Java project

```yaml
---
- name: install all packeges that need to run java app
  hosts: all
  become: yes
  tasks:
    - name: update apt cache
      apt:
        update_cache: yes

    - name: install open jdk
      apt:
        name: openjdk-11-jdk
        state: present

    - name: install maven
      apt:
        name: maven
        state: present

    - name: install junit
      apt:
        name: junit
        state: present

    - name: java version
      command: java -version
      register: java_version

    - name: print java version
      debug:
        msg: "{{ java_version.stdout }}"
```

```yaml
    - name: maven version
      command: mvn -version
      register: mvn_version

    - name: print maven version
      debug:
        msg: "{{ mvn_version.stdout }}"
```

```
adham@master:/adhamplaybooks$ sudo vim pkg-for-java.yml
MoTTY X11 proxy: No authorisation provided

adham@master:/adhamplaybooks$ sudo ansible-playbook pkg-for-java.yml --syntax-check

playbook: pkg-for-java.yml
```

```
adham@master:/adhamplaybooks$ sudo ansible-playbook pkg-for-java.yml --syntax-check

playbook: pkg-for-java.yml
adham@master:/adhamplaybooks$ ansible-playbook -i /etc/ansible/hosts pkg-for-java.yml -k -K
SSH password:
BECOME password[defaults to SSH password]:

PLAY [install all packeges that need to run java app] ***************************************

TASK [Gathering Facts] ************************************************************************
ok: [192.168.88.143]

TASK [update apt cache] ***********************************************************************
changed: [192.168.88.143]

TASK [install open jdk] ***********************************************************************
changed: [192.168.88.143]

TASK [install maven] **************************************************************************
changed: [192.168.88.143]

TASK [install junit] **************************************************************************
changed: [192.168.88.143]

TASK [java version] ***************************************************************************
changed: [192.168.88.143]

TASK [print java version] *********************************************************************
ok: [192.168.88.143] => {
    "msg": ""
}
```

Activate Windows

```
TASK [maven version] **************************************************************************
changed: [192.168.88.143]

TASK [print maven version] ********************************************************************
ok: [192.168.88.143] => {
    "msg": "\u001b[1mApache Maven 3.8.7\u001b[m\nMaven home: /usr/share/maven\nJava version: 17.0.13, vendor
: Ubuntu, runtime: /usr/lib/jvm/java-17-openjdk-amd64\nDefault locale: en_US, platform encoding: UTF-8\nOS n
ame: \"linux\", version: \"6.8.0-51-generic\", arch: \"amd64\", family: \"unix\""
}

PLAY RECAP ************************************************************************************
192.168.88.143             : ok=9    changed=6    unreachable=0    failed=0    skipped=0    rescued=0    ign
ored=0
```

```
adham@node1:~$ java -version
openjdk version "17.0.13" 2024-10-15
OpenJDK Runtime Environment (build 17.0.13+11-Ubuntu-2ubuntu124.04)
OpenJDK 64-Bit Server VM (build 17.0.13+11-Ubuntu-2ubuntu124.04, mixed mode, sharing)
adham@node1:~$
adham@node1:~$ mvn -version
Apache Maven 3.8.7
Maven home: /usr/share/maven
Java version: 17.0.13, vendor: Ubuntu, runtime: /usr/lib/jvm/java-17-openjdk-amd64
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "6.8.0-51-generic", arch: "amd64", family: "unix"
adham@node1:~$
adham@node1:~$
```

```
.
└── project-code
    ├── pom.xml
    └── src
        ├── main
        │   └── java
        │       └── com
        │           └── example
        │               └── App.java
        └── test
            └── java
                └── com
                    └── example
                        └── AppTest.java
```
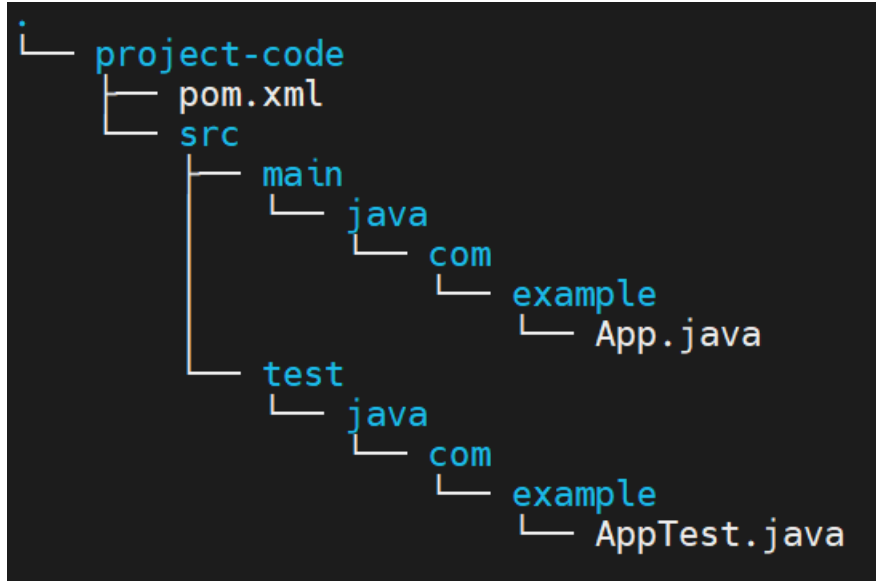
```
adham@master:/adhamjenkins$ sudo mkdir java-project
adham@master:/adhamjenkins$ cd /adhamjenkins/java-project
adham@master:/adhamjenkins/java-project$
adham@master:/adhamjenkins/java-project$ git init
/adhamjenkins/java-project/.git: Permission denied
adham@master:/adhamjenkins/java-project$ sudo git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:    git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:    git branch -m <name>
Initialized empty Git repository in /adhamjenkins/java-project/.git/
```

```
adham@master:/adhamjenkins/java-project$ sudo mkdir project-code
[sudo] password for adham:
adham@master:/adhamjenkins/java-project$ cd project-code
adham@master:/adhamjenkins/java-project/project-code$ sudo vim pom.xml
```

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>

    <groupId>com.example</groupId>
    <artifactId>my-java-app</artifactId>
    <version>1.0-SNAPSHOT</version>

    <properties>
        <maven.compiler.source>11</maven.compiler.source>
        <maven.compiler.target>11</maven.compiler.target>
    </properties>

    <dependencies>
        <!-- JUnit for testing -->
        <dependency>
            <groupId>org.junit.jupiter</groupId>
            <artifactId>junit-jupiter</artifactId>
            <version>5.9.3</version>
            <scope>test</scope>
        </dependency>
    </dependencies>

    <build>
        <plugins>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-jar-plugin</artifactId>
                <version>3.1.0</version>
                <configuration>
                    <archive>
                        <manifestEntries>
                            <!-- Replace with your main class -->
                            <Main-Class>com.example.App</Main-Class>
                        </manifestEntries>
                    </archive>
                </configuration>
            </plugin>
        </plugins>
    </build>
</project>
```

```
adham@master:/adhamjenkins/java-project/project-code$ sudo mkdir src
adham@master:/adhamjenkins/java-project/project-code$ cd src
adham@master:/adhamjenkins/java-project/project-code/src$ sudo mkdir main
adham@master:/adhamjenkins/java-project/project-code/src$ cd main
adham@master:/adhamjenkins/java-project/project-code/src/main$ sudo mkdir java
adham@master:/adhamjenkins/java-project/project-code/src/main$ cd java
adham@master:/adhamjenkins/java-project/project-code/src/main/java$ sudo mkdir example
adham@master:/adhamjenkins/java-project/project-code/src/main/java$ cd example
adham@master:/adhamjenkins/java-project/project-code/src/main/java/example$ sudo vim App.java
```

```java
1    package com.example;
2
3    import com.sun.net.httpserver.HttpServer;
4    import com.sun.net.httpserver.HttpHandler;
5    import com.sun.net.httpserver.HttpExchange;
6    import java.io.IOException;
7    import java.io.OutputStream;
8    import java.net.InetSocketAddress;
9
10 ∨  public class App {
11 ∨      public static void main(String[] args) throws Exception {
12            // Create the server and bind it to a specific address and port
13            HttpServer server = HttpServer.create(new InetSocketAddress(8080), 0);
14
15            // Create a handler for HTTP requests
16            server.createContext("/", new HttpHandler() {
17                @Override
18 ∨              public void handle(HttpExchange exchange) throws IOException {
19                    String response = "Hello, I am Adham!";
20                    exchange.sendResponseHeaders(200, response.getBytes().length);
21
22                    try (OutputStream os = exchange.getResponseBody()) {
23                        os.write(response.getBytes());
24                    }
25                }
26            });
27
28            // Start the server
29            server.start();
30            System.out.println("Server started on http://localhost:8080");
31        }
32    }
```

```
adham@master:/adhamjenkins/java-project/project-code/src/main/java/example$ cd /adhamjenkins/java-project/pr
oject-code
adham@master:/adhamjenkins/java-project/project-code$ cd src
adham@master:/adhamjenkins/java-project/project-code/src$ ls
main
adham@master:/adhamjenkins/java-project/project-code/src$ sudo mkdir test
adham@master:/adhamjenkins/java-project/project-code/src$ cd test
adham@master:/adhamjenkins/java-project/project-code/src/test$ sudo mkdir java
adham@master:/adhamjenkins/java-project/project-code/src/test$ cd java
adham@master:/adhamjenkins/java-project/project-code/src/test/java$ sudo mkdir com
adham@master:/adhamjenkins/java-project/project-code/src/test/java$ cd com
adham@master:/adhamjenkins/java-project/project-code/src/test/java/com$ sudo mkdir example
adham@master:/adhamjenkins/java-project/project-code/src/test/java/com$ cd example
adham@master:/adhamjenkins/java-project/project-code/src/test/java/com/example$ sudo vim AppTest.java
```

```java
1      package com.example;

2

3      import org.junit.jupiter.api.Test;

4

5      import static org.junit.jupiter.api.Assertions.assertTrue;

6

7  ∨   class AppTest {

8

9          @Test
10         void testApp() {
11             assertTrue(true, "This test should always pass.");
12         }
13     }
```

```
adham@master:/adhamjenkins/java-project$ sudo git add .
adham@master:/adhamjenkins/java-project$
adham@master:/adhamjenkins/java-project$ sudo git commit -m "initial commit"
[master (root-commit) 2cf4cc2] initial commit
 Committer: root <root@master.localdomain>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 3 files changed, 46 insertions(+)
 create mode 100644 project-code/pom.xml
 create mode 100644 project-code/src/main/java/example/App.java
 create mode 100644 project-code/src/test/java/com/example/AppTest.java
adham@master:/adhamjenkins/java-project$
```

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Required fields are marked with an asterisk (*).

Owner *

🌐 AdhmAbdein ▾ /

Repository name *

java-project

✅ java-project is available.

Great repository names are short and memorable. Need inspiration? How about **sturdy-dollop** ?

Description (optional)

[   ]

⦿ 📖 **Public**
Anyone on the internet can see this repository. You choose who can commit.

◯ 🔒 **Private**
You choose who can see and commit to this repository.

Initialize this repository with:

☐ Add a README file
This is where you can write a long description for your project. Learn more about READMEs.

Add .gitignore

.gitignore template: **None** ▾

Choose which files not to track from a list of templates. Learn more about ignoring files.

```
adham@master:/adhamjenkins/java-project$ sudo git remote add origin https://github.com/AdhmAbdein/java-proje
ct.git
adham@master:/adhamjenkins/java-project$ sudo git push -u origin master
Username for 'https://github.com': AdhmAbdein
Password for 'https://AdhmAbdein@github.com':
Enumerating objects: 14, done.
Counting objects: 100% (14/14), done.
Delta compression using up to 2 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (14/14), 1.26 KiB | 430.00 KiB/s, done.
Total 14 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/AdhmAbdein/java-project.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
adham@master:/adhamjenkins/java-project$
adham@master:/adhamjenkins/java-project$ ls
project-code
adham@master:/adhamjenkins/java-project$ cd project-code
adham@master:/adhamjenkins/java-project/project-code$ ls
pom.xml  src
adham@master:/adhamjenkins/java-project/project-code$ cd src
adham@master:/adhamjenkins/java-project/project-code/src$ ls
main  test
```

java-project Public

Pin   Unwatch 1

master   1 Branch   0 Tags

Go to file   Add file   Code

root initial   5be832e · 6 minutes ago   2 Commits

project-code   initial   6 minutes ago

README

```
pipeline{
    agent {label 'node1'}

    tools{
        jdk 'JDK 11'
        maven 'Maven 3.x'
    }

    stages{
        stage('pull code from github'){
            steps{
                script{
                    git "https://github.com/AdhmAbdein/java-project.git"
                }
            }
        }
        stage('Build'){
            steps{
                script{
                    dir('project-code'){
                        sh 'mvn clean install'
                    }
                }
            }
        }
        stage('Test'){
            steps{
                script{\
                    dir('project-code'){
                        sh 'mvn test'
                    }
                }
            }
        }
}
```

```
        stage('Archive'){
            steps{
                script{
                    dir('project-code') {
                        archiveArtifacts artifacts: 'target/*.jar', allowEmptyArchive: false
                    }
                }
            }
        }
        stage('Run'){
            steps{
                script{
                    dir('project-code') {
                        sh 'java -jar target/*.jar'
                    }
                }
            }
        }
    }
    post{
        always{
            echo "pipeline execution complete"
        }
        success{
            echo "pipeline executed successfully"
        }
        failure{
            echo "pipeline failed"
        }
    }
}
```

← → C ⚠ Not secure 192.168. :8080

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Hello, I am Adham!