"url":"https://groups.google.com/d/msg/jenkinsci
-dev/TVz-D5etsUM/Knx9zXtEnSwJ"},"blackduck-hub":{"url":"https://git.io/JfaQa"},"blackduck-installer":{"url":"https://wiki.jenkins.io/x/nYHHB"},"build-flow-extensions-plugin
":{"url":"https://groups.google.com/d/msg/jenkinsci-dev/YKfydxnpvyE/mMN7LNBoBgAJ"},"build-flow-test-aggregator":{"url":"https://groups.google.com/d/msg/jenkinsci-dev/YKfydx
--More--(0%)
```

然后插件中心使用清华源的插件镜像



【踩坑】如果安装完毕以后卡在这个界面不动，需要如何优化

https://mirrors.tuna.tsinghua.edu.cn/jenkins/updates/update-center.json

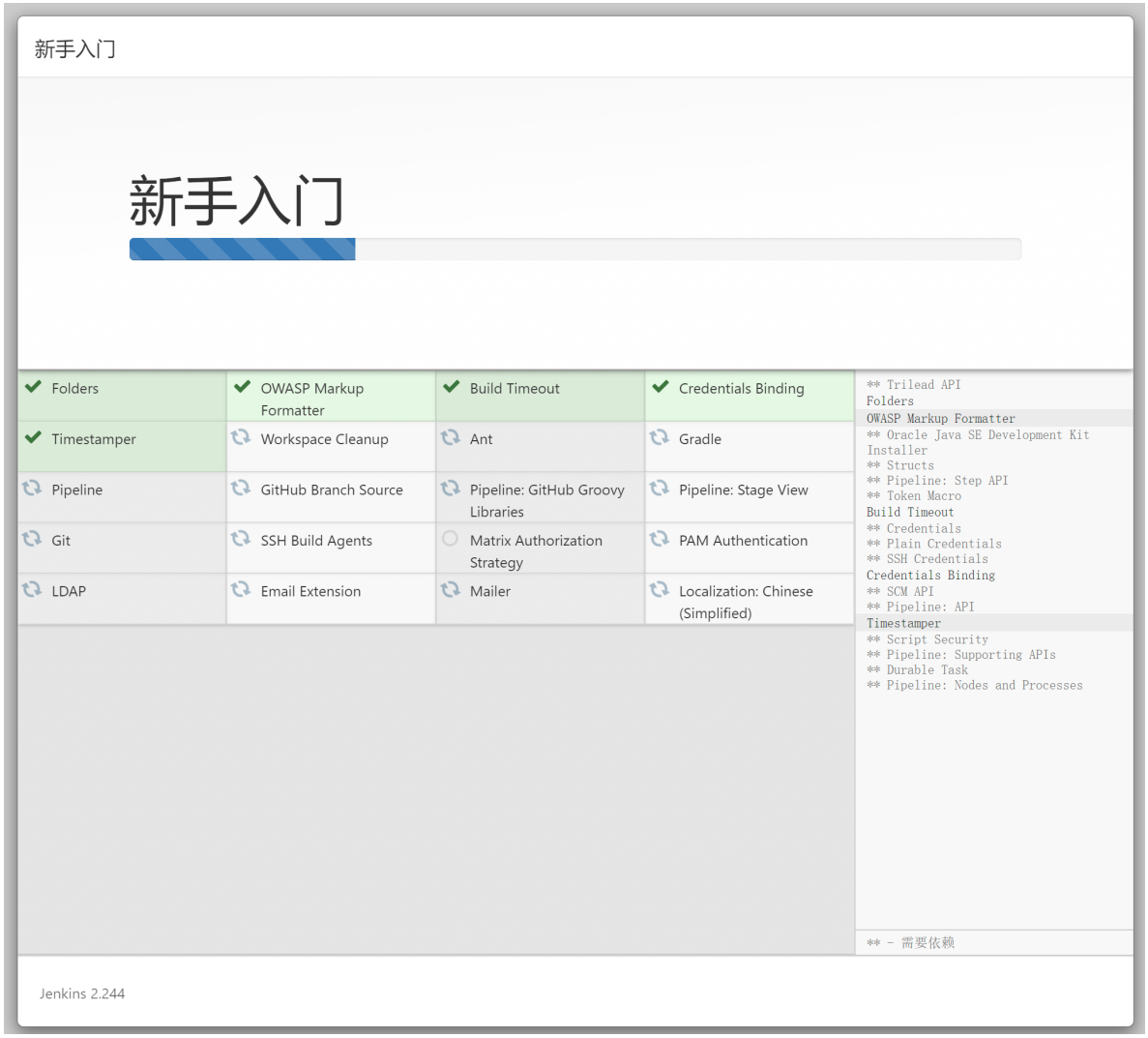
```
<?xml version='1.1' encoding='UTF-8'?>
<sites>
  <site>
    <id>default</id>
    <url>https://mirrors.tuna.tsinghua.edu.cn/jenkins/updates/update-center.json</url>
  </site>
</sites>
~
~
~
```

获取管理员密码

cat /var/lib/jenkins/secrets/initialAdminPassword


入门
解锁 Jenkins
为了确保管理员安全地安装 Jenkins，密码已写入到日志中（不知道在哪里？）该文件在服务器上：
/var/lib/jenkins/secrets/initialAdminPassword
请从本地复制密码并粘贴到下面。
管理员密码
继续

安装插件



设置好用户名以后进入系统