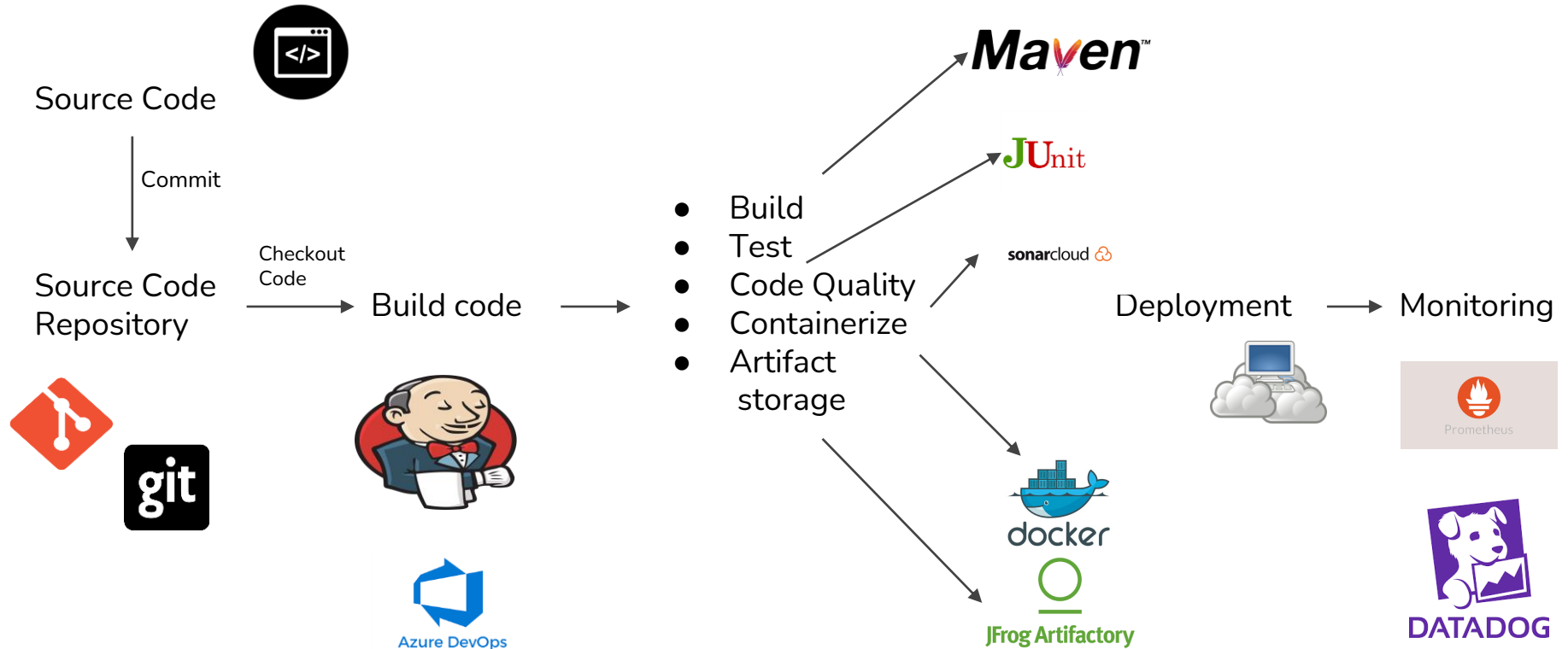


Devops Pipeline

:- Pulkit Dhingra



DevOps Pipeline Workflow





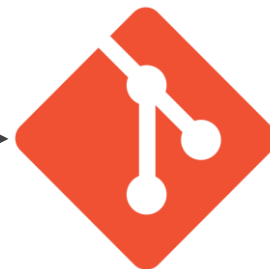
Source Code Repository



Write



Commit



Developer

Code

Source Code
Repository

Automatic Builds

Builds are used to get a set of executables that are ready for the deployment purpose.



Commit



Maven™



Jenkins

Build



Executables



- A commit ins the source code repository initiates and automatic build in the pipeline.
- Building process includes the unit testing for the code.
- The build files are the binaries or executables that are stored locally or in a separate artifact repository.
- Code quality testing is also a part of building process.



Artifact storage and Code Quality Analysis

Code Analyser

Analyses the code for possible bugs and checks code quality.

Code redundancy, bugs, performance.



Artifact Registries

Stores the build artifacts generated after the build process.

Versionise system like source code repos.





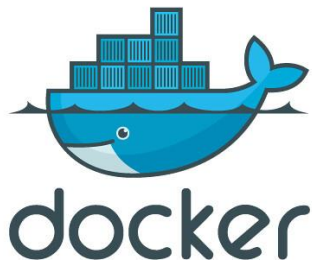
Containerize the application



Containerization is a form of virtualization where the application runs in an isolated environment called containers.

A container consumes less resources than a Virtual machine and is easy to deploy to production.

A container image is stored in a container registry.



kubernetes



Deployment

The stored images are deployed to a deployment server.

The application may run over private servers or cloud..



Google Cloud





Monitoring and Logging



Continuous code monitoring is an essential part in devops pipeline. The information collected through monitoring reveals gaps and issues inside the deployment that are needed to be addressed in order to prevent breakdown.

Every step in a pipeline generate some logs. These logs provide a step by step description of what operations were performed and what issues were arrived (id any). Looking at logs helps to get to the corrupt part of the development cycle efficiently.



Prometheus