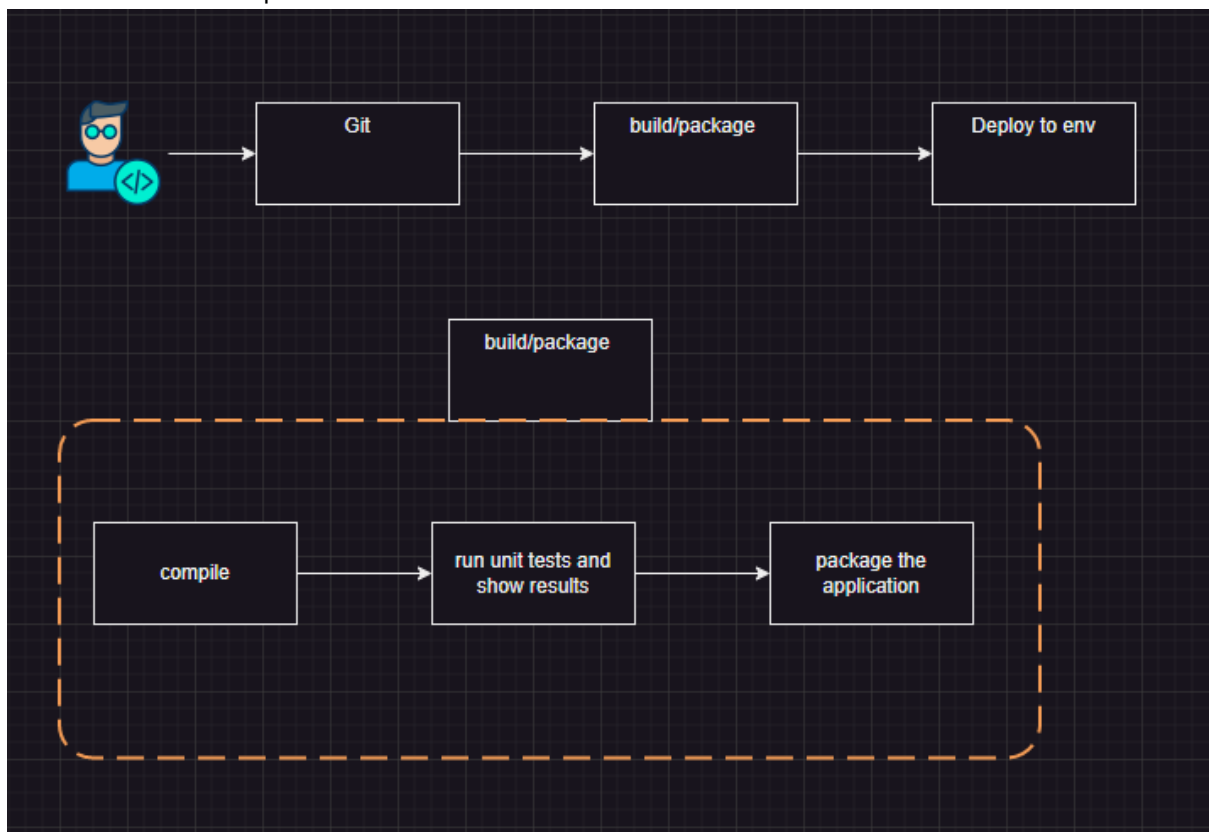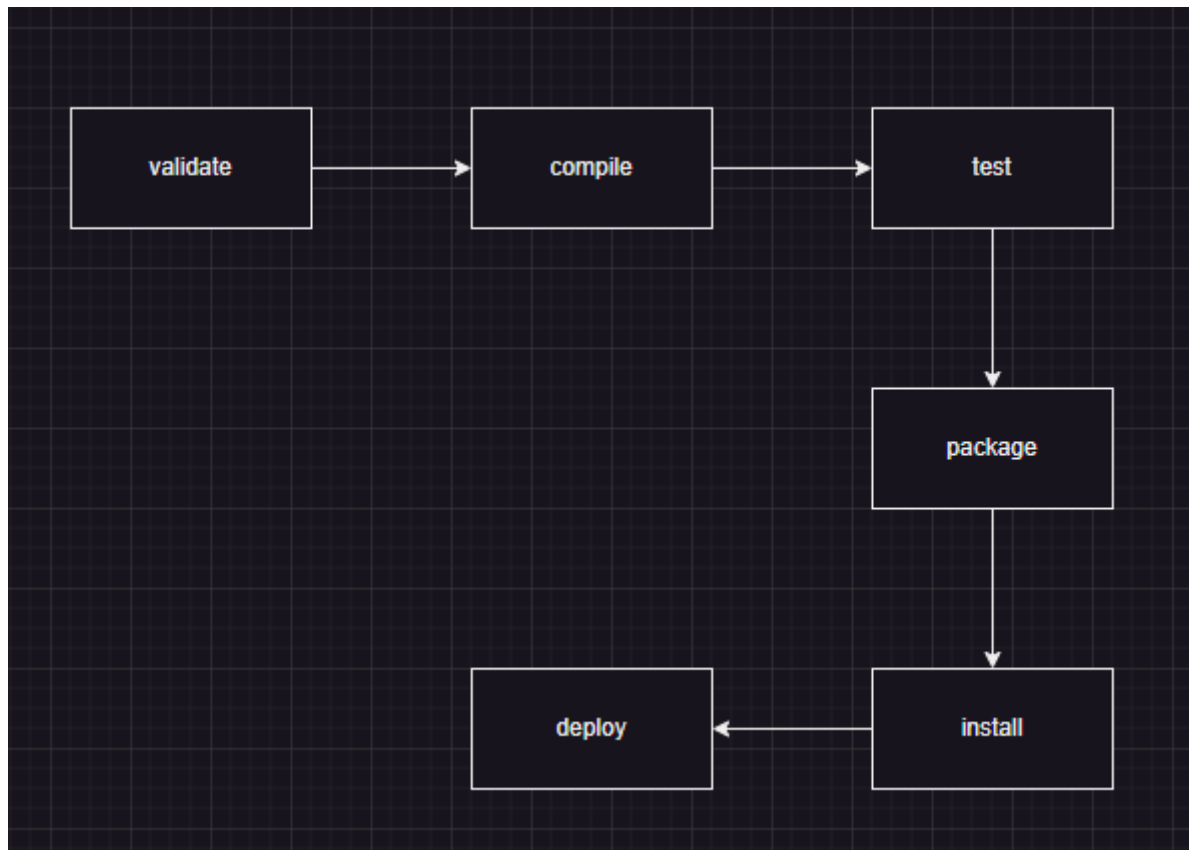# Build tools

Maven

- Maven is a Project Management Tool, which can help in doing the following for java based languages

    - Dependecy Management
    - Life cycle
        - validate: verifies if the project is configured correctly
        - compile: creates java class files in target folder
        - test: runs unit tests in the project
        - package: packages java project into jar/war/ear depending on the setting in pom.xml
        - install:
        - deploy:
    - archetypes: they are use create projects basic structure Refer Here

- Maven follows convention over configuration

- The root folder of the project contains `pom.xml` Refer Here

- Developers are supposed to write unit tests

- As devops engineers our job is to ensure

    - build is happening correctly
    - all the test cases are passed

- Maven life cycle: when we execute the goal, all the previous goals will execute i.e. when we execute package it does validate, compile, test and then package.

- To remove target folders we have clean, generally we run using following commands

```
mvn clean package
mvn clean install
```

- Exercise:
    - Install maven on any linux distribution
    - Try building (i need jar or war files)
        - spring petclinic Refer Here. This project requires java 17
        - game of life Refer Here. This project requires java 8