nexus repository
by sonatype

Agenda

What is an Artifact?

What is nexus repository?

Use cases of nexus repository

Jfrog VS Nexus

Nexus repository hands-on

What is an artifact?

The files that contain both the compiled code and the resources that are used to compile them are known as artifacts. They are readily deployable files.

In java an artifact would be a .jar, .war, .ear file
In NPM the artifact file would be a .tar.gz file
In .NET the artifact file would be a .dll file

Dependencies/ resources

Source Code → Build tool → compilation → Binary Code → Artifact

What is an artifact repository?

An artifact repository is a repository which can store multiple different versions of artifacts. Each time the war file or tar.gz file is created it is stored in server dedicated for the artifacts.

Artifact version 1

Artifact version 2

Artifact version 3

Artifact Repository

Deployment
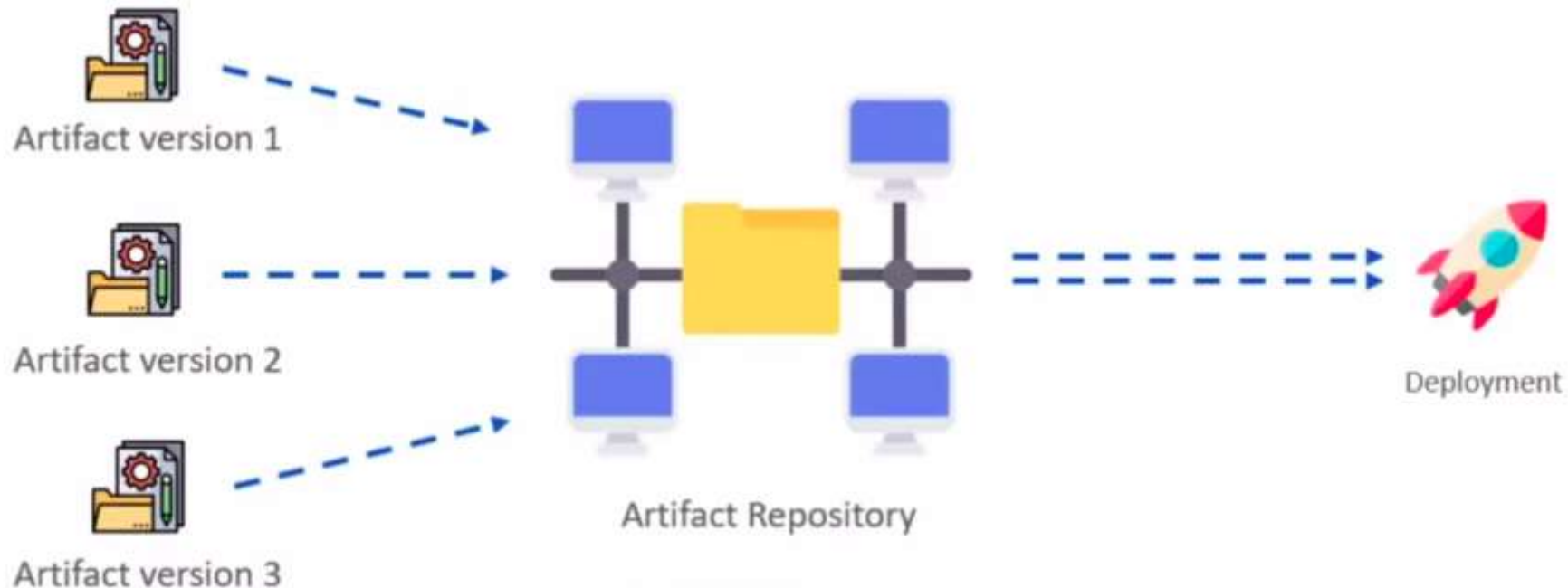
What is Nexus Repository?

What is Nexus Repository?

Nexus Repository is a tool used in DevOps methodology for multiple purposes. One of it's main purpose is to store artifacts(readily deployable code) that have been created in the code pipeline. Another one of it's purpose is to act as a sort of buffer for downloading dependencies for the build tools and languages.
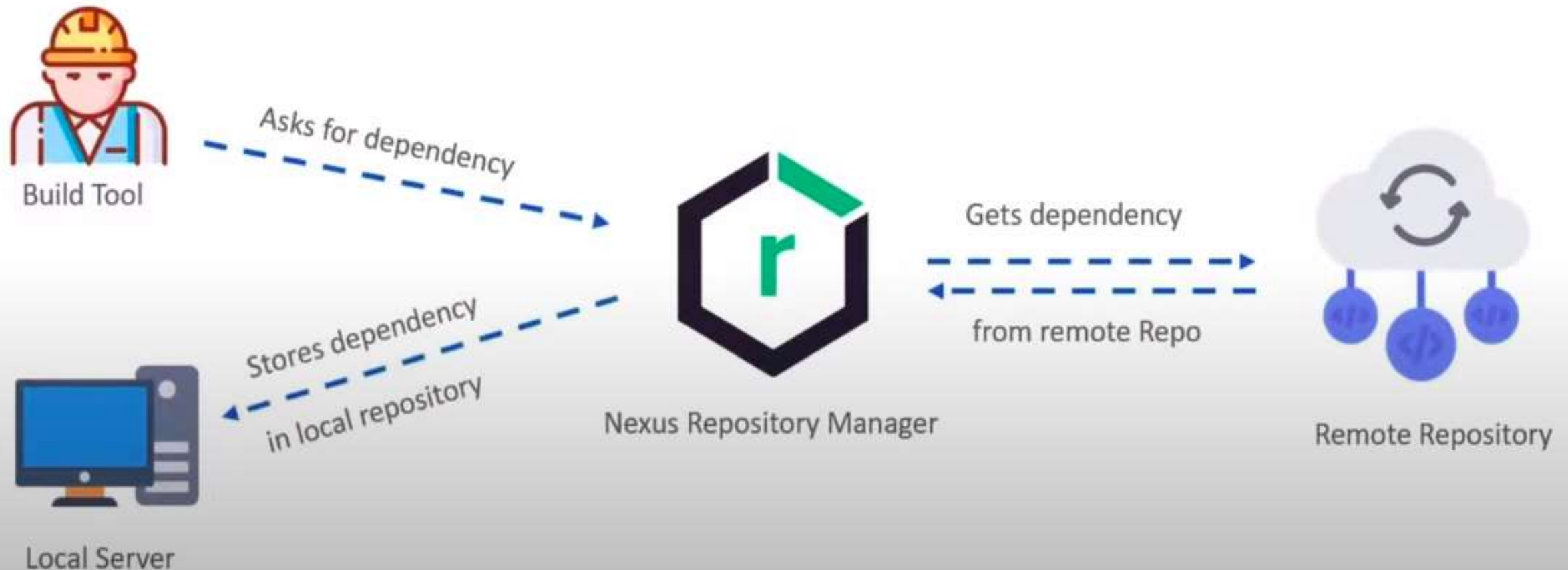
VERSION CONTROL	BUILD TOOLS	NEXUS REPOSITORY MANAGER	CONTAINERS
	CI	DEPENDENCY MANAGER	DEPLOYMENT
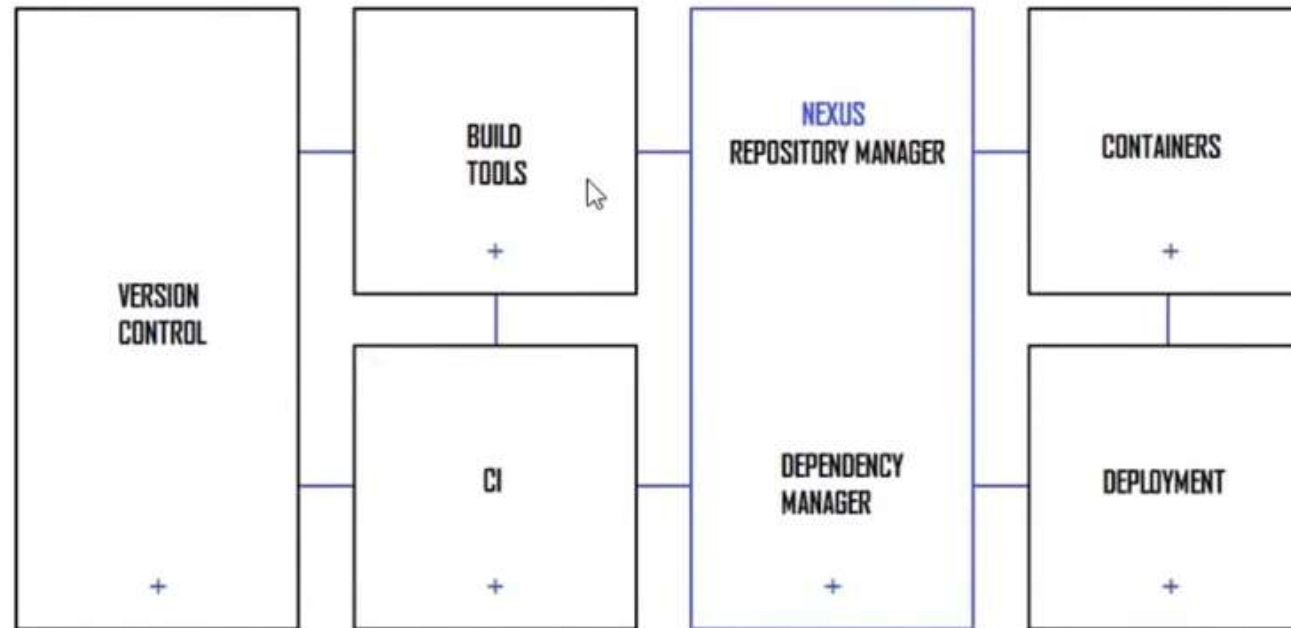
Nexus Repository responsibilities?

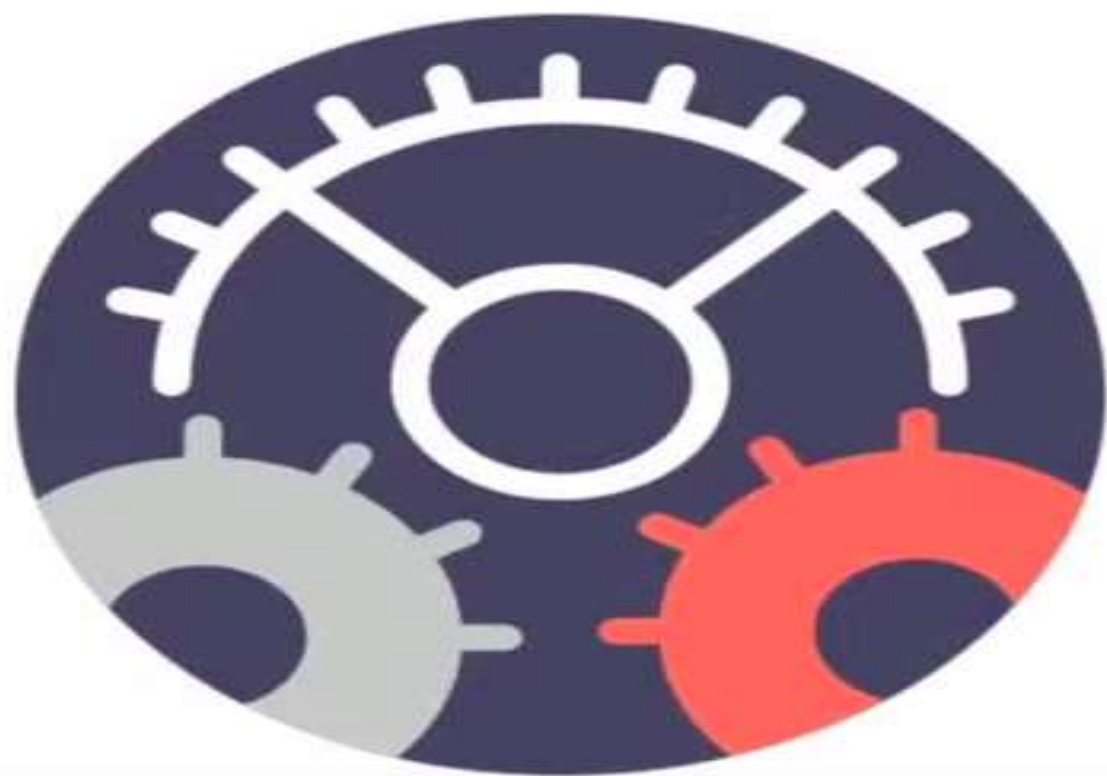## 1. Helps in storing readily-deployable code
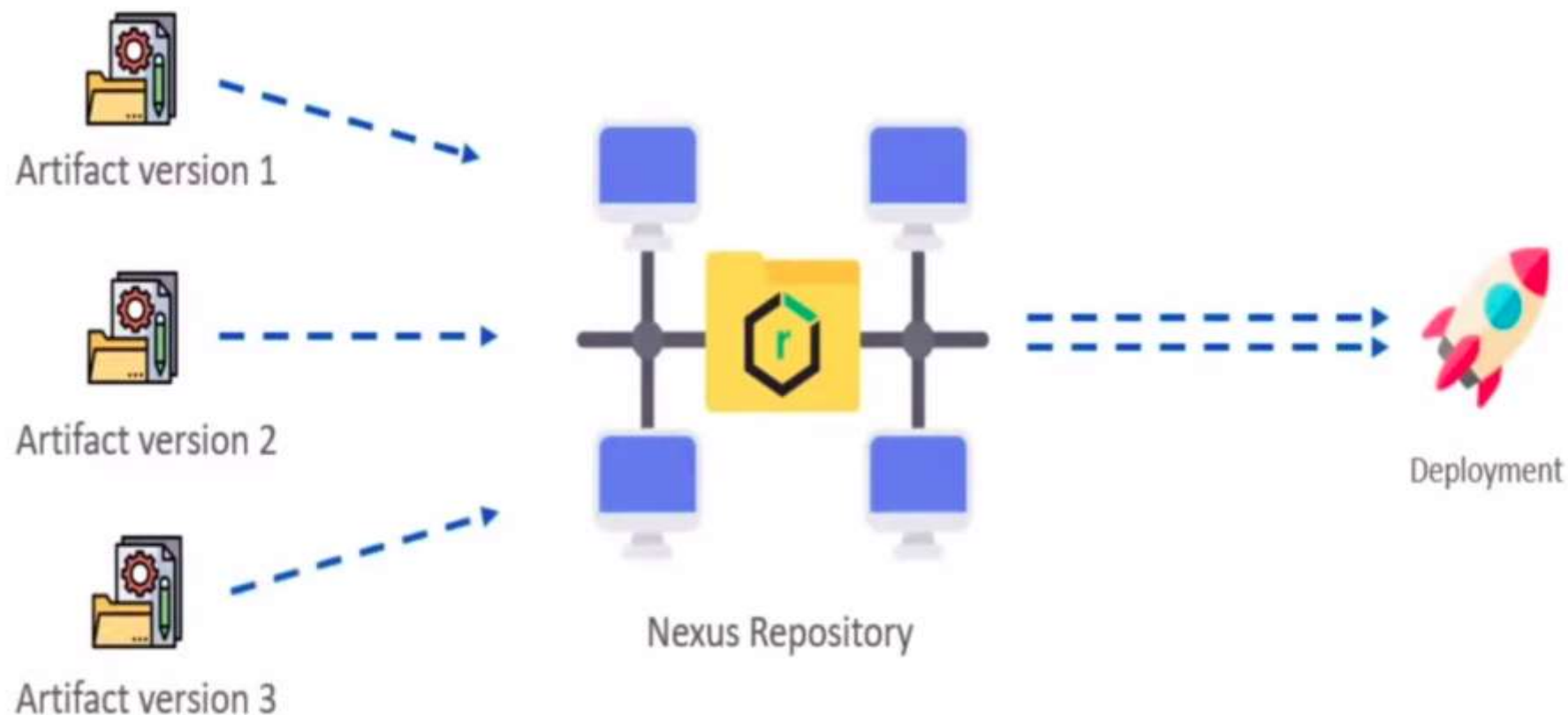
Nexus Repository responsibilities?

2. Helps in downloading and managing dependencies

Build Tool

Asks for dependency

Stores dependency
in local repository

Local Server

Nexus Repository Manager

Gets dependency
from remote Repo

Remote Repository

Features of Nexus Repository

Features of Nexus

Atlassian Crowd Support

Staging and Build Promotion

Tagging

User Token Support

Features of Nexus

Atlassian Crowd Support

Nexus provides support for Atlassian Crowd which is a security software that is used to manage and track user accounts and application accesses.

It comes in-built with the Nexus Repository management pro and can be easily configured according to an organization's needs.

Crowd

Features of Nexus

Staging and Build Promotion

Nexus provides a staging feature that can easily be integrated with a organization's software development lifecycle.

It helps in staging all the release candidates(components of the software) that are tested meticulously before being isolated for release onto the production stage.

Since the feature allows for multiple candidates to be staged at the same time, then based on requirements the candidates can then be discarded or promoted.

Features of Nexus

Tagging

Nexus provides the ability to tag components so they can be associated with each other. The usage of this feature is entirely up to the user as it has no specific use case, but it's mostly used in life-cycles to keep track of different builds or for differentiating between multiple projects during merges.

Deployment Tool

Release manager

Project XYZ

Build Phase

Test Phase

Promotion Phase

Nexus Manager

Features of Nexus

User Token Support

Nexus uses a two-part token system to overcome the limited security of the build tools and removes the need to store sensitive information in text.

Features of Nexus

High Availability

Repository Health Check(RHC)

Enterprise Support

Group Blob Stores

Features of Nexus

High Availability

Nexus has a feature called High Availability Clustering (HA-C) that keeps multiple redundant nodes inside the data center to increase the availability of the artifacts and dependencies incase anyone of the node crashes or becomes unavailable due to some reason.

Load Balancer

Node A   Node B   Node C

Features of Nexus

Repository Health Check(RHC)

Nexus can recognize security risks in the code at an early stage. The feature that it uses for that particular purpose does mainly three things:

- Provide guidance on what has to be upgraded and what has to be reworked or replaced.

- Lists down components of the software based on their susceptibility and also lists the number of times the components were downloaded.

- Gives monthly summarized reports on the health of the code pipeline revealing any dangerous trends or vulnerabilities.

Features of Nexus

Enterprise Support

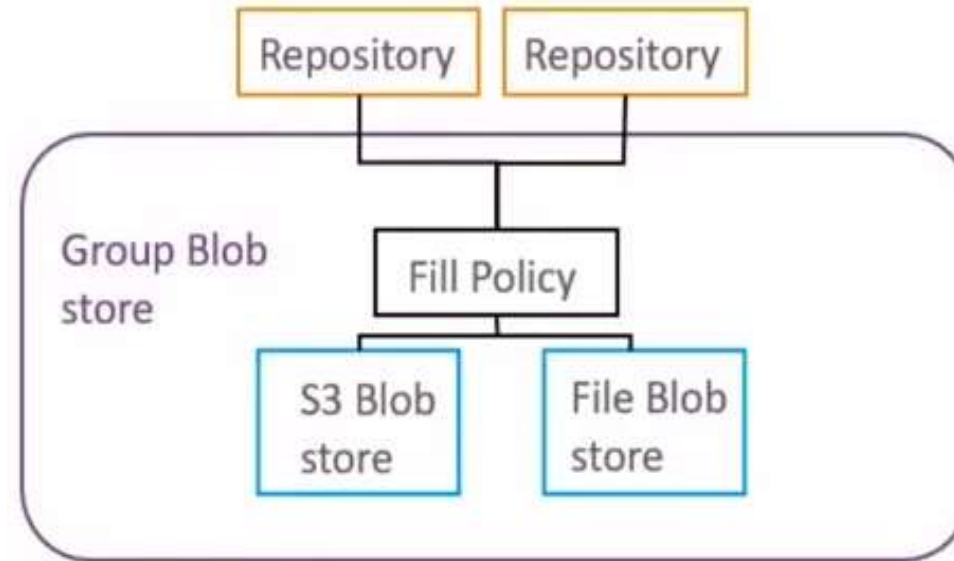Nexus also provides full time support of a skilled team focused on resolving issues.
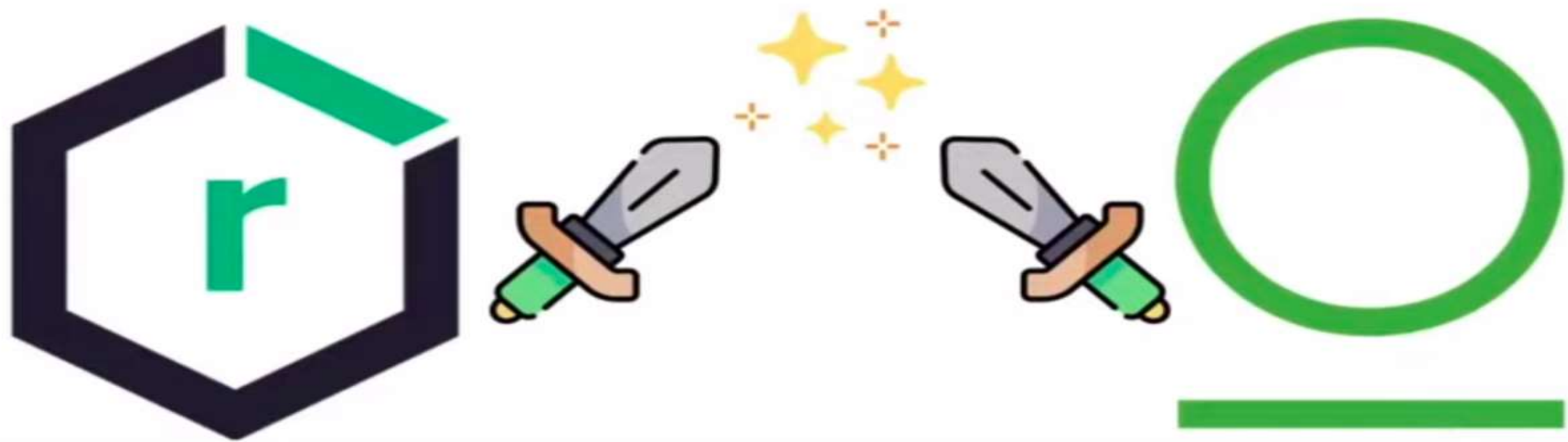
Features of Nexus

Group Blob Stores

Nexus provides a Group Blob store which is a combination of multiple blob stores acting as one.

Fill Policies are used to select which blob store is used. This allows the users to have a choice in choosing and using their storage.

Nexus VS Artifactory

Nexus vs Artifactory

Nexus

Uses File system for storage

Cannot Generate and save settings.xml

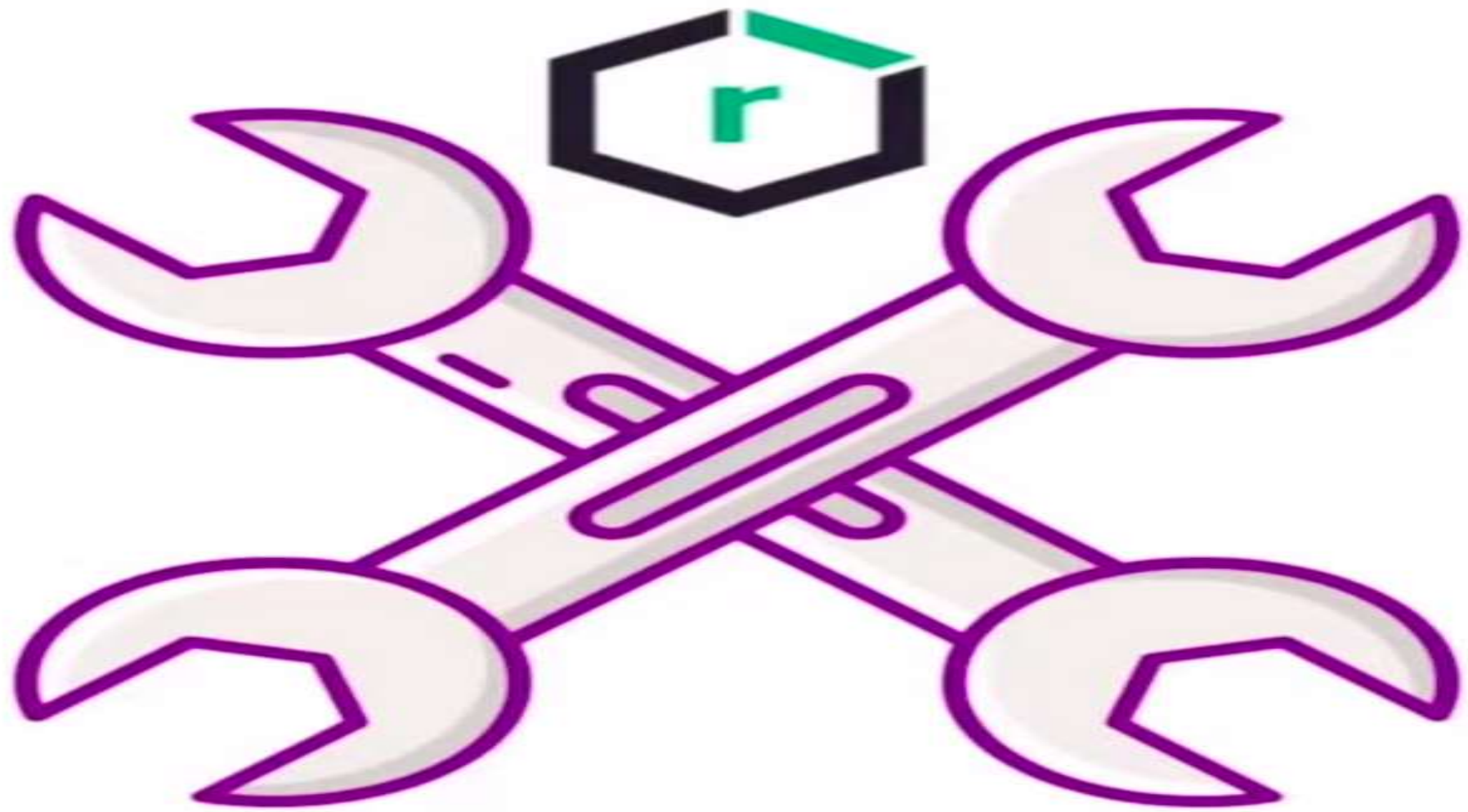Limited in replicating repositories

Limited build time

Artifactory

Uses Derby DB for storage by default

Can generate and save settings.xml

easily replicate your repositories to other Artifactory instances

Faster build time

Nexus Repository
Installation

THANK YOU