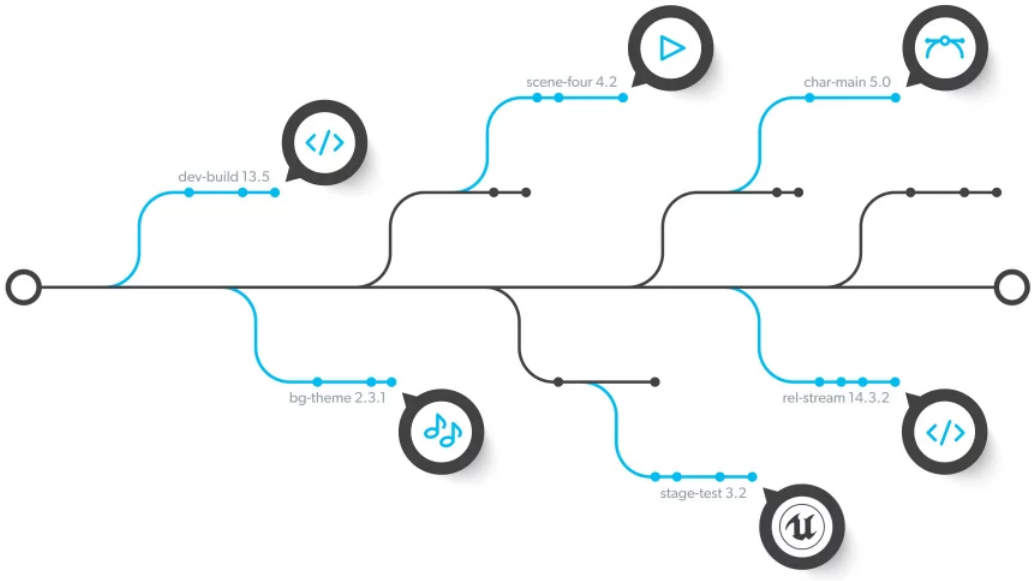
01. VCS & Git (Introduction)

▼ Version Control Systems (VCS)

- Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later.



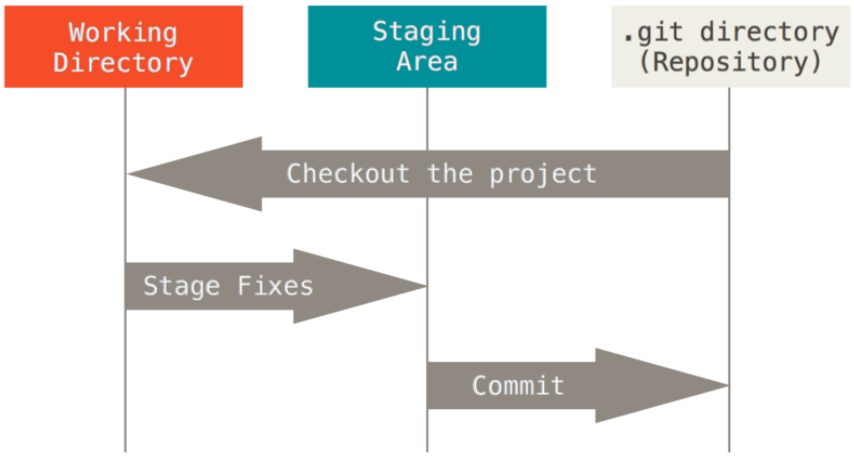
▼ Introduction to Git (Fundamental concepts)

Ref: https://git-scm.com/book/en/v2/Getting-Started-What-is-Git%3F

Git is a Version Control System unlike any other VCS (CVS, Subversion, or Perforce). Git thinks and treats the files differently than these VCSs. The main differences between 'Git' and other VCSs are —

1. Snapshots, Not Differences
2. Nearly Every Operation Is Local
3. Git Has Integrity (Everything in Git is checksummed before it is stored and is then referred to by that checksum.)

4. Git Generally Only Adds Data
5. The Three States
    - *Modified* means that you have changed the file but have not committed it to your database yet.
    - *Staged* means that you have marked a modified file in its current version to go into your next commit snapshot.
    - *Committed* means that the data is safely stored in your local database.



The basic Git workflow goes something like this:

1. You modify files in your working tree.
2. You selectively stage just those changes you want to be part of your next commit, which adds *only* those changes to the staging area.
3. You do a commit, which takes the files as they are in the staging area and stores that snapshot permanently in your Git directory.