Pipeline

- A series of steps executed in a sequential and logical manner.
- Example
    - Developer pushes their code in a central repository
    - That code should be fetched automatically by a server
    - Once the code has been fetched, then a build should be created from the fetched code, if needed.
    - Once the build is successful, it will generate an output of file(s) which is considered as an artifact
    - Then a testing script can be attached on the artifact using tools Appium, JUnit, etc to create a test report, if needed, to be sent to developers.
    - Once the code has been approved, meaning it is good for deployment (staging or production), it is sent to the deployment platform
    - The deployment platform can be different based on the requirement (Physical Server, VM, Container Environment, or m a managed Kubernetes environment)

Continuous Integration (CI)
Continuous Delivery (CD)
Continuous Deployment (CD)

Code → Build → Test → Release → Deploy → Ops → Monitor

QA Pipeline

Fetch Code From Repo → Create a build → Attach the testing script → Deploy to a testing environment → Generate Report → Share report with developers → Developer pushes a new version to repo

Code → Build → Test → Release → Manual Approval (Release Gate)→ Deploy (Staging/Testing/Production)

Code → Build → Test → Release → Automated Deployment (Staging/Testing/Production)

Microservice Architecture

POM.xml

Java
– payment/payment.java
– notiifcation/notifcation.java
– catalog/catalog.java

- **Payment Service (Service 01) - Artifact 01**
- **Notification Service (Service 02) - Artifact 02**

- **Catalog Service (Service 03) - Artifact 03**

Backward Compatibility

- The current version of code can work with a higher version of the tool installed.
- **Example -** Code built on 2.5 can work with any version later than 2.5 of that tool.

Forward Compatibility

- The current version of code can work with a lower version of the tool installed.
- **Example -** Code built on 3.0 can work with any version later than 2.5 of that tool.