

EPAM Systems, RD Dep., RD Dep.

MTN.*NIX.09

Continuous Delivery with Jenkins

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Software build principles

REVISION HISTORY					
Ver.	Description of Change	Author	Date	Approved	
				Name	Effective Date
<1.0>	Initial revision	Aleksandr Mazurenko	<25-Jun-2017>		

Task 1. Gradle build

Review

Implement Gradle build script for sample project.

Task

1. Install Gradle

```
-----
Gradle 6.0.1
-----

Build time:   2019-11-18 20:25:01 UTC
Revision:     fad121066a68c4701acd362daf4287a7c309a0f5

Kotlin:       1.3.50
Groovy:       2.5.8
Ant:          Apache Ant(TM) version 1.10.7 compiled on September 1 2019
JVM:          1.8.0_232 (Oracle Corporation 25.232-b09)
OS:           Linux 3.10.0-957.27.2.el7.x86_64 amd64
```

2. Clone GitHub project
[git@github.com:MNT-Lab/build-t00ls.git](https://github.com/MNT-Lab/build-t00ls.git)
3. Create your own branch based on master by pattern:
First char of name + surname
<https://github.com/MNT-Lab/build-t00ls/tree/ayanchuk>
4. Implement **build.gradle** build to clean, compile, test, create jar file and distribution artifact. (source code in 'src' repo).
5. Build file should contain:
 - Tasks: "build-custom", "test-custom" and "hello".
 - "hello" should depend on "test-custom", "test-custom" should depend on "build"
 - setting custom artifact name

```
plugins {
    id 'java'
    id 'maven-publish'
    id 'java-library-distribution'
}
```

```
task hello {
    doLast {
        println 'Hello world!'
    }
}
```

```
jar {
    manifest {
```

```

attributes(
    'Main-Class': 'com.test.Project'
)
}
}

repositories {
    mavenLocal()
    maven {
        url = 'http://repo.maven.apache.org/maven2'
    }
}

dependencies {
    implementation 'org.apache.commons:commons-collections4:4.1'
    implementation 'log4j:log4j:1.2.17'
    testImplementation 'junit:junit:4.11'
}

test{
    useJUnit()

    maxHeapSize = '50M'
}

distributions {
    main {
        distributionBaseName = 'my-name'
    }
}

archivesBaseName = 'home-task-ayanchuk'
group = 'com.test'
version = '1.0-SNAPSHOT'
description = 'gradle-home-task'
sourceCompatibility = '1.8'

```

6. All changes should be tracked by commits to own branch

```
fdf068d..0c8c9eb  ayanchuk -> ayanchuk
[student@localhost build-tools]$ git log
commit 0c8c9ebd4add72e27b56ec0c29946d5b533df865
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 18:25:30 2019 +0300

    change build.gradle v2

commit fdf068dd45e5aade064e47c24d3554ca8f1837d2
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 18:14:42 2019 +0300

    change build.gradle

commit b638b37710eaabbd554a135b9dce15b72dd9b381
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 17:21:28 2019 +0300

    change distribution

commit 8a10e9e12e97fd60e8fa8315ac0f85d12f49ef3b
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 17:15:14 2019 +0300

    improve maven tasks
...skipping...
commit 0c8c9ebd4add72e27b56ec0c29946d5b533df865
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 18:25:30 2019 +0300

    change build.gradle v2

commit fdf068dd45e5aade064e47c24d3554ca8f1837d2
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 18:14:42 2019 +0300

    change build.gradle

commit b638b37710eaabbd554a135b9dce15b72dd9b381
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 17:21:28 2019 +0300

    change distribution

commit 8a10e9e12e97fd60e8fa8315ac0f85d12f49ef3b
Author: Anton Yanchuk <anton_yanchuk@epam.com>
Date:   Tue Nov 26 17:15:14 2019 +0300
```

7. Push to GitHub

8. Setup Jenkins job(“helloworld-**sivanou**-gradle-build”)::
- a) build from repository (poll SCM)

The screenshot shows the Jenkins job configuration page for a job named "helloworld-sivanou-gradle-build". The configuration is divided into several sections:

- Repositories:**
 - Repository URL: `https://github.com/MNT-Lab/build-tools.git`
 - Credentials: `antonyanchuk/*****` (with an "Add" button)
- Branches to build:**
 - Branch Specifier (blank for 'any'): `refs/heads/ayanchuk`
- Repository browser:** (Auto)
- Additional Behaviours:** (Add button)
- Build Triggers:**
 - ☐ Trigger builds remotely (e.g., from scripts)
 - ☐ Build after other projects are built
 - ☐ Build periodically
 - ☐ GitHub hook trigger for GITScm polling
 - ☒ Poll SCM
- Schedule:** `H/1 * * * *`
- Would last have run at Tuesday, November 26, 2019 2:53:03 PM UTC; w
- ☐ Ignore post-commit hooks

The bottom section is labeled "Build Environment".

- b) use Gradle plugin

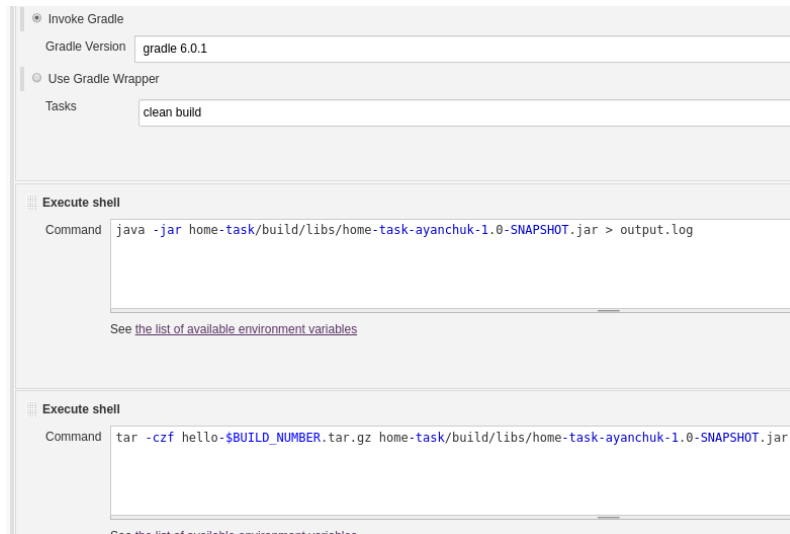
The screenshot shows the Jenkins configuration page for the Gradle plugin. The "Gradle" section is active, showing the "Gradle Installations" tab. The configuration includes:

- Add Gradle** button
- Gradle name:** `gradle 6.0.1`
- ☒ Install automatically
- Install from Gradle.org** section:
 - Version: `Gradle 6.0.1` (dropdown menu)
- Add Installer** button
- Add Gradle** button
- Text: "List of Gradle installations on this system"

c) run jar and output save to file 'output.log'

d) archive and attach jar file

ARTEFACT_NAME=hello-\$BUILD_NUMBER.tar.gz

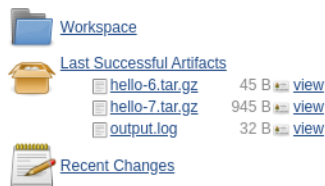


e) attach log file to build



Project helloworld-ayanchuk-gradle-build

gradle



Additional Practice: install gradle wrapper and try to manipulate by tasks/commands

Report:

Email pattern: [MNT-CD-4]-FirstName-LastName

Contains: GitHub link, Plugin config, Job config, output (screenshot)