

Welcome



Carefree Dependency Management for Java Projects



Jendrik Johannes
www.javarca.de



Module
Dependency
Definition

Module
Version
Management

Retrieving
& Building
JARs

Version
& Variant
Conflicts

Dependency
Consistency
Checks

Version
Update
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APP SCREEN

LIB

REPOSITORY

► <https://repo1.maven.org/maven2>



JAVARCA-
MODEL.JAR



JAVARCA-
ENGINE.JAR

JAMCATCH-
ASSETS.JAR

JAMCATCH-
STAGE.JAR

JAMCATCH-
ACTORS.JAR

RENDERER-
LWJGL.JAR

SLF4J-
SIMPLE-
2.0.17.JAR

SLF4J-
API-
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COMMONS-
IO-
2.16.1.JAR

COMMONS-
CODEC-
1.18.0.JAR

COMMONS-
CSV-
1.14.0.JAR

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IO-
2.18.0.JAR

LWJGL-3.3.6
-NATIVES-
WINDOWS-
X86.JAR

LWJGL-3.3.6
-NATIVES-
MACOS-
ARM64.JAR

LWJGL-
3.3.6.JAR

```
java --class-path lib/* de.javarca.engine.Engine
Exception in thread "main" java.lang.NoClassDefFoundError: org/slf4j/LoggerFactory
```



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ARM64.JAR

LWJGL-
3.3.6.JAR



```
java --module-path lib --module de.javarca.engine
Error occurred during initialization of boot layer
java.lang.module.FindException: Module org.slf4j not found, required by de.javarca.engine
```

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LWJGL-3.3.6
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MACOS-
ARM64.JAR

LWJGL-
3.3.6.JAR



```
java --module-path lib --module de.javarca.engine
SLF4J(W): No SLF4J providers were found.
SLF4J(W): Defaulting to no-operation (NOP) logger implementation
SLF4J(W): See https://www.slf4j.org/codes.html#noProviders for further details.
```

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MODEL.JAR



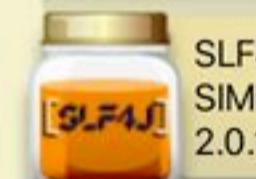
JAVARCA-
ENGINE.JAR

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SLF4J-
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2.0.17.JAR



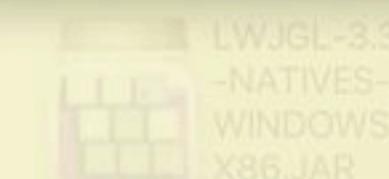
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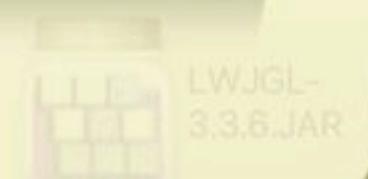
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X86.JAR



LWJGL-
3.3.6
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ARM64.JAR



LWJGL-
3.3.6.JAR



```
java --module-path lib --module de.javarca.engine
[main] INFO de.javarca.engine.Renderer - Welcome to Javarcade!
[main] WARN de.javarca.engine.Renderer - No renderer implementation available
```

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```
java --module-path lib --module de.javarca.engine
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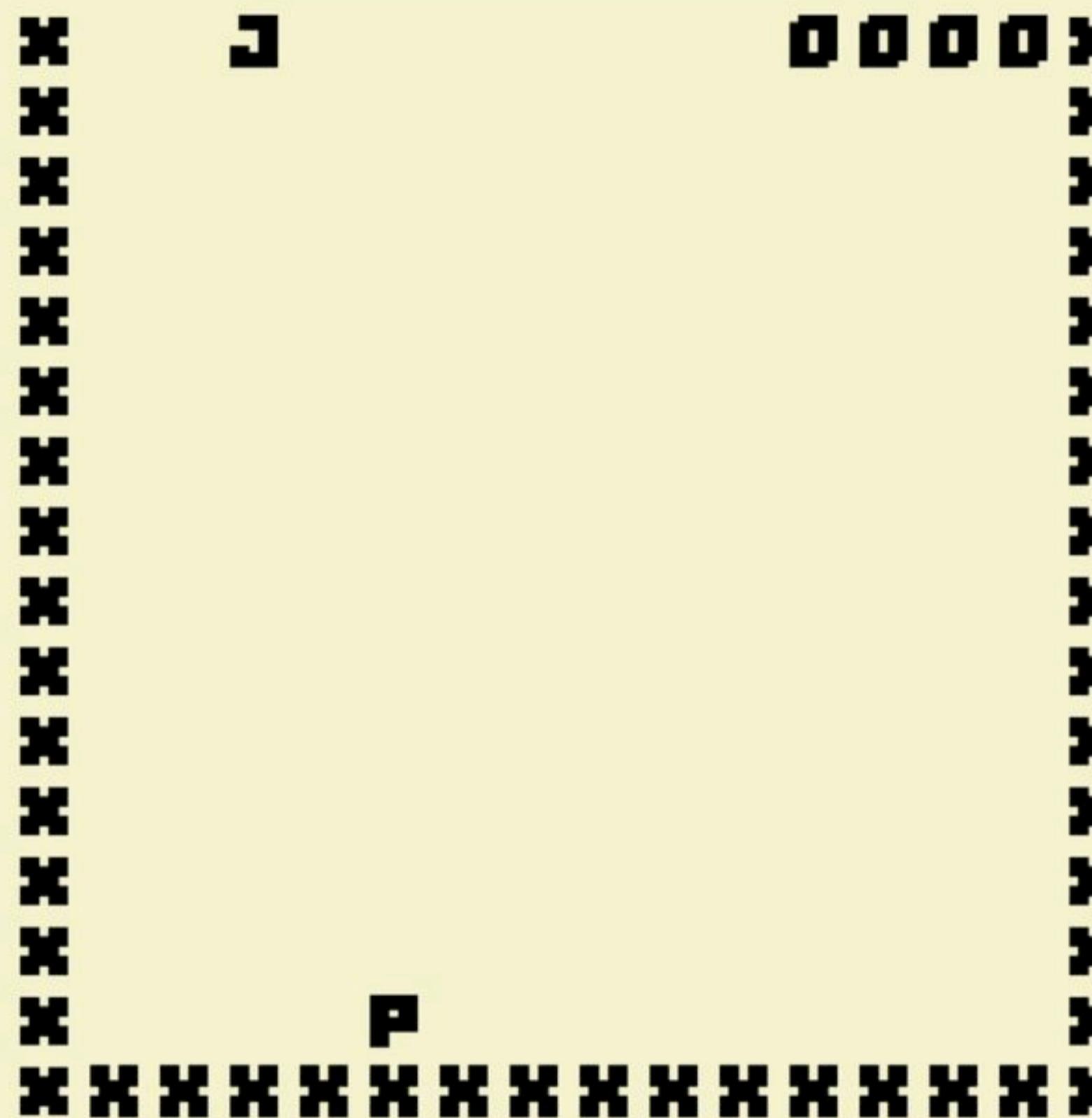
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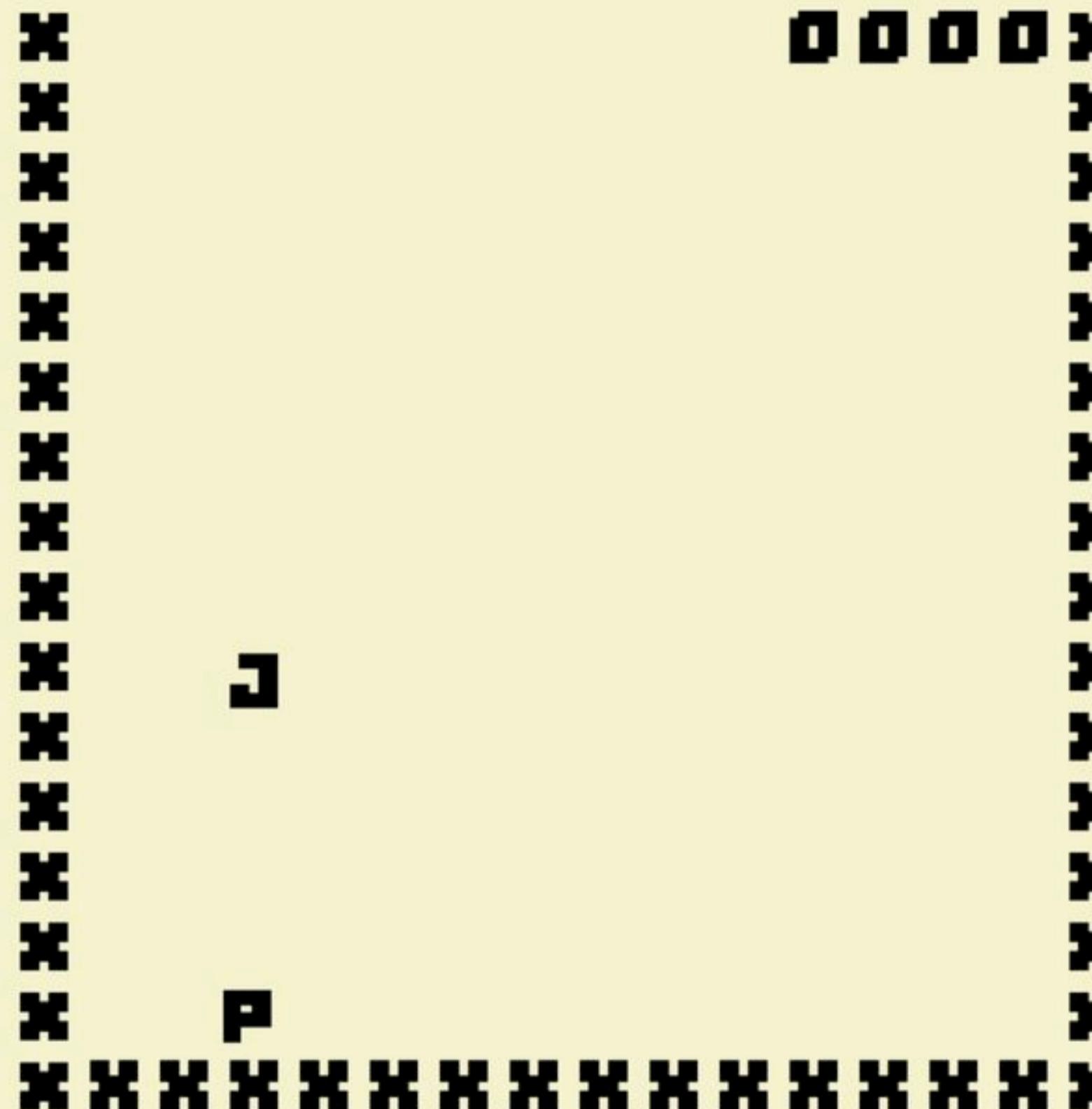
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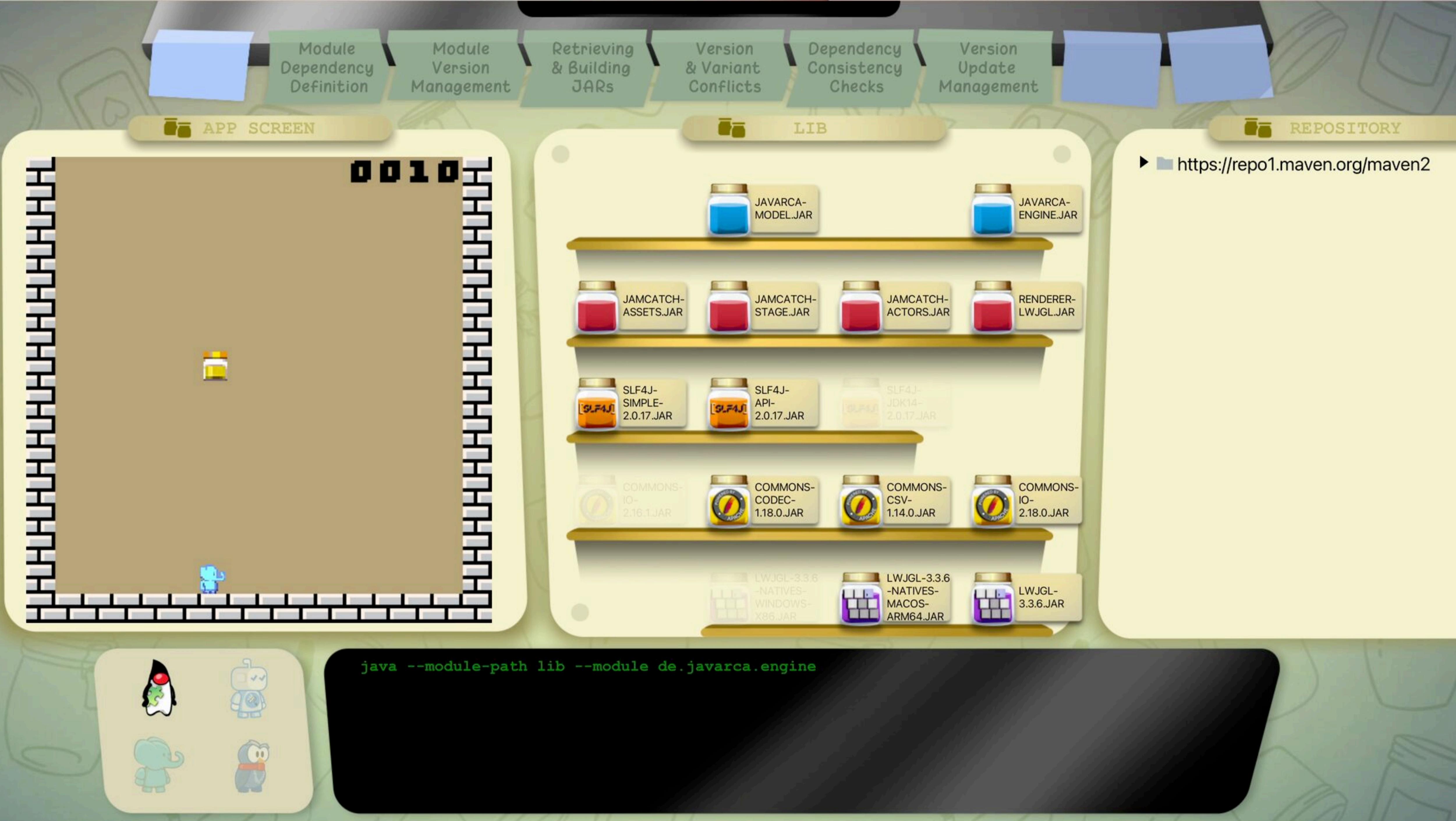
REPOSITORY



► https://repo1.maven.org/maven2

```
java --module-path lib --module de.javarca.engine
```





Module Dependency Definition

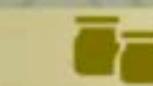
Module Version Management

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LIB

JAVARCA-MODEL.JAR

JAVARCA-ENGINE.JAR

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JAMCATCH-ACTORS.JAR

RENDERER-LWJGL.JAR

SLF4J-SIMPLE-2.0.17.JAR

SLF4J-API-2.0.17.JAR

SLF4J-JDK14-2.0.17.JAR

COMMONS-IO-2.16.1.JAR



COMMONS-CODEC-1.18.0.JAR



COMMONS-CSV-1.14.0.JAR



COMMONS-IO-2.18.0.JAR

LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR

LWJGL-3.3.6-NATIVES-MACOS-ARM64.JAR

LWJGL-3.3.6.JAR

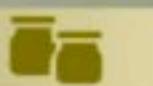


```
java --module-path lib --module de.javarca.engine
```



REPOSITORY

```
▼ https://repo1.maven.org/maven2
  ▼ org/apache/commons/commons-csv/1.14.0
    commons-csv-1.14.0.jar
      10 01 org/apache/commons/csv/**/*.class
      META-INF/MANIFEST.MF
      10 01 module-info.class
    commons-csv-1.14.0.pom
```



EDITOR

```
<project>
  <modelVersion>4.0.0</modelVersion>
  <artifactId>commons-csv</artifactId>
  <version>1.14.0</version>
  <dependencies>
    <dependency>
      <groupId>commons-codec</groupId>
      <artifactId>commons-codec</artifactId>
      <version>1.18.0</version>
    </dependency>
    <dependency>
      <groupId>commons-io</groupId>
      <artifactId>commons-io</artifactId>
      <version>2.18.0</version>
    </dependency>
  </dependencies>
</project>
```

Module Dependency Definition

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java --module-path lib --module de.javarca.engine

Module Version Management

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REPOSITORY

```
▼ https://repo1.maven.org/maven2
  ▼ org/apache/commons/commons-csv/1.14.0
    commons-csv-1.14.0.jar
      org/apache/commons/csv/**/*.class
    META-INF/MANIFEST.MF
    module-info.class
  commons-csv-1.14.0.pom
```

```
module org.apache.commons.csv {
  requires java.sql;
  requires org.apache.commons.codec;
  requires org.apache.commons.io;

  exports org.apache.commons.csv;
}
```

EDITOR

Module Dependency Definition

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JAVARCA-MODEL.JAR



JAMCATCH-STAGE.JAR



JAMCATCH-ACTORS.JAR



SLF4J-API-2.0.17.JAR



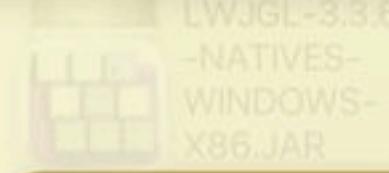
SLF4J-JDK14-2.0.17.JAR



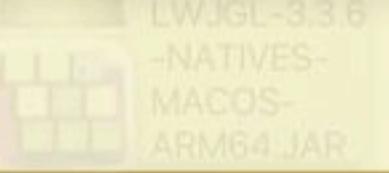
COMMONS-CODEC-1.18.0.JAR



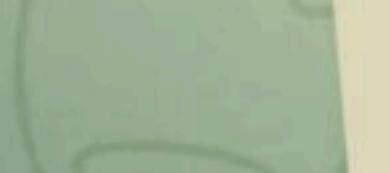
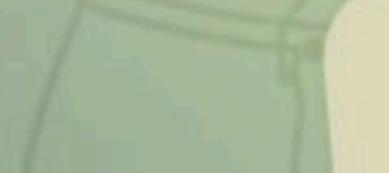
COMMONS-CSV-1.14.0.JAR



LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR



LWJGL-3.3.6-NATIVES-MACOS-ARM64.JAR



REPOSITORY

javarcade

- ▶ gradle/plugins/src/main/kotlin
- ▶ gradle/versions
- ▼ modules
 - ▶ javarca-model
 - ▶ javarca-engine
 - ▶ jamcatch-stage
 - ▶ jamcatch-assets
 - ▼ jamcatch-actors

src/main/java/module-info.java

build.gradle.kts

- ▶ renderer-lwjgl



EDITOR

```
module de.javarca.classic.items {  
    requires transitive de.javarca.model;  
    requires org.apache.commons.csv;  
  
    exports de.javarca.jamcatch.actors;  
  
    provides de.javarca.model.ActorSet with  
        de.javarca.jamcatch.actors.JamCatchActorSet;  
}
```

./gradlew build



Module Dependency Definition

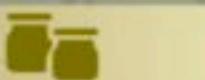
Module Version Management

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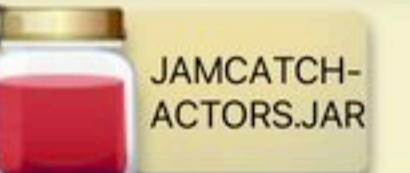
LIB



JAVARCA-MODEL.JAR



JAMCATCH-STAGE.JAR



JAMCATCH-ACTORS.JAR



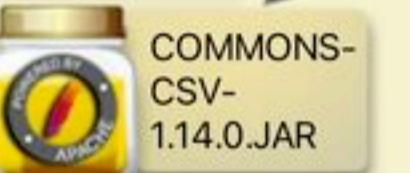
SLF4J-API-2.0.17.JAR



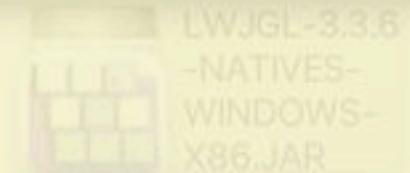
SLF4J-JDK14-2.0.17.JAR



COMMONS-CODEC-1.18.0.JAR



COMMONS-CSV-1.14.0.JAR



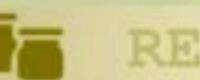
LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR



LWJGL-3.3.6-NATIVES-MACOS-ARM64.JAR



```
./gradlew build
```



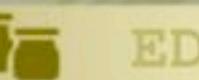
REPOSITORY

javarcade

- ▶ gradle/plugins/src/main/kotlin
- ▶ gradle/versions
- ▶ modules
 - ▶ javarca-model
 - ▶ javarca-engine
 - ▶ jamcatch-stage
 - ▶ jamcatch-assets
 - ▶ jamcatch-actors
 - ▶ src/main/java/**/*.java
 - ▶ build.gradle.kts
 - ▶ renderer-lwjgl

```
plugins { id("de.javarca.build.java-module") }

dependencies {
    api(project(":javarca-model"))
    implementation("org.apache.commons:commons-csv")
}
```



EDITOR

Module Dependency Definition

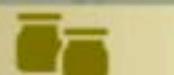
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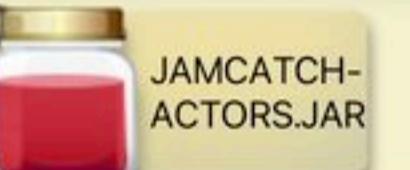
LIB



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JAMCATCH-STAGE.JAR



JAMCATCH-ACTORS.JAR



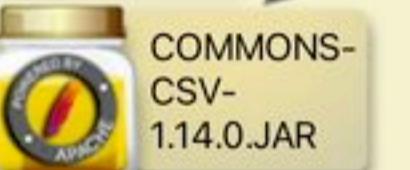
SLF4J-API-2.0.17.JAR



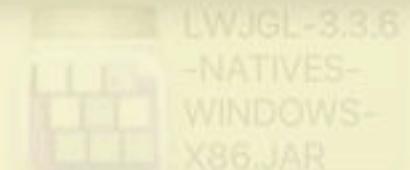
SLF4J-JDK14-2.0.17.JAR



COMMONS-CODEC-1.18.0.JAR



COMMONS-CSV-1.14.0.JAR



LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR



LWJGL-3.3.6-NATIVES-MACOS-ARM64.JAR



./mvnw clean verify



JAVARCA-ENGINE.JAR



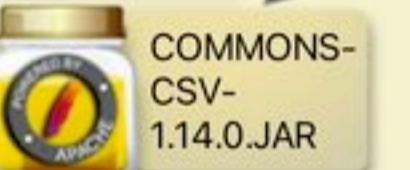
RENDERER-LWJGL.JAR



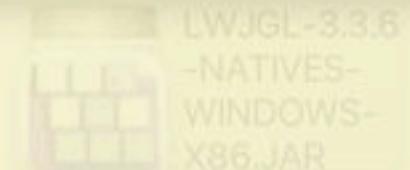
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



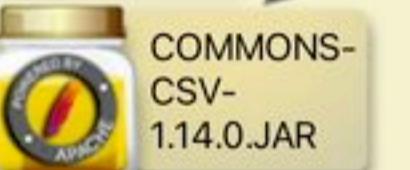
RENDERER-LWJGL.JAR



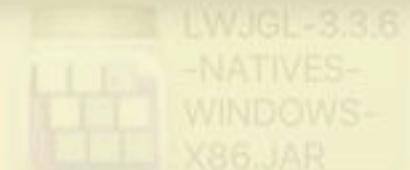
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LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



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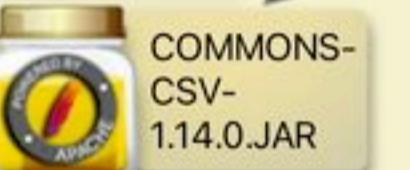
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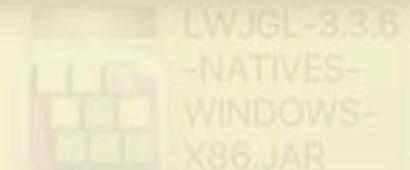
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



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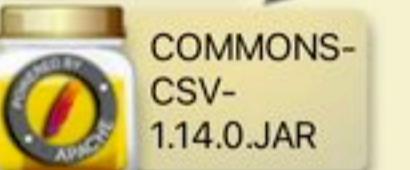
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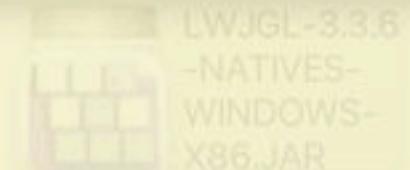
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LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



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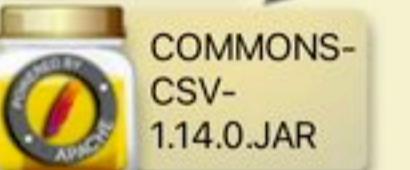
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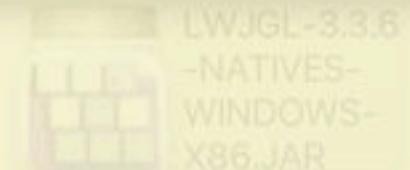
COMMONS-I/O-2.18.0.JAR



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NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



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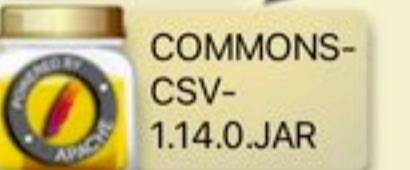
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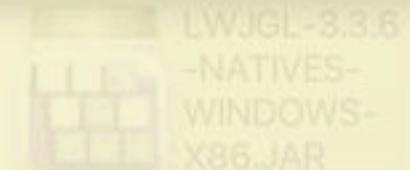
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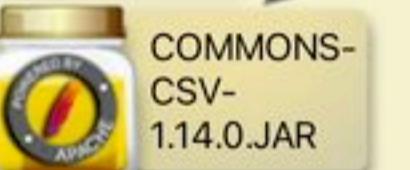
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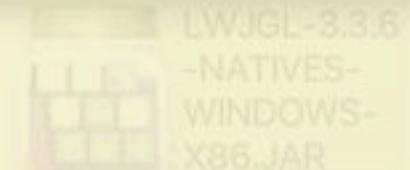
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LWJGL-3.3.6



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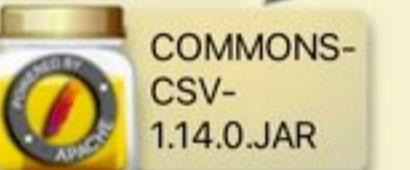
RENDERER-LWJGL.JAR



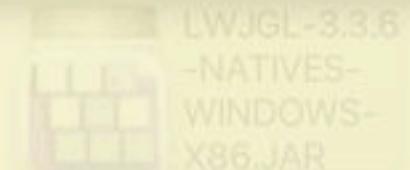
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



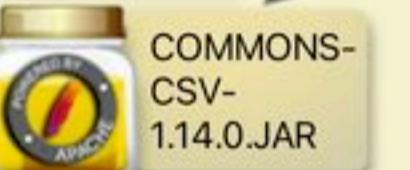
RENDERER-LWJGL.JAR



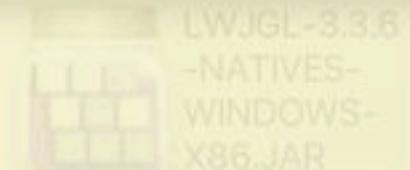
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



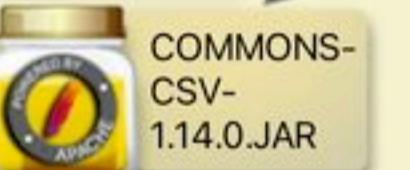
RENDERER-LWJGL.JAR



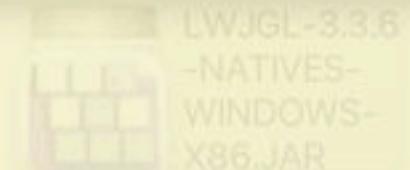
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



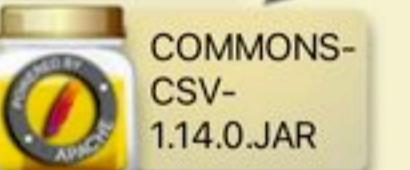
RENDERER-LWJGL.JAR



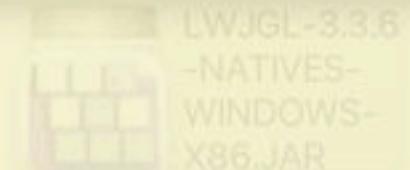
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



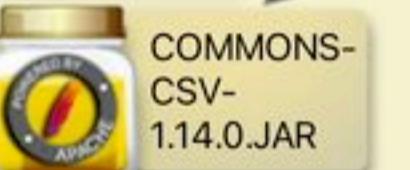
RENDERER-LWJGL.JAR



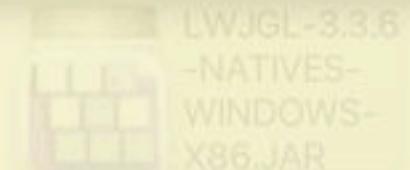
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



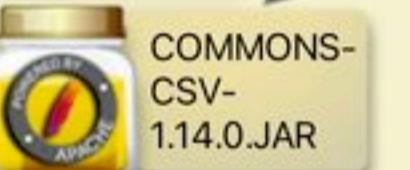
RENDERER-LWJGL.JAR



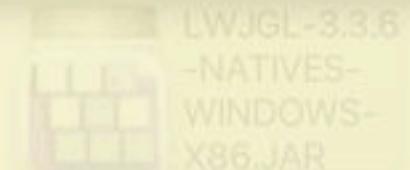
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



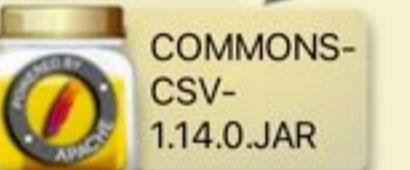
RENDERER-LWJGL.JAR



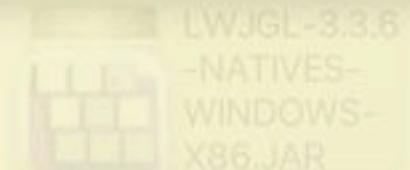
COMMONS-I/O-2.18.0.JAR



LWJGL-3.3.6



NATIVES-MACOS-ARM64.JAR



LWJGL-3.3.6



JAVARCA-ENGINE.JAR



RENDERER-LWJGL.JAR



COMMONS-I/O-2.18.0.JAR</div

Module Dependency Definition

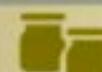
Module Version Management

Retrieving & Building JARs

Version & Variant Conflicts

Dependency Consistency Checks

Version Update Management



LIB



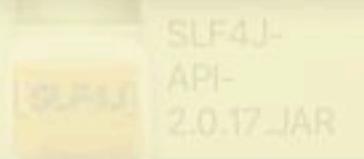
JAVARCA-MODEL.JAR



JAMCATCH-STAGE.JAR



JAMCATCH-ACTORS.JAR



SLF4J-API-2.0.17.JAR



SLF4J-JDK14-2.0.17.JAR



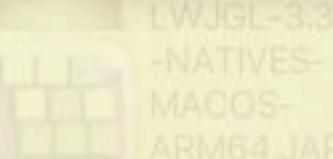
COMMONS-CODEC-1.18.0.JAR



COMMONS-CSV-1.14.0.JAR



LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR



LWJGL-3.3.6-NATIVES-MACOS-ARM64.JAR



./gradlew build



REPOSITORY

javarcade

- gradle/plugins/src/main/kotlin

gradle/versions

- build.gradle.kts

modules

- javarca-model

- javarca-engine

- jamcatch-stage

- jamcatch-assets

jamcatch-actors

- src/main/java/module-info.java

- build.gradle.kts

- renderer-lwjgl

```
plugins {  
    id("java-platform")  
}
```

```
javaPlatform { allowDependencies() }
```

```
dependencies {  
    api(platform("org.lwjgl:lwjgl-bom:3.3.6"))  
    api(platform("org.slf4j:slf4j-bom:2.0.17"))  
}
```

```
dependencies.constraints {  
    // org.apache.commons.io  
    api("commons-io:commons-io:2.16.1")  
    // org.apache.commons.csv  
    api("org.apache.commons:commons-csv:1.14.0")  
}
```

Module Dependency Definition

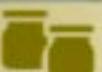
Module Version Management

Retrieving & Building JARs

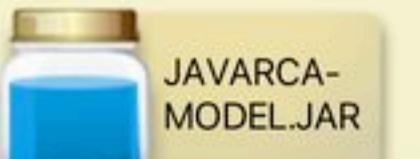
Version & Variant Conflicts

Dependency Consistency Checks

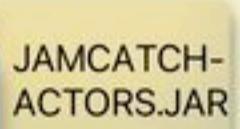
Version Update Management



LIB



JAVARCA-MODEL.JAR



JAMCATCH-ACTORS.JAR



JAMCATCH-STAGE.JAR



SLF4J-API-2.0.17.JAR



COMMONS-CODEC-1.18.0.JAR



LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR



REPOSITORY

▼ javarcade

► .mvn/config

▼ .mvn/versions

► pom.xml

▼ modules

► javarca-model

► javarca-engine

► jamcatch-stage

► jamcatch-assets

▼ jamcatch-actors

► src/main/java/module-info.java

► pom.xml

► renderer-lwjgl

```
<dependencyManagement>
```

```
  <dependencies>
```

```
    <dependency>
```

```
      <groupId>org.lwjgl</groupId>
```

```
      <artifactId>lwjgl-bom</artifactId>
```

```
      <version>3.3.6</version>
```

```
      <type>pom</type>
```

```
      <scope>import</scope>
```

```
    </dependency>
```

```
    <dependency>
```

```
      <groupId>org.slf4j</groupId>
```

```
      <artifactId>slf4j-bom</artifactId>
```

```
      <version>2.0.17</version>
```

```
      <type>pom</type>
```

```
      <scope>import</scope>
```

```
    </dependency>
```

```
    <dependency>
```

```
      <!-- org.apache.commons.io -->
```

```
      <groupId>commons-io</groupId>
```

```
      <artifactId>commons-io</artifactId>
```

```
      <version>2.16.1</version>
```

```
    </dependency>
```

```
    <dependency>
```

```
      <!-- org.apache.commons.csv -->
```

```
      <groupId>org.apache.commons</groupId>
```

```
      <artifactId>commons-csv</artifactId>
```

```
      <version>1.5.1</version>
```

```
./mvnw clean verify
```



Module Dependency Definition

Module Version Management

Retrieving & Building JARs

Version & Variant Conflicts

Dependency Consistency Checks

Version Update Management



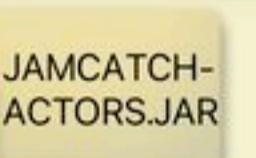
LIB



JAVARCA-MODEL.JAR



JAMCATCH-STAGE.JAR



JAMCATCH-ACTORS.JAR



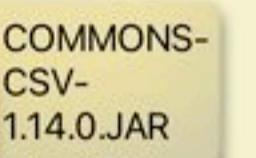
SLF4J-API-2.0.17.JAR



SLF4J-JDK14-2.0.17.JAR



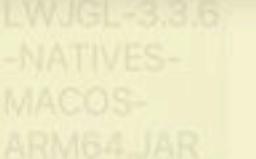
COMMONS-CODEC-1.18.0.JAR



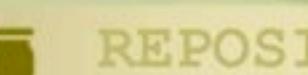
COMMONS-CSV-1.14.0.JAR



LWJGL-3.3.6-NATIVES-WINDOWS-X86.JAR



LWJGL-3.3.6-NATIVES-MACOS-ARM64.JAR



REPOSITORY

- ▼ javarcade
 - ▼ gradle/plugins/src/main/kotlin
 - repositories.gradle.kts
 - dependency-rules.gradle.kts
 - quality-check.gradle.kts
 - compile.gradle.kts
 - test.gradle.kts
 - java-module.gradle.kts
 - ▼ gradle/versions
 - build.gradle.kts
 - ▼ modules
 - javarca-model
 - javarca-engine
 - jamcatch-stage
 - jamcatch-assets

```
repositories {  
    maven("https://repo.maven.apache.org/maven2")  
}
```

```
./gradlew build
```



Module Dependency Definition

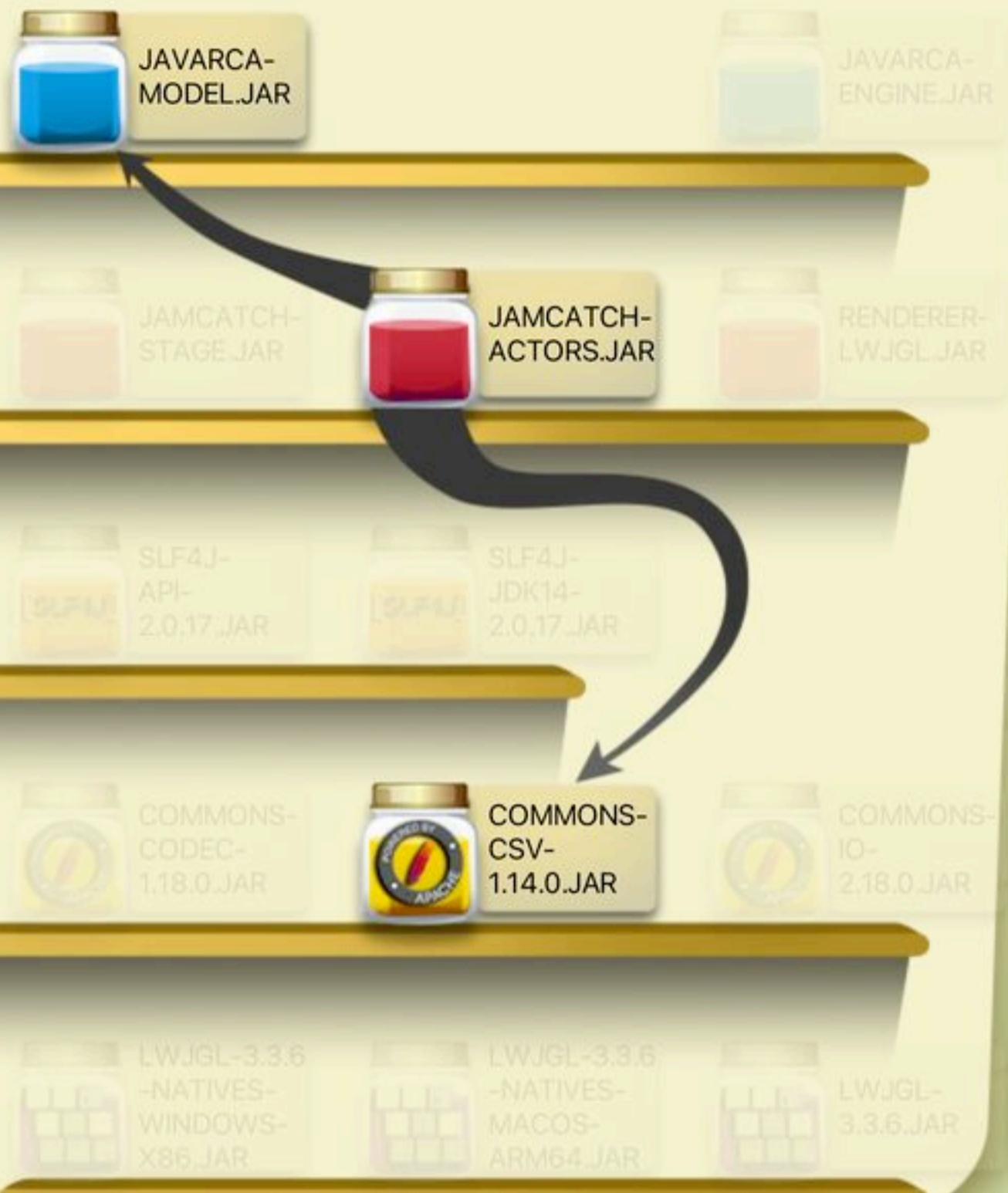
Module Version Management

Retrieving & Building JARs

Version & Variant Conflicts

Dependency Consistency Checks

LIB



REPOSITORY

```
▼ javarcade
  ▼ .mvn/config
    m repositories/pom.xml
    m dependency-rules/pom.xml
    m quality-check/pom.xml
    m compile/pom.xml
    m test/pom.xml
    m java-module/pom.xml
  ▼ .mvn/versions
    m pom.xml
  ▼ modules
    ► javarca-model
    ► javarca-engine
    ► jamcatch-stage
    ► jamcatch-assets
```

```
<project>
  <modelVersion>4.0.0</modelVersion>
  <packaging>pom</packaging>
  <parent>
    <relativePath>../dependency-rules</relativePath>
    <groupId>de.javarca</groupId>
    <artifactId>mavenbuild-dependency-rules</artifactId>
    <version>${revision}</version>
  </parent>
  <artifactId>mavenbuild-repositories</artifactId>

  <repositories>
    <repository>
      <id>MavenCentral</id>
      <url>https://repo.maven.apache.org/maven2</url>
    </repository>
  </repositories>
</project>
```

./mvnw clean verify

EDITOR



Module
Dependency
Definition

Module
Version
Management

Retrieving
& Building
JARs

Version
& Variant
Conflicts

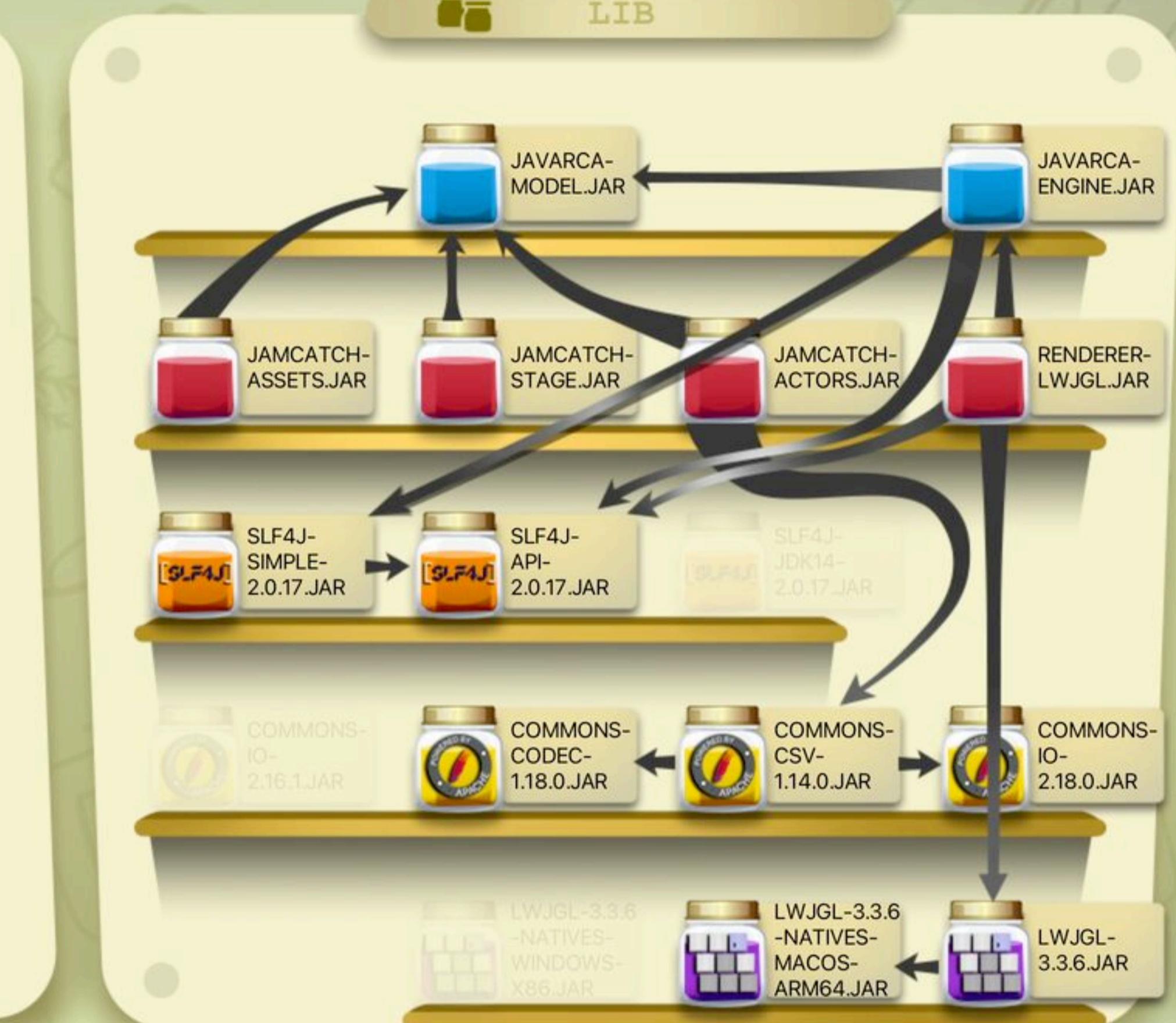
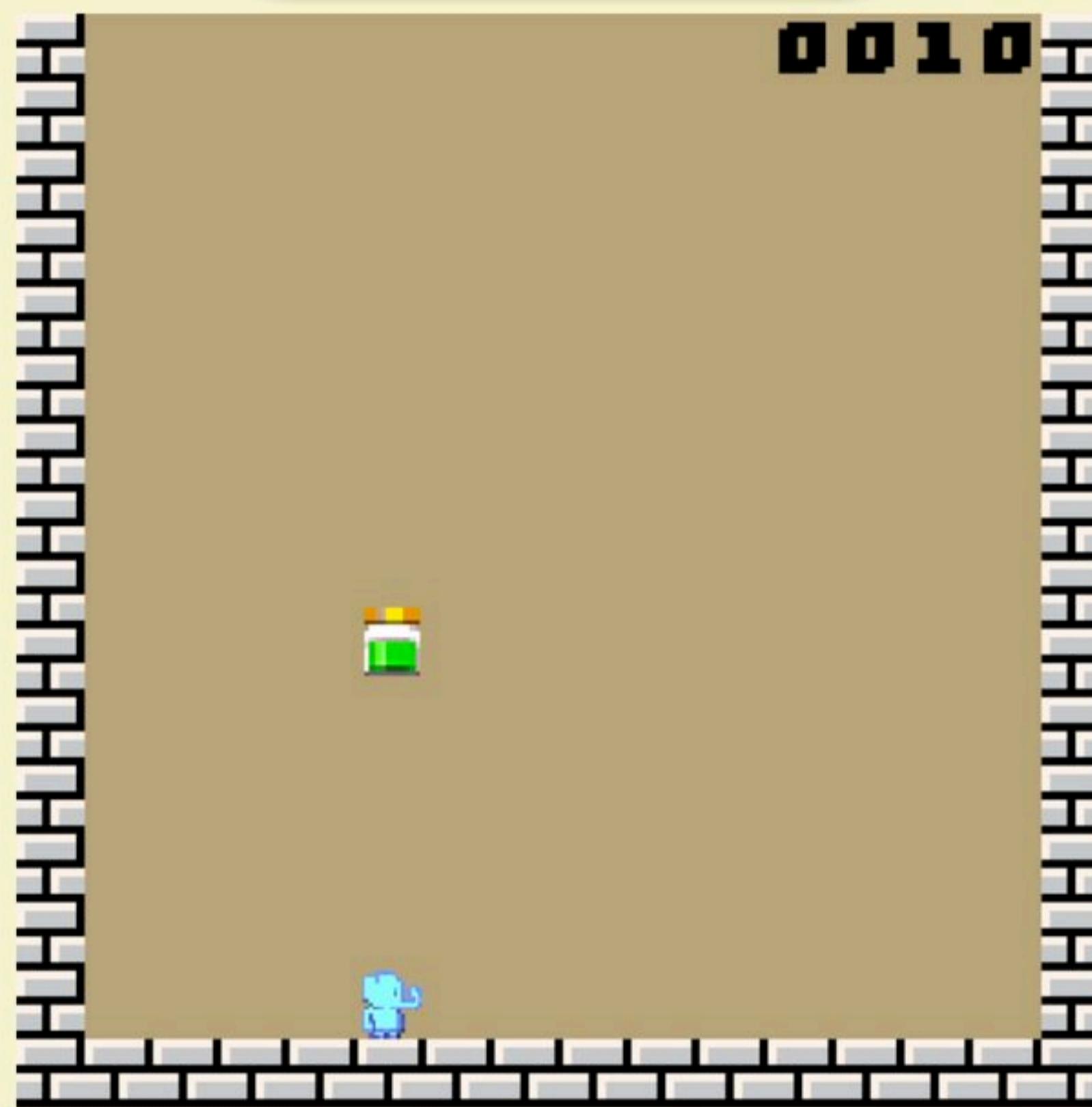
Dependency
Consistency
Checks

Version
Update
Management

APP SCREEN

LIB

REPOSITORY



```
> task :app-jamcatch:assemble
> Task :app-jamcatch:distTar
> Task :app-jamcatch:distZip
> Task :app-jamcatch:assemble
> Task :app-jamcatch:build
```

BUILD SUCCESSFUL in 34s

228 actionable tasks: 184 executed, 44 from cache
Configuration cache entry stored.



Module
Dependency
Definition

Module
Version
Management

Retrieving
& Building
JARs

Version
& Variant
Conflicts

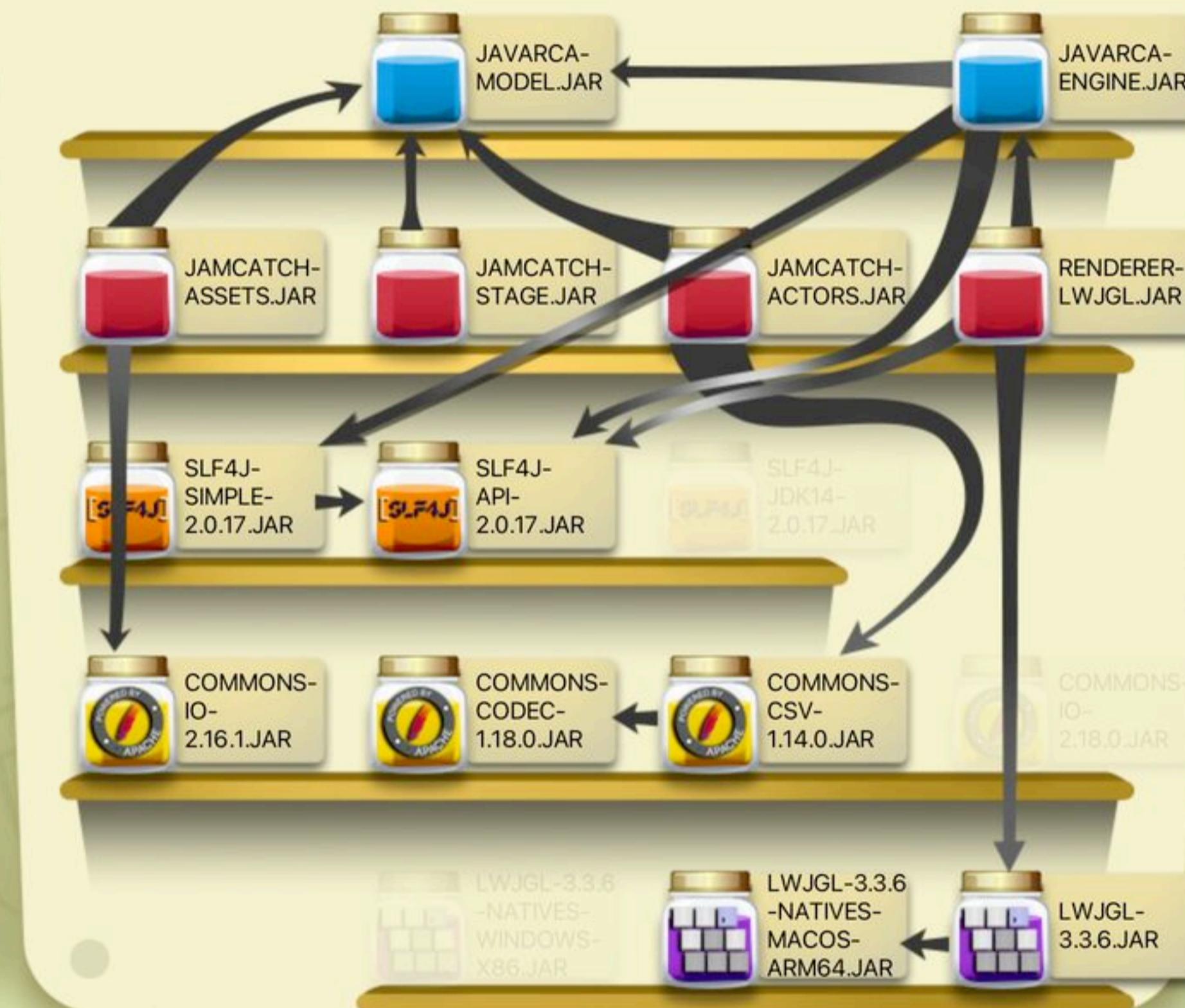
Dependency
Consistency
Checks

Version
Update
Management

APP SCREEN

LIB

REPOSITORY



```
[INFO] -----  
[INFO] BUILD SUCCESS  
[INFO] -----  
[INFO] Total time: 13.946 s  
[INFO] Finished at: 2025-06-27T08:03:44+02:00  
[INFO] -----
```

Caused by: java.lang.NoClassDefFoundError:
org/apache/commons/io/input/UnsynchronizedBufferedReader

m compile/pom.xml
m test/pom.xml
m java-module/pom.xml
▼ .mvn/versions
m pom.xml
▼ modules
▶ javarca-model
▶ javarca-engine
▶ jamcatch-stage
▶ jamcatch-assets
▼ jamcatch-actors
 src/main/java/module-info.java
m pom.xml
▶ renderer-lwjgl
 pom.xml

Module Dependency Definition

Module Version Management

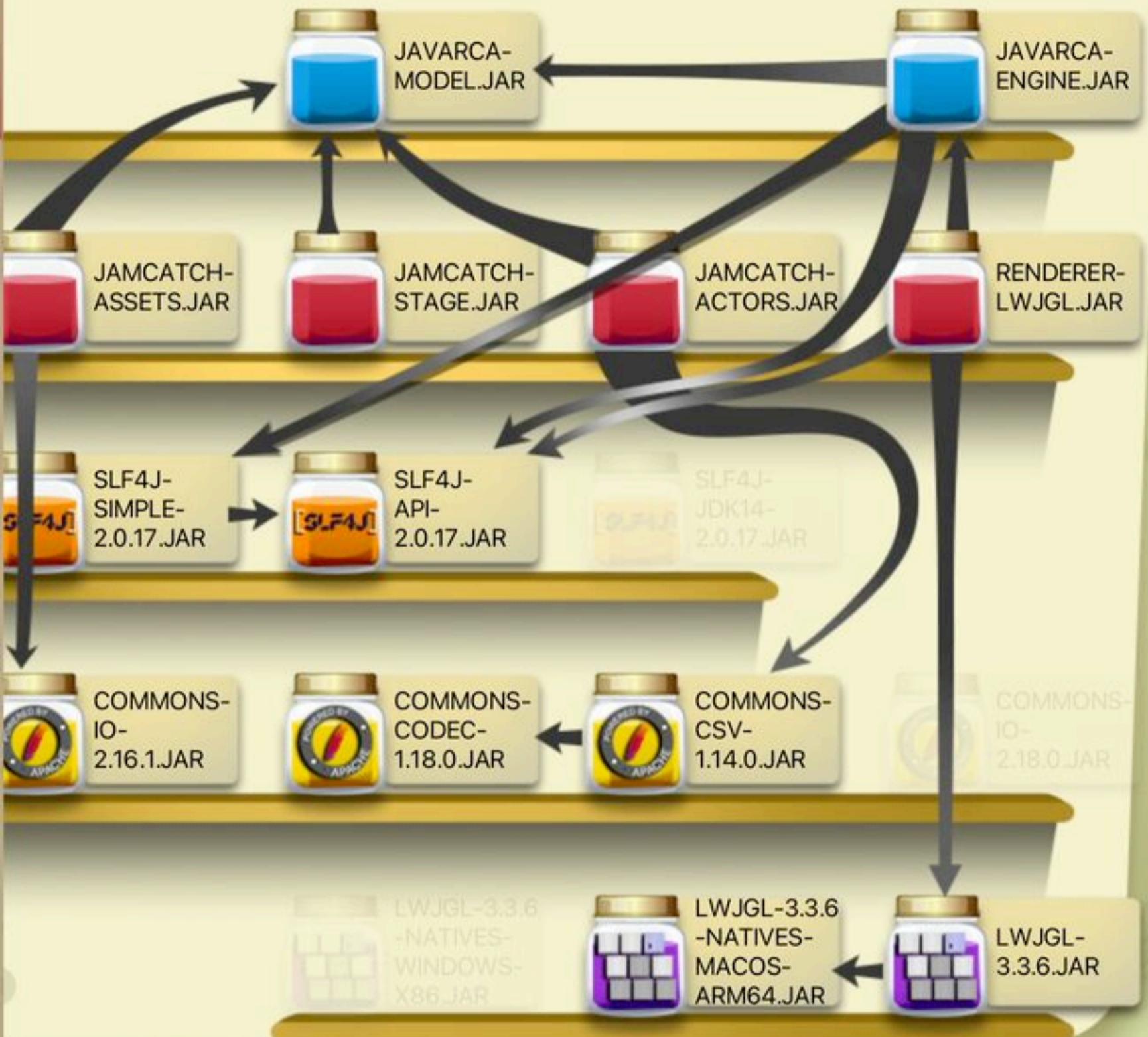
Retrieving & Building JARs

Version & Variant Conflicts

Dependency Consistency Checks

Version Update Management

LIB



REPOSITORY

m compile/pom.xml
m test/pom.xml
m java-module/pom.xml

▼ .mvn/versions
 m pom.xml

▼ modules

- ▶ javarca-model
- ▶ javarca-engine
- ▶ jamcatch-stage
- ▶ jamcatch-assets
- ▶ jamcatch-actors
 - src/main/java/module-info.java
- m* pom.xml

▶ renderer-lwjgl

EDITOR

```
<scope>import</scope>
</dependency>
<dependency>
  <groupId>org.slf4j</groupId>
  <artifactId>slf4j-bom</artifactId>
  <version>2.0.17</version>
  <type>pom</type>
  <scope>import</scope>
</dependency>

<dependency>
  <!-- org.apache.commons.io -->
  <groupId>commons-io</groupId>
  <artifactId>commons-io</artifactId>
  <version>2.18.0</version>
</dependency> I
<dependency>
  <!-- org.apache.commons.csv -->
  <groupId>org.apache.commons</groupId>
  <artifactId>commons-csv</artifactId>
  <version>1.14.0</version>
</dependency>
</dependencies>
</dependencyManagement>
</project>
```

./mvnw clean verify



Module
Dependency
Definition

Module
Version
Management

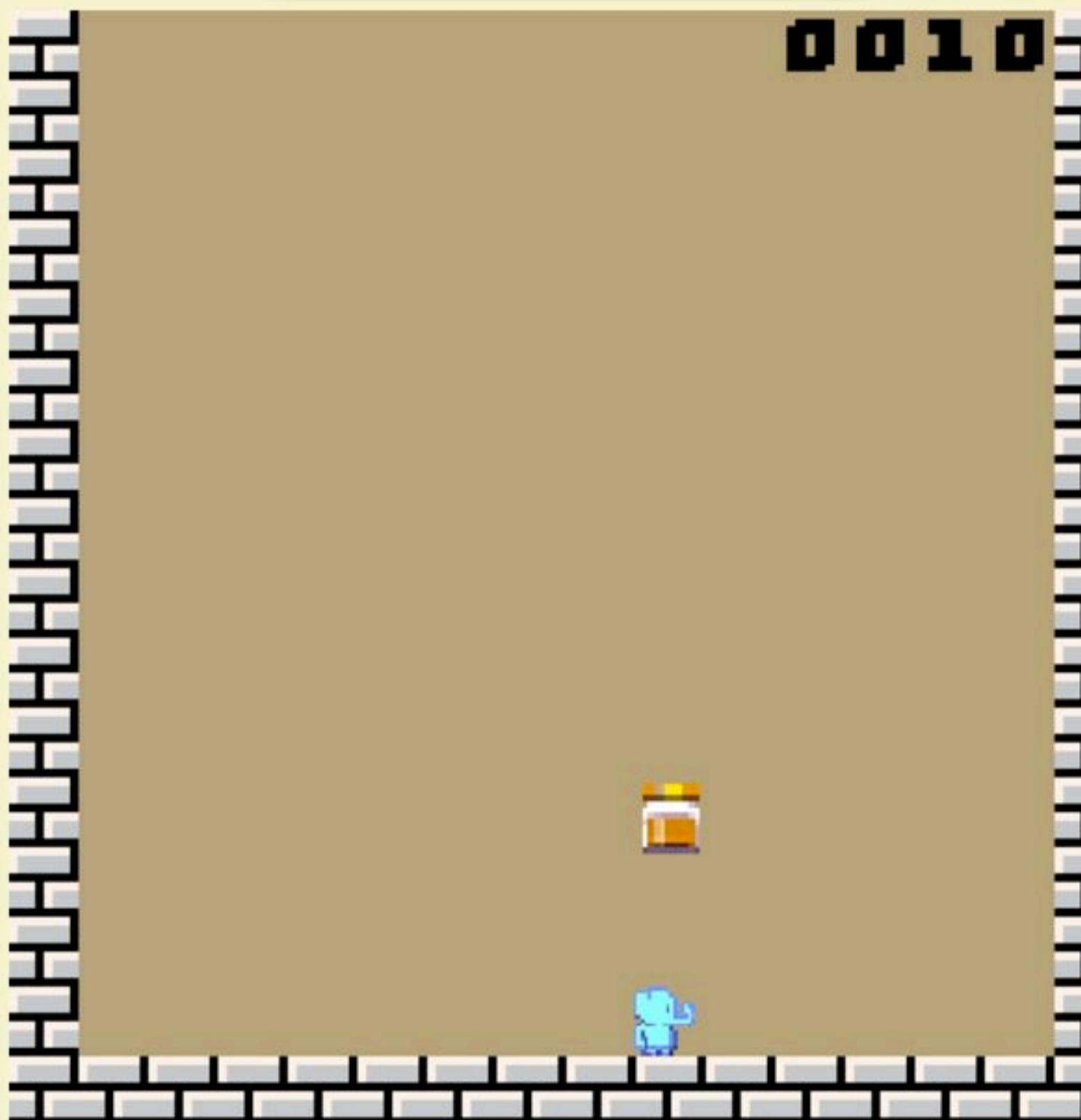
Retrieving
& Building
JARs

Version
& Variant
Conflicts

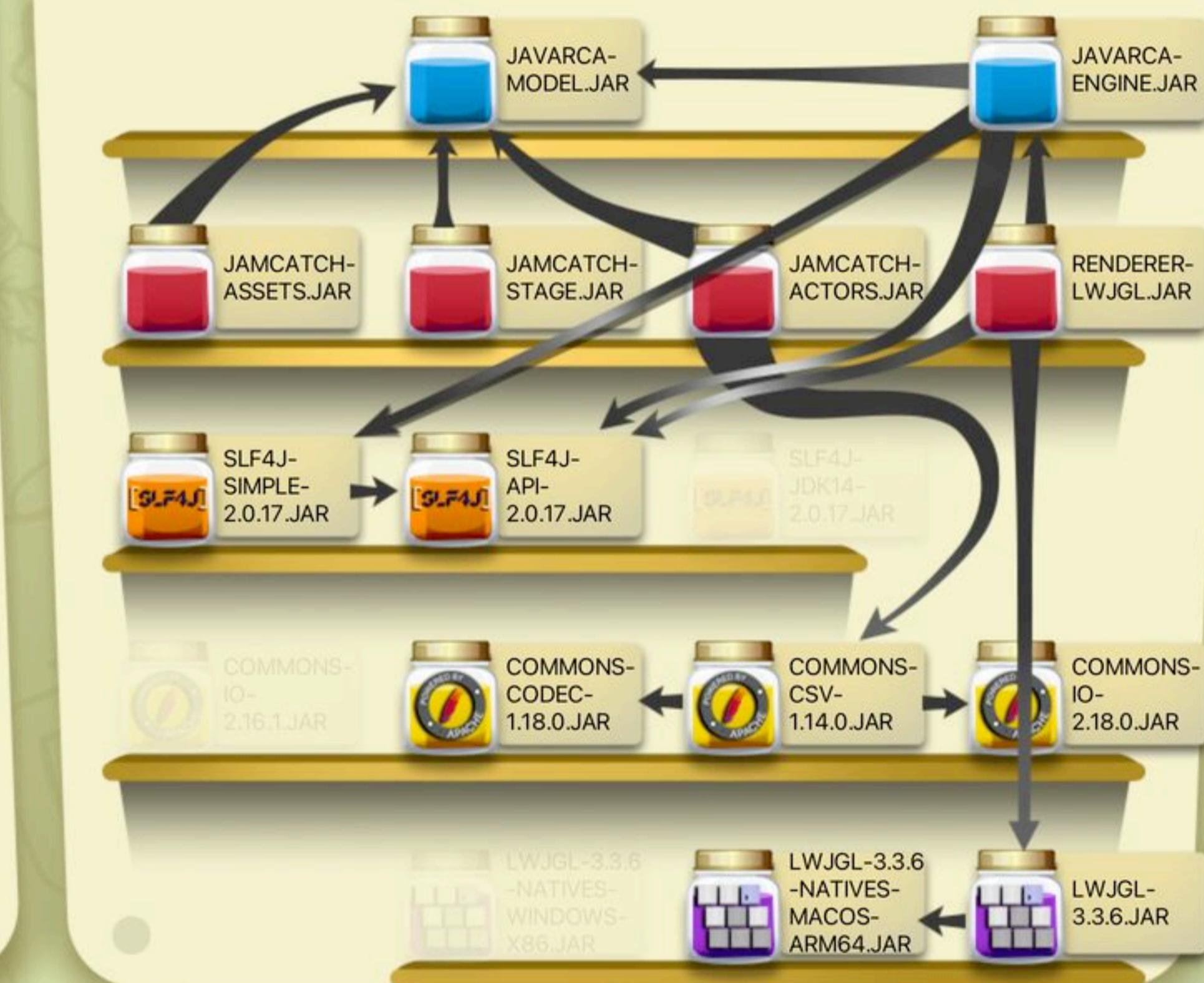
Dependency
Consistency
Checks

Version
Update
Management

APP SCREEN



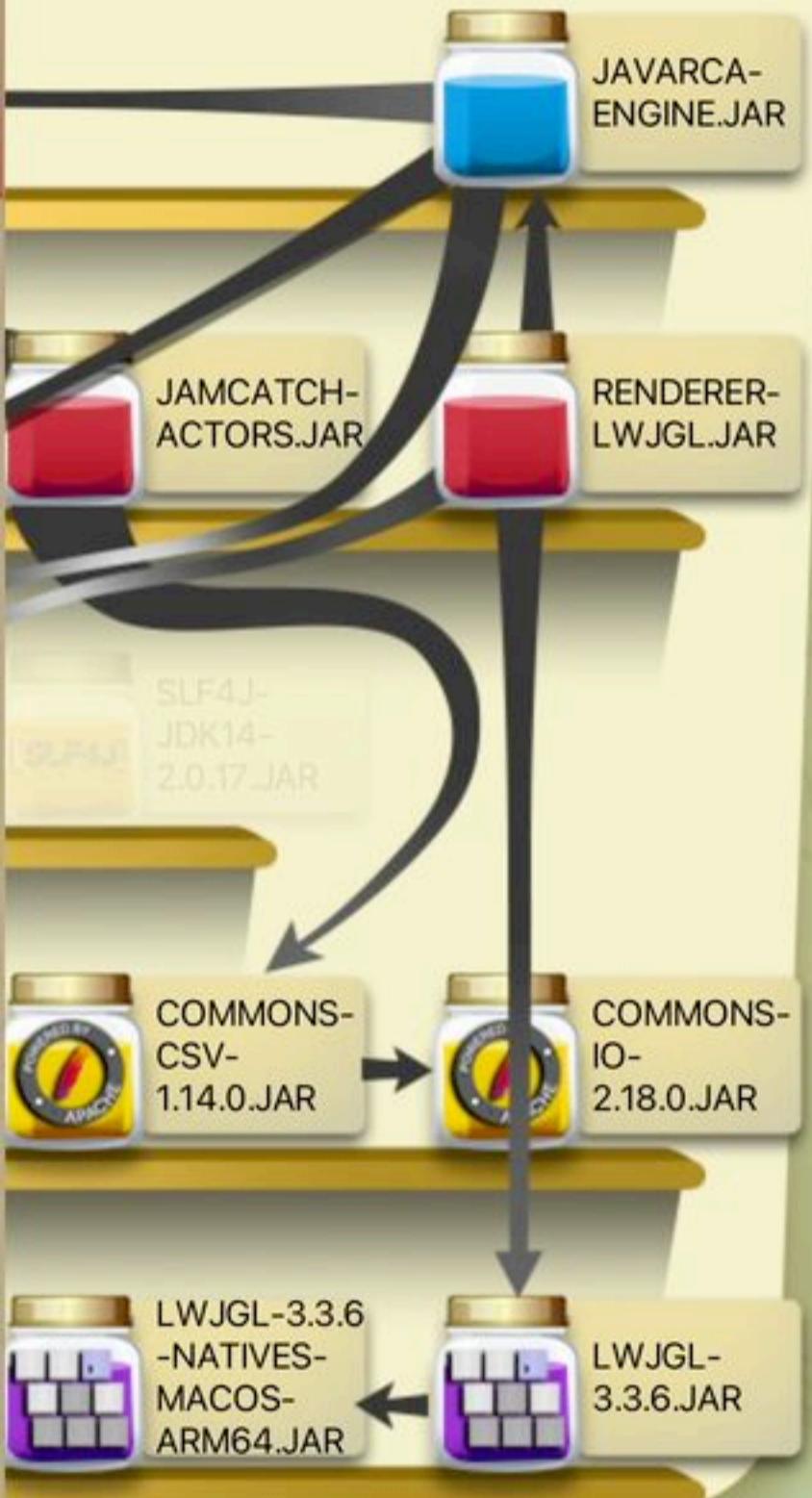
LIB



REPOSITORY

```
m compile/pom.xml
m test/pom.xml
m java-module/pom.xml
▼ .mvn/versions
  m pom.xml
▼ modules
  ▶ javarca-model
  ▶ javarca-engine
  ▶ jamcatch-stage
  ▶ jamcatch-assets
  ▶ jamcatch-actors
    src/main/java/module-info.java
    m pom.xml
  ▶ renderer-lwjgl
```

```
[INFO] app-jamcatch ...
[INFO] javarcade ...
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 2.624 s
[INFO] Finished at: 2025-06-27T08:04:33+02:00
[INFO] -----
```

 REPOSITORY

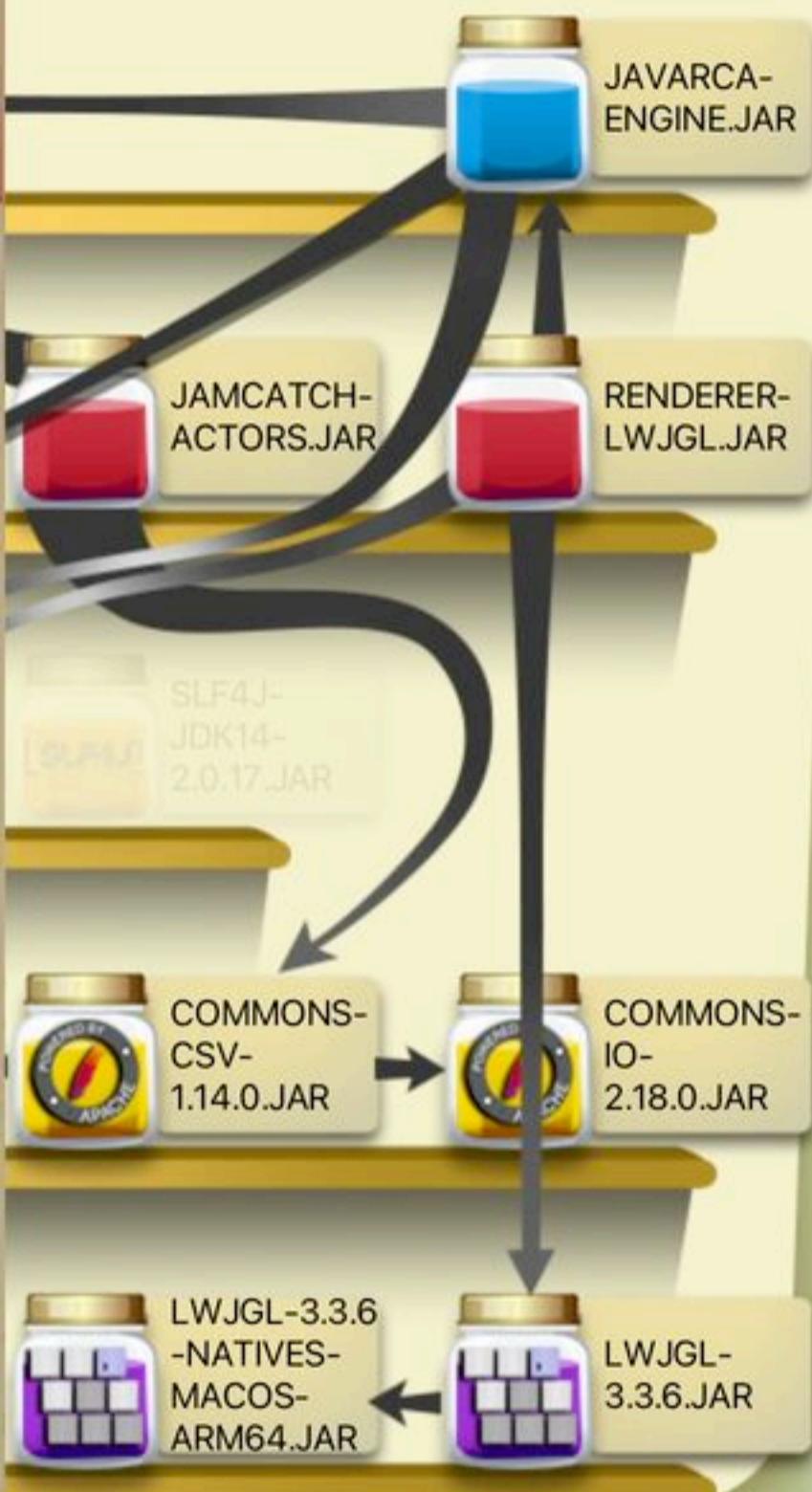
```
▼ javarcade
  ▼ .mvn/config
    m repositories.gradle.kts
    m dependency-rules.gradle.kts
    m quality-check/pom.xml
    m compile/pom.xml
    m test/pom.xml
    m java-module/pom.xml
  ▼ .mvn/versions
    m pom.xml
  ▼ modules
    ► javarca-model
    ► javarca-engine
    ► jamcatch-stage
    ► jamcatch-assets
```

```
<dependencyManagement>
  <dependencies>
    <dependency>
      <groupId>de.javarca</groupId>
      <artifactId>javarca-engine</artifactId>
      <exclusions>
        <exclusion>
          <groupId>org.slf4j</groupId>
          <artifactId>slf4j-jdk14</artifactId>
        </exclusion>
      </exclusions>
    </dependency>
  </dependencies>
</dependencyManagement>

<profiles>
  <profile>
    <id>lwjgl-natives-linux-amd64</id>
    <activation>
      <os>
        <family>unix</family>
        <name>linux</name>
        <arch>amd64</arch>
      </os>
    </activation>
    <properties>
      <lwjgl.natives>natives-linux</lwjgl.natives>
    </properties>
  </profile>
</profiles>
```

```
./mvnw clean verify
```



REPOSITORY

```
▼ javarcade
  ▼ gradle/plugins/src/main/kotlin
    repositories.gradle.kts
    dependency-rules.gradle.kts
    quality-check.gradle.kts
    compile.gradle.kts
    test.gradle.kts
    java-module.gradle.kts
  ▼ gradle/versions
    build.gradle.kts
  □ modules
    □ javarca-model
    □ javarca-engine
    □ jamcatch-stage
    □ jamcatch-assets
```

```
plugins {
  id("org.gradlex.jvm-dependency-conflict-resolution")
}

jvmDependencyConflicts {
  conflictResolution {
    select("org.gradlex:slf4j-impl", "org.slf4j:slf4j-simple")
  }
}

patch {
  listOf("", "-glfw", "-opengl", "-stb").forEach { module ->
    module("org.lwjgl:lwjgl$module") {
      addTargetPlatformVariant("natives",
        "natives-linux", LINUX, X86_64)
      addTargetPlatformVariant("natives",
        "natives-linux-arm64", LINUX, ARM64)
      addTargetPlatformVariant("natives",
        "natives-macos", MACOS, X86_64)
      addTargetPlatformVariant("natives",
        "natives-macos-arm64", MACOS, ARM64)
      addTargetPlatformVariant("natives",
        "natives-windows", WINDOWS, X86_64)
      addTargetPlatformVariant("natives",
        "natives-windows-arm64", WINDOWS, ARM64)
    }
  }
}
```

```
./gradlew build
```



 REPOSITORY

```
▼ javarcade
  ▼ gradle/plugins/src/main/kotlin
    repositories.gradle.kts
    dependency-rules.gradle.kts
    quality-check.gradle.kts
    compile.gradle.kts
    test.gradle.kts
    java-module.gradle.kts
  ▼ gradle/versions
    build.gradle.kts
  ▼ modules
    ► javarca-model
    ► javarca-engine
    ► jamcatch-stage
    ► jamcatch-assets
```

 EDITOR

```
plugins {
  id("org.gradlex.jvm-dependency-conflict-resolution")
}

jvmDependencyConflicts {
  conflictResolution {
    // select("org.gradlex:slf4j-impl", "org.slf4j:slf4j-simple")
  }
}

patch {
  listOf("", "-glfw", "-opengl", "-stb").forEach { module ->
    module("org.lwjgl:lwjgl$module") {
      addTargetPlatformVariant("natives",
        "natives-linux", LINUX, X86_64)
      addTargetPlatformVariant("natives",
        "natives-linux-arm64", LINUX, ARM64)
      addTargetPlatformVariant("natives",
        "natives-macos", MACOS, X86_64)
      addTargetPlatformVariant("natives",
        "natives-macos-arm64", MACOS, ARM64)
      addTargetPlatformVariant("natives",
        "natives-windows", WINDOWS, X86_64)
      addTargetPlatformVariant("natives",
        "natives-windows-arm64", WINDOWS, ARM64)
    }
  }
}
```

```
> Module 'org.slf4j:slf4j-simple' has been rejected:
   Cannot select module with conflict on capability 'org.gradlex:slf4j-impl:1.0' also
   provided by [org.slf4j:slf4j-jdk14:2.0.17(runtime)]
> Could not resolve org.slf4j:slf4j-jdk14.
  Required by:
    project :app-jamcatch > project :javarca-engine
> Module 'org.slf4j:slf4j-jdk14' has been rejected:
   Cannot select module with conflict on capability 'org.gradlex:slf4j-impl:1.0' also
```



Module
Dependency
Definition

Module
Version
Management

Retrieving
& Building
JARs

Version
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Conflicts

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Checks

Version
Update
Management

REPOSITORY

```
▼ javarcade
  ▼ gradle/plugins/src/main/kotlin
    repositories.gradle.kts
    dependency-rules.gradle.kts
    quality-check.gradle.kts
    compile.gradle.kts
    test.gradle.kts
    java-module.gradle.kts
  ▼ gradle/versions
    build.gradle.kts
  ▼ modules
    ► javarca-model
    ► javarca-engine
    ► jamcatch-stage
    ► jamcatch-assets
```

EDITOR

```
import org.gradle.nativeplatform.MachineArchitecture.*
import org.gradle.nativeplatform.OperatingSystemFamily.*

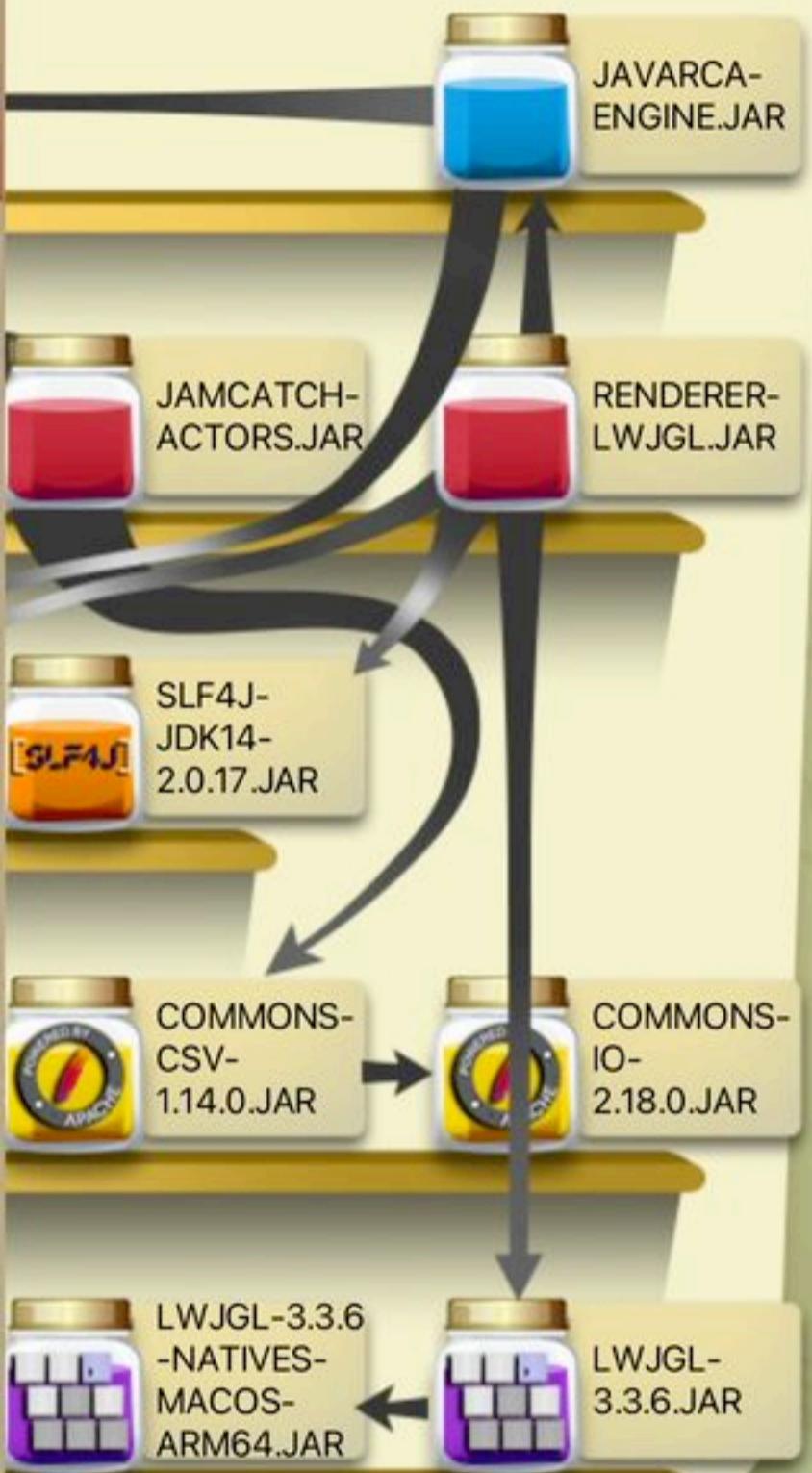
plugins {
    id("org.gradlex.jvm-dependency-conflict-resolution")
}

jvmDependencyConflicts {
    conflictResolution {
        select("org.gradlex:slf4j-impl", "org.slf4j:slf4j-jdk14")
    }
}

patch {
    listOf("", "-glfw", "-opengl", "-stb").forEach { module ->
        module("org.lwjgl:lwjgl$module") {
            addTargetPlatformVariant("natives",
                "natives-linux", LINUX, X86_64)
            addTargetPlatformVariant("natives",
                "natives-linux-arm64", LINUX, ARM64)
            addTargetPlatformVariant("natives",
                "natives-macos", MACOS, X86_64)
            addTargetPlatformVariant("natives",
                "natives-macos-arm64", MACOS, ARM64)
            addTargetPlatformVariant("natives",
                "natives-windows", WINDOWS, X86_64)
            addTargetPlatformVariant("natives",
                "natives-windows-arm64", WINDOWS, ARM64)
        }
    }
}
```

./gradlew build



 REPOSITORY

- ▼ **javarcae**
- ▼ **gradle/plugins/src/main/kotlin**
 - 🔗 **repositories.gradle.kts**
 - 🔗 **dependency-rules.gradle.kts**
 - 🔗 quality-check.gradle.kts**
 - 🔗 **compile.gradle.kts**
 - 🔗 **test.gradle.kts**
 - 🔗 **java-module.gradle.kts**
- ▼ **gradle/versions**
 - 🔗 **build.gradle.kts**
- ▼ **modules**
 - ▶ **javarca-model**
 - ▶ **javarca-engine**
 - ▶ **jamcatch-stage**
 - ▶ **jamcatch-assets**

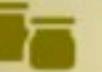
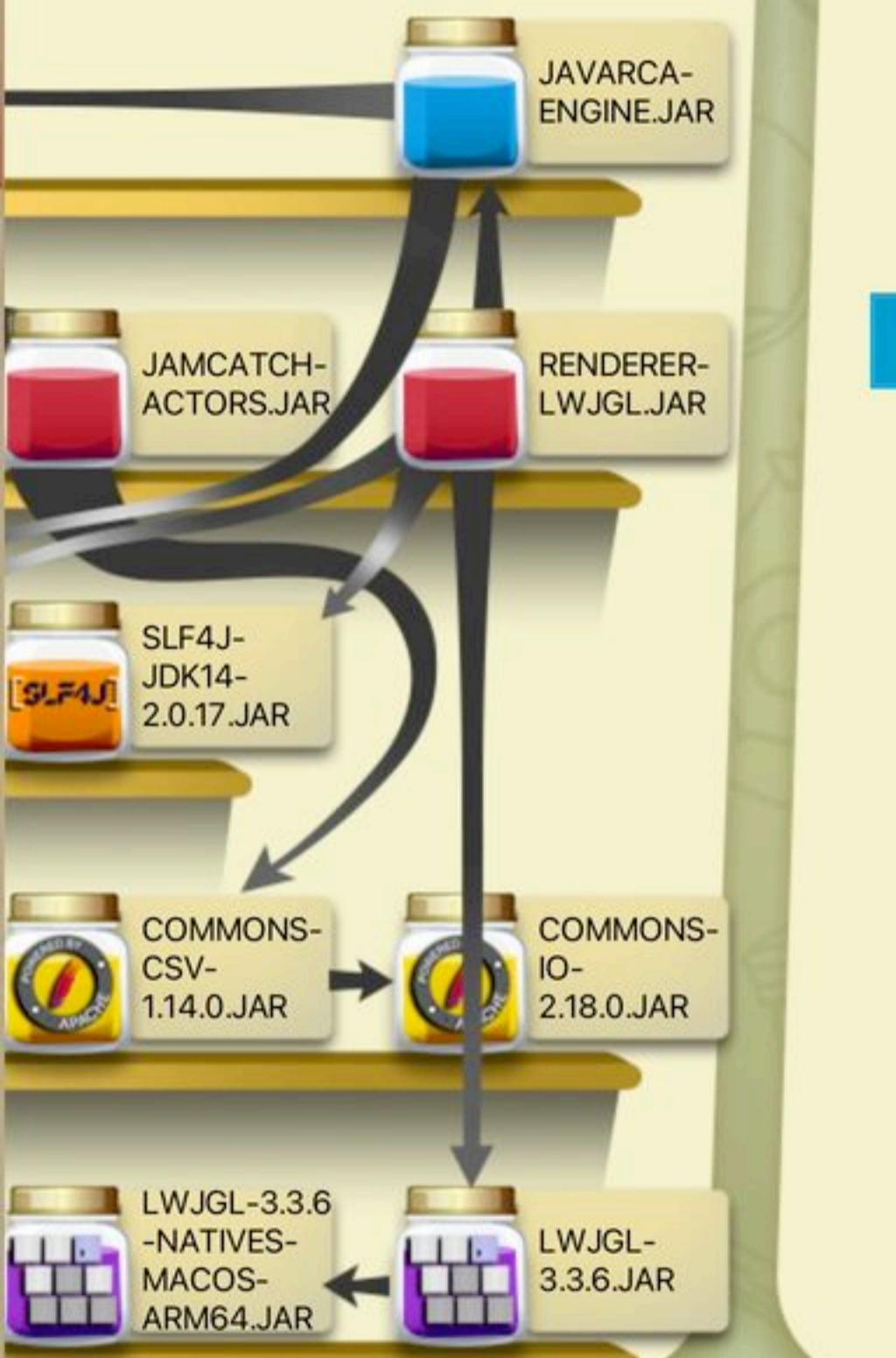
```
./gradlew build
```

 EDITOR

```
import com.autonomousapps.DependencyAnalysisSubExtension
import org.gradle.javamodule.dependencies.tasks.*

plugins {
    id("base")
    id("com.autonomousapps.dependency-analysis")
}

configure<DependencyAnalysisSubExtension> {
    issues { onAny { severity("fail") } }
}
tasks.check {
    dependsOn(tasks.withType<ModuleDirectivesScopeCheck>())
}
```

 REPOSITORY

▼ **javarca**

- ▼ **.mvn/config**
- m* repositories/pom.xml
- m* dependency-rules/pom.xml
- m* quality-check/pom.xml**
- m* compile/pom.xml
- m* test/pom.xml
- m* java-module/pom.xml
- ▼ **.mvn/versions**
- m* pom.xml
- ▼ **modules**
- ▶ **javarca-model**
- ▶ **javarca-engine**
- ▶ **jamcatch-stage**
- ▶ **jamcatch-assets**

EDITOR

```
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-dependency-plugin</artifactId>
  <version>3.8.1</version>
  <executions>
    <execution>
      <phase>verify</phase>
      <id>analyze</id>
      <goals>
        <goal>analyze</goal>
      </goals>
      <configuration>
        <ignoreUnusedRuntime>true</ignoreUnusedRuntime>
        <failOnWarning>true</failOnWarning>
        <ignoredUnusedDeclaredDependencies>
          <unusedDeclaredDependency>
            org.lwjgl
          </unusedDeclaredDependency>
        </ignoredUnusedDeclaredDependencies>
      </configuration>
    </execution>
  </executions>
</plugin>
</plugins>
</build>
</project>
```

```
./mvnw clean verify
```



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test.gradle.kts

java-module.gradle.kts

gradle/versions

build.gradle.kts

modules

javarca-model

javarca-engine

jamcatch-stage

jamcatch-assets

jamcatch-actors

src/main/java/module-info.java

build.gradle.kts

renderer-lwjgl

EDITOR

```
module de.javarca.classic.items {  
    requires transitive de.javarca.model;  
    requires org.apache.commons.csv;  
    requires org.apache.commons.io;  
  
    exports de.javarca.jamcatch.actors;  
  
    provides de.javarca.model.ActorSet with  
        de.javarca.jamcatch.actors.JamCatchActorSet;  
}
```

* What went wrong:

Execution failed for task ':jamcatch-actors:checkModuleDirectivesScope'.

>

/Users/jendrik/projects/gradle/howto/javarcade/modules/jamcatch-actors/src/main/java/module-info.java

Please remove the following requires directives (or change to runtimeOnly):
requires org.apache.commons.io;



 REPOSITORY

- ☞ compile.gradle.kts
- ☞ test.gradle.kts
- ☞ java-module.gradle.kts

▼  gradle/versions

- ☞ build.gradle.kts

▼  modules

- ▶  javarca-model
- ▶  javarca-engine
- ▶  jamcatch-stage
- ▶  jamcatch-assets
- ▼  jamcatch-actors

-  src/main/java/module-info.java

- ☞ build.gradle.kts

- ▶  renderer-lwjgl

- ☞ renovate.json

 EDITOR

```
{  
  "$schema": "https://docs.renovatebot.com/renovate-schema.json",  
  "extends": [  
    "config:recommended"  
  ]  
}
```

renovate jjohannes/javarcade



Update dependency commons-io:commons-io to v2.19.0 #5

Open renovate wants to merge 1 commit into `main` from `renovate/commons-io-commons-io-2.x`

Conversation 0 Commits 1 Checks 1 Files changed 2 +2 -2

renovate bot commented 2 weeks ago · edited

This PR contains the following updates:

Package	Change	Age	Adoption	Passing	Confidence
commons-io:commons-io (source)	2.16.1 → 2.19.0	68d	12%	99%	high

Configuration

Schedule: Branch creation - At any time (no schedule defined), Automerger - At any time (no schedule defined).

Automerger: Disabled by config. Please merge this manually once you are satisfied.

Rebasing: Whenever PR becomes conflicted, or you tick the rebase/retry checkbox.

Ignore: Close this PR and you won't be reminded about this update again.

If you want to rebase/retry this PR, check this box

This PR was generated by [Mend Renovate](#). View the [repository job log](#).

Reviewers: [johannes](#)

Suggestions: Copilot

Request: johannes

Still in progress? Convert to draft

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Development: Successfully merging this pull request may close these issues.

None yet

Recipe for Carefree Dependency Management



1. Decide for one method and define Dependencies between Modules in dedicated files

- ✖ Java Module System: ... <module-folder>/src/main/java/module-info.java
- ✖ Gradle: <module-folder>/build.gradle.kts
- ✖ Maven: <module-folder>/pom.xml

2. Version management in a dedicated file

- ✖ Gradle: <bom-folder>/build.gradle.kts
- ✖ Maven: <bom-folder>/pom.xml

✖ Do not mix with 1.

3. Configure each build concern in a dedicated file

- ✖ Gradle: <plugins-folder>/<build-concern>.gradle.kts (plugin composition)
- ✖ Maven: <configs-folder>/<build-concern>/pom.xml (parent pom hierarchy)

✖ Do not mix with 1.

4. Conflict management in a dedicated file

- ✖ Gradle: <plugins-folder>/dependency-rules.gradle.kts
- ✖ Maven: <configs-folder>/dependency-rules/pom.xml

✖ Do not mix with 1.

5. Configure dependency analysis and make it a regular check

- ✖ Gradle: <plugins-folder>/quality-check.gradle.kts
- ✖ Maven: <configs-folder>/quality-check/pom.xml

6. Configure Renovate or Dependabot for automatic update PRs

- ✖ Renovate: renovate.json
- ✖ Dependabot:github/dependabot.yml

Thank You



javarca.de



Jendrik Johannes



GradleX

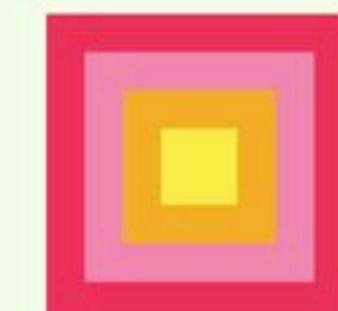
A collection of high quality Gradle plugins

gradlex.org



Understanding Gradle Video Series

youtube.com/@jjohannes



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Gradle Training and Consulting

onepiece.software