

# Branching

## What is a Branch ?

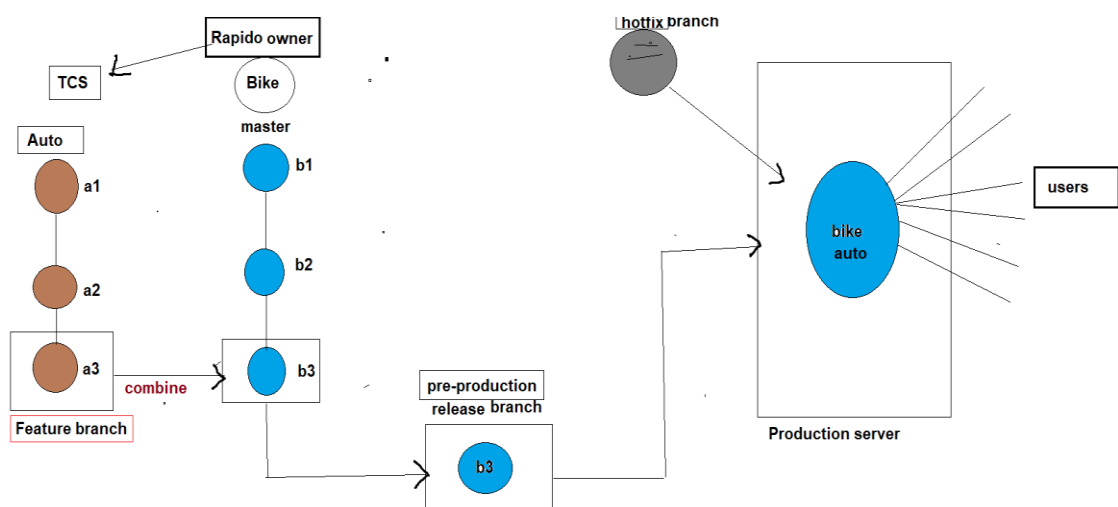
### Definition :

In Git , A branch is a new or separate part of a main repository that is used to develop an independent line of code without effecting main / Master.

(OR)

A branch is a separate part of master branch in git. Branching means diverging from the master and continue to work separately on the same project.

## Why we need branch ?



- Branches allows developers to work together in a same project using different branches.
- Developers can easily develop new features of a software without effecting the main branch code.
- To maintain Stability when changes are made to a particular code.

## **Types of Branches :**

1. Master branch
2. Feature branch
3. Release branch
4. Hotfix branch

### **1. Master branch :**

This branch contains production code. All the development code is combined into master to send to the production environment.

### **2. Feature branch :**

Feature branches are used to develop new features for the next release. Once the feature is completed it is combined / merged into master branch.

### **3. Release branch :**

Release is a temporal supporting branch to the production release, mainly bug fixes will be done in this branch.

### **4. Hotfix branch :**

Hotfix branch is necessary to perform immediate bug fixing in production environment.

## **Various Commands used in Branch :**

- To Create a branch : **git branch <branch\_name>**
- To see all the branches : **git branch**  
(or)  
**git branch -list**
- To switch from one branch to the other branch :  
**git checkout <branch\_name>**  
(or)  
**git checkout -b <new branch\_name>**  
(or)  
**git switch <branch name>**
- To rename a branch : **git branch -m**  
**<branch\_name>**

- To rename a branch from the master :

**git branch -m <old branch name> <new branch name>**

- To delete a branch in local repository: **git branch -d <branch\_name>**

- To push a branch to remote repository :  
**git push alias <branch\_name>**

- To delete a branch in remote repository :  
**git push alias -d <branch\_name>**

- To list out all the local and remote branches :  
**git branch -a**

- To list only the remote branches :  
**git branch -r**