

- **Supplier interface**
    - It is a *functional interface* that provides a **get** method to create something.
  - To download a particular version of a library: <https://mvnrepository.com/> this can be used.
    - Select the version you want to download.
    - Then select the build tool for which you need this. (in my case Maven)
  - POM: Project Object Model
    - Every library contains 3 things:
      - Group id (it should be unique across the globe)
      - Artifact id
      - Version

```
java      m pom.xml (MavenDemo) ×

<?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://
<modelVersion>4.0.0</modelVersion>

<groupId>xyz.aloks</groupId>
<artifactId>MavenDemo</artifactId>
<version>1.0-SNAPSHOT</version>

<properties>
    <maven.compiler.source>21</maven.compiler.source>
    <maven.compiler.target>21</maven.compiler.target>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
</properties>

</project>
```

- When I clicked on **package** (right side of intelliJ idea IDE), one **.jar** file got created.
    - MavenDemo-1.0-SNAPSHOT.jar
    - It contains the **artifact id** followed by the **version**.
  - Create one block **<dependencies></dependencies>** and paste all the dependency you want.

```

<groupId>xyz.aloks</groupId>
<artifactId>MavenDemo</artifactId>
<version>1.0-SNAPSHOT</version>

<dependencies>
    <dependency>
        <groupId>com.mysql</groupId>
        <artifactId>mysql-connector-j</artifactId>
        <version>8.1.0</version>
    </dependency>
</dependencies>

```

External Libraries

- > C:\Program Files\Java\jdk-21
- > Maven: com.google.protobuf:protobuf-java
- > Maven: com.mysql:mysql-connector-j:8.1.0

Scratches and Consoles

\* Now you can see, the *mysql-connector* got downloaded.

Dependencies

- > com.mysql:mysql-connector-j:8.3.0
  - ↳ com.google.protobuf:protobuf-java:3.25.1
- > org.hibernate.orm:hibernate-core:7.1.0.Final
  - ↳ jakarta.persistence:jakarta.persistence-api:3.2.0
  - ↳ jakarta.transaction:jakarta.transaction-api:2.0.1
  - ↳ org.jboss.logging:jboss-logging:3.6.1.Final (runtime)
  - ↳ org.hibernate.models:hibernate-models:1.0.1 (runtime)
  - ↳ com.fasterxml:classmate:1.7.0 (runtime)
  - ↳ net.bytebuddy:byte-buddy:1.17.6 (runtime)
  - ↳ jakarta.xml.bind:jakarta.xml.bind-api:4.0.2 (runtime)
  - ↳ org.glassfish.jaxb:jaxb-runtime:4.0.5 (runtime)
  - ↳ jakarta.inject:jakarta.inject-api:2.0.1 (runtime)
  - ↳ org.antlr:antlr4-runtime:4.13.2 (runtime)

\* You can see the dependencies here.

\* For my-sql, only one .jar file got downloaded, but in case of **hibernate**, so many; it depends upon the package; every package needs its own set of dependencies.

~ If you want to add **plugins**, you can add.

~ NOTE:

- ↳ Dependencies : the code needs to run; used at compile/run time
- ↳ Plugins : tools/maven uses to build/manage; used at build time

- ~ But one thing is, **Maven** doesn't see the **pom.xml** file, rather it sees the **Effective POM** file.
  - In intellij: right click on pom.xml file >> Maven >> Show effective pom