Exercises for Module "Version Control with Git"

Nditafon Hyson Nuigho.

Exercise 1: Clone and Create New Repository

Cloning and Pushing to a GitLab Repository

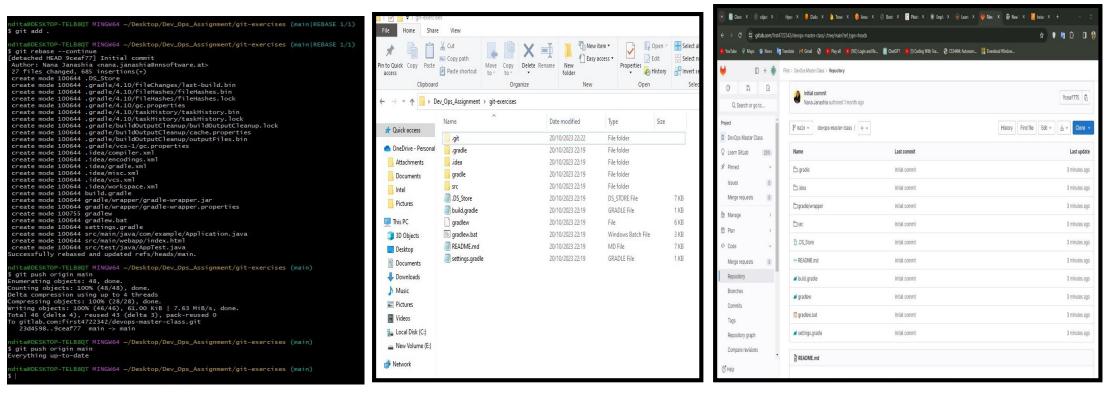


Figure 1: Git script, Local and remote repository for cloning a repository

Exercise 2: .gitignore

Ignoring Unwanted Files and Folders

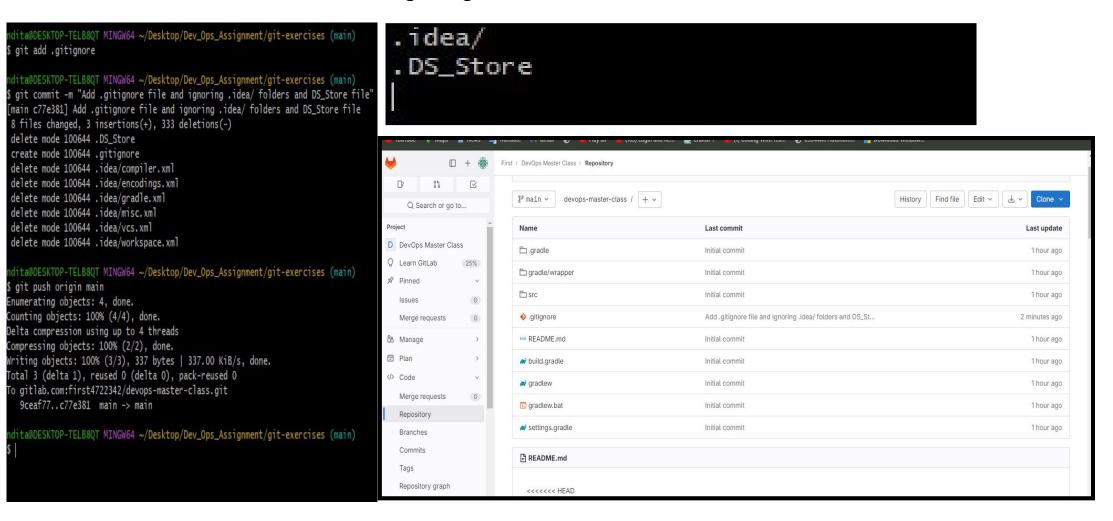


Figure 2:Git script, .gitignore file and the remote repository for ignoring the files and folders.

Exercise 3: Feature Branch

Creating and Committing Feature Changes

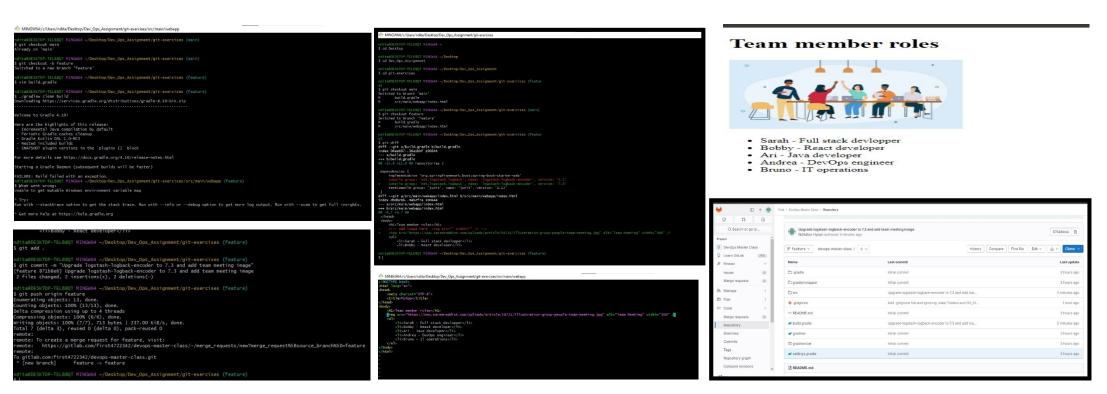


Figure 3: Git script showing New branch, Adding image URL, git difference and results in the remote repository.

MINGW64:/c/Users/ndita/Desktop/Dev_Ops_Assignment/git-exercises/src/main/java/com/example

```
Switched to a new branch 'bugfix
cd src/main/java/com/example
  ita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises/src/mai
S vim Application, java
  ita@DESKTOP-TELB@QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises/src/main/java/com/example (bugfix)
§ git diff
diff --git a/src/main/java/com/example/Application.java b/src/main/java/com/example/Application.java
index a815119..3f37354 100644
  - a/src/main/java/com/example/Application.java
+++ b/src/main/java/com/example/Application.java
  -19,7 +19,7 @@ public class Application {
    public void init()
        Logger log = LoggerFactory.getLogger(Application.class);
    public String getStatus() {
  ita@DESKTOP-TELB@QT MINGN64 ~/Desktop/Dev_Ops_Assignment/git-exercises/src/main/java/com/example (bugfix)
$ git commit -m "Fix spelling error in Application.java"
[bugfix acc582d] Fix spelling error in Application.java
1 file changed, 1 insertion(+), 1 deletion(-)
   ta@DESKTOP-TELB@QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises/src/main/java/com/example (bugfix)
$ git push origin bugfix
Enumerating objects: 15, done.
Counting objects: 100% (15/15), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (8/8), 593 bytes | 197.00 KiB/s, done.
Total 8 (delta 2), reused 0 (delta 0), pack-reused 0
remote: To create a merge request for bugfix, visit:
remote: https://gitlab.com/first4722342/devops-master-class/-/merge_requests/new?merge_request%5Bsource_branch%5D=bugfix
 o gitlab.com:first4722342/devops-master-class.git
  [new branch] bugfix -> bugfix
  lita@DESKTOP-TELB&QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises/src/main/java/com/example (bugfix)
```

Fixing Bugs with a new Branch



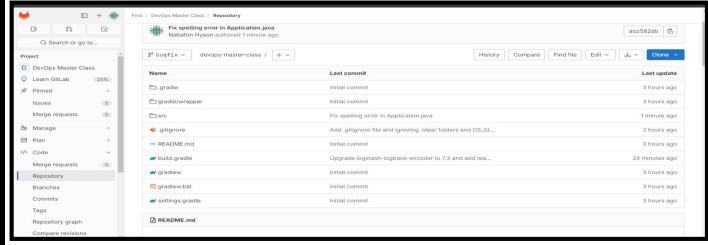
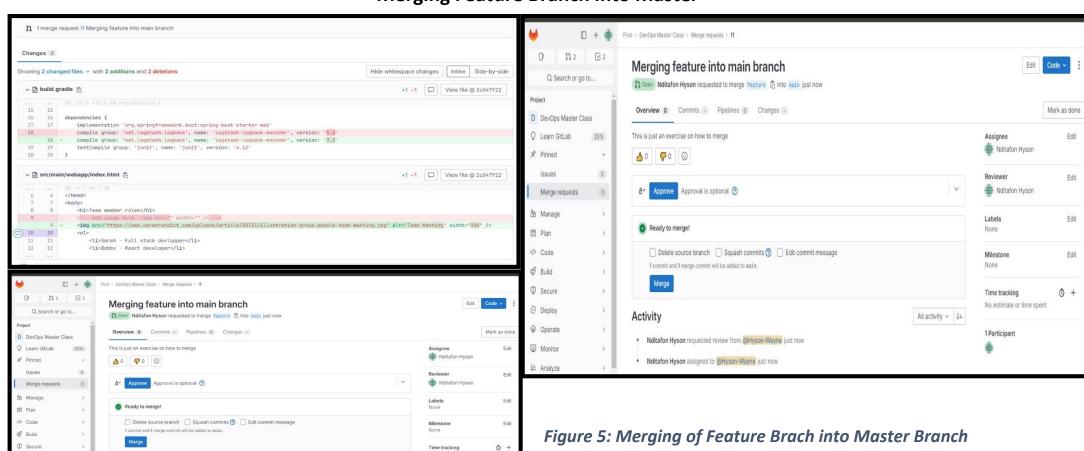


Figure 4: Git script for creating a new branch and correcting the spelling error (starte -> started) and results on Gitlab.

Exercise 5: Merge Request

Merging Feature Branch into Master



All activity ~ 1=

Deploy

Operate

Monitor

Activity

Nditafon Hyson requested review from @Hyson-Wayne just now

Nditafon Hyson assigned to @Hyson-Wayne just now

showing the changes and approval of the merge request.

Exercise 6: Fix Merge Conflict

Resolving Merge Conflicts

MINGW64:/c/Users/ndita/Desktop/Dev Ops Assignment/git-exercises lita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) \$ git checkout bugfix ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) \$ git commit -m "Merge main into bugfix branch" [bugfix c576962] Merge main into bugfix branch 1 file changed, 2 insertions(+), 2 deletions(-) lita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) ndita@DESKTOP-TELB&QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) \$ git commit -m "Merge main into bugfix branch" On branch bugfix nothing to commit, working tree clean dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) \$ git checkout main Switched to branch 'main build.gradle Your branch is up to date with 'origin/main'. dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) \$ vim build.gradle lotal 4 (uerte z), remote: remote: To create a merge request for bugfix, visit: remote: https://gitlab.com/first4722342/devops-master-class/-/merge_requests/new?merge_request%5Bsource_branch%5D=bugfix dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) To gitlab.com:first4722342/devops-master-class.git acc582d..c576962 bugfix -> bugfix ita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) \$ git checkout main Already on 'main' Your branch is up to date with 'origin/main'. First > DevOps Master Class > Repository Live Caption (Skip) (full-stop). Hold me dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) Merge main into bugfix branch Nditafon Hyson authored 2 minutes ago Already up to date. % bugfix ~ devops-master-class / + ~ Find file Edit V 🕹 V Clone ~ lita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) \$ git checkout bugfix Switched to branch 'bugfix' Name Last commit Last update build.gradle aradle. Initial commit 16 hours ago lita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) gradle/wrapper 16 hours ago \$ git merge main Merge made by the 'ort' strategy. Fix spelling error in Application.java dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) .gitignore Add .gitignore file and ignoring .idea/ folders and DS_St.. 14 hours ago M* README md Initial commit 16 hours ago fita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) w build.gradle Merge main into bugfix branch 2 minutes ago \$ git commit -m "Merge main into bugfix branch" [bugfix c576962] Merge main into bugfix branch 16 hours ago 1 file changed, 2 insertions(+), 2 deletions(-) aradlew.bat Initial commit 16 hours ago lita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix) \$ git commit -m "Merge main into bugfix branch" Initial commit 16 hours ago settings.gradle On branch bugfix othing to commit, working tree clean

Figure 6: Git script for resolving the merge conflict and the results on the remote repository.

Exercise 7: Revert Commit

Reverting and Fixing Mistakes

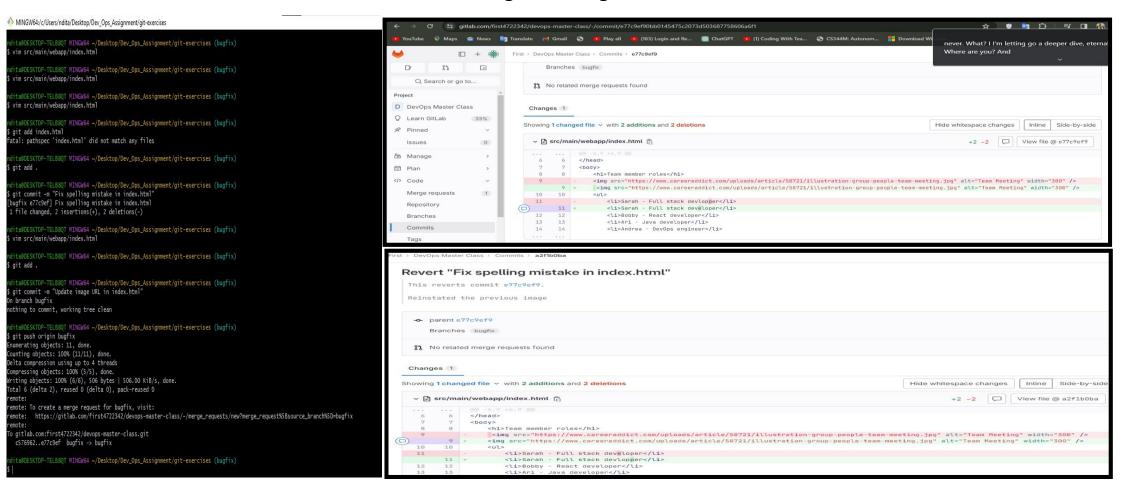


Figure 7: Git script for editing a file, reverting the changes and showing results on Gitlab.

Exercise 8: Reset Commit

Undoing a Local Commit

```
$ git reset --hard HEAD~1
HEAD is now at a2f1b0b Revert "Fix spelling mistake in index.html"
 dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)
$ git log
commit a2f1b0ba510ded782896536d41f857dc869ca02a (HEAD -> bugfix, origin/bugfix)
Author: Hyson-Wayne <nditafonhysonn@gmail.com>
Date: Sat Oct 21 14:49:44 2023 +0100
   Revert "Fix spelling mistake in index.html"
    This reverts commit e77c9ef90bb0145475c2073d503687758606a6f1.
   Reinstated the previous image
 ommit e77c9ef90bb0145475c2073d503687758606a6f1
Author: Hyson-Wayne <nditafonhysonn@gmail.com>
Date: Sat Oct 21 14:41:51 2023 +0100
   Fix spelling mistake in index.html
 ommit c576962004ab41fe16d910f976dc92cd8a74fcf6
Author: Hyson-Wayne <nditafonhysonn@gmail.com>
Date: Sat Oct 21 14:18:45 2023 +0100
   Merge main into bugfix branch
 ommit 57504e203dd2a1d8b30057e631d2a6200b2f4d4a
Merge: acc582d 2c047f2
Author: Hyson-Wayne <nditafonhysonn@gmail.com>
Date: Sat Oct 21 14:02:12 2023 +0100
   Merge branch 'main' into bugfix
   This is just an assignment for merging main into bugfix
 ommit 2c047f22e8babb3dea12fa060138ad07c8319c9b (origin/main, main)
Merge: c77e381 871b8e6
Author: Nditafon Hyson <nditafonhysonn@gmail.com>
Date: Sat Oct 21 08:59:43 2023 +0000
   Merge branch 'feature' into 'main'
   Merging feature into main branch
    See merge request first4722342/devops-master-class!1
  ommit acc582db094407f4341629a58b9d293689019257
```

lita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)

```
MINGW64:/c/Users/ndita/Desktop/Dev_Ops_Assignment/git-exercises
ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)
$ vim src/main/webapp/index.html
ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)
$ vim src/main/webapp/index.html
ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)
$ git add src/main/webapp/index.html
ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)
$ git commit -m "Fix Bruno's role in index.html"
[bugfix befc806] Fix Bruno's role in index.html
1 file changed, 1 insertion(+), 1 deletion(-)
ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (bugfix)
$ git log
commit befc80661235b0bc22c0e6146da2006193ce1277 (HEAD -> bugfix)
Author: Hyson-Wayne <nditafonhysonn@gmail.com>
Date: Sat Oct 21 18:06:50 2023 +0100
    Fix Bruno's role in index.html
```

Figure 8: Git script showing changes to Bruno(Role -> Devops Engineer) and Results after removing Bruno commit in the local repository.

Exercise 9: Merge

Merging without a Merge Request

MINGW64:/c/Users/ndita/Desktop/Dev_Ops_Assignment/git-exercises

```
dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
$ git checkout main
Already on 'main'
Your branch is up to date with 'origin/main'.
 dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
$ git pull origin main
From gitlab.com:first4722342/devops-master-class
  branch
                     main
                                -> FETCH_HEAD
Already up to date.
 dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
$ git merge bugfix
Already up to date.
 dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
$ git commit -m "Merge bugfix branch into master"
On branch main
Your branch is up to date with 'origin/main'.
nothing to commit, working tree clean
 dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
$ git push origin master
error: src refspec master does not match any
  rror: failed to push some refs to 'gitlab.com:first4722342/devops-master-class.git'
 ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
$ git push origin main
Everything up-to-date
 dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)
```

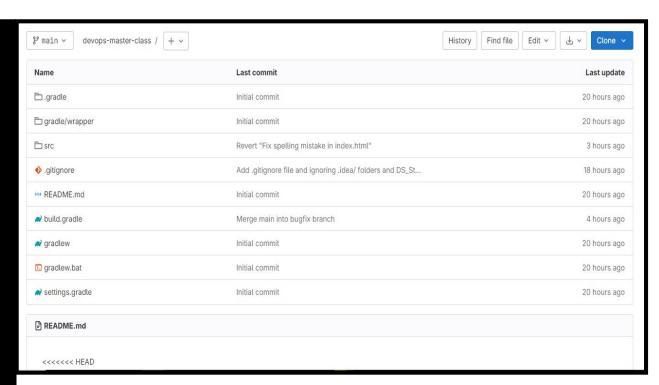


Figure 9: Git script for merging bugfix branch into main branch and results on Gitlab.

Exercise 10: Delete Branches

Cleaning Up Branches Locally and Remotely

Clone

MINGW64:/c/Users/ndita/Desktop/Dev_Ops_Assignment/git-exercises First > DevOps Master Class > Repository dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) \$ git branch -d feature Revert "Fix spelling mistake in index.html" ... Deleted branch feature (was 871b8e6). a2f1b0ba Nditafon Hyson authored 3 hours ago ndita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) % main ~ devops-master-class / + ~ History Find file \$ git branch -d bugfix Deleted branch bugfix (was a2f1b0b). Select Git revision Last commit Last upda Q Search by Git revision dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) Initial commit 20 hours a \$ git branch -D bugfix Branches 1 Initial commit 20 hours a error: branch 'bugfix' not found. ✓ main default □ STC Revert "Fix spelling mistake in index.html" 3 hours a dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) gitignore Add .gitignore file and ignoring .idea/ folders and DS_St.. 18 hours a \$ git push origin --delete feature M# README.md Initial commit 20 hours a To gitlab.com:first4722342/devops-master-class.git [deleted] w build.gradle Merge main into bugfix branch 4 hours a gradlew Initial commit 20 hours ag dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) \$ git push origin --delete bugfix gradlew.bat Initial commit 20 hours a To gitlab.com:first4722342/devops-master-class.git settings.gradle Initial commit 20 hours a [deleted] bugfix README.md dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) <<<<<< HEAD dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main) Figure 10: Git script for deleting the feature and bugfix branch and showing \$ git ls-remote --heads origin results locally and remotely. a2f1b0ba510ded782896536d41f857dc869ca02a refs/heads/main

dita@DESKTOP-TELB8QT MINGW64 ~/Desktop/Dev_Ops_Assignment/git-exercises (main)