Dennis Tikhomirov **DevOps training, Spring'19 Homework**

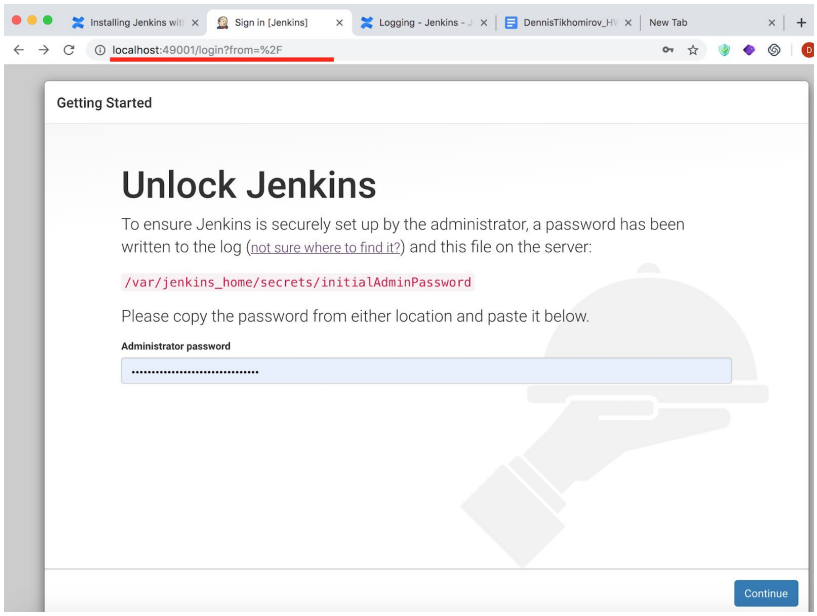
Task 10. Jenkins+Pipeline

1. Install and start Jenkins.

1.1 I used Docker installation:

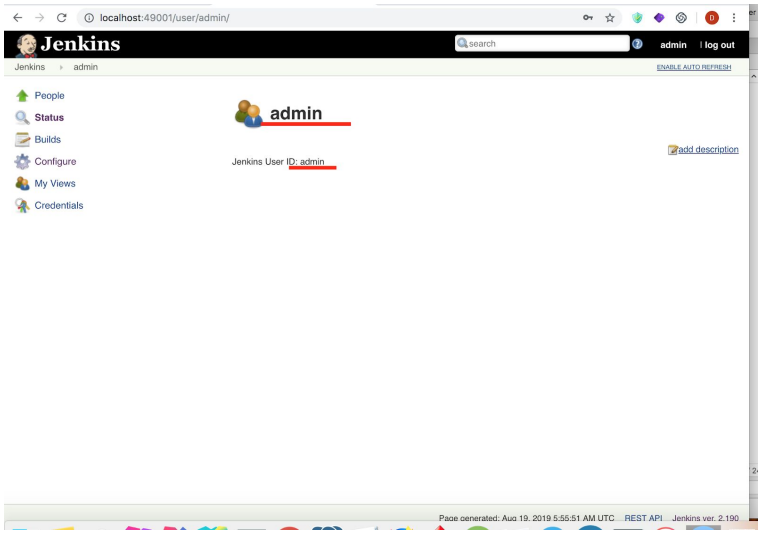
```
docker pull jenkins
docker run -d -p 49001:8080 -v $PWD/jenkins:/var/jenkins_home:z -t jenkins/jenkins
```

1.2 Jenkins is available on port 49001 (port 8080 is occupied by Tomcat on my PC).



1.3 Admin password in `~JENKINS_HOME/jenkins/secrets/initialAdminPassword`

1.4 Configure Admin profile

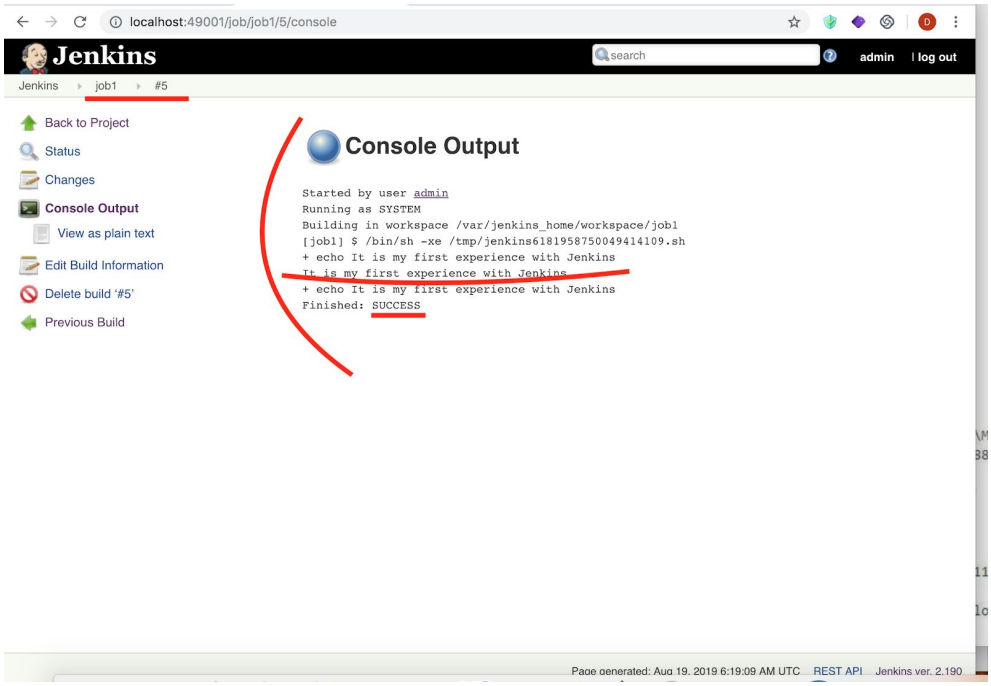


2. Create job in Jenkins

2.1 Build >> Execute shell:

```
echo "It is my first experience with Jenkins"
echo "It is my first experience with Jenkins" >> ./result.log
```

Result.log file is placed to `~JENKINS_HOME/jenkins/workspace/job1`

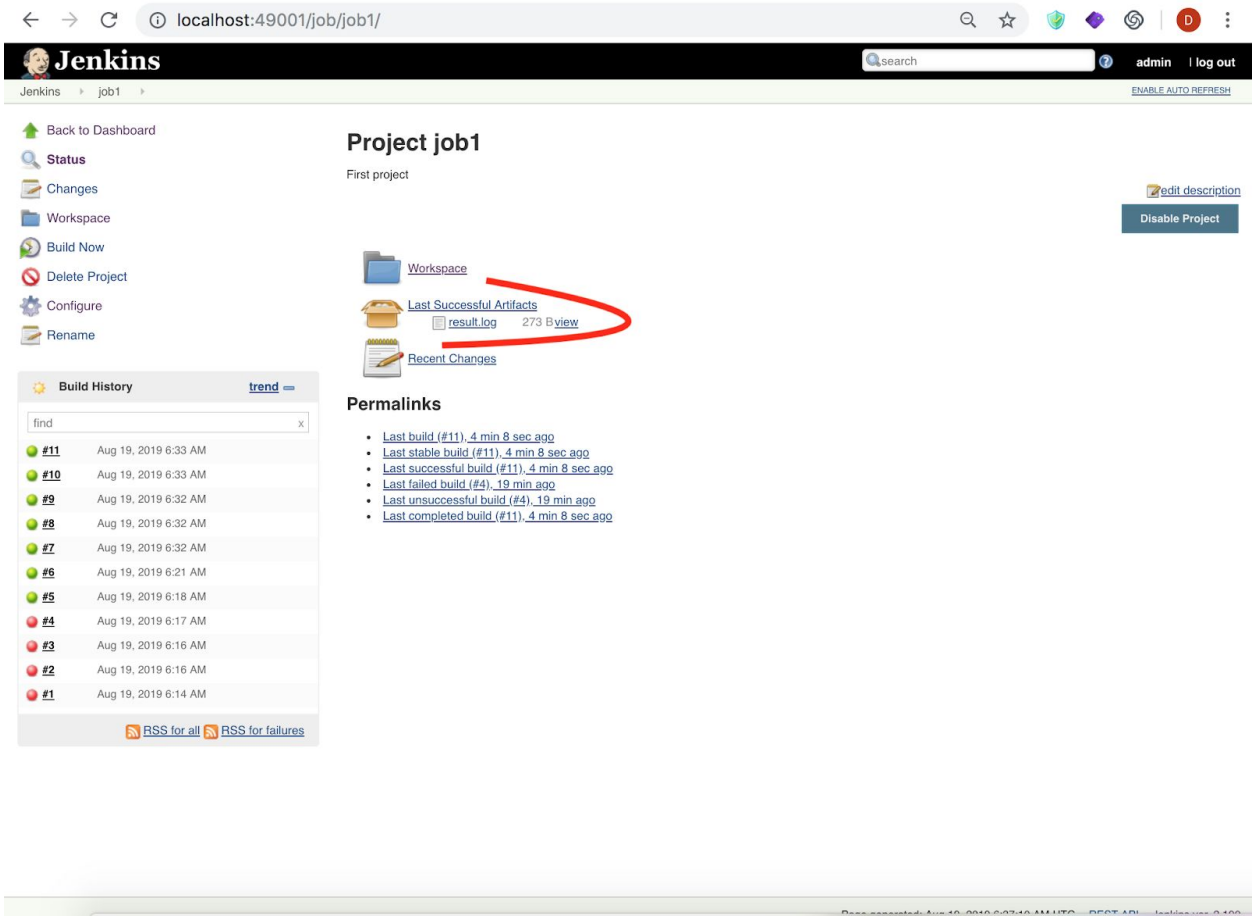


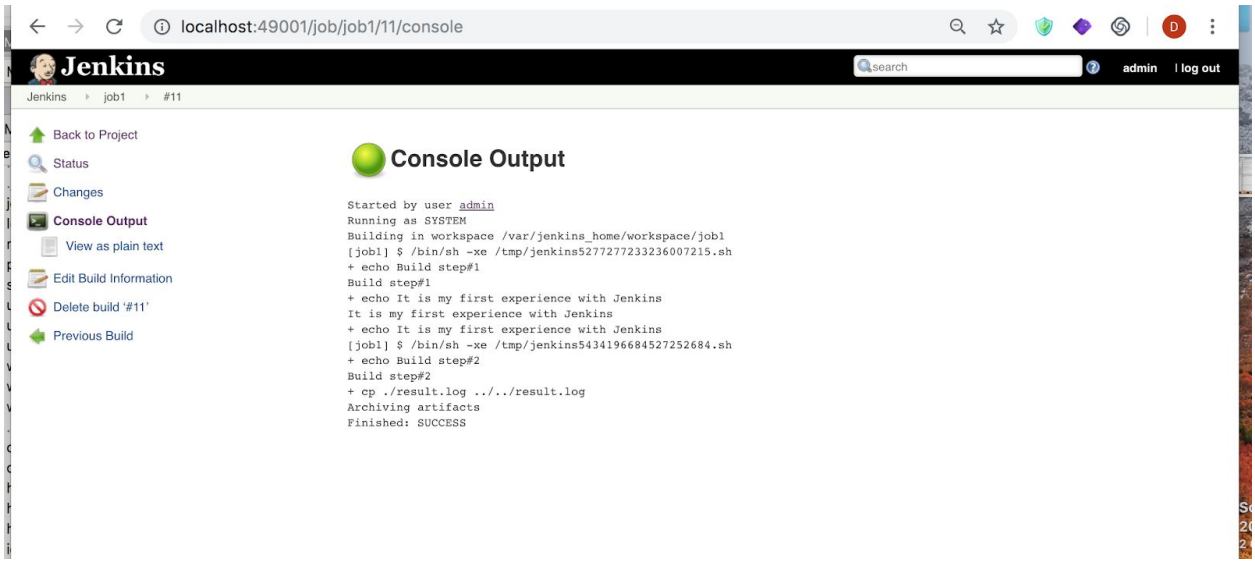
2.4 Add one more step to build section:

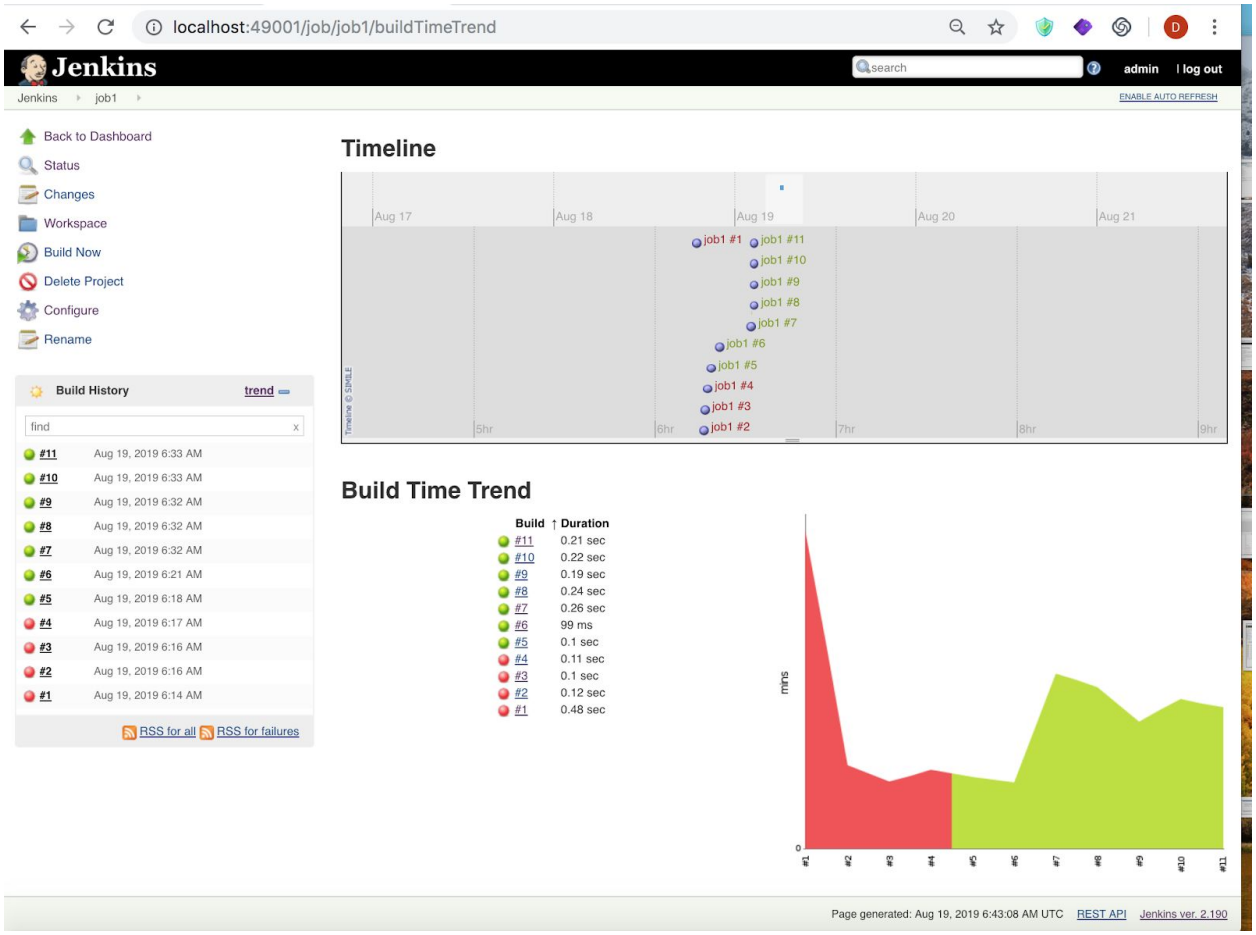
```
echo "Build step#2"
cp ./result.log ../../result.log
```

Add post-build action

Results in screenshots

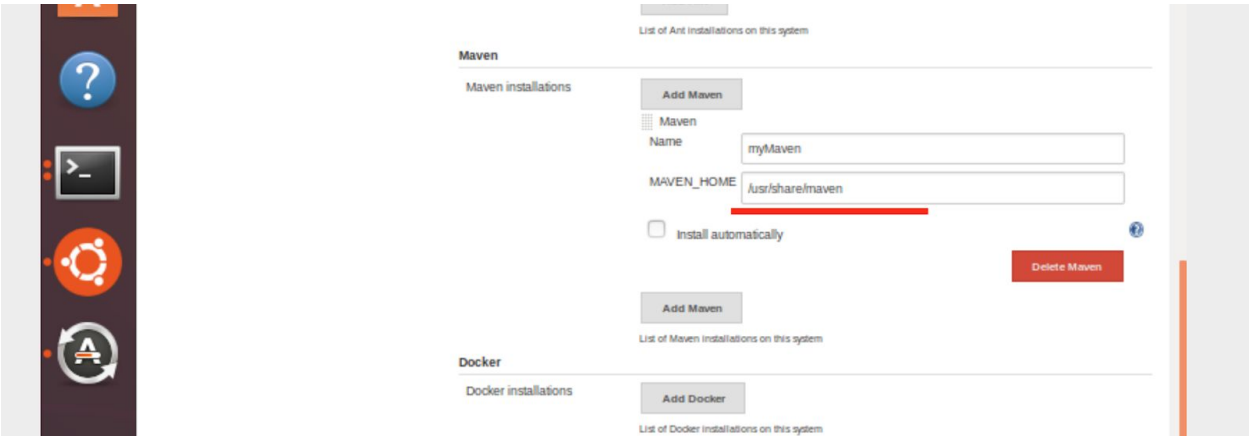





localhost:49001/job/job1/buildTimeTrend
Jenkins
search
admin
log out
Jenkins
job1
ENABLE AUTO REFRESH
Back to Dashboard
Status
Changes
Workspace
Build Now
Delete Project
Configure
Rename
Build History
trend
find
#11 Aug 19, 2019 6:33 AM
#10 Aug 19, 2019 6:33 AM
#9 Aug 19, 2019 6:32 AM
#8 Aug 19, 2019 6:32 AM
#7 Aug 19, 2019 6:32 AM
#6 Aug 19, 2019 6:21 AM
#5 Aug 19, 2019 6:18 AM
#4 Aug 19, 2019 6:17 AM
#3 Aug 19, 2019 6:16 AM
#2 Aug 19, 2019 6:16 AM
#1 Aug 19, 2019 6:14 AM
RSS for all
RSS for failures
Timeline
Aug 17
Aug 18
Aug 19
Aug 20
Aug 21
job1 #1
job1 #11
job1 #10
job1 #9
job1 #8
job1 #7
job1 #6
job1 #5
job1 #4
job1 #3
job1 #2
5hr
6hr
7hr
8hr
9hr
Build Time Trend
Build
Duration
#11 0.21 sec
#10 0.22 sec
#9 0.19 sec
#8 0.24 sec
#7 0.26 sec
#6 99 ms
#5 0.1 sec
#4 0.11 sec
#3 0.1 sec
#2 0.12 sec
#1 0.48 sec
mins
0
Page generated: Aug 19, 2019 6:43:08 AM UTC
REST API
Jenkins ver. 2.190

3. Maven

3.1. Configure Maven in Jenkins

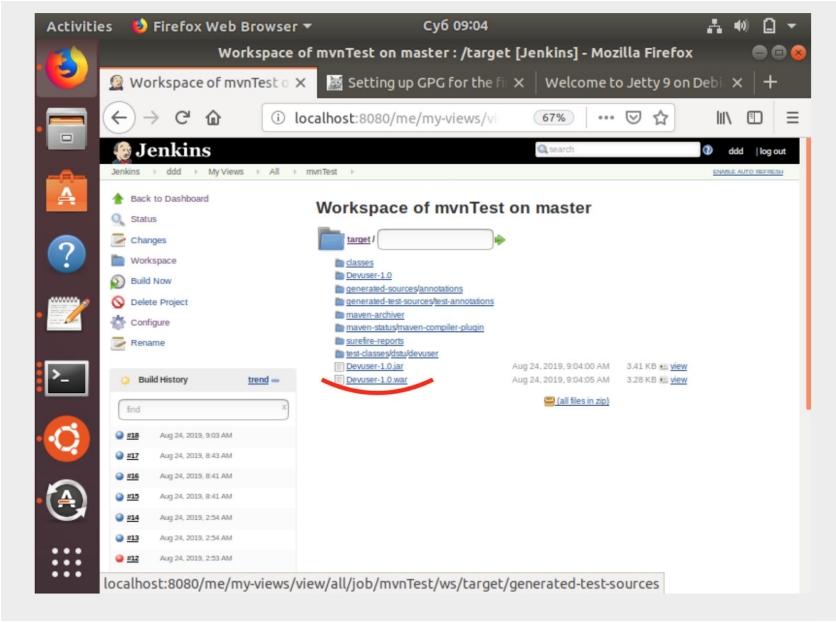


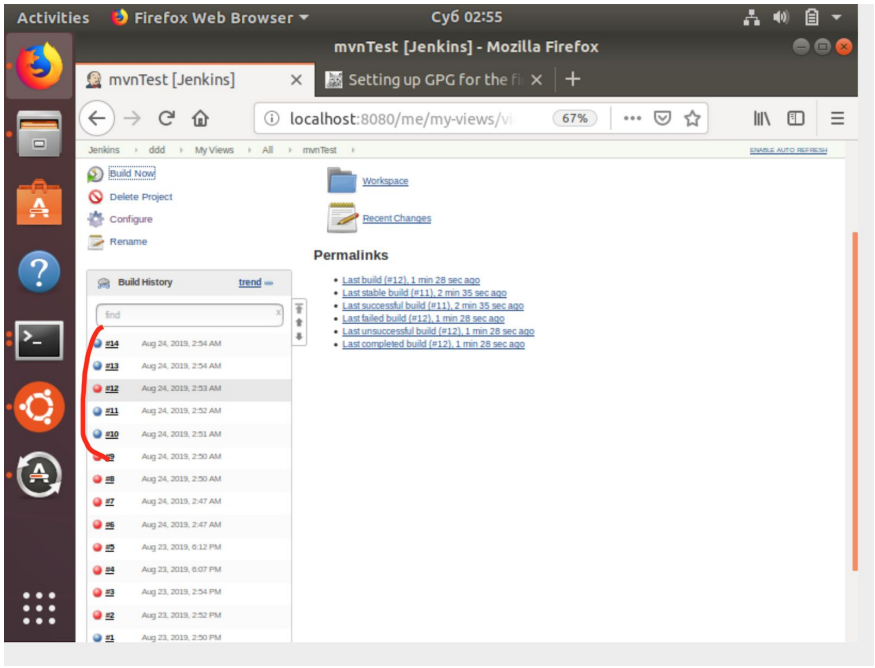
3.2 Create build

I used Maven project

https://github.com/dennis00010011b/simpleweb

I used target `clean install compile war:war`

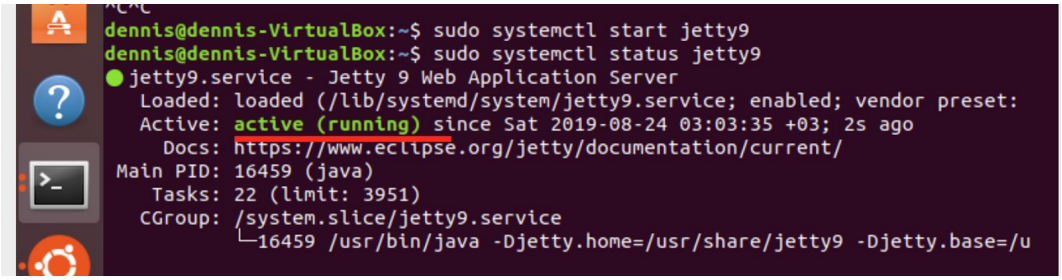




3.3 Deploy project with Jetty

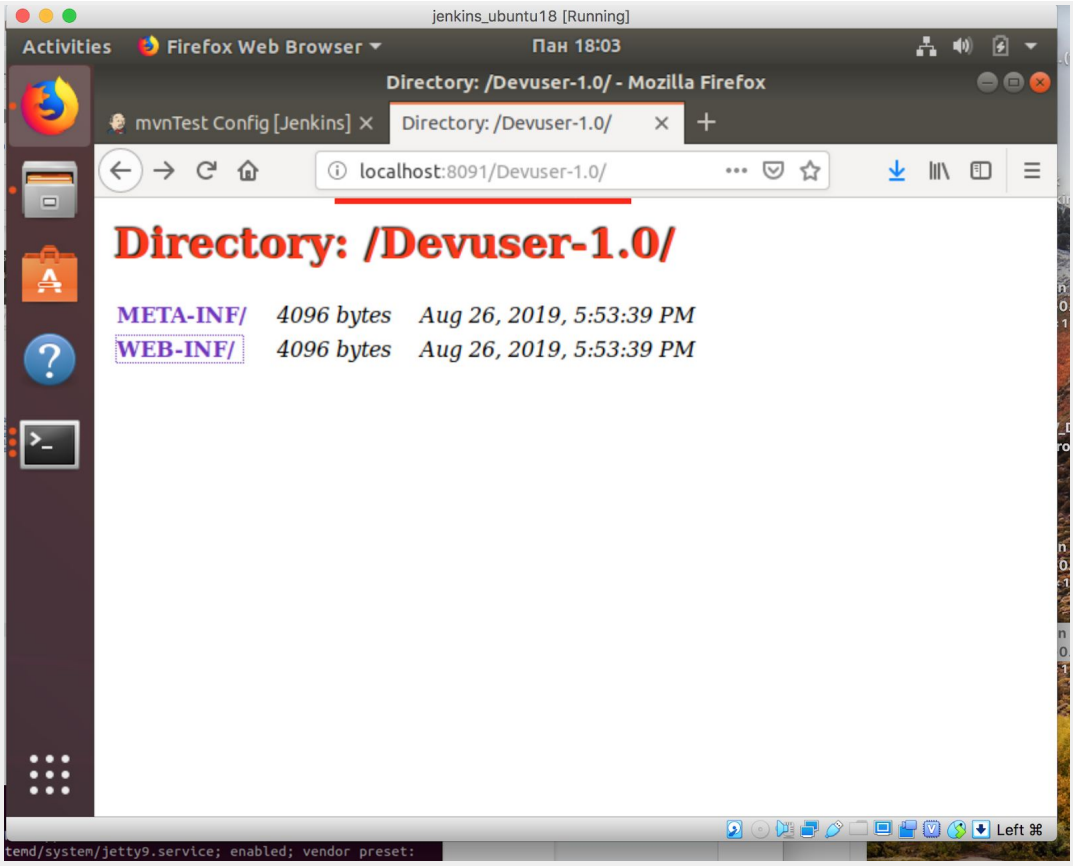
3.3.1 Install Jetty

```
sudo apt install jetty9
```



3.3.2 Add build-action Shell to Jenkins job:

```
sudo cp -rf home/dennis/.jenkins/workspace/mvnTest/target/Devuser-1.0.war
/usr/share/jetty9/webapps
java -jar /usr/share/jetty9/start.jar
sudo systemctl restart jetty9
```



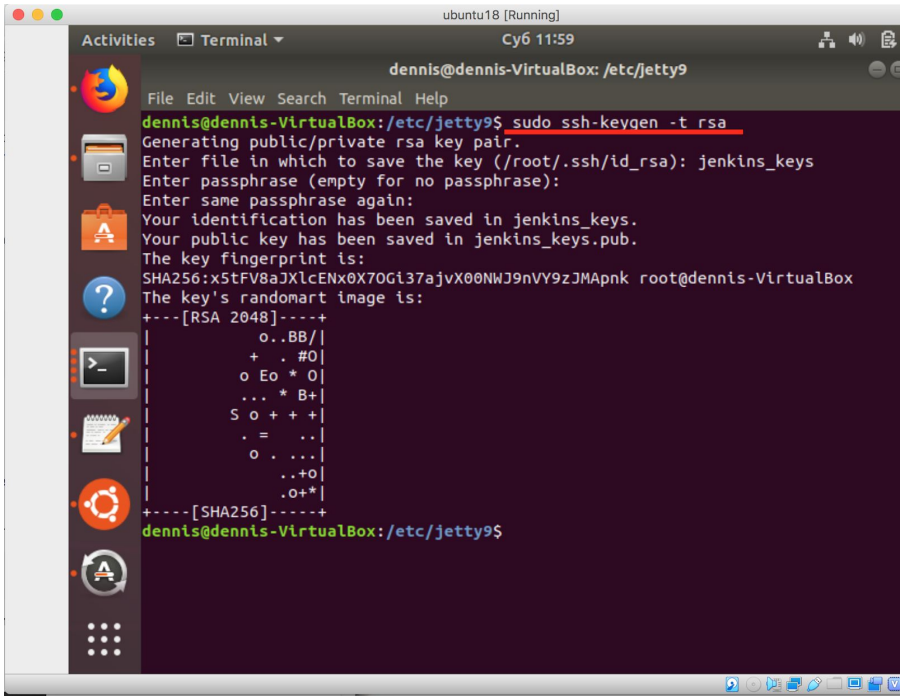
4. Master and slave nodes in Jenkins

4.1 Install SSH plugin

4.2 Generate SSH keys , file name `j2`

https://www.hostinger.com/tutorials/ssh/how-to-set-up-ssh-keys

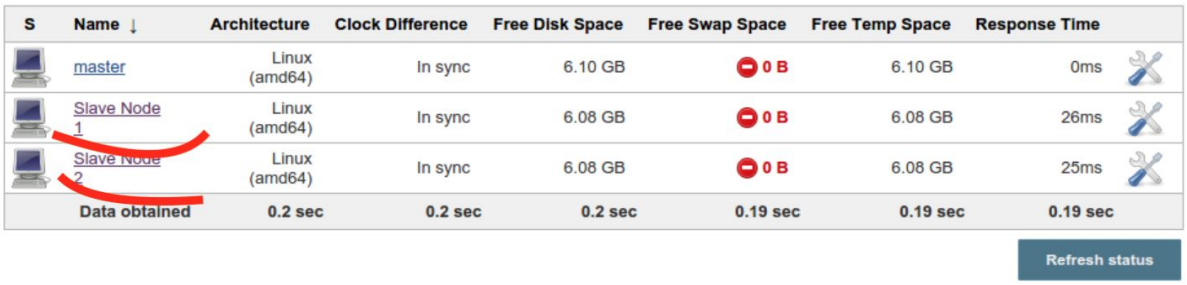
```
ssh-keygen -t rsa
```



Copy ssh public keys to each slave node with command:

```
ssh-copy-id -f -i j2.pub root@192.168.100.22
```

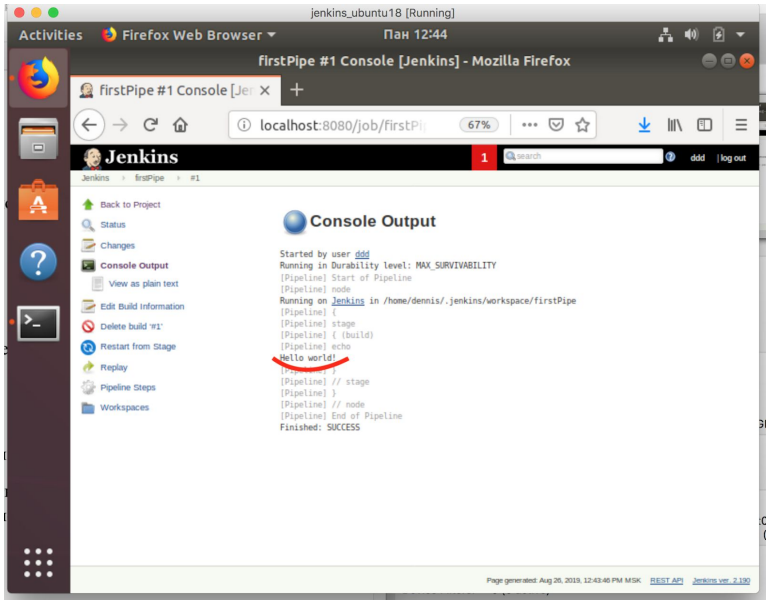
```
ssh-copy-id -f -i j2.pub root@192.168.100.23
```



5 Jenkins+pipeline

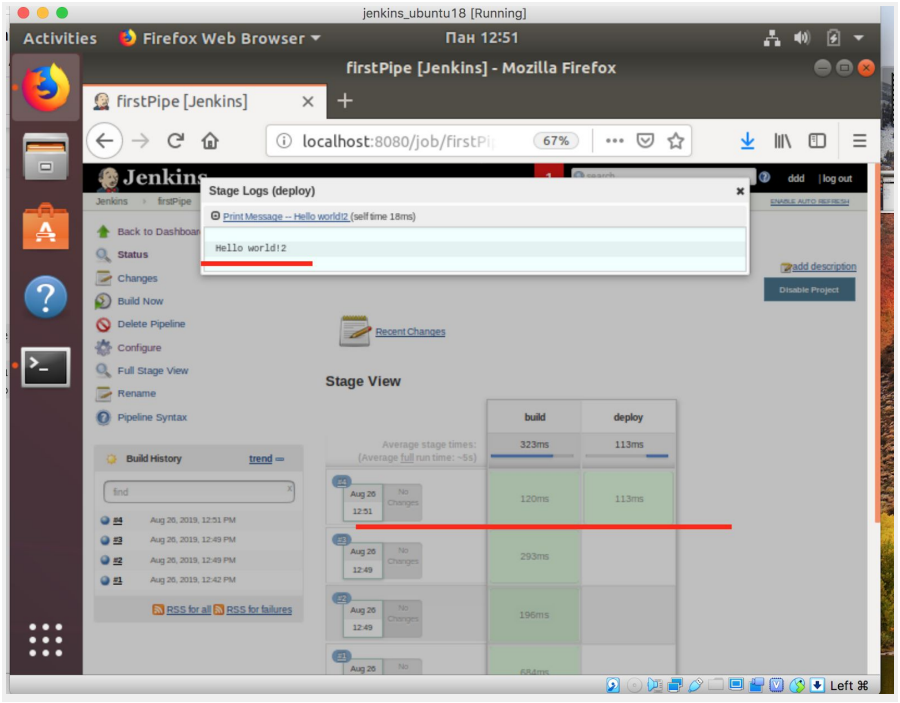
5.1 Simple pipeline

```
pipeline {
    agent { label 'master' }
    stages {
        stage('build') {
            steps { echo "Hello World!" }
        }
    }
}
```



5.2 Add one more stage

```
pipeline {
    agent { label 'master' }
    stages {
        stage('build') {
            steps { echo "Hello World!" }
        }
        stage('deploy') {
            steps { echo "Hello World2!" }
        }
    }
}
```

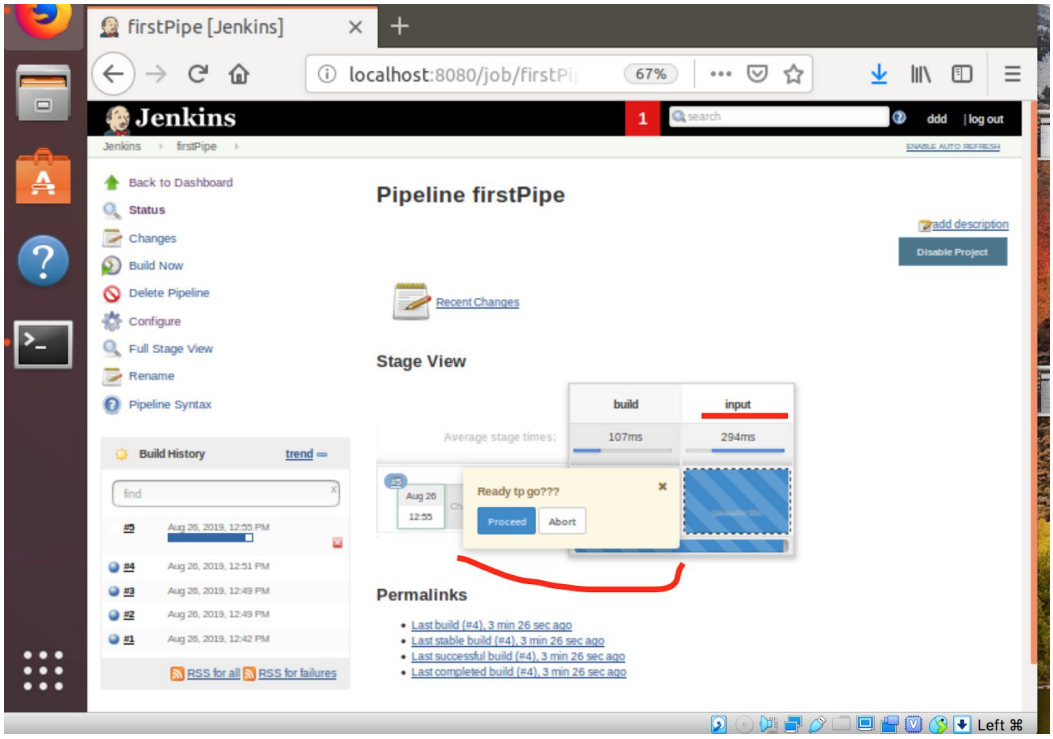

jenkins_ubuntu18 [Running]
Activities
Firefox Web Browser
Пан 12:51
firstPipe [Jenkins] - Mozilla Firefox
firstPipe [Jenkins]
localhost:8080/job/firstPi
67%
Jenkins
ddd
log out
Stage Logs (deploy)
Print Message -- Hello world!2 (self time 18ms)
Hello world!2
Back to Dashboard
Status
Changes
Build Now
Delete Pipeline
Configure
Full Stage View
Rename
Pipeline Syntax
add description
Disable Project
Recent Changes
Stage View
build
deploy
Average stage times:
323ms
113ms
120ms
113ms
293ms
196ms
Build History
trend
RSS for all
RSS for failures
Left ⌘

5.3 Add one more stage

```
pipeline {
    agent { label 'master' }
    stages {
        stage('build') {
            steps { echo "Hello World!" }
        }

        stage('input') {
            steps { input “Ready to go??” }

        stage('deploy') {
            steps { echo "Hello World2!" }
        }
    }
}
```



Blueocean has failed to start !