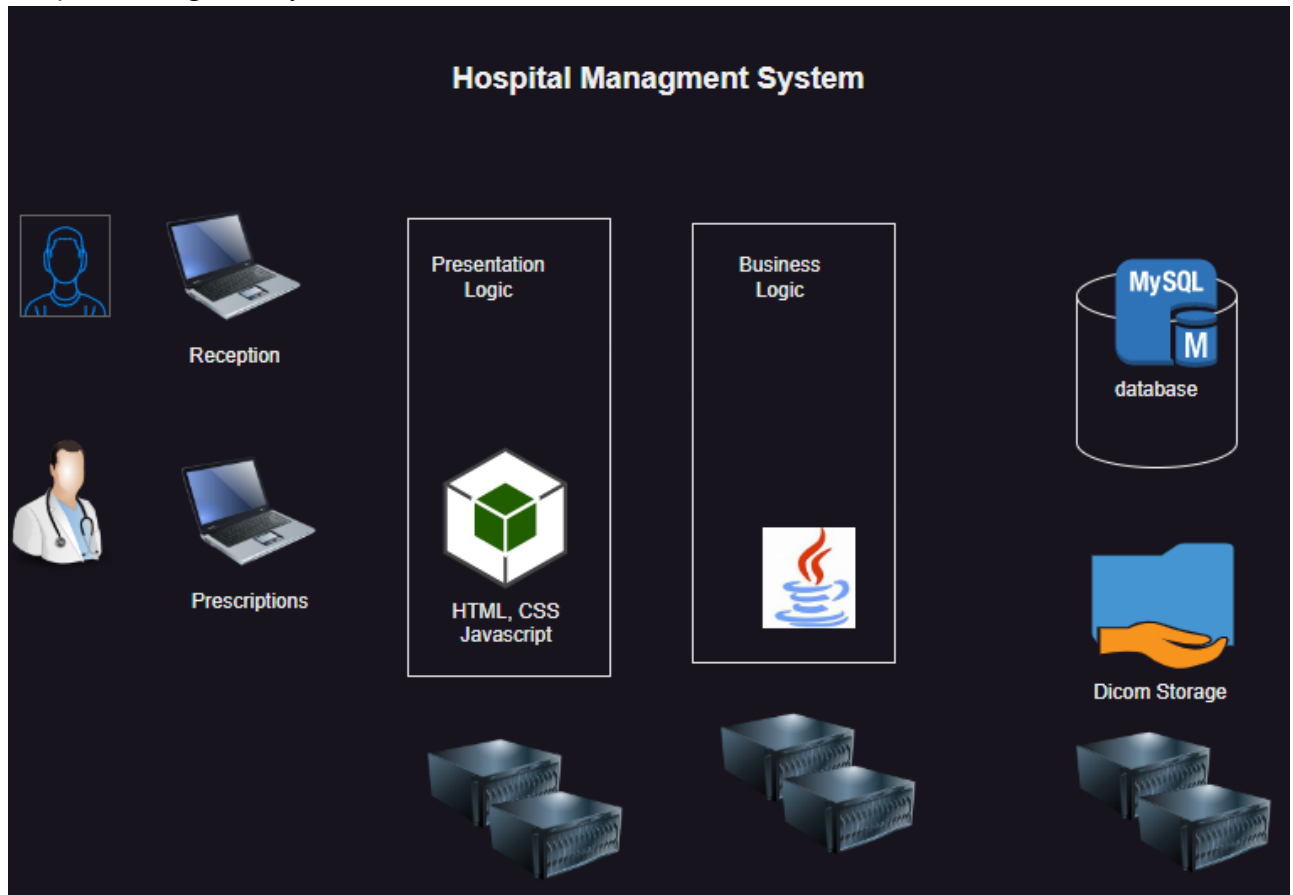


Story of Software Development (way back in time)

- Hospital Management System - Overview

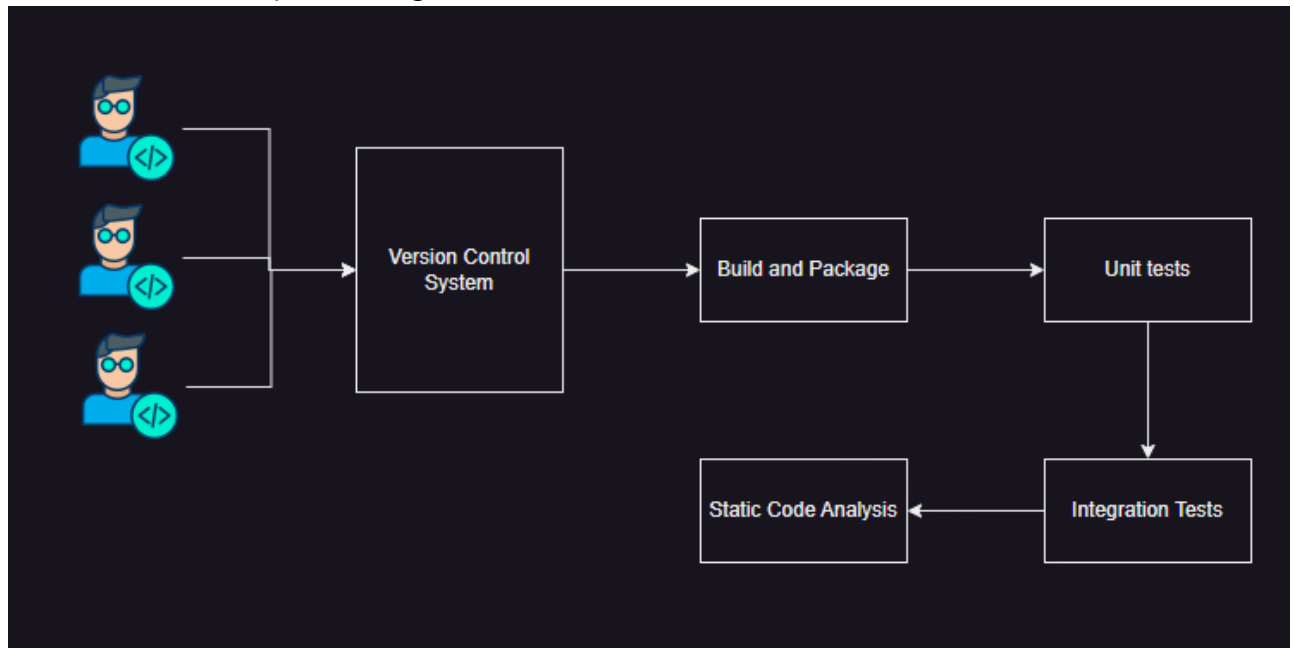


- Time taken for development: 10 months
- Team is divided into
 - Presentation
 - Backend
 - Database and Storage
- Approach:
 - Each team will be building the software as per requirements and tests it in isolation. (9 months)
 - Integration of components will start in the 10 month.
- This approach is called as Big Bang integration and it generally fails
- To solve this Continuous Integration (CI) started.

CI - Approach

- Ensure integration of different components is tested with every change submitted by any team member
- Initially things will fail, but it is still okay.

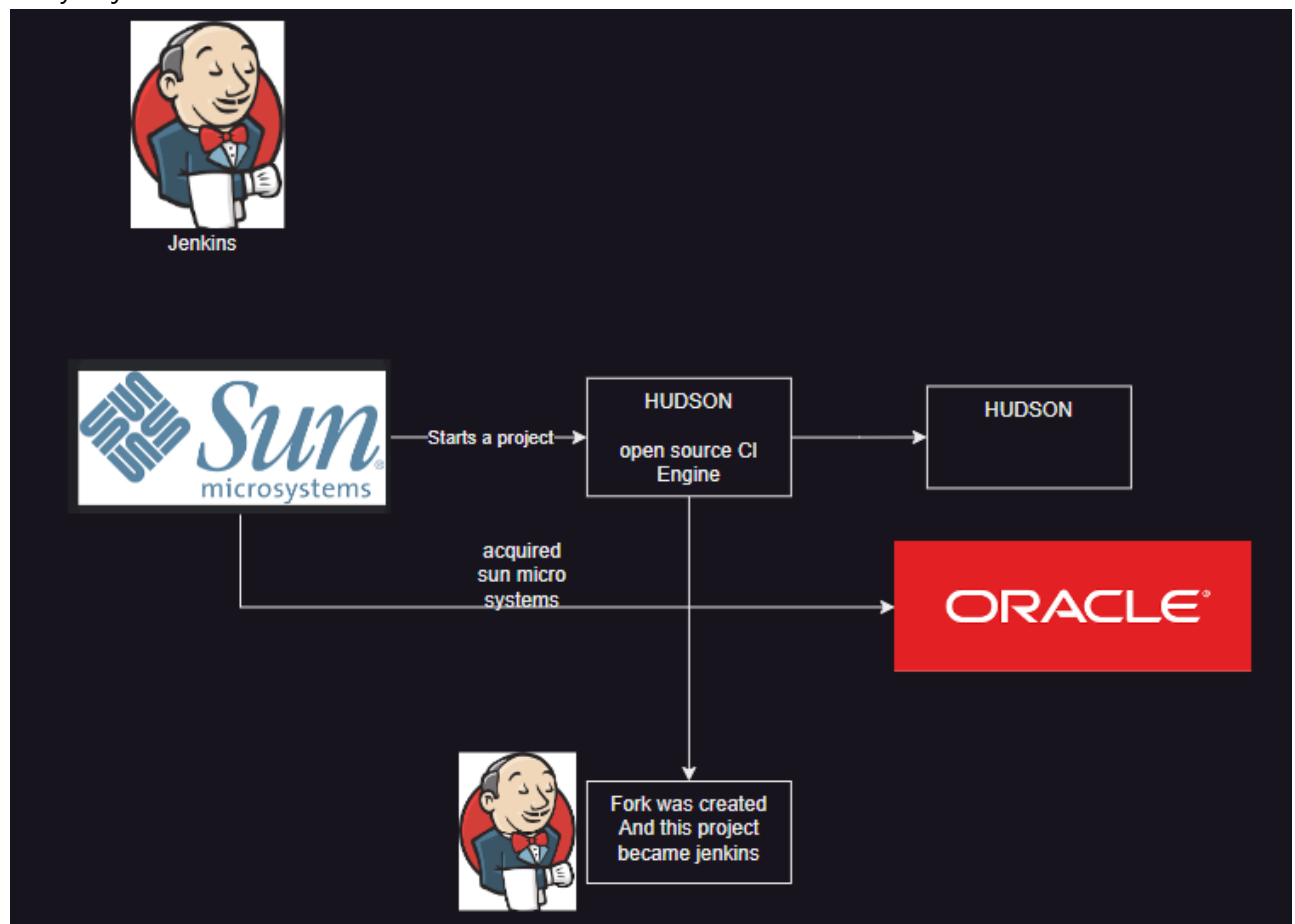
- What will be done as part of Integration



- How to Implement CI?
 - Whenever any code is submitted, trigger
 - build
 - run unit tests
 - run integration tests
 - run sca
 - When any thing fails report back to developer as integration failed
 - When all of this is success, start working on features.
 - Since executing above steps is difficult to do manually, CI generally recommends using a CI Engine (Software which can execute different phases)

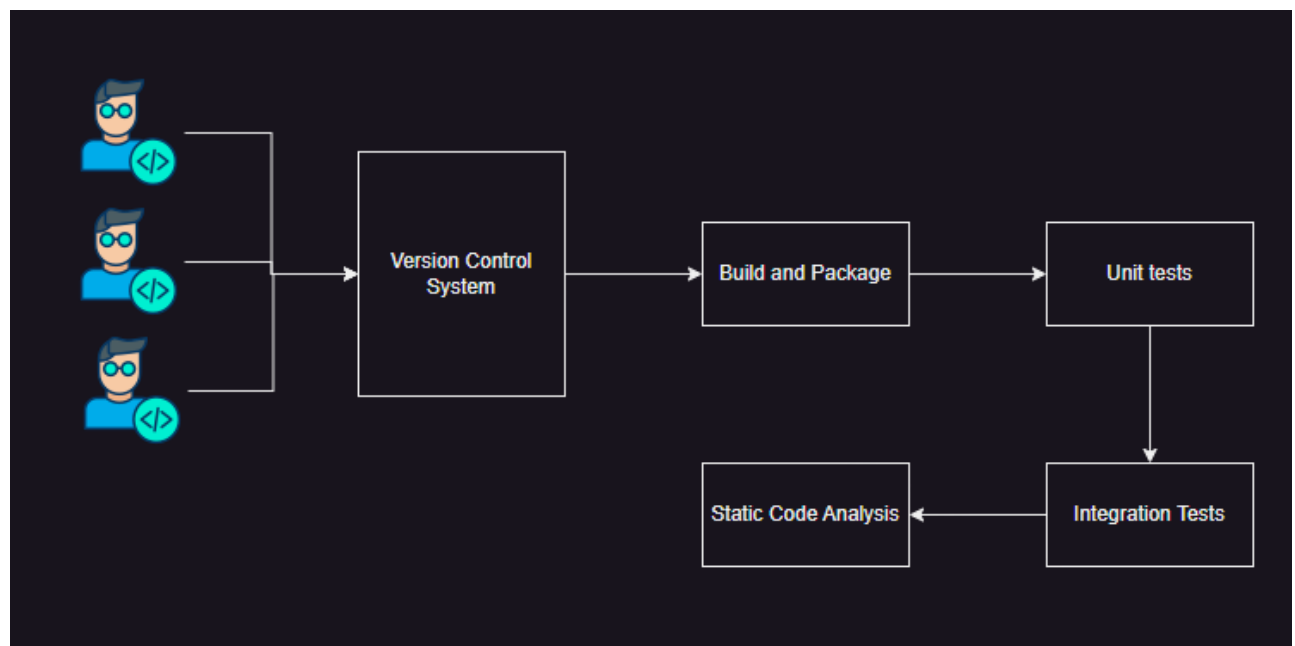
Jenkins

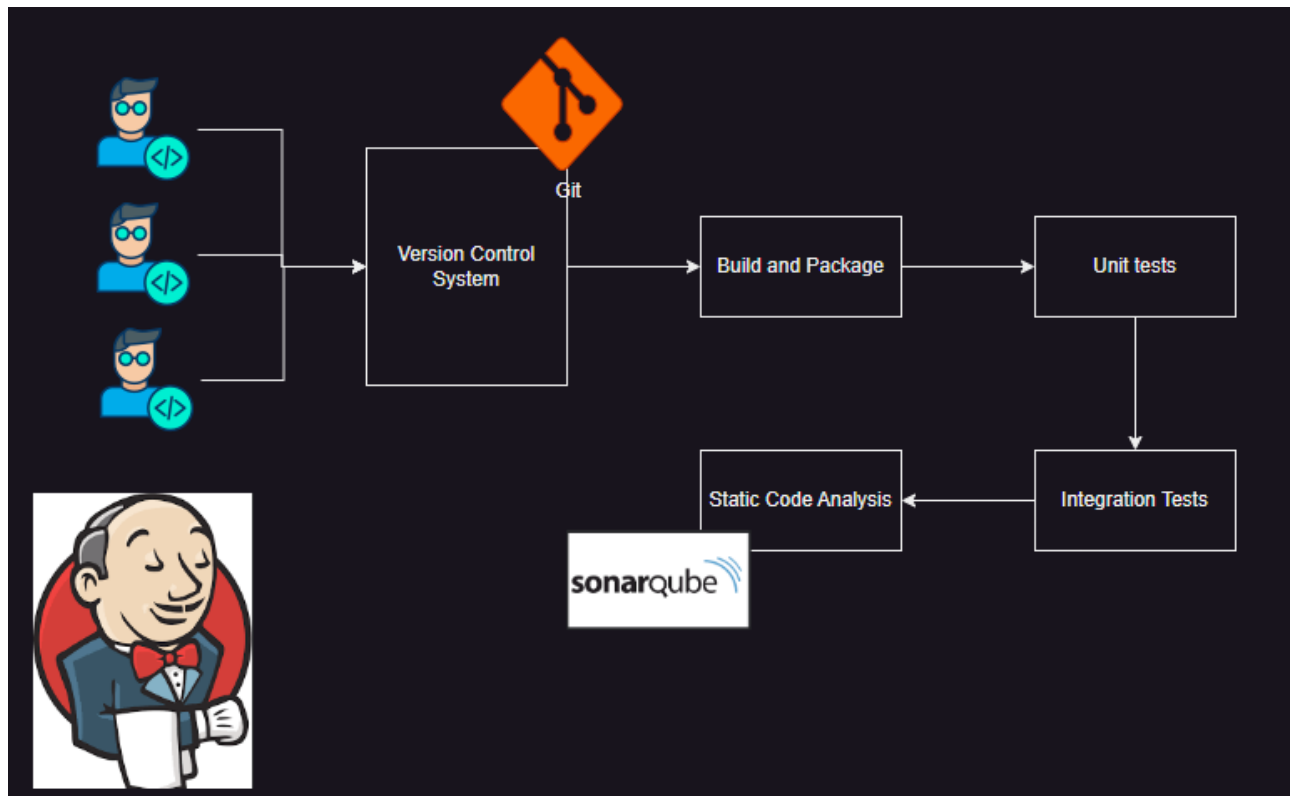
- Story of jenkins



What it takes to do CI

- Overview





Our learning order - Phase 1

- Git
- maven (java)
- msbuild (.net)
- python and node.js
- sonarqube
- Jenkins and create CI pipeline

Our learning order - Phase 2

- Jfrog : Binary Repository
- Jenkins
- integrate
 - virtual machine deployment
 - Terraform
 - Ansible
 - container deployment
 - Terraform
 - Docker
 - Kubernetes

Our learning order - Phase 3

- Best Practices
- Branching strategies

Exercise

- What is difference between shared folder and repository (repository will have history)
 - Source code repository
 - Package Repository
 - Image Repository (Registry)
- i was given a linux machine which has only terminal, how can i find out an os version and distribution (commands)
- What is build Promotion

Version Control System

- This is a source code repository i.e. this system stores code and also maintains history.
- This system allows multiple developers to get and submit changes
- Examples:
 - CVS
 - Visual Source Safe
 - Subversion
 - IBM Clear Case
 - Perforce
 - Mercurial
 - Team Foundation Version Control
 - Git
- Git is a distributed version control system.