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LESSON : DEVOPS

SUBJECT: NEXUS

BATCH : B 303

AWS-DEVOPS



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sonatype
nexus repository

Compiling in Basic



```
package com.code.test;  
  
public class Second {  
  
    public void printInfo(User user) {  
        System.out.println(user.getProfile().getName());  
        Profile.Address address = user.getProfile().getAddress();  
  
        int a = 3, b = 7;  
        while (a < b && b > a && a < b) {  
            System.out.print(address.getState());  
            System.out.print(address.getCity());  
            System.out.print(address.getStreet());  
            System.out.print(address.getHomeNumber());  
        }  
    }  
}
```

Source Code



Binary Code

What do you know about artifact repositories ?

Type a few things...





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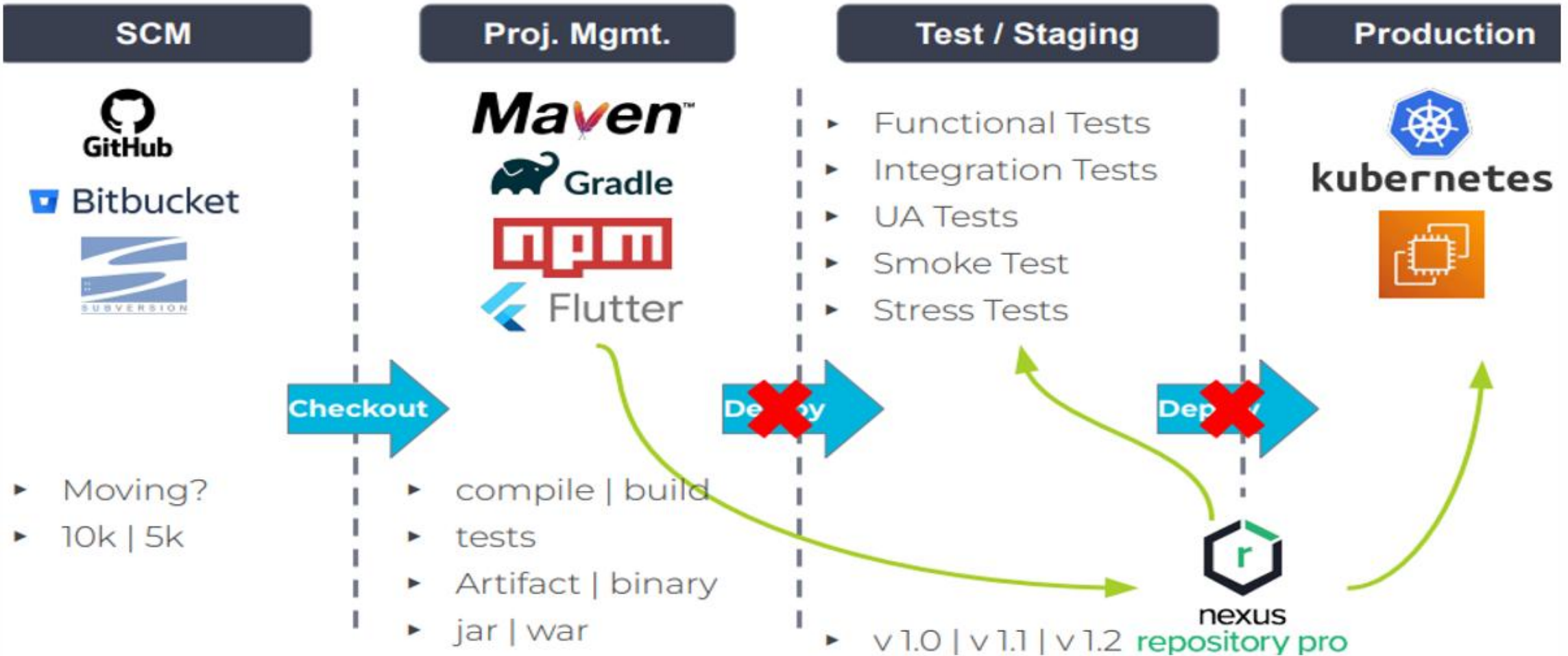
- Introduction to Repository Managers
- Introduction to Nexus
- Components and Formats
- Repository Types

Nexus Repository can be defined as an artifact storage system used during software development processes. This system allows developers and teams to centrally store and manage reusable components such as libraries, packages, and other dependencies.

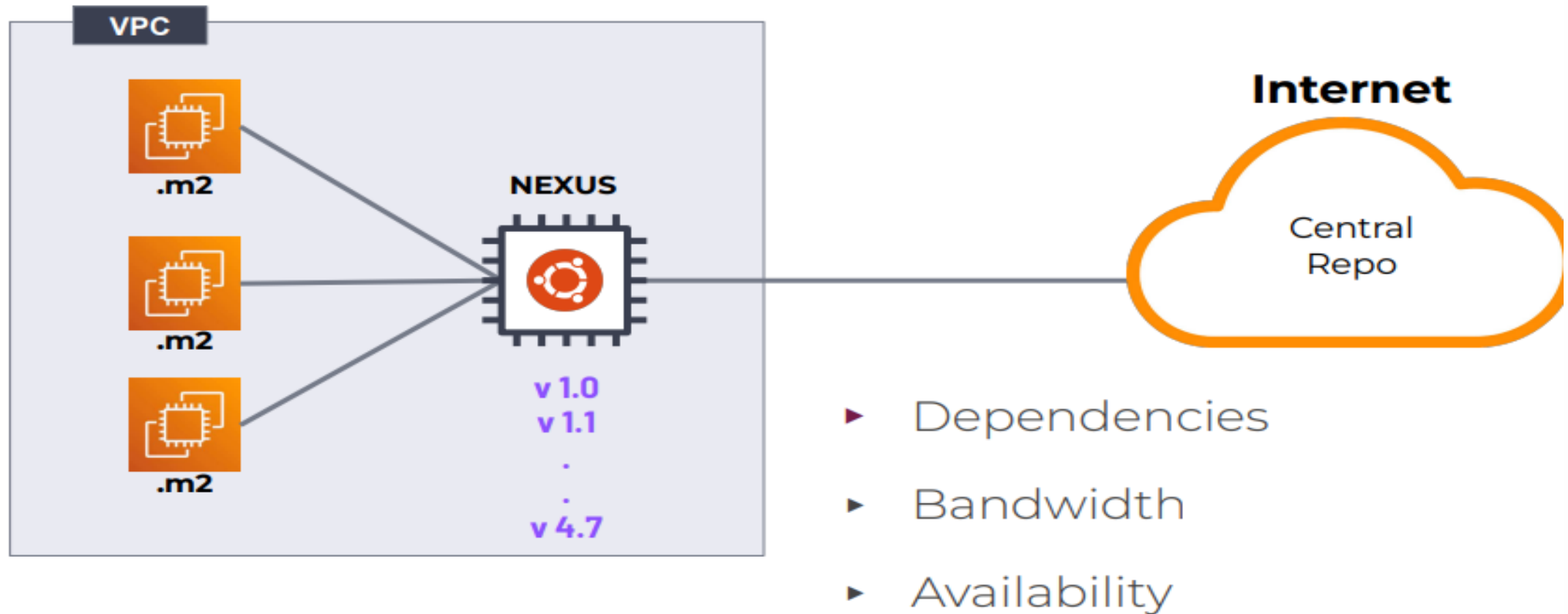


Artifact storage is a system used to store components, builds, libraries, and dependencies that are produced during software development and can be reused. These systems help manage software projects more efficiently and in an organized manner.

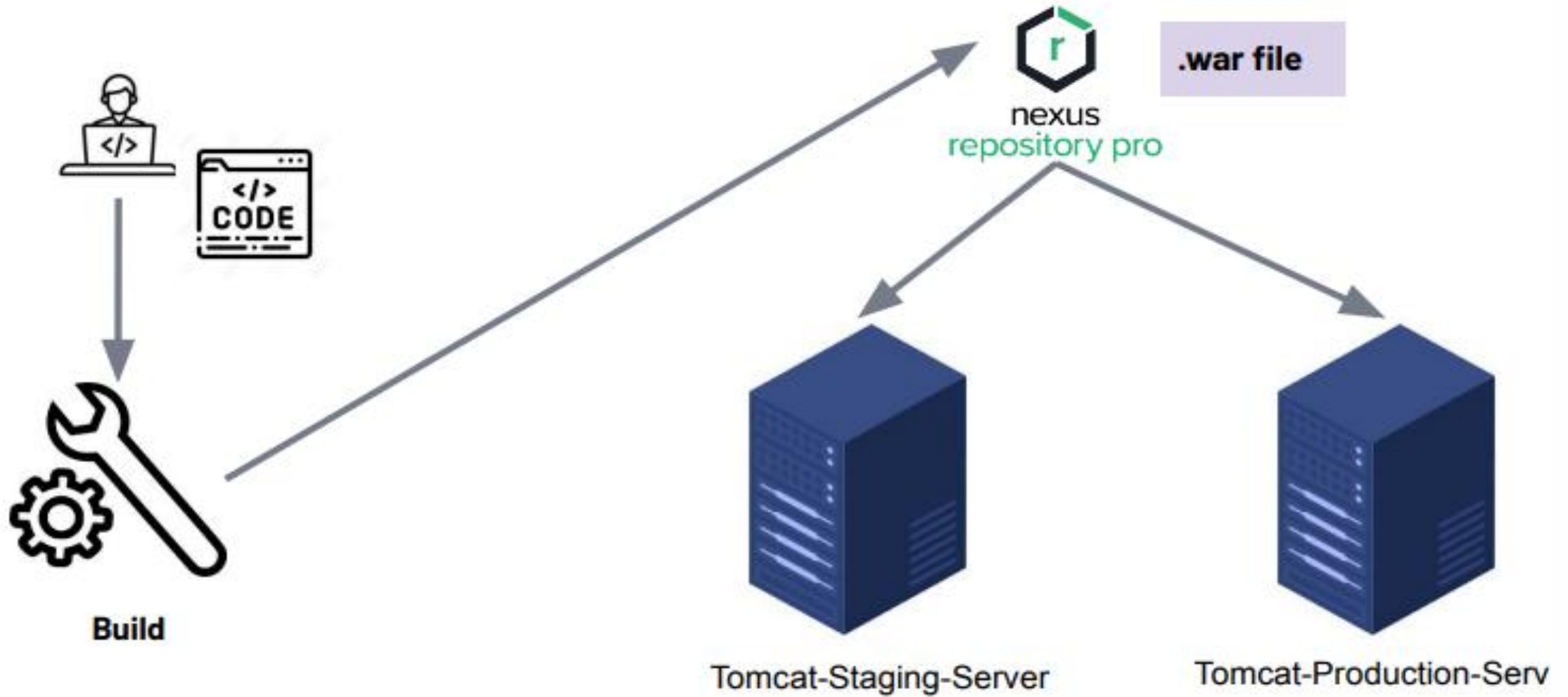
CI/CD Pipeline

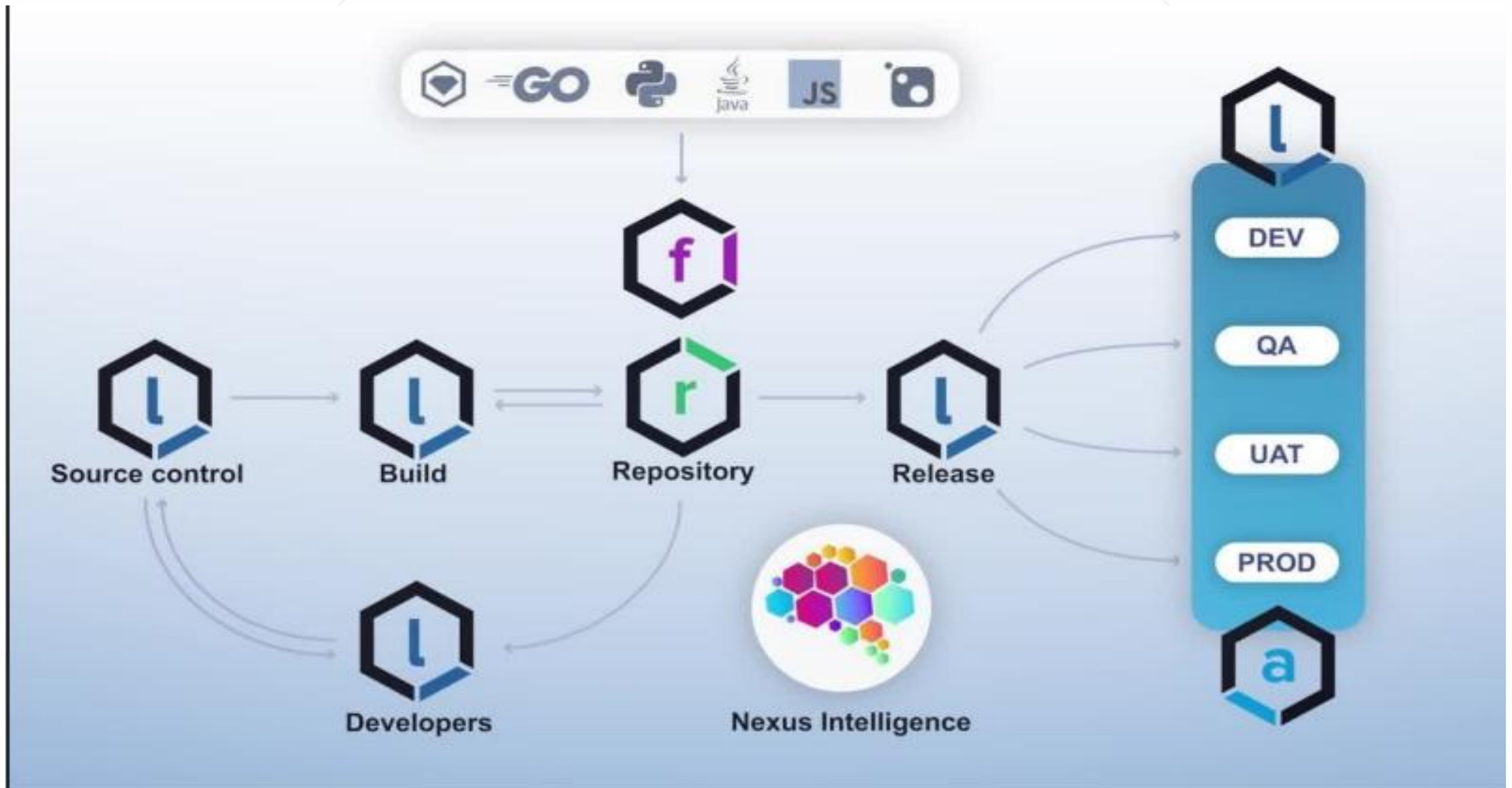


Introduction to Repository Manager

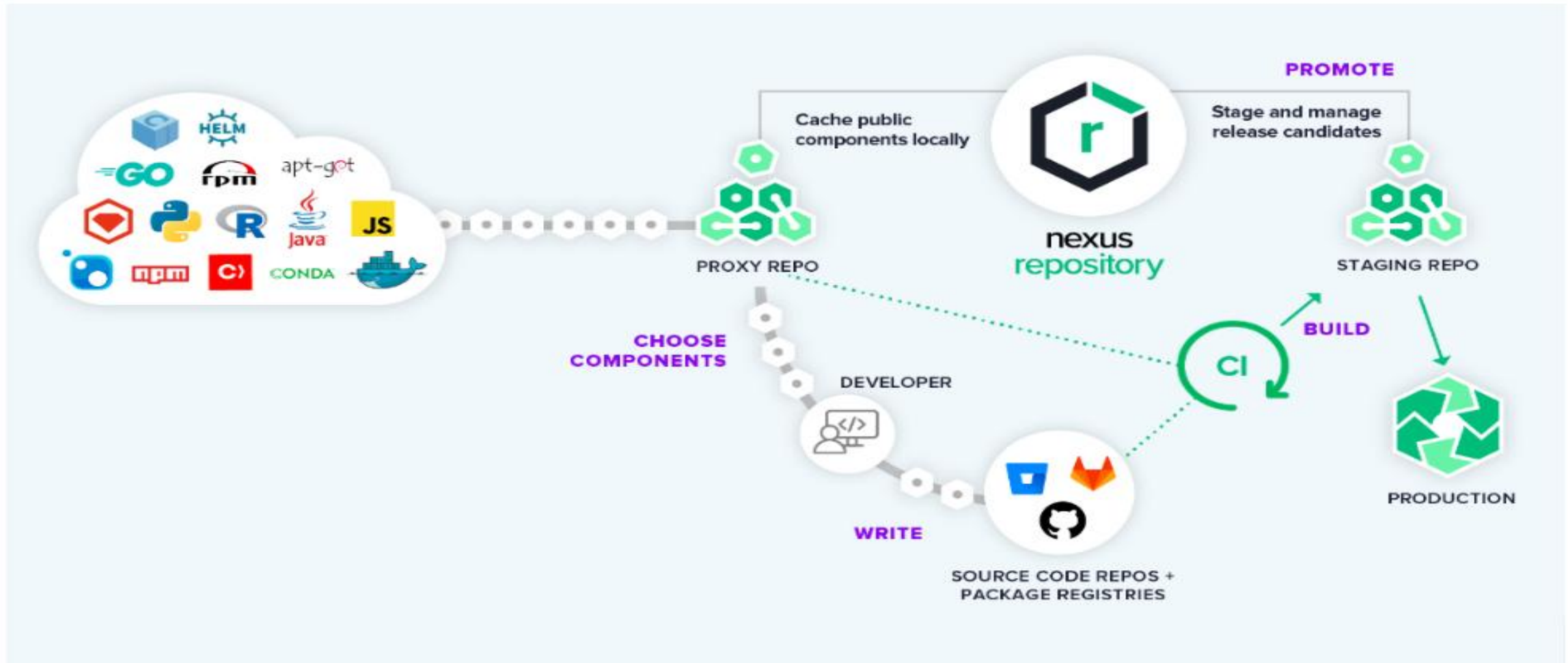


Continuous Delivery





Nexus is a user-friendly and easy-to-use open source repo management application. In addition to supporting all Linux distributions, it also allows you to easily manage your binary repositories needed by developers using Docker, npm, Java, OBR, Conan, etc.

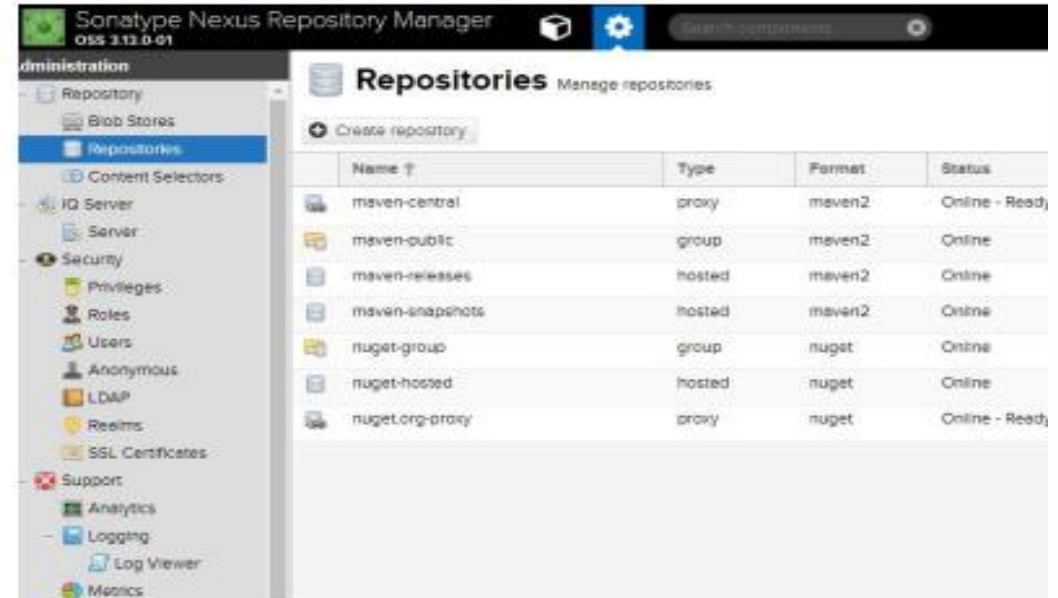


What is Nexus?

Nexus is the provider of one of the most popular **repository managers**.

Compatible with many **popular tools**.

Use Your Favorite Tools.



Why Prefer Nexus?

Easy to **install and configure**.

Fast and easy **searching**.

Manage multiple repositories from different domains.



What are Components?

- Components are the **building blocks** of the software.
- Packages, libraries, containers** are examples of components.
- Open source components are available for use on the internet.
- Examples of component types:
 - Java byte code
 - C object files
 - XML, JS, HTML, CSS



What are Formats?

Formats are **ways of storing** components.

Every tool has a **different format**.

Some of the commonly supported formats by Nexus are:

- **Maven:** One of the most popular artifact management and distribution systems used for Java-based projects. Maven projects typically include file types such as .jar, .war, and .ear.
- **npm:** A package manager used for JavaScript projects, specifically Node.js. Nexus can store and manage packages from npm sources.
- **NuGet:** A package manager for the .NET platform. NuGet packages usually have the .nupkg file extension.
- **PyPI:** A package index used for Python projects. Nexus can manage Python packages and dependencies.
- **Docker:** A platform used for application containers. Nexus manages Docker images and registries.
- **RubyGems:** A package manager for the Ruby programming language. It provides packages for Ruby libraries and applications.

The logo for Apache Maven, featuring the word "Maven" in a stylized font with a small "TM" trademark symbol.

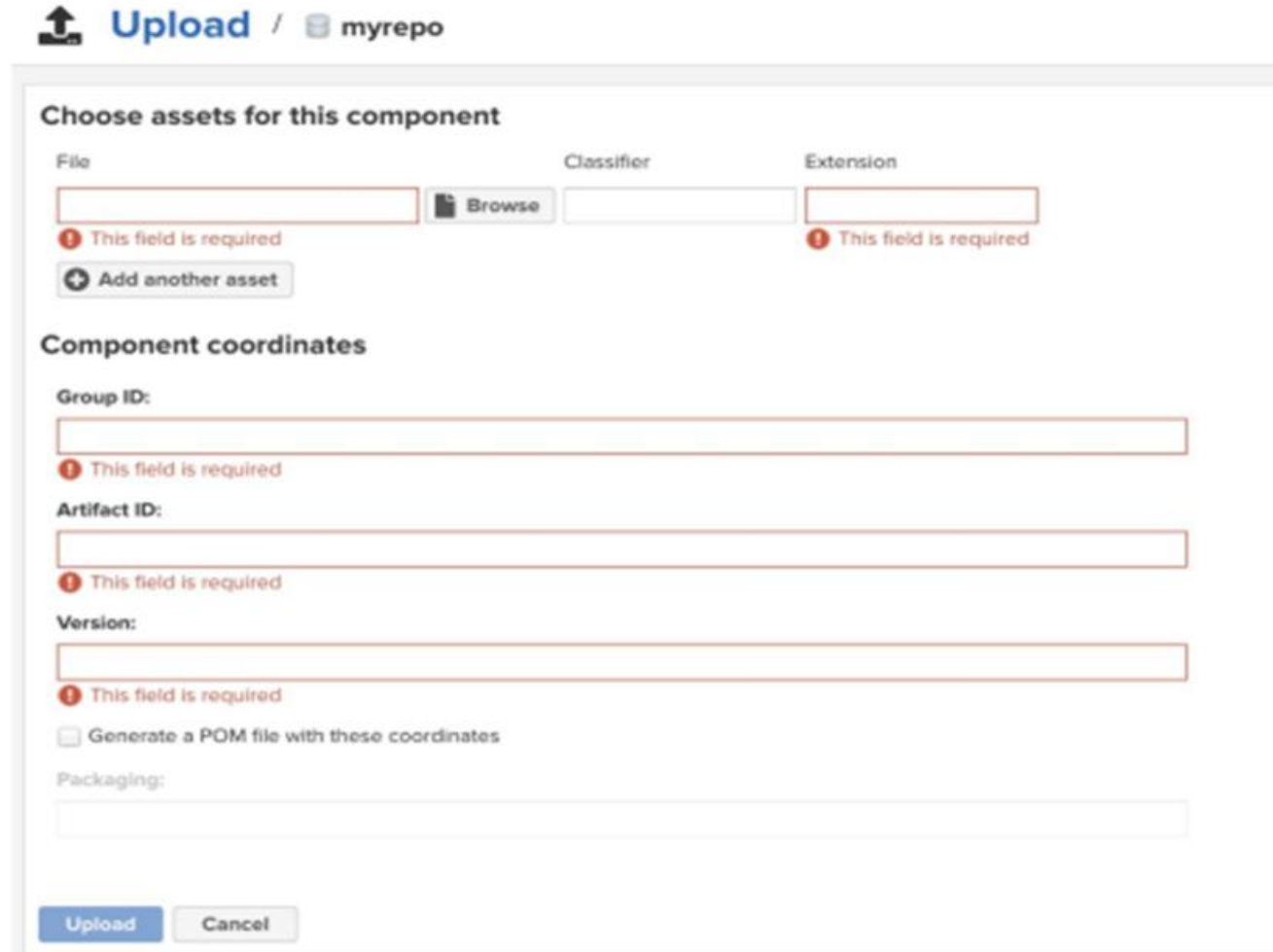
What are Formats?

Nexus repository may include binaries, containers, assemblies, and finished applications.

Every component is identified with values depending on the format.

Maven components: group, artifact ID, and version.

(Shows an upload form interface for components with fields: File, Classifier, Extension, Group ID, Artifact ID, Version, etc.)



The screenshot shows the 'Upload' interface for a repository named 'myrepo'. The form is titled 'Choose assets for this component' and contains several input fields and buttons. The 'File' field is required and has a 'Browse' button next to it. The 'Classifier' field is optional. The 'Extension' field is required. Below these fields is a button to 'Add another asset'. The 'Component coordinates' section includes fields for 'Group ID', 'Artifact ID', and 'Version', all of which are required. There is a checkbox to 'Generate a POM file with these coordinates' and a 'Packaging' field. At the bottom are 'Upload' and 'Cancel' buttons.

Upload / myrepo

Choose assets for this component

File Classifier Extension

This field is required *This field is required*

Component coordinates

Group ID:

This field is required

Artifact ID:

This field is required

Version:

This field is required

☐ Generate a POM file with these coordinates

Packaging:

What are Repository Types?

There are 3 repository types in Nexus:

Hosted, proxy and group repository.



maven2 (group)



maven2 (hosted)



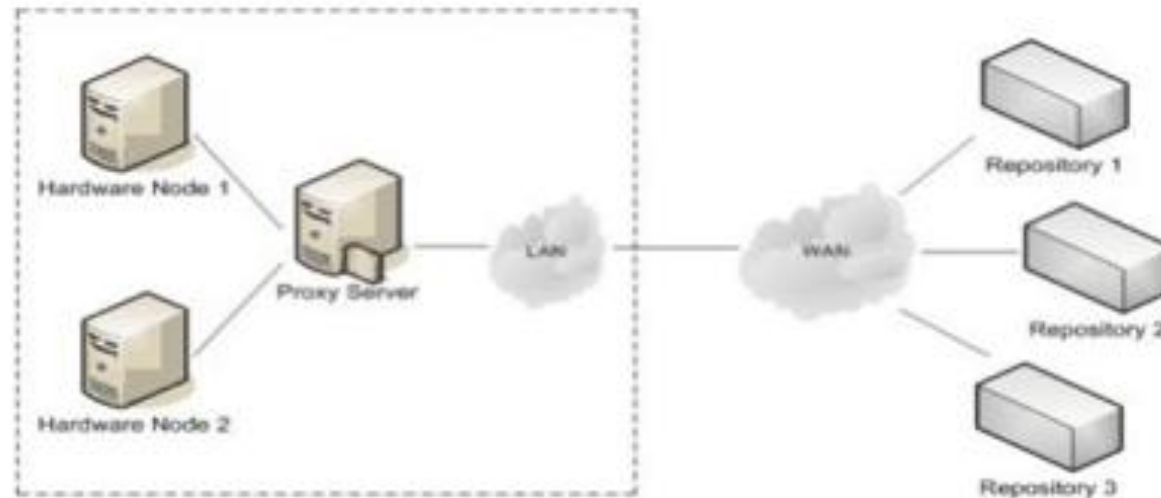
maven2 (proxy)

Proxy Repository

It is a **bridge** between the computer and remote repository.

Components are **cached** in the proxy repository.

maven-central and **nuget.org-proxy** are 2 built-in configured proxy repositories that come with Nexus Repository Manager.



Hosted Repository

It comes in handy when components are shared among different teams.

Maven hosted repository consists of 2 separate repositories:

Snapshot repository and **release repository**.

Releases

A release repository
is considered a
production network

vs

Snapshots

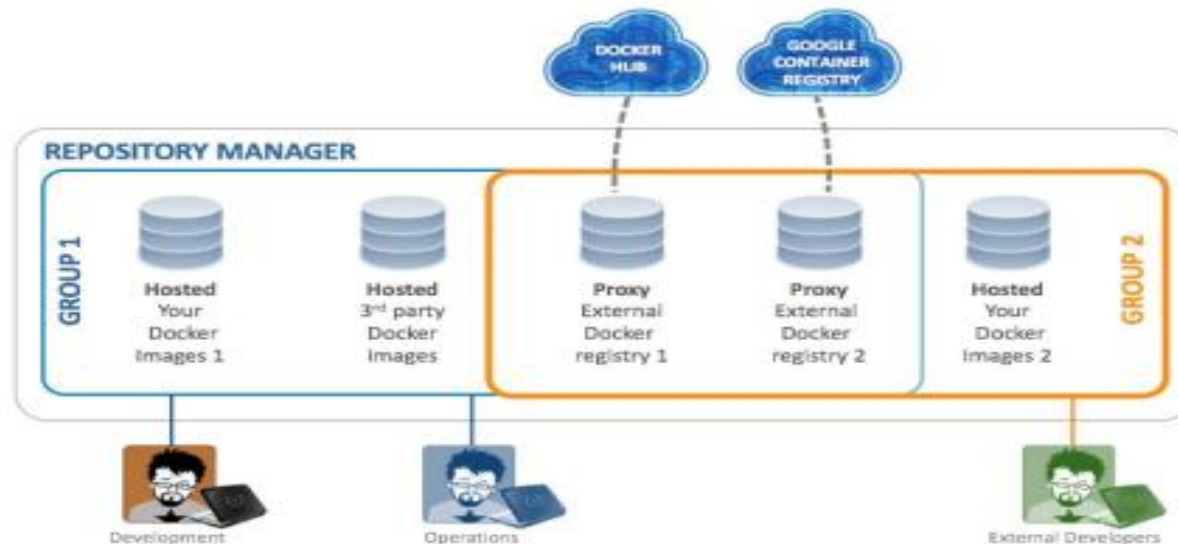
A snapshot
repository is more
like a development
or a testing network

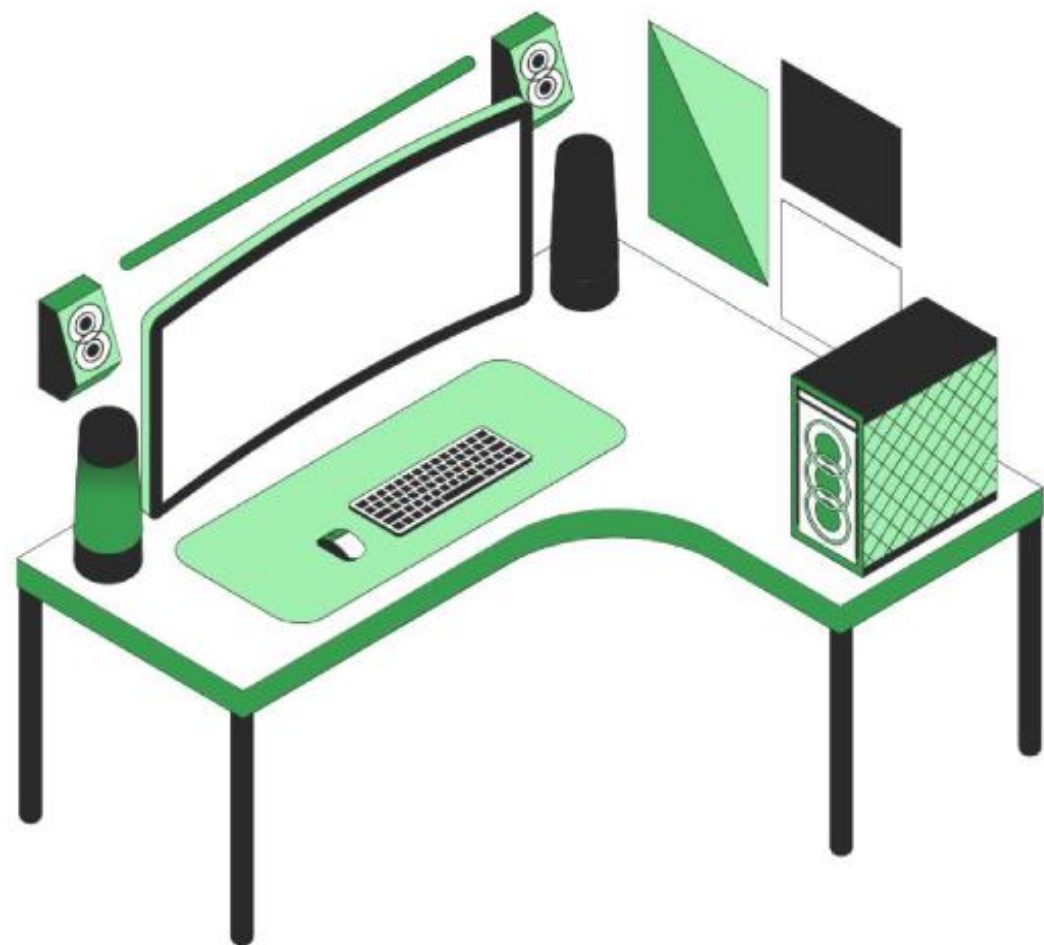
Group Repository

It consists of **hosted**, **proxy** and other **group repositories**.

Has its own **access point**.

Both **remote** and **local** components can be accessed.





Do you have any questions?

Send it to us! We hope you learned something new.