EE 5206 - Software Project

Version Control

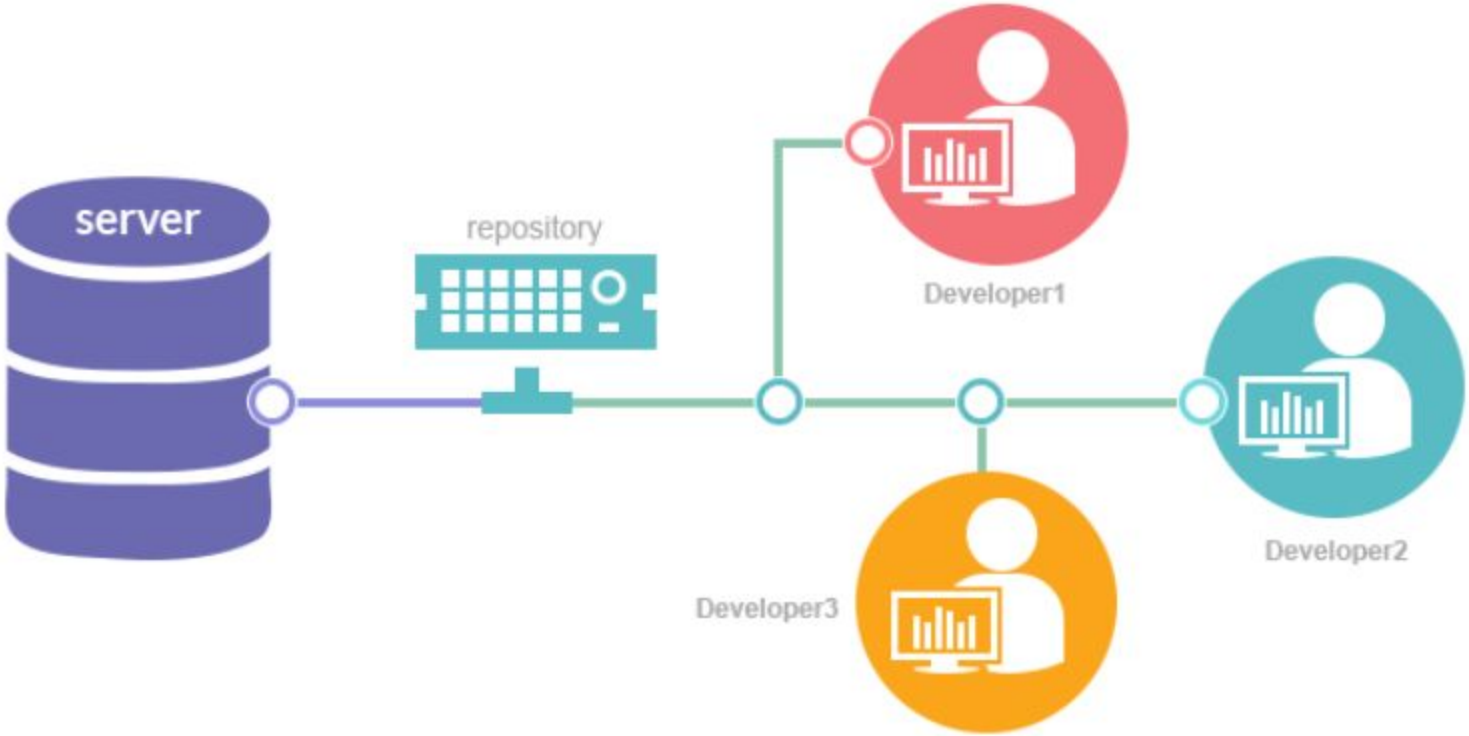
Version Control

Version control is the practice of tracking and managing changes to software code.

Version control systems are software tools that help software teams manage changes to source code over time.

These software keeps track of every modification to the code in a special kind of database.

If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.


server
repository
Developer1
Developer2
Developer3

Version Control Benefits

- Centralized location for project artifacts
- Historical record of changes over time
- Retrieval of older versions
- Parallel team development
- Code synchronization
- Multiple version management
- Add comments regarding every change


SUBVERSION


git


mercurial


TFS


CVS

Git and GitHub

Git is a distributed version control system

GitHub Internet hosting for software development and version control using Git.

It offers the distributed version control and source code management functionality of Git, plus its own features.

Configure Git Username/Password

At first, you will be asked to enter your Git username or email address.

git config --global user.name <UserName>

git config --global user.email <email>

Then you will be prompted to enter your password

GIT Commands

Git init

The git init command creates a new Git repository. It can be used to convert an existing, unversioned project to a Git repository or initialize a new, empty repository.

Git commit

Git commit sets a checkpoint in the development process which developer can go back to later. It requires short message to explain the development or change in the source code.Git commit saves changes only locally.

```
git commit -m "commit message"
```

Git push

This command used to upload local repository content to a remote repository. Git push transfer commits from local repository to a remote repository.

```
git push <remote> <branch-name>
```

Git pull

This command is used to update the local version of a repository from a remote repository.

```
git pull <remote> <branch-name>
```

Git clone

Git clone is used to target an existing repository and create a copy of the target repository

```
git clone <remote>
```

Git checkout

git checkout command lets programmer navigate between the branches created by git branch.

```
git checkout <branch>
```

GitHub Branches

A branch is essentially is a unique set of code changes with a unique name.

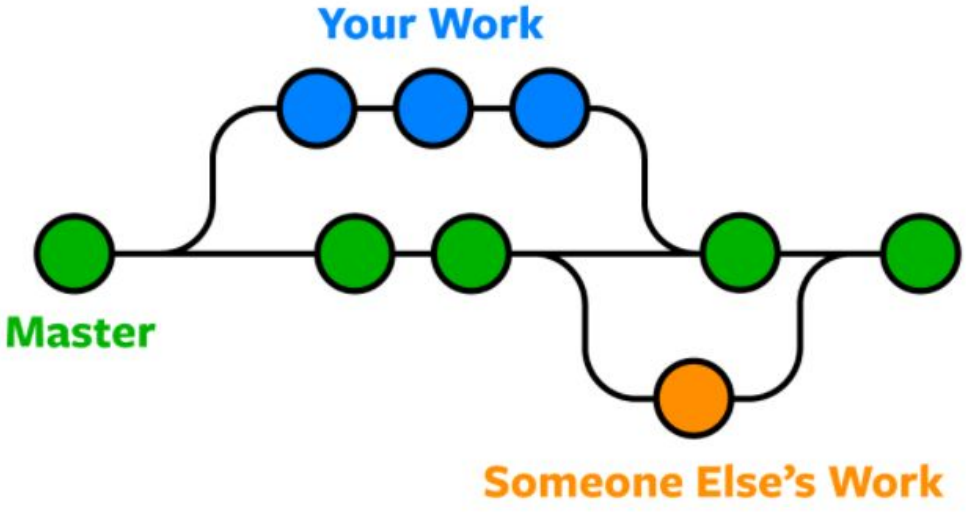
Feature branches provide an isolated environment for every change to the codebase.

Each repository can have one or more branches

Git Merge

Git Merge joins two or more development histories together (Combine branches)

This takes the independent lines of development created by git branch and integrate them into a single branch.



Thank You!!!