



WEEK6 - Feedbacks

Mathias COUSTÉ
12.03.2020

All teams compete !

2 → 2

teams had runtime errors... (*GenericClientError*)

1 → 0 NPE

0 → 2 Invalid JSON

Some

timeout

:(

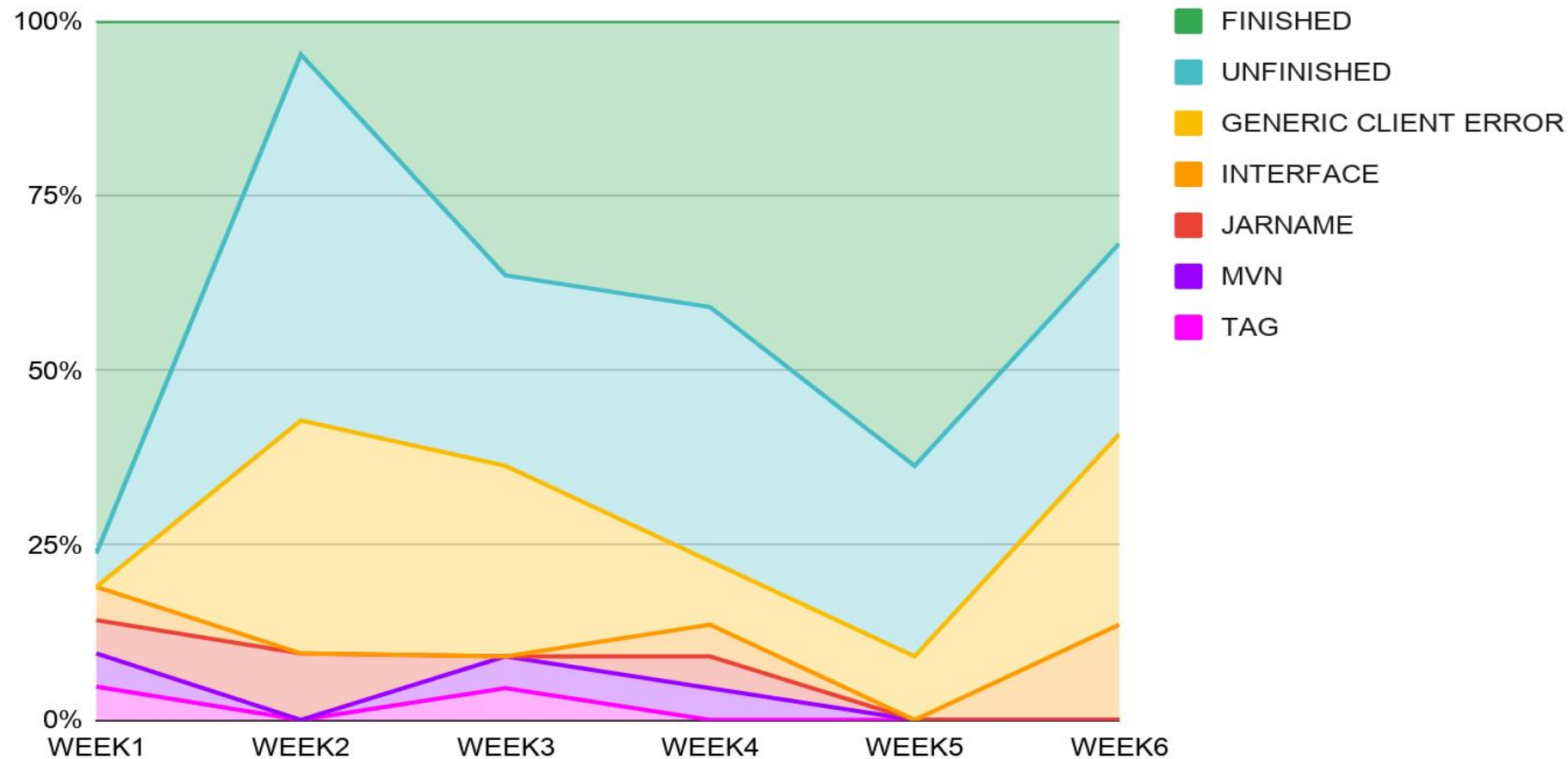
7

(out of 22)

team finished the race

\0/

WEEK1, WEEK2, WEEK3, WEEK4 et WEEK5



**SPECIAL
Ré
PRICE**



Le Hollandais Volant

SPECIAL Cartographer PRICE



The Fellowship Survivors



A large, weathered wooden shipwreck is the central focus, partially submerged in a body of water. The ship's hull is made of dark, aged wood, showing significant decay and structural damage. The water is a calm, light blue-grey color. In the background, a distant shoreline with some buildings and trees is visible under a sky filled with large, dark, dramatic clouds. To the right of the ship, several pieces of driftwood and debris are scattered in the water.

SPECIAL Wreck it PRICE

Too many teams



team_jar



hollandais_volant

Championship leaders



QGL News

Mathias COUSTÉ
12.03.2020

Technical interviews



Technical interviews

From 19.03 to 26.03



Technical interviews

**15 minutes presentation
+ 5 minutes question**


From 19.03 to 26.03



Technical interviews

**15 minutes presentation
+ 5 minutes question**

From 19.03 to 26.03

- 
- 1. Explain your winning solutions: how to win the race?**
 - 2. Present and defend the architecture/division of your project.**
 - 3. Why the quality of your project is the best?**
 - 4. 1 Extra question per team member**

A stack of several white sheets of paper, slightly offset from each other, creating a sense of depth. A green, fibrous string is wrapped around the stack, tied in a knot. The lighting is soft, casting gentle shadows on the surface below.

**Write your team
report**



Tag: “REPORT”
Due date: April the 30

In case of remote working...

1. No more lecture...
2. Team follow-up done team by team via visio-conference
3. Classic follow-up on Slack
4. Technical Interview via visio-conference





1



Maven basics

Pom.xml

```
1<project xmlns="http://maven.apache.org/POM/4.0.0"
2  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
4  <modelVersion>4.0.0</modelVersion>
5
6  <groupId>fr.unice.polytech.si3.qgl</groupId>
7  <artifactId>frigates-engine</artifactId>
8  <version>1.0-SNAPSHOT</version>
9  <packaging>jar</packaging>
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11
12
13<properties>
14  <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
15  <java.version>11</java.version>
16  <maven.compiler.source>${java.version}</maven.compiler.source>
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23  <dependency>
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target/frigates-engine-1.0-SNAPSHOT.jar

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26      <version>0.1-SNAPSHOT</version>
27    </dependency>
```


Dependencies

```
<dependencies>
  <!-- Geometry API -->
  <dependency>
    <groupId>fr.unice.polytech.si3.qgl</groupId>
    <artifactId>geometry-api</artifactId>
    <version>1.0-SNAPSHOT</version>
  </dependency>

  <!-- Unit tests -->
  <dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>4.12</version>
    <scope>test</scope>
  </dependency>
</dependencies>
```

Dependencies

```
<dependencies>
  <!-- Geometry API -->
  <dependency>
    <groupId>fr.unice.polytech.si3.qgl</groupId>
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    <scope>test</scope>
  </dependency>
</dependencies>
```

● **compile**

● **runtime**

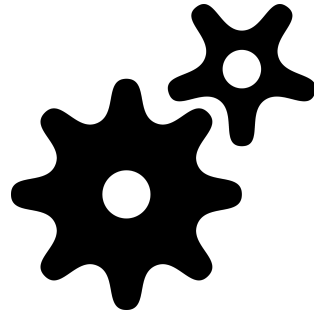
● **provided**

● **system**

● **test**

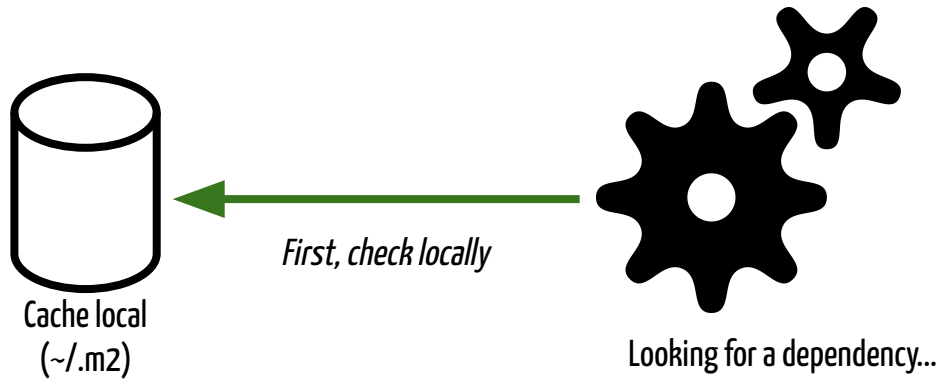
● **import**

Dependencies

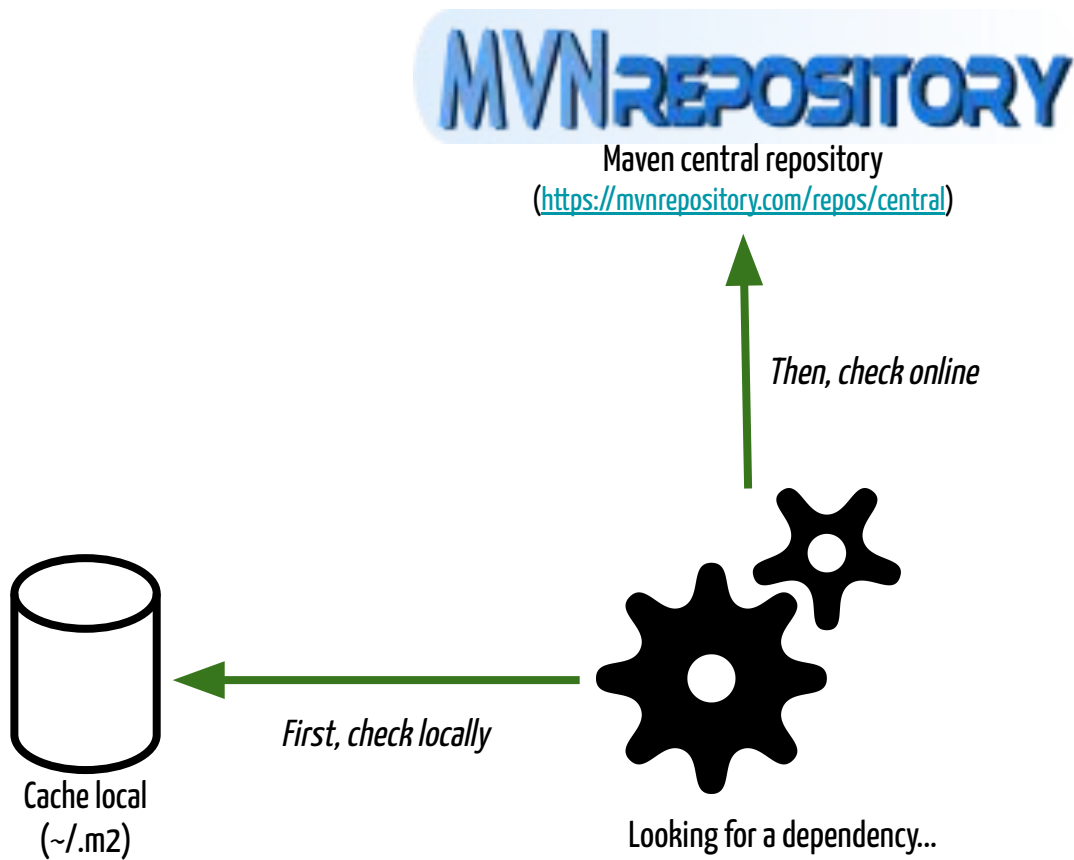


Looking for a dependency...

Dependencies



Dependencies



Phases

- clean
- validate
- compile
- test
- package
- verify
- install
- deploy

Phases

- clean
- validate
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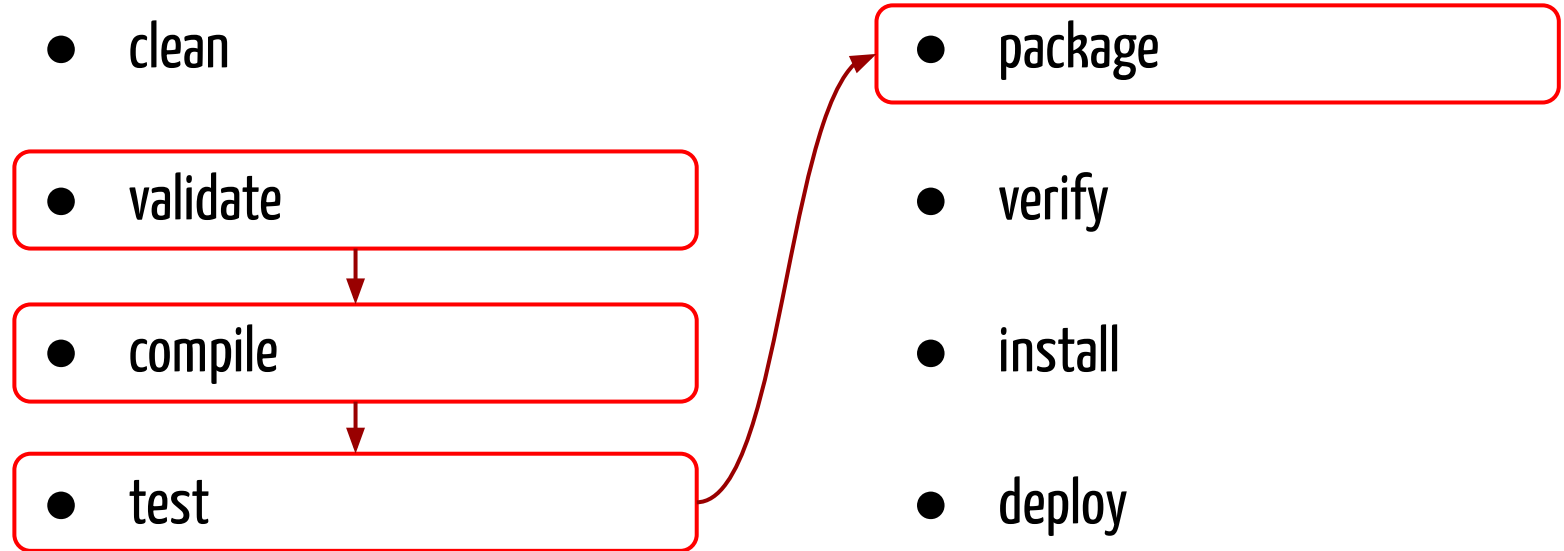
```
~ $ > mvn clean
```

Phases

- clean
- validate
- compile
- test
- package
- verify
- install
- deploy

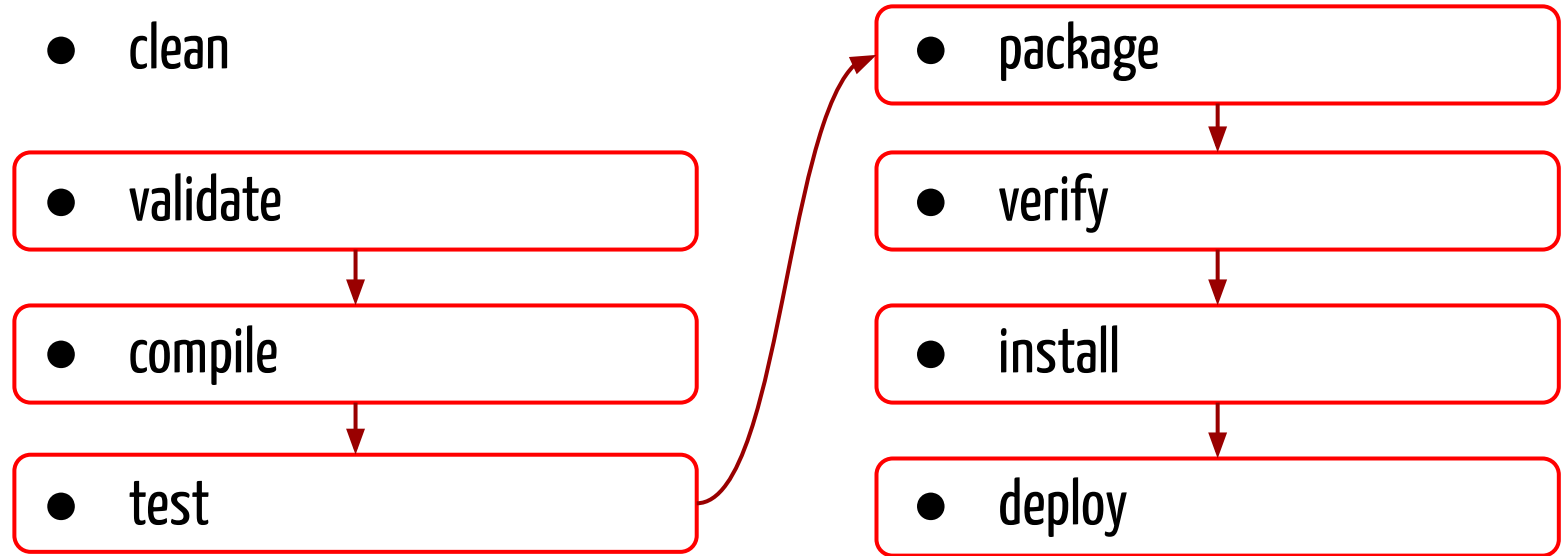
```
~ $ > mvn validate
```


Phases



~ \$ > mvn package

Phases



~ \$ > mvn deploy

Phases

1

- clean

2

- validate

- compile

- test

- package

- verify

- install

- deploy

~ \$ > mvn clean deploy

Plugins & executions

```
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-assembly-plugin</artifactId>
      <executions>
        <execution>
          <phase>package</phase>
          <goals>
            <goal>single</goal>
          </goals>
          <configuration>
            <archive>
              <manifest>
                <mainClass>
                  fr.unice.polytech.si3.qgl.frigatesengine.App
                </mainClass>
              </manifest>
            </archive>
            <descriptorRefs>
              <descriptorRef>jar-with-dependencies</descriptorRef>
            </descriptorRefs>
          </configuration>
        </execution>
      </executions>
    </plugin>
    <plugin>
      <groupId>org.codehaus.mojo</groupId>
      <artifactId>exec-maven-plugin</artifactId>
      <version>1.2.1</version>
      <executions>
        <execution>
          <goals>
            <goal>java</goal>
          </goals>
        </execution>
      </executions>
      <configuration>
        <mainClass>fr.unice.polytech.si3.qgl.gamerunner.App</mainClass>
      </configuration>
    </plugin>
  </plugins>
</build>
```


Plugins & executions

```
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
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        <mainClass>fr.unice.polytech.si3.qgl.gamerunner.App</mainClass>
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    </plugin>
  </plugins>
</build>
```

mvn exec:java

Plugins & executions

```
<plugin>
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  <executions>
    <execution>
      <goals>
        <goal>java</goal>
      </goals>
      <configuration>
        <mainClass>fr.unice.polytech.si3.qgl.gamerunner.App</mainClass>
      </configuration>
    </execution>
    <execution>
      <goals>
        <goal>mytool</goal>
      </goals>
      <configuration>
        <mainClass>fr.unice.polytech.si3.qgl.gamerunner.MyTool</mainClass>
      </configuration>
    </execution>
  </executions>
</plugin>
```

mvn exec:java

Plugins & executions

```
<plugin>
  <groupId>org.codehaus.mojo</groupId>
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      <goals>
        <goal>mytool</goal>
      </goals>
      <configuration>
        <mainClass>fr.unice.polytech.si3.qgl.gamerunner.MyTool</mainClass>
      </configuration>
    </execution>
  </executions>
</plugin>
```

Diagram illustrating the mapping from the Maven plugin configuration to the command execution:

- The `<artifactId>exec-maven-plugin</artifactId>` is mapped to the `mvn exec:mytool` command.
- The `<goal>mytool</goal>` is mapped to the `mytool` part of the `mvn exec:mytool` command.

2



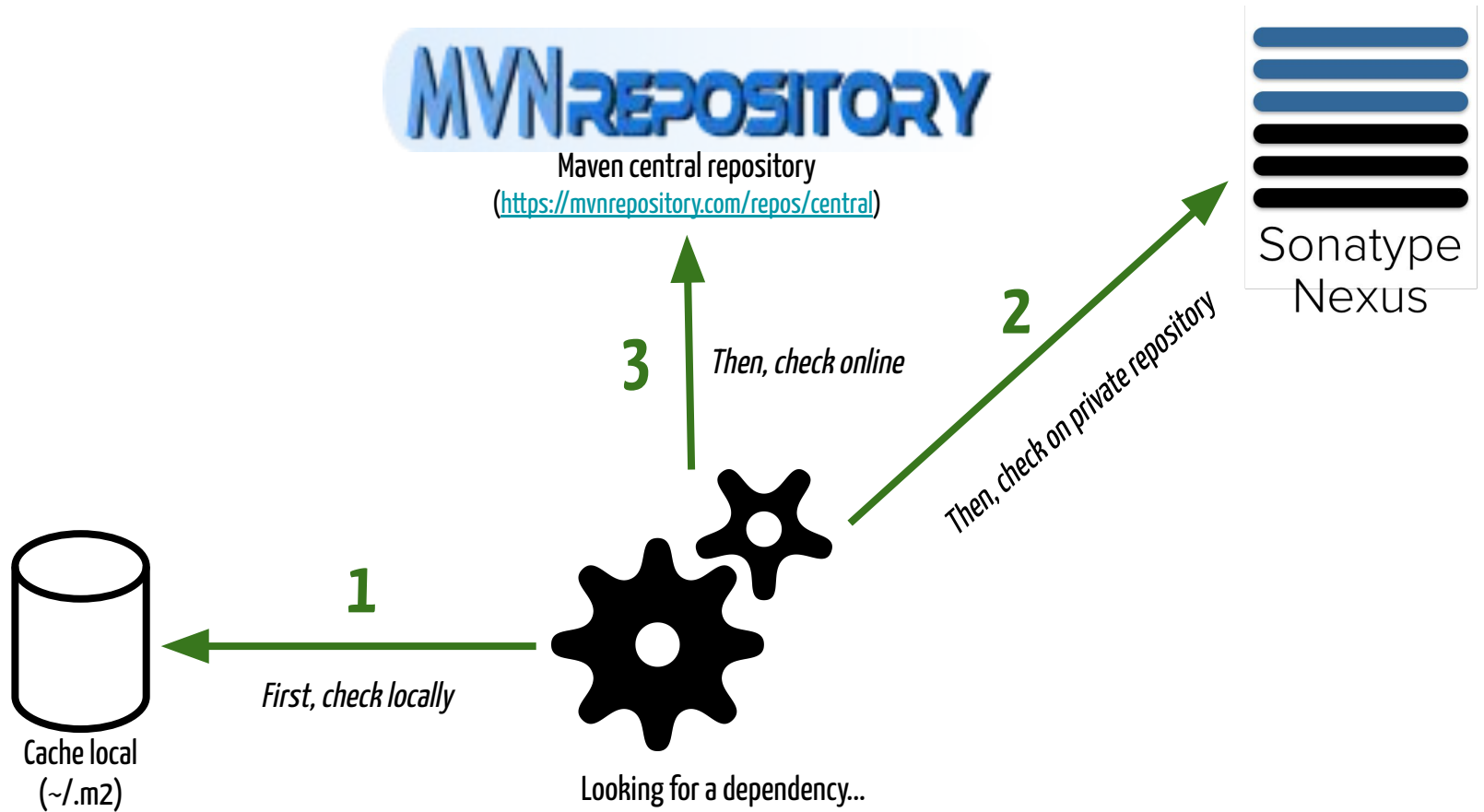
Maven advanced

Add private repositories

In the pom.xml:

```
<repositories>
  <repository>
    <id>io-labs-snapshots</id>
    <url>https://nexus.io-labs.fr/repository/maven-snapshots/</url>
  </repository>
</repositories>
```

Add private repositories



Maven site

frigates-core

Last Published: 2020-02-10 | Version: 1.0-SNAPSHOT

[frigates-core](#)

Parent Project

[runners.agggregator](#)

Project Documentation

▼ Project Information

Dependencies

[Dependency Information](#)

[About](#)

[Plugin Management](#)

[Plugins](#)

[Summary](#)



Project Dependencies

compile

The following is a list of compile dependencies for this project. These dependencies are required to compile and run the application:

GroupId	ArtifactId	Version	Type	Licenses
com.fasterxml.jackson.core	jackson-databind	2.10.1	jar	The Apache Software License, Version 2.0
fr.unice.polytech.si3.qgl	geometry-api	1.0-SNAPSHOT	jar	-

test

The following is a list of test dependencies for this project. These dependencies are only required to compile and run unit tests for the application:

GroupId	ArtifactId	Version	Type	Licenses
junit	junit	4.11	jar	Common Public License Version 1.0

~ \$ > mvn site:site

Javadoc

[OVERVIEW](#) [PACKAGE](#) [CLASS](#) [USE](#) [TREE](#) [DEPRECATED](#) [INDEX](#) [HELP](#)

SEARCH: ✕

frigates-core 1.0-SNAPSHOT API

Packages

Package	Description
fr.unice.polytech.si3.qgl.core	
fr.unice.polytech.si3.qgl.core.domain.sea	
fr.unice.polytech.si3.qgl.core.domain.sea.entities	
fr.unice.polytech.si3.qgl.core.domain.shapes	
fr.unice.polytech.si3.qgl.core.domain.ship	
fr.unice.polytech.si3.qgl.core.domain.ship.entities	
fr.unice.polytech.si3.qgl.core.game	
fr.unice.polytech.si3.qgl.core.game.actions	
fr.unice.polytech.si3.qgl.core.interfaces	
fr.unice.polytech.si3.qgl.core.serialization	

```
~ $ > mvn Javadoc:Javadoc
```


Javadoc

OVERVIEW PACKAGE **CLASS** USE TREE DEPRECATED INDEX HELP

SUMMARY: NESTED | FIELD | CONSTR | METHOD DETAIL: FIELD | CONSTR | METHOD SEARCH:

Package fr.unice.polytech.si3.qgl.core.domain.shapes

Class Circle

java.lang.Object
fr.unice.polytech.si3.qgl.core.domain.shapes.Shape
fr.unice.polytech.si3.qgl.core.domain.shapes.Circle

public class **Circle**
extends Shape

Field Summary

Fields

Modifier and Type	Field	Description
protected double	radius	

Fields inherited from class fr.unice.polytech.si3.qgl.core.domain.shapes.Shape

type

Constructor Summary

Constructors

Constructor	Description
Circle()	

```
~ $ > mvn javadoc:javadoc
```

Pom parent

```
<?xml version="1.0" encoding="UTF-8"?>
<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>

  <parent>
    <artifactId>runners.aggregator</artifactId>
    <groupId>fr.unice.polytech.si3.qgl</groupId>
    <version>1.0</version>
  </parent>

  <artifactId>playertest</artifactId>
  <version>1.0-SNAPSHOT</version>

  <name>playertest</name>
```

Pom parent

Pom parent allows you to inherit some definitions from another pom:

- Dependencies
- Distribution management
- Plugins
- Versions numbers
- Profiles
- Builds
- *not properties*

Profiles

“A Build profile is a set of configuration values, which can be used to set or override default values of Maven build.

Using a build profile, you can customize build for different environments such as Production v/s Development environments.”

Profiles declaration

```
<profiles>
  <profile>
    <id>develop</id>
    <activation>
      <activeByDefault>true</activeByDefault>
    </activation>
  </profile>
  <profile>
    <id>prod</id>
  </profile>
</profiles>
```


Profiles activation

```
<profiles>
  <profile>
    <id>profileId</id>
    <activation>
      <activeByDefault>true</activeByDefault>

      <jdk>11</jdk>

      <property>
        <name>environment</name>
        <value>test</value>
      </property>
    </activation>
  </profile>
</profiles>
```

Profiles activation

```
~ $ > mvn package -P myProfile,mySecondProfile
```

Profiles usages

```
<profile>
  <id>develop</id>
  <activation>
    <activeByDefault>true</activeByDefault>
  </activation>
  <build>
    <plugins>
      <plugin>
        <groupId>org.codehaus.mojo</groupId>
        <artifactId>exec-maven-plugin</artifactId>
        <executions>
          <execution>
            <goals>
              <goal>exec</goal>
            </goals>
          </execution>
        </executions>
        <configuration>
          <arguments>
            <argument>--logs</argument>
            <argument>debug</argument>
          </arguments>
        </configuration>
      </plugin>
    </plugins>
  </build>
</profile>
```

```
<profile>
  <id>prod</id>
  <build>
    <plugins>
      <plugin>
        <groupId>org.codehaus.mojo</groupId>
        <artifactId>exec-maven-plugin</artifactId>
        <executions>
          <execution>
            <goals>
              <goal>exec</goal>
            </goals>
          </execution>
        </executions>
        <configuration>
          <arguments>
            <argument>--logs</argument>
            <argument>error</argument>
          </arguments>
        </configuration>
      </plugin>
    </plugins>
  </build>
</profile>
```

Archetypes

How to generate a maven project from an existing template?

Archetypes

```
~ $ > mvn archetype:generate
```

Archetypes

Generate a simple jar project:

```
~ $ > mvn archetype:generate -DarchetypeGroupId=org.apache.maven.archetypes  
-DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4
```

Generate an executable jar project:

```
~ $ > mvn archetype:generate -DarchetypeGroupId=com.github.igor-petruk.archetypes  
-DarchetypeArtifactId=maven-archetype-executable -DarchetypeVersion=1.4
```

Generate a maven plugin project:

```
~ $ > mvn archetype:generate -DarchetypeGroupId=org.apache.maven.archetypes  
-DarchetypeArtifactId=maven-archetype-plugin -DarchetypeVersion=1.4
```


3



Multi-modules projects

Why multiple-modules

How to isolate my tools if I created more than just the required jar for QGL ?

How to run all by builds in one command ?

Can I isolate my geometry utils code from the rest of my project so I can reuse it later ?

How to define some modules?

```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema"
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>fr.unice.polytech.si3.qgl</groupId>
6   <artifactId>runners.aggregator</artifactId>
7   <version>1.0</version>
8   <packaging>pom</packaging>
9
10  <modules>
11    <module>geometry-api</module>
12    <module>frigates-core</module>
13    <module>frigates-dump-api</module>
14    <module>frigates-engine</module>
15    <module>player-test</module>
16    <module>weeklyrunner</module>
17    <module>frigates-dump-viewer</module>
18  </modules>
19 </project>
20
```

How to define some modules?

```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>fr.unice.polytech.si3.qgl</groupId>
6   <artifactId>runners.aggregator</artifactId>
7   <version>1.0</version>
8   <packaging>pom</packaging>
9
10  <modules>
11    <module>geometry-api</module>
12    <module>frigates-core</module>
13    <module>frigates-dump-api</module>
14    <module>frigates-engine</module>
15    <module>player-test</module>
16    <module>weeklyrunner</module>
17    <module>frigates-dump-viewer</module>
18  </modules>
19 </project>
20
```

By convention, use “aggregator” in your name

How to define some modules?

```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>fr.unice.polytech.si3.qgl</groupId>
6   <artifactId>runners.aggregator</artifactId>
7   <version>1.0</version>
8   <packaging>pom</packaging>
9
10  <modules>
11    <module>geometry-api</module>
12    <module>frigates-core</module>
13    <module>frigates-dump-api</module>
14    <module>frigates-engine</module>
15    <module>player-test</module>
16    <module>weeklyrunner</module>
17    <module>frigates-dump-viewer</module>
18  </modules>
19 </project>
20
```

Use pom as packaging

How to define some modules?

```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>fr.unice.polytech.si3.qgl</groupId>
6   <artifactId>runners.aggregator</artifactId>
7   <version>1.0</version>
8   <packaging>pom</packaging>
9
10  <modules>
11    <module>geometry-api</module>
12    <module>frigates-core</module>
13    <module>frigates-dump-api</module>
14    <module>frigates-engine</module>
15    <module>player-test</module>
16    <module>weeklyrunner</module>
17    <module>frigates-dump-viewer</module>
18  </modules>
19 </project>
20
```

Declare your modules

How to define some modules?

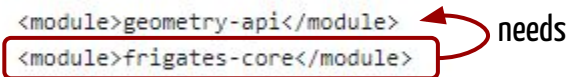
```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>fr.unice.polytech.si3.qgl</groupId>
6   <artifactId>runners.aggregator</artifactId>
7   <version>1.0</version>
8   <packaging>pom</packaging>
9
10  <modules>
11    <module>geometry-api</module>
12    <module>frigates-core</module>
13    <module>frigates-dump-api</module>
14    <module>frigates-engine</module>
15    <module>player-test</module>
16    <module>weeklyrunner</module>
17    <module>frigates-dump-viewer</module>
18  </modules>
19 </project>
20
```



config	4 days ago
frigates-core	4 days ago
frigates-dump-api	4 days ago
frigates-dump-viewer	6 days ago
frigates-engine	4 days ago
geometry-api	4 days ago
git-retrieve	5 days ago
player-test	23 days ago
scripts	last month
weeklyrunner	New configs + actions logs 6 days ago
.gitignore	3 months ago
LICENSE	6 months ago
README.md	3 months ago
output.bump	last month
pom.xml	2 months ago

Dependencies between modules

```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>fr.unice.polytech.si3.qgl</groupId>
6   <artifactId>runners.aggregator</artifactId>
7   <version>1.0</version>
8   <packaging>pom</packaging>
9
10  <modules>
11    <module>geometry-api</module>
12    <module>frigates-core</module>
13    <module>frigates-dump-api</module>
14    <module>frigates-engine</module>
15    <module>player-test</module>
16    <module>weeklyrunner</module>
17    <module>frigates-dump-viewer</module>
18  </modules>
19 </project>
20
```



needs

Dependencies between modules

```
1  <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2  <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema
3    <modelVersion>4.0.0</modelVersion>
4
5    <groupId>fr.unice.polytech.si3.qgl</groupId>
6    <artifactId>runners.aggregator</artifactId>
7    <version>1.0</version>
8    <packaging>pom</packaging>
9
10   <modules>
11     <module>geometry-api</module>
12     <module>frigates-core</module>
13     <module>frigates-dump-api</module>
14     <module>frigates-engine</module>
15     <module>player-test</module>
16     <module>weeklyrunner</module>
17     <module>frigates-dump-viewer</module>
18   </modules>
19 </project>
20
```



needs

Q&A