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**PAPER 1**

**Bitbucket:**

What is Bitbucket?

* Bitbucket is a Git repository management system tailored for hosting software and version control as one of its many features that has made it appealing. It allows for collaboration of source code and provides adequate guidance during the development phase. It boasts of features such as access control, workflow control, Jira integration and pull requests just to name but a few.
* Bitbucket has been deployed in three different options:
* **Bitbucket Cloud**: Hosted on servers, accessed via URL and has a host of features such as the in-built continuous integration tool, Pipelines, that allows for building, testing and deploying directly from within Bitbucket.
* **Bitbucket Server**: Hosted in one’s environment. Does not come with the in-built building and testing tool, Pipelines, but has integrations with Bamboo, another building tool offered, that allows for complete automation of the build processes.
* **Bitbucket Data Center**: Bears striking similarity to Bitbucket server features, but the difference is it is hosted on several servers in one’s environment that allows for better performance, readily available and smart mirroring to bolster Git clone speeds for teams working with large repositories.

**GitLab:**

What is GitLab?

* GitLab is a DevOps platform that integrates operations, developments and security teams into a single application.
* The beauty of this is that it allows everyone to work in the same system, have shared feedback loops during collaboration to avoid messy integrations that would otherwise occur when working on different systems.
* With faster time cycles due to the elimination of the time for waiting for handoff of another team, issues that arise can be dealt with earlier and more effectively since everything takes place on a single application.
* GitLab also has a reduced security and compliance risk on its application as every change is fully and thoroughly tested and secure. Every action that occurs goes into the audit log for accountability purposes as well as single sign-on and datastore.

**GitHub:**

What is GitHub?

* GitHub is an open community site for developers and programmers that allows developers to post project code for peer review and guidance from fellow programmers. This community offers solutions to problems in a member’s code or may alert them on possible issues that could arise in their work such as conflicts or dependency issues.
* Projects on GitHub are open-source code that allow for download and review and give solutions and amendments to the code. This is beneficial as it tends to be more flexible as they respond more rapidly to the market. It is also a great platform to showcase your prowess and make yourself appealing to potential organizations requiring a certain skillset.

**Git:**

What is Git?

* Git is an Open-Source Distributed Version Control System that is used to store code. It offers features such as Version Control that aids in handling of history that is recorded when any code is changed on Git. The Distributed Version Control system that has a remote repository that is stored in a server and a local repository stored in the device of the developer.
* The importance of Git is fully appreciated especially when most of the time projects are done by multiple developers working in parallel. Git ensures no code conflicts between the developers as the work.

In software organizations, the git workflow is a branching model employed to avoid confusion among developers on the team since the git workflow can determine branch roles and meanings familiar with everyone on the team sine the organization can have members scattered across the globe.