BUILD MANAGEMENT

By breaking down the delivery phase into two parts like building components and releasing the product.

Build management consists tools to build, compile, package, version. This would include a source repository, build console and package repository.

**Source Repository:**

A source repository is a version controlled single repository to organize, control and manage code builds. It consists code from development to infrastructure phase. It handles multiple versions and solves conflict in the versions of the code by different developers. The same repository should also be used by the operations team. For example, GitHub.

**Build Console:**

A build console is used to pull codes from the Source repository to organize, control and manage code builds. This allows team to easily understand what is being built, what phase the built is in and error logs. Jenkins is a type of tool which handles build console.

**Package repository:**

This can also be called as package management system or package manager. This tool groups all the software into the functioning packages and pushes to release. In DevOps these packages include infrastructure builds.

The package repository is the bridge from the build management to the release management. it is where built code comes together with infrastructure requirements to form complete packages that will be installed during deployment. AppGit is the type of tool used for this.

The source repository tries to bring development and infrastructure into one location supporting versioning, quality management and team member accountability.

The build console allows code to be organized and prioritized, enable status and error reporting which brings enhanced visibility to the project. And the package repository, packing for both infrastructure and software enables consistency and security in releasing the total solution.

**Frame works:**

***Odyssey:***

the odyssey build management framework automates the build process to reduce errors and save time. Creating quality software takes times. Each step to be performed in right process, bringing each contribution together to create something new.

**Maintain code quality:** with this build framework you can easily check comments, coding rules, potential bugs. The static code analysis tool allows you to maintain code quality.

**Manage continuous integration:** automatically merge, build compilations or streamlining tests. It automates the integration process for you.

**Automate builds with security:** it allows you to build a shielded environment, away from malicious hands that can cause damage to the organization.

Build management tools:

1. Jenkins
2. Maven
3. Gradle
4. Travis ci
5. Bamboo
6. Circleci
7. Teamcity
8. Apache ant
9. Build master
10. Code ship
11. Microsoft team foundation server
12. Ansible
13. Aws code build
14. chef