



# DevNet Experts.

Topic- GIT & GITLAB

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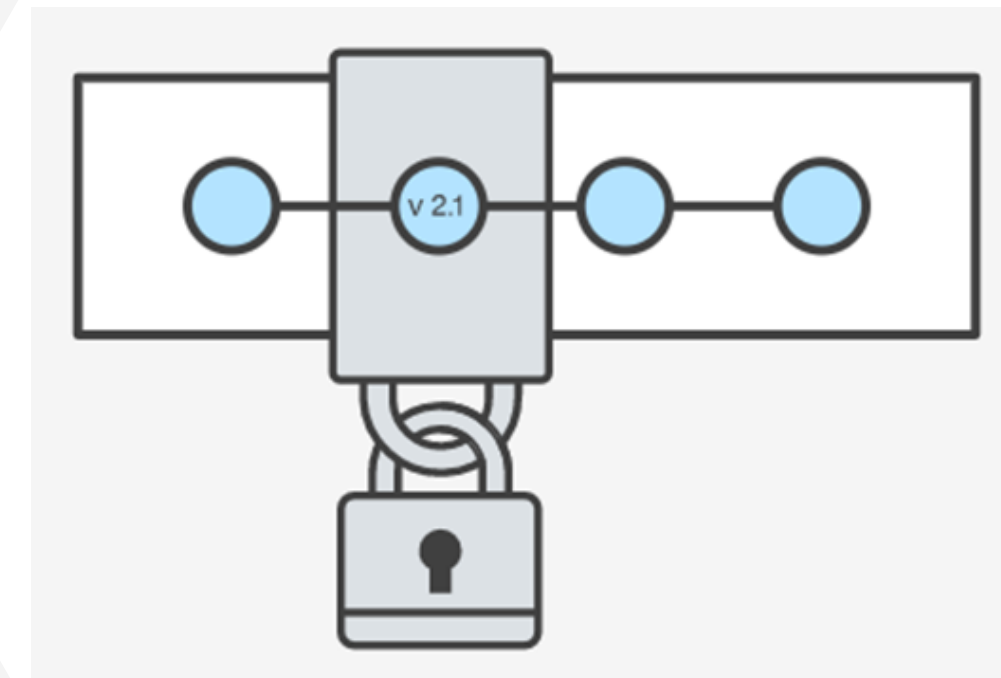
# OVERVIEW



- **What is Version control?**
- **What is Source Code Management?**
- **What is Git?**
- **What is GitLab?**

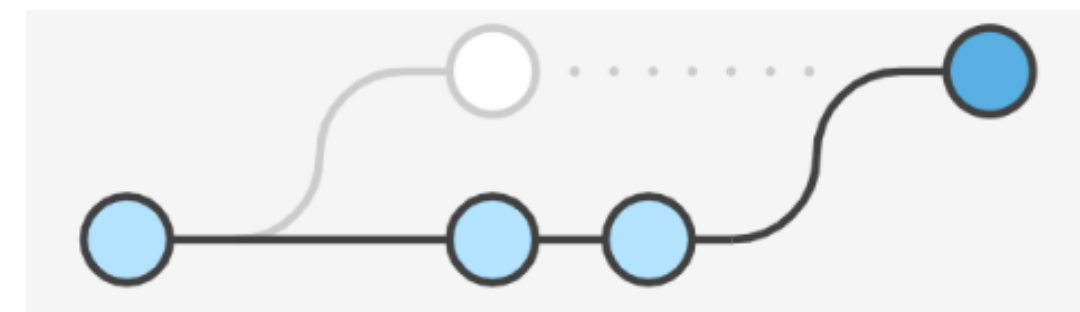
# What is Version Control?

- Practice of tracking and managing changes to source code
- Source code can be anything like software code to build web sites, games, scientific applications
- Even network configuration files that contain the current state of the network
- Helps development teams to speed up development process in a dynamic and fast paced environment
- Helps devops teams to keep up the pace with development teams to speed up deployments

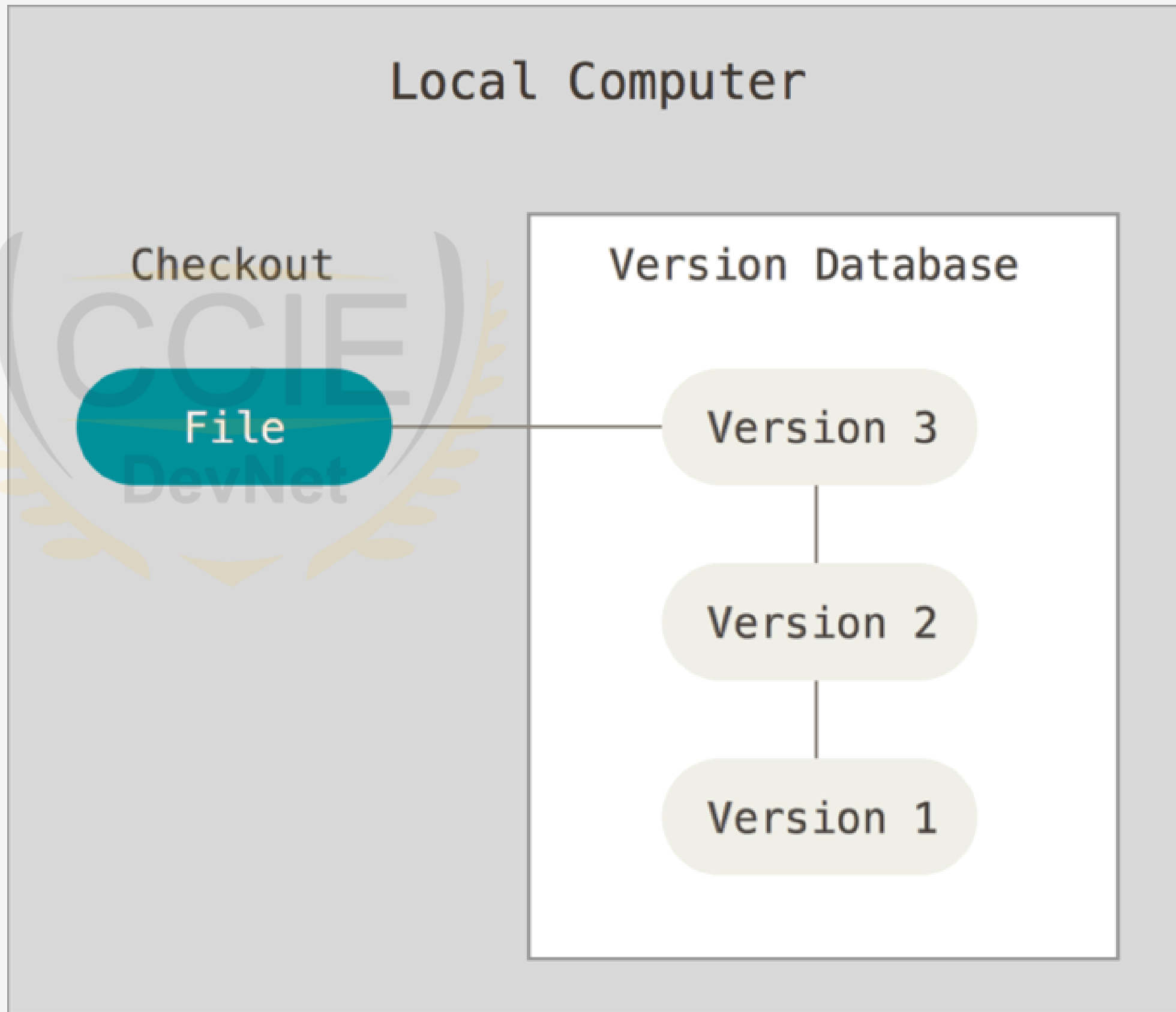


# What is Source Code Management?

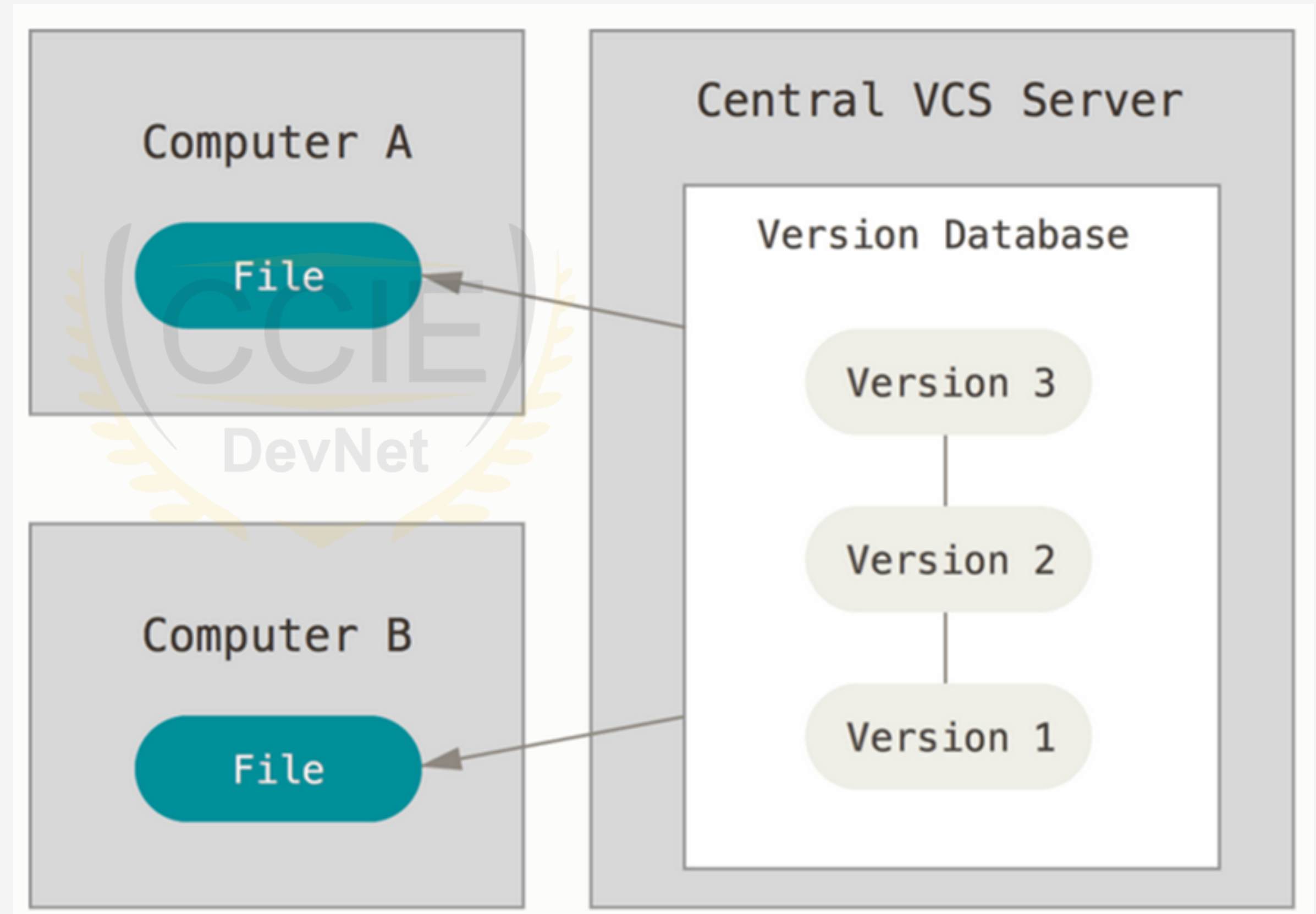
- Practice of tracking modification to a source code repository
- Tracks running history of changes to the code repository
- Helps resolve conflicts when merging updates from multiple contributors
- Helps to keep the communication overhead and management complexity when the repository and the number of contributors grow large



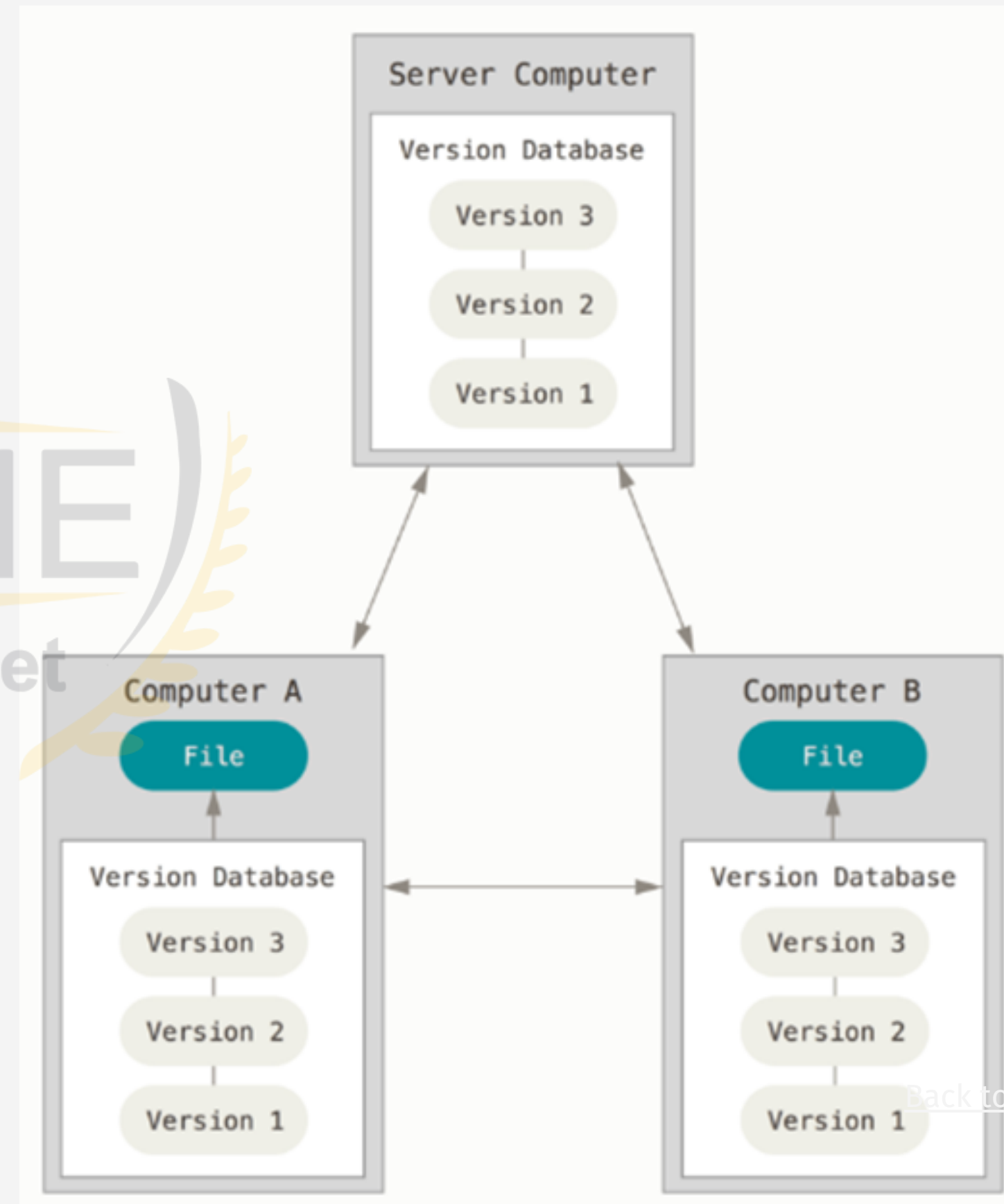
# Local Version Control Systems.



# Centralized Version Control Systems.

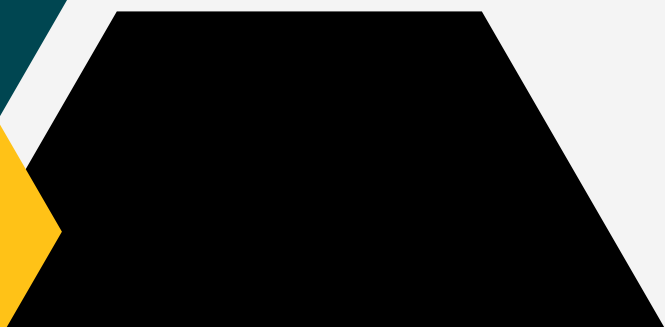


# Distributed Version Control Systems.



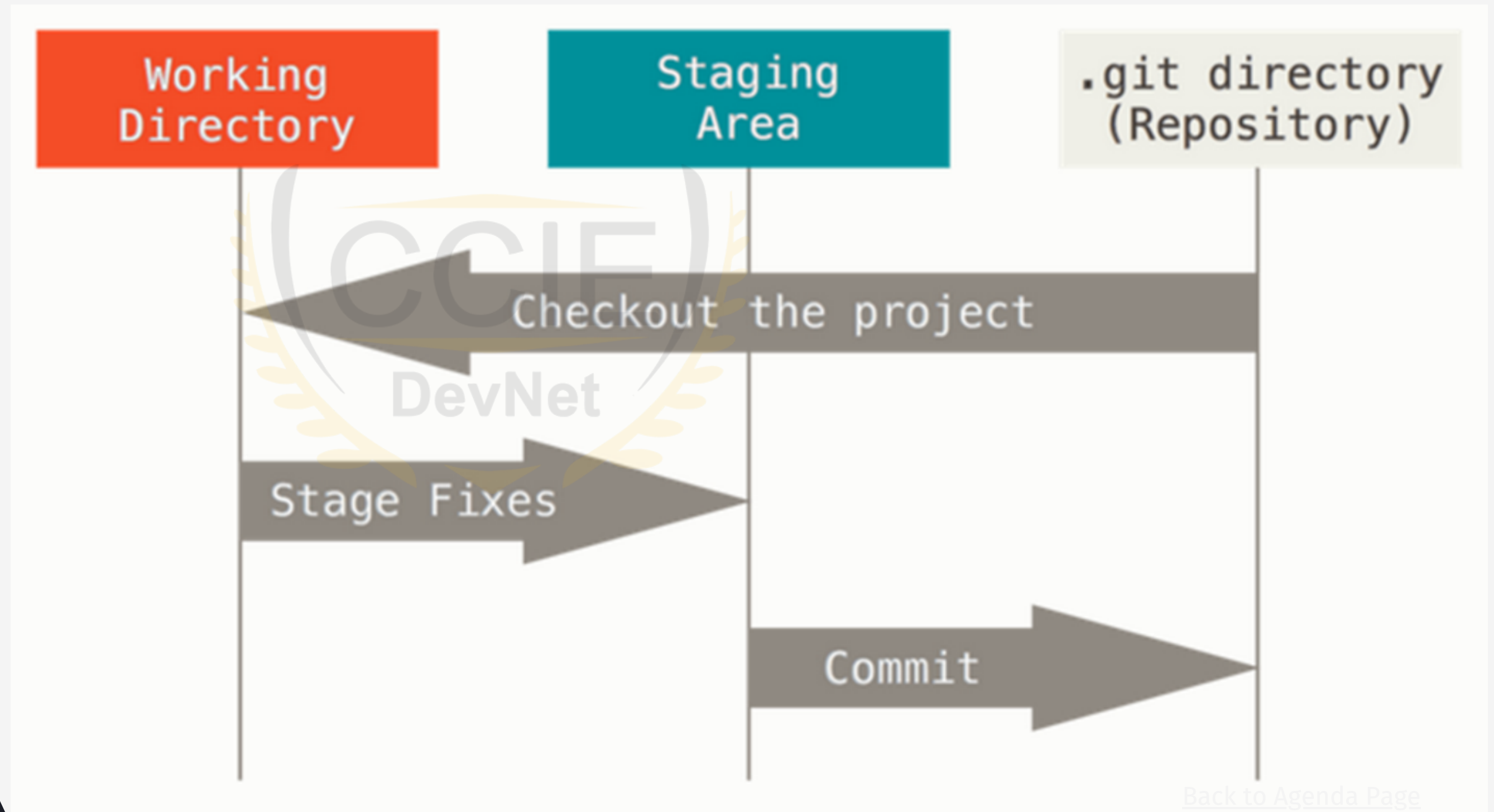
# What is Git?

- Free and Open Source software for distributed version control.
- Files maintained by Git are mainly in three states.
  1. **Modified** - File is changed but not committed to a database
  2. **Staged** - Modified file marked in its current version to go into next commit
  3. **Committed** - Modifications are safely stored to the local versioning database





# What is Git? (cont.)



# What is GitLab?

- Can be thought of as Web based version of Git plus some additional features
- GitLab adds the distributed aspect to Git version control and source code management
- GitLab projects hold the source code repositories



**GitLab**

# What is GitLab? (cont.)

## Some additional features of GitLab

- Managing source code - via GitLab projects
- Sharing source code - Anyone with a link can clone a gitlab project into their local machine
- Wiki or Code Documentation - Source code and the related documentation can be maintained together
- Bug tracking - Has a built in issue tracking system
- CI/CD - Supports Ci/CD via GitLab pipelines which are executed using GitLab Runners





DEMO.