



Apache Maven

Beginner to Guru

Nexus Repository Manager Overview



Nexus Repository Manager Overview

- Official name is **Nexus Repository OSS** (aka Nexus)
 - Open Source application written primarily in Java, by Sonatype
 - Used by 10 million developers around the world
 - Nexus is free to use, and commonly used by companies for internal Maven artifacts
 - Nexus Repository Pro is a commercially supported version of Nexus Repository OSS
- Sonatype started as core contributors to Apache Maven and they host Maven Central
 - Maven central is the default repository used by Maven to locate open source artifacts





Nexus Features

- Nexus supports far more than just Java artifacts
 - Additional formats: npm, NuGet, RubyGems, Docker, P2, OBR, APT, Yum
- Focus of this course is just on using Nexus to manage Maven artifacts
- Nexus features for Maven:
 - Proxy for Maven Repositories
 - Popular with companies for performance, audit, and compliance aspects
 - Publishing target for internal Maven artifacts
 - User Credentials





Maven Repository Format

- **Maven 2** - Most popular format - used by all current versions of Maven, Apache Ivy, Gradle, sbt, Eclipse Aether, and Leiningen. (also, the format used by Maven Central)
- **Version Policy:**
 - **Release** - Artifacts are expected to be release versions (ie not changing)
 - **Snapshot** - Artifacts are development releases, and are expected to be changing
 - **Mixed** - Combination of Release and Snapshot



Repository Layout Policy

- Layout policy refers to the directory structure and naming conventions.
- Some build tools use non-traditional layouts
- **Layout Policy**
 - **Permissive** - Allows violations. Enable if build tools (sbt) require it.
 - **Strict** - Require Repository to follow Apache Maven Conventions.
 - This is the recommended setting for use with Apache Maven





Proxying Maven Repositories

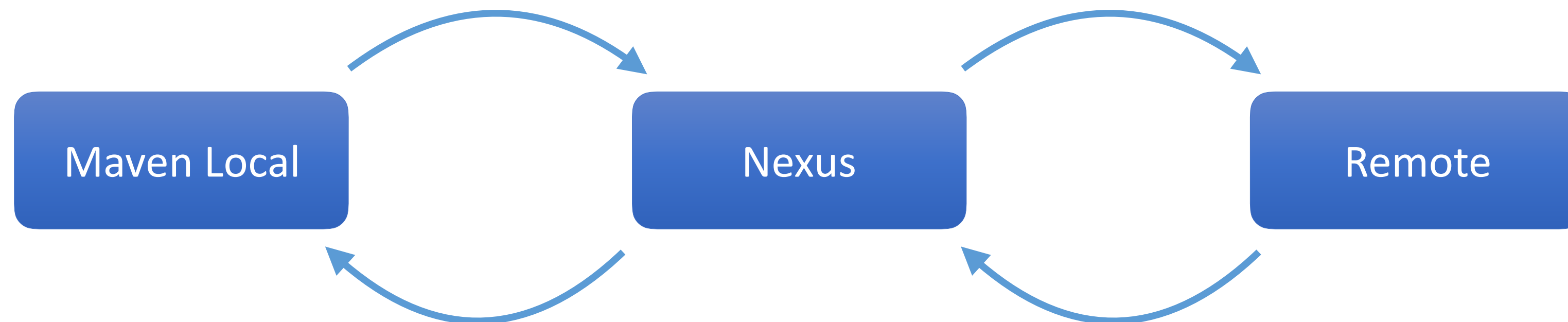
- Nexus has the ability to proxy other Maven Repositories.
- Commonly used by companies to setup an internal repository which mirrors external repositories
- Can be faster if corporate network is more performant than internet access
- May be needed for compliance in some industries requiring auditing or approval of 3rd party libraries
- May also be helpful if repository requires registration





Proxying Repositories

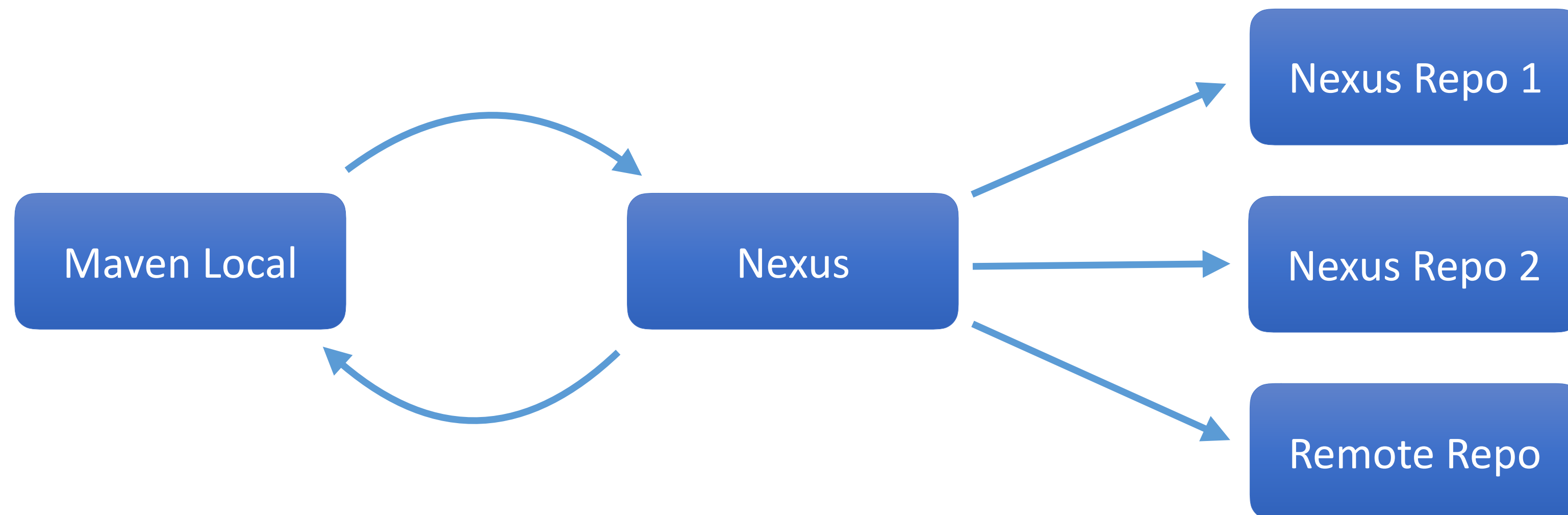
- When Nexus receives a request for an artifact, it will first check its own internal file structure for the artifact.
- If not found, artifact is fetched from remote and cached to Nexus
- Releases are checked once, snapshots are monitored for updates





Grouping Repositories

- Nexus can group repositories to make many look like one





Coming Up in the Course

- Install Nexus locally
- Configure Nexus for Snapshot and Release Repositories
- Configure Maven to connect to Nexus
- Publish Maven Snapshot Artifact to Nexus
- Publish Maven Release to Nexus
- Create Project to use artifact from Nexus





JFrog Artifactory

- Artifactory is another Maven Repository Manager created by Frog
- Similar capabilities to Nexus
- Not covered in this course
- My AWS Course does show how to use Artifactory



