Artifact repository

what is artifact:
- An artifact is a documentation related to a project,usually stored in the form of a large binary package
- An artifact helps describe the functionality, architecture, and design of the software under development

Simply, an artifact repository securely stores artifacts generated during the build and deployment processes.
- Container images, binary artifacts,software packages are examples of the types of artifacts that can be managed

There are three types of repository management methodology
- Local
- Remote
- Virtual

Artifact types:

Build Artifacts:
- Build tools provide a framework to manage these dependencies and optimize the process of turning source code into compiled binary artifacts.

Deployement Artifacts:
- are versioned, secured, and centralized as a single source of truth
- these are used as the handoff point from CI into CD.
- The most popular repositories today include: Nexus and Jfrog

tools for artifact repository in DevOps:

JFrog Artifactory
- is a universal artifact repository
- managing and distributing software artifacts across the software development lifecycle.
- Centralized management: centralized location to store and manage software artifacts
- Access control
- Build integration: Artifactory integrates with popular build tools, such as Maven and Gradle, to automatically manage and store artifacts
- Monitoring and auditing:

Sonatype Nexus
- is an open-source artifact repository
- manage and distribute software artifacts across the software development lifecycle.

deference between Sonatype Nexus and JFrog Artifactory:

- License: Sonatype Nexus is open source, while JFrog Artifactory has both open source and commercial versions.
- Supported formats: Artifactory supports more formats while Nexus supports fewer formats.
- Access control: Artifactory provides more fine-grained control over permissions
- Integration: Artifactory provides deeper integration with more build tools , such as Jenkins.
- Monitoring and auditing: Artifactory provides more detailed and customizable auditing capabilities.