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| cloud solution archiect  Assignment # 13 | Abstract  understand the whole process of git  Student name: |

**Assignment # 13**

**Statement Purpose:**

Objective of this lab is to understand the whole process of git, its repositories and its operations.

**Activity Outcomes:**

Students will be able to:

* Pull from and push to git remote repository
* Create branches in a git repository

**Instructor Note:**

Git is important for Repository management, and version control. This would be helpful for the students to get started with Agile development or DevOps.

**Introduction:**

Git is a free and open source distributed version control system designed to handle small to very large projects with speed and efficiency. Git is used for version/revision control for software development for controlling source code. It is a distributed version/revision control system. Git was initially designed and developed by Linus Torvalds (the creator of linux) for Linux kernel development purposes. Git was initially used for updating source code of the Linux kernel from around the world. Like any other version control systems, every Git working directory has a full-fledged repository with complete history and full version-tracking capabilities. Git is free software distributed under the terms of the GNU General Public License. Git utility or git tool is available with almost every Linux distribution.

Git deals with data more like a set of snapshots, snapshots of a miniature filesystem. Every time a change is committed using the “commit” command, it saves the state of the project in the git project repository, which basically takes snapshots. It stores a reference to that snapshot of what all of your files look like at that moment of commit. To be efficient, fast & accurate, if files have not changed, Git does not store those files again. It just simply stores a link to the previous identical file it has already stored.

It is a great tool with great efficiency for handling large projects with hundreds of thousand files. Git is primarily developed for Linux. Nowadays, it also supports most major operating systems including BSD, Solaris, OS X, and even Microsoft Windows.

Task 1: Create new branches from terminal and github page

Task 2: Work in different branches by changing the branches

Task 3: Merge branches to master branch

Task 4: Merge Conflicts

Use These links for guidance:

https://www.atlassian.com/git/tutorials/using-branches

https://www.atlassian.com/git/tutorials/using-branches/git-checkout

https://www.atlassian.com/git/tutorials/using-branches/git-merge

https://www.atlassian.com/git/tutorials/using-branches/merge-conflicts

https://www.atlassian.com/git/tutorials/using-branches/merge-strategy

Assignments:

Attach the link to your github profile. Create branches, change branches and merge them using branch, checkout and merge commands. Attach screenshots of the whole process.