Module 2: SCM with Git

Demo Document - 1

edureka!

edureka!

Demo – 1: Git Common Commands

- Set up a username for your repository
  Syntax: git config --global user.name "username"

- Set up user-email for your repository
  Syntax: git config --global user.email "useremail@example.com"

```
edureka@kmaster:~$ git config --global user.name "edureka"
edureka@kmaster:~$ git config --global user.email "content@edureka.co"
edureka@kmaster:~$
```

- Select or create the directory where you want to initialize Git

- **Initialize Git** in the directory
  Syntax: git init

```
edureka@kmaster:~$ mkdir demo
edureka@kmaster:~$ cd demo
edureka@kmaster:~/demo$ git init
Initialized empty Git repository in /home/edureka/demo/.git/
edureka@kmaster:~/demo$
```

- To **add** a file to the **staging area**
  Syntax: git add <filename>

- To check the working tree **status**
  Syntax: git status

```
edureka@kmaster:~/demo$ git add Demo.java
edureka@kmaster:~/demo$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

        new file:   Demo.java

Untracked files:
  (use "git add <file>..." to include in what will be committed)

        Demo.class

edureka@kmaster:~/demo$
```

- To **commit** the **staged** files to your **local repository:**
  Syntax: git commit

```
edureka@kmaster:~/demo$ git commit
```

```
edureka@kmaster:~/demo$ git commit
[master (root-commit) 100aff6] Added the first file to the repo
 1 file changed, 5 insertions(+)
 create mode 100644 Demo.java
edureka@kmaster:~/demo$
```

- The git **diff** command displays all the changes made to the **tracked** files
  Syntax: git diff

```
edureka@kmaster:~/demo$ gedit Demo.java
edureka@kmaster:~/demo$ git diff
diff --git a/Demo.java b/Demo.java
index 6afc04e..aa44163 100644
--- a/Demo.java
+++ b/Demo.java
@@ -1,5 +1,6 @@
 class Demo{
        public static void main(String[] args){
        System.out.println("This is a demo program.");
+       System.out.println("Git is very easy to operate");
        }
 }
edureka@kmaster:~/demo$
```

▪ To **stage and commit** multiple files at once, we use the -a flag with the commit command
  Syntax: git commit -a -m 'message'

```
edureka@kmaster:~/demo$ git commit -a -m 'New files added and Demo.java modified'
[master 63c2e44] New files added and Demo.java modified
 3 files changed, 6 insertions(+)
 create mode 100644 Demo.class
 create mode 100644 Demo2.class
 create mode 100644 Demo2.java
edureka@kmaster:~/demo$
```

▪ The **git rm** command deletes the file from the git repository as well as users system
  Syntax: git rm <filename>

```
edureka@kmaster:~/demo$ git rm Demo.class
```

▪ To remove the file from the git repository but not from the system, we use the **--cached** option
  Syntax: git rm --cached <filename>

```
edureka@kmaster:~/demo$ git rm --cached Demo.class
rm 'Demo.class'
edureka@kmaster:~/demo$
```

- You can force remove a staged file by using the **–f** flag
  Syntax: git rm -f <filename>

Git Ignore:

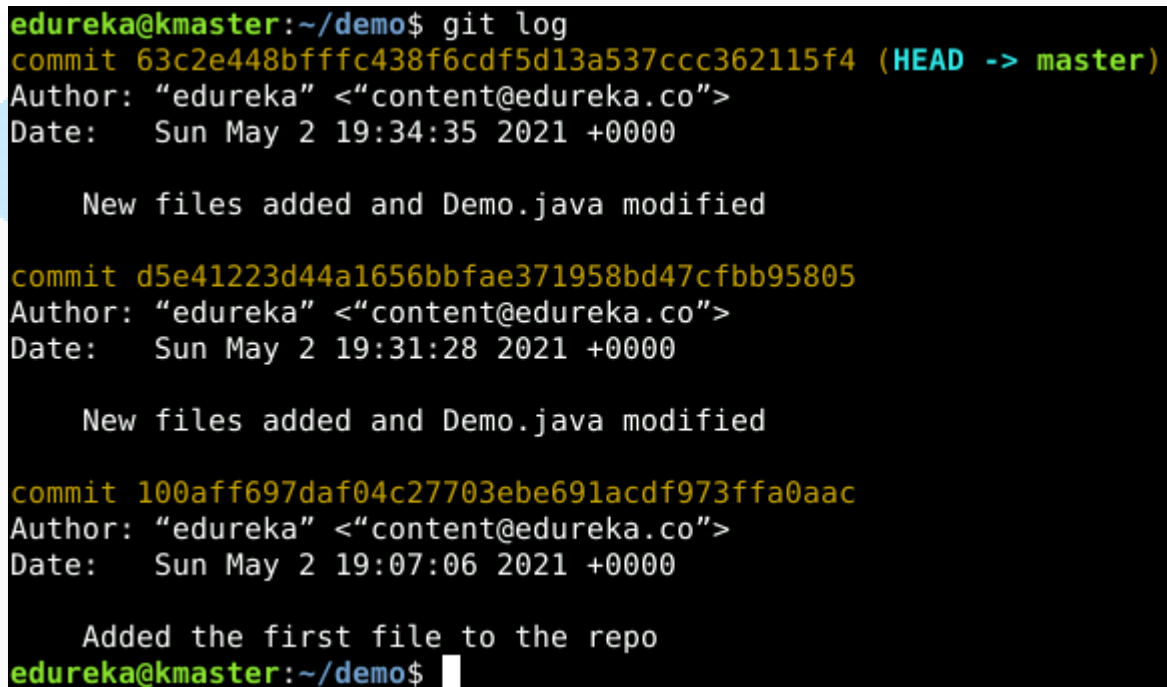- Create a gitignore file inside the git repo using
  Syntax: gedit .gitignore

Git Log:

- The **git log** command shows all the commits so far on the current branch
  Syntax: git log

Git Amend:

- Git amend can be used to make changes to the last commit message
  Syntax: git commit --amend

```
edureka@kmaster:~/demo$ git commit --amend
[master 52b0306] New files added and Demo.java modified
 Date: Sun May 2 19:34:35 2021 +0000
 2 files changed, 6 insertions(+)
 create mode 100644 Demo2.class
 create mode 100644 Demo2.java
edureka@kmaster:~/demo$
```

- Commit tags provide an alias for commitID
  Syntax: git tag --a <annotation> --m <message>

- You can also view all the tags you have created
  Syntax: git tag

```
edureka@kmaster:~/demo$ git tag -a v1.3 -m 'Version 1.3'
edureka@kmaster:~/demo$ git tag
v1.3
edureka@kmaster:~/demo$
```

- Adding a tag to one of the previous commits
  Syntax: git tag --a <annotation> <commit id> --m <message>

- Commit id can be obtained from git logs

- All these tags can be viewed in git
  Syntax: git show <tag-name>

```
edureka@kmaster:~/demo$ git tag -a v0.3 d5e41223d44a1656bbfae371958bd47cfbb95805 -m 'Added tag to previous commit'
edureka@kmaster:~/demo$ git show v0.3
tag v0.3
Tagger: "edureka" <"content@edureka.co">
Date:   Sun May 2 20:01:47 2021 +0000

Added tag to previous commit

commit d5e41223d44a1656bbfae371958bd47cfbb95805 (tag: v0.3)
Author: "edureka" <"content@edureka.co">
Date:   Sun May 2 19:31:28 2021 +0000

    New files added and Demo.java modified

diff --git a/Demo.java b/Demo.java
index 6afc04e..aa44163 100644
--- a/Demo.java
+++ b/Demo.java
@@ -1,5 +1,6 @@
```