Getting started with git

1. Introduction

This note outlines a self study course on git configuration management tool. The objective of this course is the following.

1. You shall get familiar with common git commands and their arguments.
2. You shall be able to perform normal git operations as a user.
3. And the most important objective is to acquire the discipline to always do the following
    a. Always commit in small logical increments.
    b. Write commit messages following the guidelines to write a good commit messages.
4. You start the habit of using git for everyday work, even for simple test programs or script development.

2. Resources

Please use the resources available in https://git-scm.com/doc. No need to go study whole reference manual. Please use them as required by the course outline below.

3. Course outline

1. Study chapters 1, 2 and 3 in pro Git e-book available at https://git-scm.com/book/en/v2.
2. If required go through the videos in given in https://git-scm.com/videos. You can also access them in Git SCM Basics Videos in youtube
3. Study the following guideline in detail. https://chris.beams.io/posts/git-commit/. It is very important to understand these rules.

4. Exercises

For doing the exercises, please get access to a git server by admin and get an empty test repository created for you with ‘maintainer’ permissions.

1. Generate ssh key and update same in the server
2. Configure your email and name using git config in your local system.
3. Clone your empty repo in your local system.
4. Create a few directories and add text files with some content of your choice.
5. Add a file called my_exercise.txt in the root directory and use it to keep record of what you did for the following exercises. This will be used to evaluate your course work.
6. Whenever you commit something, it shall follow the guidelines mentioned in section 3.
7. Do modifications to the files and exercise the following commands while maintaining the files in the repo. While using each command, read their help and understand what

arguments they take. Try the commands with different values for the arguments.
    a. add, commit, rm, log, show, diff, format-patch, checkout, stash, push etc.
8. Create branches and exercise merge command
9. Create two branches and modify the same file in the same line in each branch. Now try to merge both branches to main. If a merge conflict occurs, find out how to resolve the conflict.
10. Exercise pull and fetch commands. Understand the difference.
11. Study the user of .gitignore and .gitattribute files and their syntax
12. Study use of git config