

29. CI&CD (Jenkins)

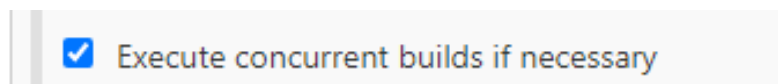
- Пример интеграции и развёртывания приложения в среде Jenkins
- Создание и настройка jobs и pipelines
- Параметры запуска
- Конфигурация jenkinsfile

Конфигурация сборки

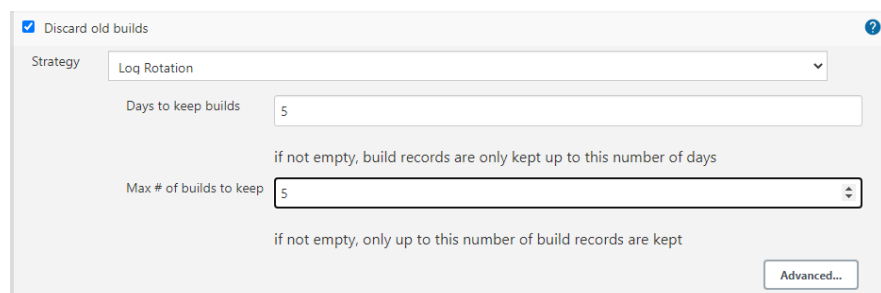
Выполнение cmd команд с использованием переменных:



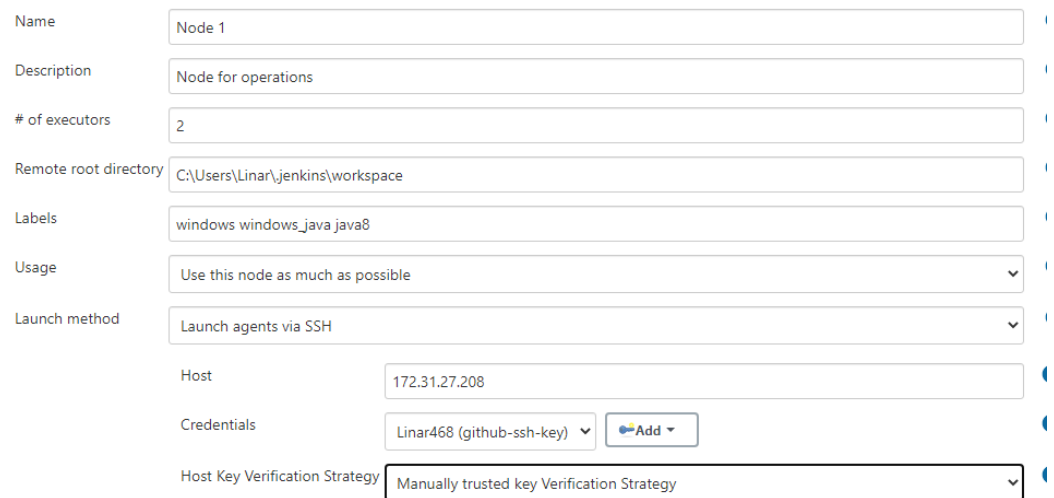
Возможность запускать сборку одновременно несколько раз:



Время очистки и максимальное количество старых сборок для хранения:



Конфигурация нового Node для запуска на удалённом сервере через SSH-подключение:



The screenshot shows the Jenkins configuration page for a new Node. The fields are as follows:

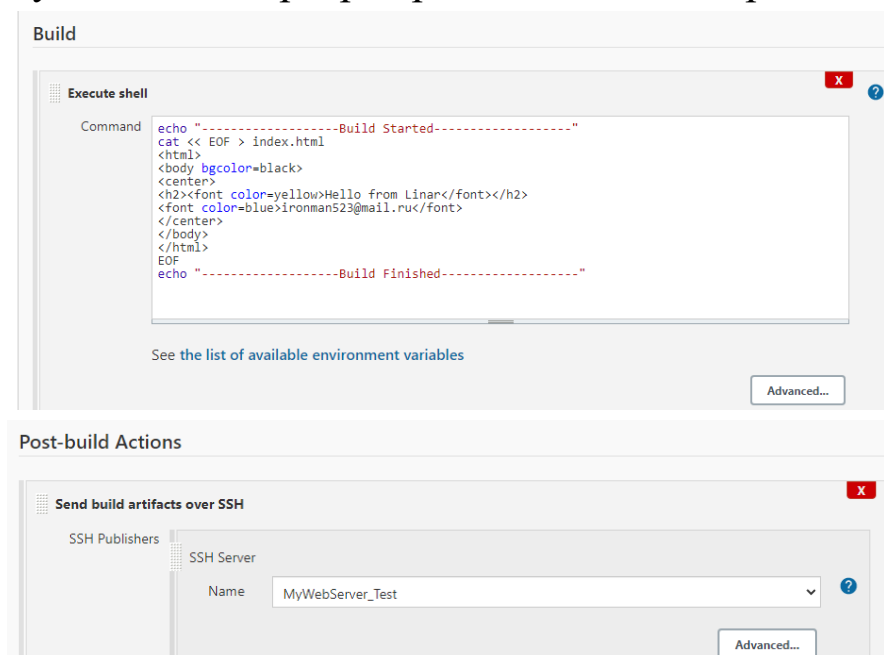
- Name: Node 1
- Description: Node for operations
- # of executors: 2
- Remote root directory: C:\Users\Linar\jenkins\workspace
- Labels: windows windows_java java8
- Usage: Use this node as much as possible (dropdown)
- Launch method: Launch agents via SSH (dropdown)
- Host: 172.31.27.208
- Credentials: Linar468 (github-ssh-key) (dropdown) with an Add button
- Host Key Verification Strategy: Manually trusted key Verification Strategy (dropdown)

Добавление лейблов для запуска на удалённом сервере:



The screenshot shows the 'Restrict where this project can be run' section in Jenkins. The 'Label Expression' field contains the text 'java8'.

Генерация файла перед сборкой (shell-скрипт), и его отправка на удалённый сервер через SSH после сборки:



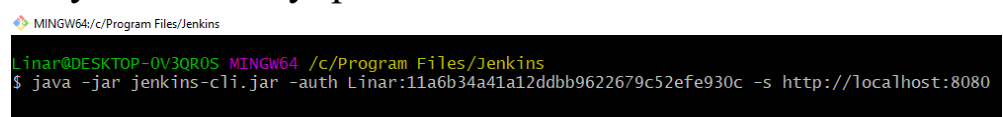
The screenshot shows two sections of the Jenkins configuration page:

- Build**: The 'Execute shell' step is configured with the following command:

```
echo "-----Build Started-----"
cat << EOF > index.html
<html>
<body bgcolor=black>
<center>
<h2><font color=yellow>Hello from Linar</font></h2>
<font color=blue>ironman523@mail.ru</font>
</center>
</body>
</html>
EOF
echo "-----Build Finished-----"
```

Below the command field is a link: [See the list of available environment variables](#). An 'Advanced...' button is at the bottom right.
- Post-build Actions**: The 'Send build artifacts over SSH' step is configured with the following settings:
 - SSH Publishers: SSH Server
 - Name: MyWebServer_Test (dropdown)An 'Advanced...' button is at the bottom right.

Подключение к jenkins через jenkis-cli с использованием токена для удалённого управления:



The terminal screenshot shows the command being executed in a Windows command prompt (MINGW64):

```
Linar@DESKTOP-0V3QR0S MINGW64 /c/Program Files/Jenkins
$ java -jar jenkins-cli.jar -auth Linar:11a6b34a41a12ddb9622679c52efe930c -s http://localhost:8080
```

Deployment из GitHub с использованием SSH и указанием ветки:

The screenshot shows the 'Source Code Management' configuration panel. The 'Git' option is selected under 'None' or 'Git'. In the 'Repositories' section, the 'Repository URL' is 'git@github.com:Linar468/test.git' and the 'Credentials' are 'Linar468 (github-ssh-key)'. There are 'Advanced...' and 'Add Repository' buttons. In the 'Branches to build' section, the 'Branch Specifier (blank for \'any\')' is '*/master'. There are 'Save', 'Apply', and 'Add Branch' buttons at the bottom.

Автоматизация запуска Jobs

Удалённый запуск с использованием токена:

The screenshot shows the 'Build Triggers' configuration panel. The checkbox 'Trigger builds remotely (e.g., from scripts)' is checked. Below it is an 'Authentication Token' input field. A small text snippet below the field reads: 'Use the following URL to trigger build remotely: curl -X POST http://localhost:8080/build?token=XXXX'.

Стартовать Job, когда другой Job закончится:

The screenshot shows the 'Build after other projects are built' configuration panel. The checkbox 'Build after other projects are built' is checked. Below it is a 'Projects to watch' input field containing 'Deploy-to-TEST'. There are three radio button options: 'Trigger only if build is stable' (selected), 'Trigger even if the build is unstable', and 'Trigger even if the build fails'.

Запуск по расписанию:

The screenshot shows the 'Build periodically' configuration panel. The checkbox 'Build periodically' is checked. Below it is a 'Schedule' input field containing 'H/2 * * * *'. At the bottom, a text snippet reads: 'Would last have run at Saturday, April 24, 2021 1:26:37 PM IRKT; would next run at Saturday, April 24, 2021 1:26:37 PM IRKT.'

Запуск по расписанию с проверкой источника на наличие новых коммитов:

☒ Poll SCM

Schedule

Would last have run at Saturday, April 24, 2021 1:20:50 PM IRKT; would next run at Saturday, April 24, 2021 1:50:50 PM IRKT.

☐ Ignore post-commit hooks

Параметризация Jobs изменяемыми данными для запуска:

☒ This project is parameterized

Boolean Parameter

Name

☒ Default Value

Пример описания запуска maven сборки, и отправки результатов в репозиторий GitHub:

Build

Invoke top-level Maven targets

Maven Version

Goals

Execute Windows batch command

Command

Пример структуры jenkinsfile для создания pipeline:

```
pipeline {
    agent any
    tools {
        maven "M3"
    }
    stages {
        stage('Build') {
            steps {
                git 'https://github.com/simple-maven-tests.git'
                sh "mvn -Dmaven.test.failure.ignore=true clean package"
            }
        }
    }
    post {
        success {
            junit '**/target/surefire-reports/TEST-*.xml'
            archiveArtifacts 'target/*.jar'
        }
    }
}
```