

Spring AU 21 Hyderabad-Chennai

Title: Version Control System – GIT – Basic Commands

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Git init and check status of the files:

```
C:\MINGW64\e/git/hello-git
ksabu@DESKTOP-KP9RBTM MINGW64 /e/git/hello-git
$ git init
Initialized empty Git repository in E:/Git/Hello-git/.git/

ksabu@DESKTOP-KP9RBTM MINGW64 /e/git/hello-git (master)
$ ls -al
total 9
drwxr-xr-x 1 ksabu 197609  0 Jan  8 20:25 ./
drwxr-xr-x 1 ksabu 197609  0 Jan  8 20:18 ../
drwxr-xr-x 1 ksabu 197609  0 Jan  8 20:25 .git/
-rw-r--r-- 1 ksabu 197609  0 Jan  8 20:20 Hello.class
-rw-r--r-- 1 ksabu 197609 107 Jan  8 20:20 Hello.java
-rw-r--r-- 1 ksabu 197609  0 Jan  8 20:21 README.md

ksabu@DESKTOP-KP9RBTM MINGW64 /e/git/hello-git (master)
$ git status
On branch master

No commits yet

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

nothing added to commit but untracked files present (use "git add" to track)
```

Git init – manage a project under Git

Git status – shows the status of files like tracked or untracked or commit.

Git add and commit:

```
MINGW64:/e/git/hello-git

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git add Hello.java

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git add README.md

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   Hello.java
        new file:   README.md

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

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git commit -m "First commit"
[master (root-commit) b7aa693] First commit
 2 files changed, 5 insertions(+)
 create mode 100644 Hello.java
 create mode 100644 README.md

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git status
On branch master

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

nothing added to commit but untracked files present (use "git add" to track)
```

Git add – stage a file for tracking

Here after using the git add, the staged files are in green color and untracked files in red color

Git commit – Commit all changes in staging area of local repository

Git log:

```
ksabu@DESKTOP-KP9RBTM MINGW64 /e/git/hello-git (master)
$ git log
commit b7aa693dd5de684e9bbb8e0e94277a4af7d537cb (HEAD -> master)
Author: Abu Sharp <k.s.abudhahir@gmail.com>
Date:   Fri Jan 8 20:29:50 2021 +0530

    First commit

ksabu@DESKTOP-KP9RBTM MINGW64 /e/git/hello-git (master)
$ git log --stat
commit b7aa693dd5de684e9bbb8e0e94277a4af7d537cb (HEAD -> master)
Author: Abu Sharp <k.s.abudhahir@gmail.com>
Date:   Fri Jan 8 20:29:50 2021 +0530

    First commit

Hello.java | 5 +++++
README.md  | 0
2 files changed, 5 insertions(+)

ksabu@DESKTOP-KP9RBTM MINGW64 /e/git/hello-git (master)
$ git log -p
commit b7aa693dd5de684e9bbb8e0e94277a4af7d537cb (HEAD -> master)
Author: Abu Sharp <k.s.abudhahir@gmail.com>
Date:   Fri Jan 8 20:29:50 2021 +0530

    First commit

diff --git a/Hello.java b/Hello.java
new file mode 100644
index 0000000..fd93797
--- /dev/null
+++ b/Hello.java
@@ -0,0 +1,5 @@
+class Hello{
+    public static void main(String[] s){
+        System.out.println("First line");
+    }
+}
\ No newline at end of file
diff --git a/README.md b/README.md
new file mode 100644
index 0000000..e69de29
```

Git log – list the commit data

Git log --stat – view the statistics

Git log -p – commit details with list of changes.

Git diff:

```
ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   Hello.java

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

no changes added to commit (use "git add" and/or "git commit -a")

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git diff
diff --git a/Hello.java b/Hello.java
index fd93797..773adfd 100644
--- a/Hello.java
+++ b/Hello.java
@@ -1,5 +1,6 @@
 class Hello{
     public static void main(String[] s){
         System.out.println("First line");
+        System.out.println("Second line");
     }
 }
\ No newline at end of file
```

Git diff – shows the changes in working tree compared with last commit

```
ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git add *.java

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   Hello.java

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

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git diff

ksabu@DESKTOP-KP9R8BTM MINGW64 /e/git/hello-git (master)
$ git diff --staged
diff --git a/Hello.java b/Hello.java
index fd93797..773adfd 100644
--- a/Hello.java
+++ b/Hello.java
@@ -1,5 +1,6 @@
 class Hello{
     public static void main(String[] s){
         System.out.println("First line");
+        System.out.println("Second line");
     }
 }
\ No newline at end of file
```

After add command git diff shows nothing, now use git diff –staged to see the changes in staged area compared with last commit