



# Git and Github Tutorial

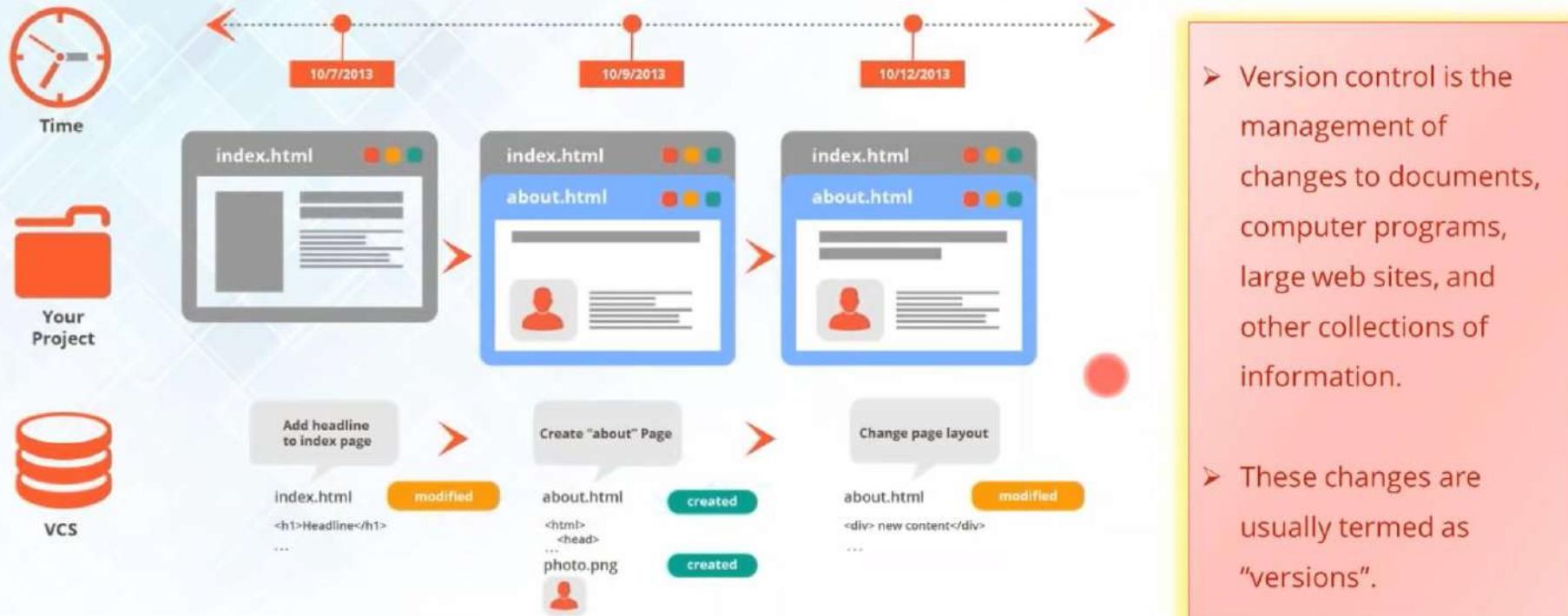
# Agenda:

- Version Control – What & Why?
- Version Control Tools
- GitHub & Git
- Case Study: Dominion Enterprises
- Git Features
- Git Operations & Commands



# Version Control System

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# Why Version Control?

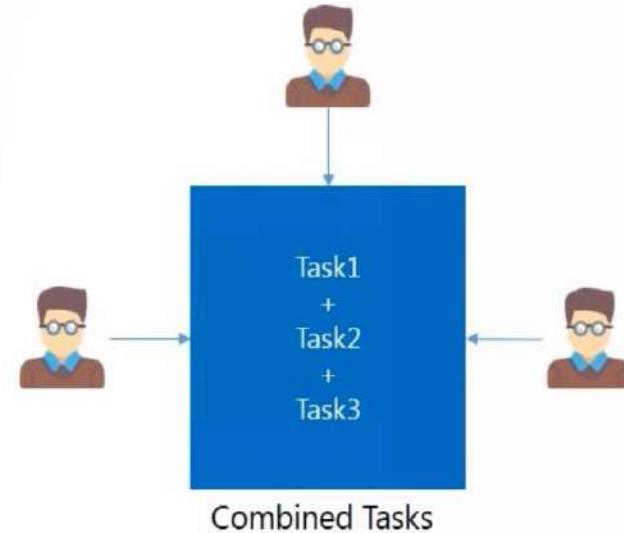


# Collaboration

Before



After



# Storing Versions

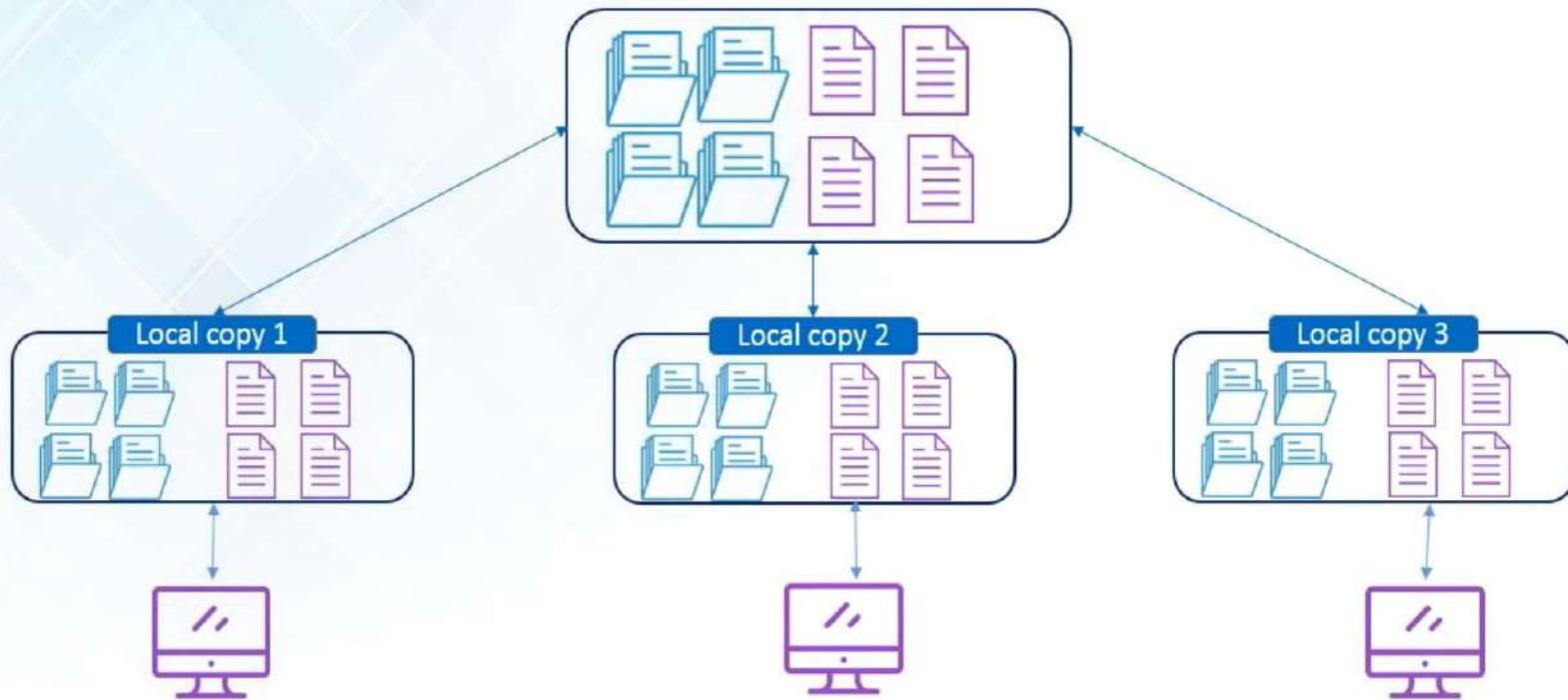
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- Snapshots of all versions are properly documented and stored.
- Versions are also named accurately.



# Backup

In any case if your central server crashes, a backup is always available in your local servers.



# Analyze

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When you change version -

- VCS provides you with proper description
- What exactly was changed
- When it was changed

And hence, you can analyze how your project evolved between versions.



# Version Control Tools

# Version Control System Tools

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# Interest Over Time Graph

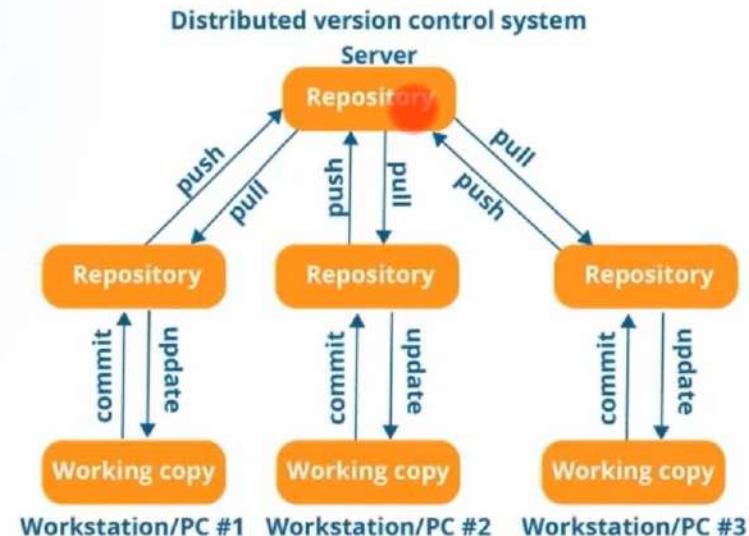
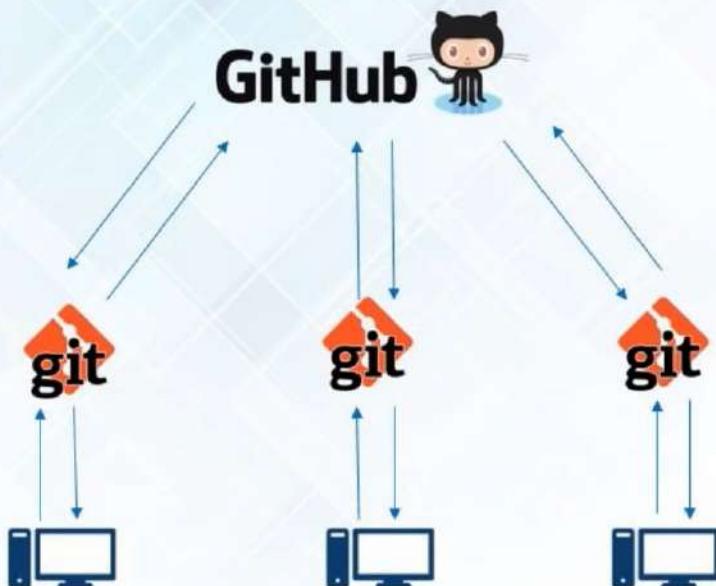
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# Git & GitHub

# Git & GitHub

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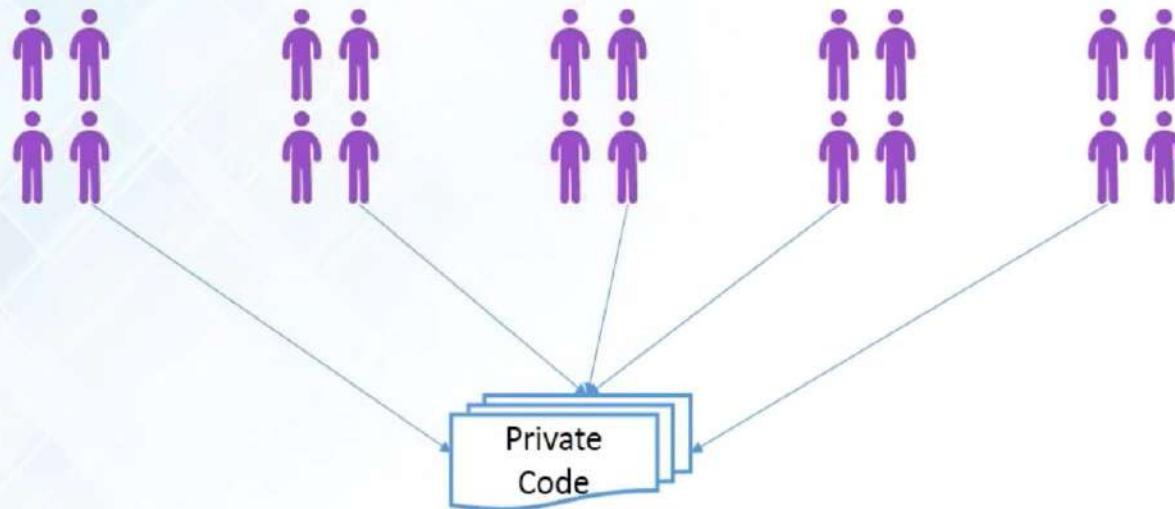
# GitHub Case Study: Dominion Enterprises

# Dominion Enterprises Case-Study

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## Problem Statement:

Each team has its own goals, projects, and budgets and they also have Unique needs and workflows



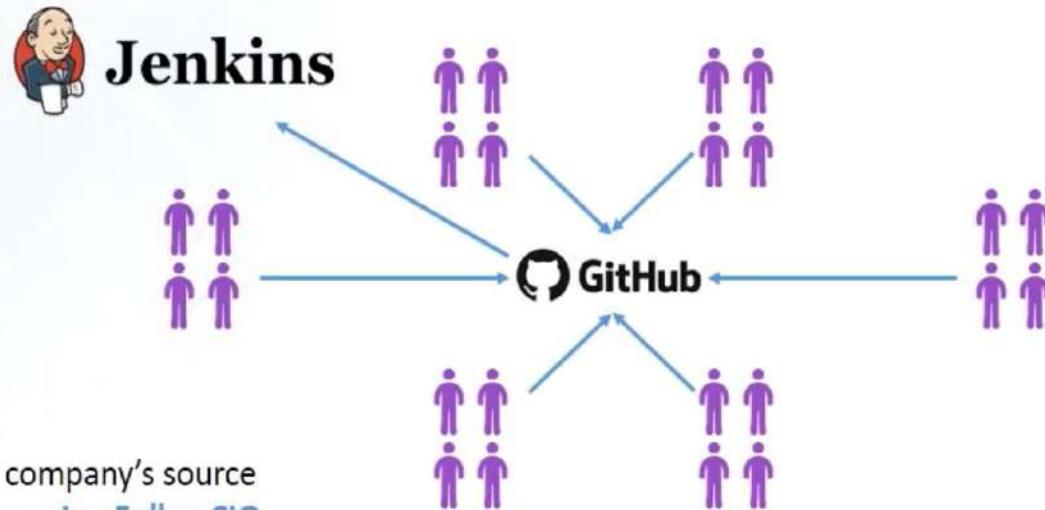
They wanted to make private code “publicly” to make their work more transparent across the company

# Dominion Enterprises Case-Study

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Reason for using GitHub as the solution:

- They noticed that few of the teams were already using GitHub. Adopting a familiar platform has also made onboarding easier for new employees.
- Having all of their code in one place makes it easier for them to collaborate on projects.



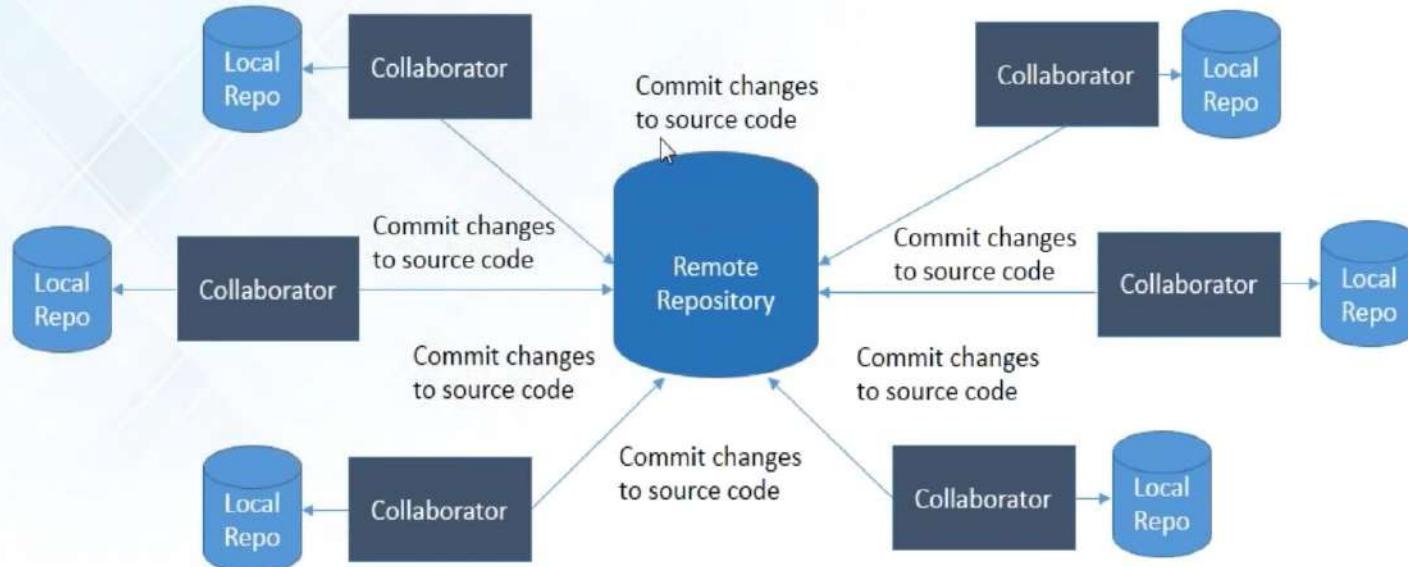
GitHub Enterprise has allowed us to store our company's source code in a central, corporately controlled system. - **Joe Fuller, CIO**

# What is Git?

# What is Git?



Git is a Distributed Version Control tool that supports distributed non-linear workflows by providing data assurance for developing quality software.



# Features of Git

# Features of Git

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Distributed



Compatible



Non-linear



Branching



Lightweight



Speed



Open Source



Reliable



Secure



Economical

# Features of Git

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Distributed



Compatible



Non-linear



Branching



Lightweight



Spe

- Allows distributed development of code.
- Every developer has a local copy of the entire development history and changes are copied from one repository to another.

# Features of Git

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Compatible



Non-linear



Branching



Lightweight



Speed



Open S

- Compatible with existing systems & protocols.
- SVN & SVK repositories can be directly accessed using Git-SVN.

# Features of Git

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Compatible



Non-linear



Branching



Lightweight



Speed



Open S

- Compatible with existing systems & protocols.
- SVN & SVK repositories can be directly accessed using Git-SVN.

# Features of Git

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Non-linear



Branching



Lightweight



Speed



Open Source



Reliable

- Supports non-linear development of software.
- Includes various techniques to navigate & visualize non-linear development history.

# Features of Git

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Branching



Lightweight



Speed



Open Source



Reliable



Secure

- It takes only a few seconds to create & merge branches.
- Master branch always contains production quality code.

# Features of Git

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Lightweight



Speed



Open Source



Reliable



Secure



Economic

- Uses lossless compression technique to compress data on the client's side.

# Features of Git

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Lightweight



Speed



Open Source



Reliable



Secure



Economic

- Fetching data from local repository is 100 times faster than remote repository.
- GIT is one order of magnitude faster than other VCS tools.

# Features of Git

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Lightweight



Speed



Open Source



Reliable



Secure



Economic

- You can modify its source code according to your needs.

# Features of Git

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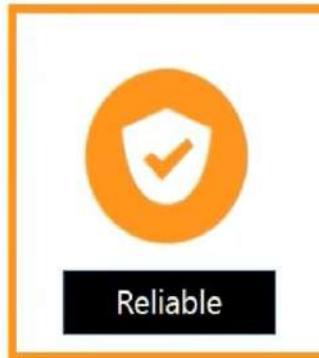
Lightweight



Speed



Open Source



Reliable



Secure



Economic

- On events of system crash, the lost data can be easily recovered from any of the local repositories of the collaborators.

# Features of Git

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Lightweight



Speed



Open Source



Reliable



Secure



Economic

- Uses SHA1 to name and identify objects.
- Every file & commit is checksummed and is retrieved by its checksum at time of checkout.

# Features of Git

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Lightweight



Speed



Open Source



Reliable



Secure



Economical

- Released under GPL's license. It is for free.
- All heavy lifting is done on client-side, hence a lot of money can be saved on costly servers.

# What is a Repository?

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A directory or storage space where your projects can live. It can be local to a folder on your computer, or it can be a storage space on GitHub or another online host. You can keep code files, text files, image files, you name it, inside a repository.

There are two types of repositories:

1. Central Repository
2. Local Repository

# Central & Local Repository

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## Central Repository



Typically located on remote server



Exclusively consists of ".git" repository folder



Meant for team to share and exchange data



## Local Repo



## CENTRAL REPOSITORY

**GitHub**



## Local Repo



## Local Repo

## Local Repository



Typically located on local machine



Resides as a ".git" folder inside your project's root

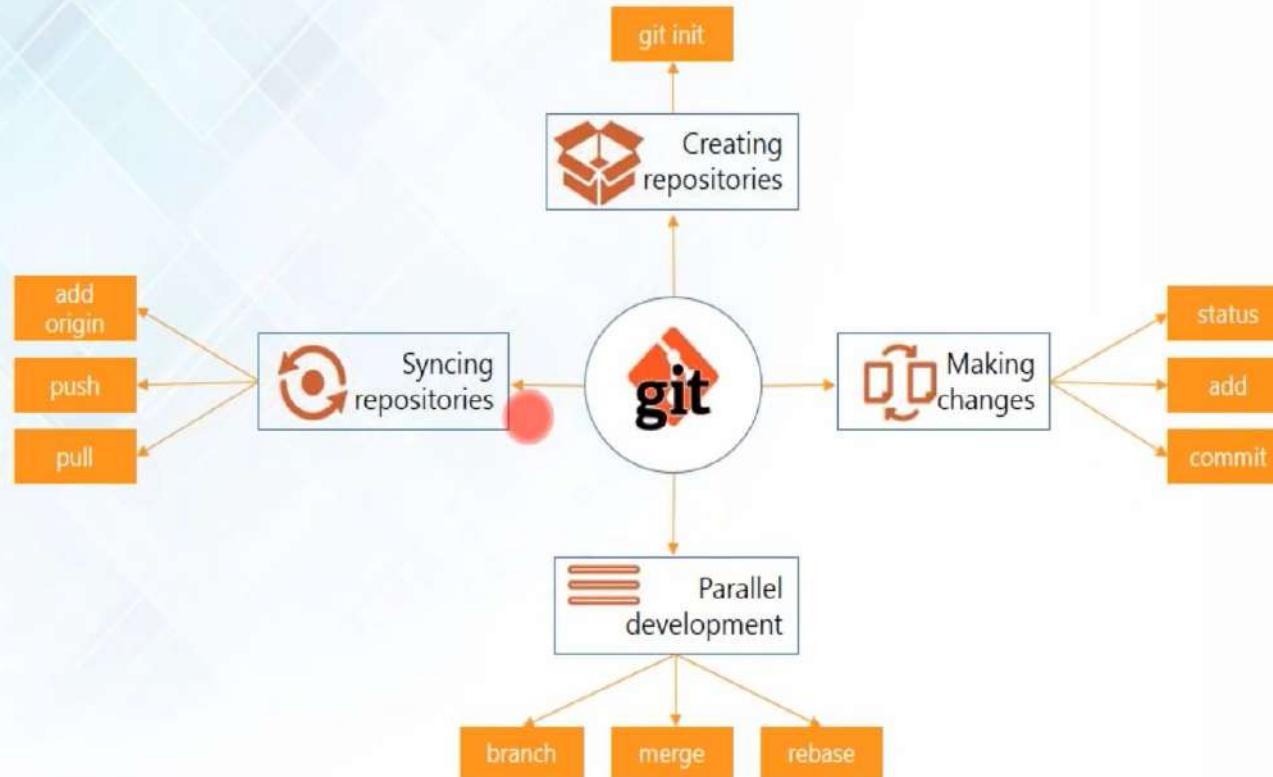


Only admin of the machine can work with this repo.

# Git Operations & Commands

# Git Operations & Commands

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# Creating Repositories

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Create your Central Repository on GitHub



git init

Install Git on your local machine and use “git init” to create your local repository.

OR

git clone

Download or clone your repository from GitHub.

- Create Repo
- Syncing Repos
- Making Changes
- Parallel Development
- Branching
- Merging
- Rebasing
- Git Flow



Personal Open source Business Explore

Pricing Blog Support

Search GitHub

Sign in

Sign up

# How people build software

Millions of developers use GitHub to build personal projects, support their businesses, and work together on open source technologies.

 Pick a username Your email address Create a password

Use at least one letter, one numeral, and seven characters.

[Sign up for GitHub](#)

By clicking "Sign up for GitHub", you agree to our [terms of service](#) and [privacy policy](#). We'll occasionally send you account related emails.

GitHub Reshma

GitHub, Inc. [US] | https://github.com

Search GitHub

Pull requests Issues Gist

+

Learn Git and GitHub without any code!

Using the Hello World guide, you'll create a repository, start a branch, write comments, and open a pull request.

[Read the guide](#) [Start a project](#)



Discover interesting projects and people to populate your personal news feed.

Your news feed helps you keep up with recent activity on repositories you watch and people you follow.

[Explore GitHub](#)

 Filter pull request reviews and review requests X

You can now filter pull requests by review status and requests for your review.

[View 5 new broadcasts](#)

Your repositories 3 [New repository](#)

All Public Private Sources Forks

SUBS

Create a New Repository X Reshma

GitHub, Inc. [US] | https://github.com/new

Search GitHub Pull requests Issues Gist

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner Repository name

Reyshmaa / git-github ✓

Great repository names are short and memorable. Need inspiration? How about automatic-potato.

Description (optional)

Public Anyone can see this repository. You choose who can commit.

Private You choose who can see and commit to this repository.

Initialize this repository with a README

This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: None Add a license: None ⓘ

Create repository

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Reyshmaa/git-github Reshma X

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github

This repository Search Pull requests Issues Gist + ⌂

Reyshmaa / git-github Watch 0 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Pulse Graphs Settings

No description or website provided. Edit

1 commit 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

Reyshmaa Initial commit Latest commit 102ed86 just now

README.md Initial commit just now

README.md

git-github

Editing git-github/READY X Reshma

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github/edit/master/README.md

This repository Search Pull requests Issues Gist + ⌂ ⌂

Reyshmaa / git-github Watch 0 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Pulse Graphs Settings

git-github / README.md or cancel

Edit file Preview changes Spaces 2 Soft wrap

```
1 # git-github
2 This is for tutorial purpose .
```



## Commit changes

Update README.md

Add an optional extended description...

- Commit directly to the `master` branch.
- Create a new branch for this commit and start a pull request. Learn more about pull requests.

**Commit changes**

Cancel



This repository

Search

Pull requests Issues Gist

+ ↗

Reyshmaa / git-github

Watch 0

Star 0

Fork 0

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Pulse

Graphs

Settings

Branch: master ▾

git-github / README.md

Find file Copy path

Reyshmaa Update README.md

ce8ec6f just now

1 contributor

3 lines (2 sloc) | 44 Bytes

Raw Blame History



# git-github

This is for tutorial purpose .

Computer > Local Disk (C:) >

Organize Share with New folder

Favorites

- Desktop
- Downloads
- OneDrive
- Recent Places

Libraries

- Documents
- Music
- Pictures
- Videos

Computer

- Local Disk (C:)
- Local Disk (D:)
- Local Disk (E:)

Network

11 items

Search Local Disk (C:)

Name Date modified Type Size

Name	Date modified	Type	Size
Intel	12/9/2016 1:07 PM	File folder	
PerfLogs	7/14/2009 8:50 AM	File folder	
Program Files	12/9/2016 1:07 PM	File folder	
Program Files (x86)	12/19/2016 10:59 ...	File folder	
ProgramData	11/15/2016 3:27 PM	File folder	
rey	10/26/2016 2:53 PM	File folder	
sdf	1/25/2017 9:05 AM	File folder	
Users	12/14/2016 5:19 PM	File folder	
Windows	1/21/2017 11:32 AM	File folder	
GingerSetup	12/8/2016 6:40 PM	Text Document	8 KB
GingerSetupHelper	12/8/2016 6:40 PM	Text Document	6 KB

View Sort by Group by Refresh

Paste Paste shortcut

Undo Rename **Ctrl+Z**

Git GUI Here

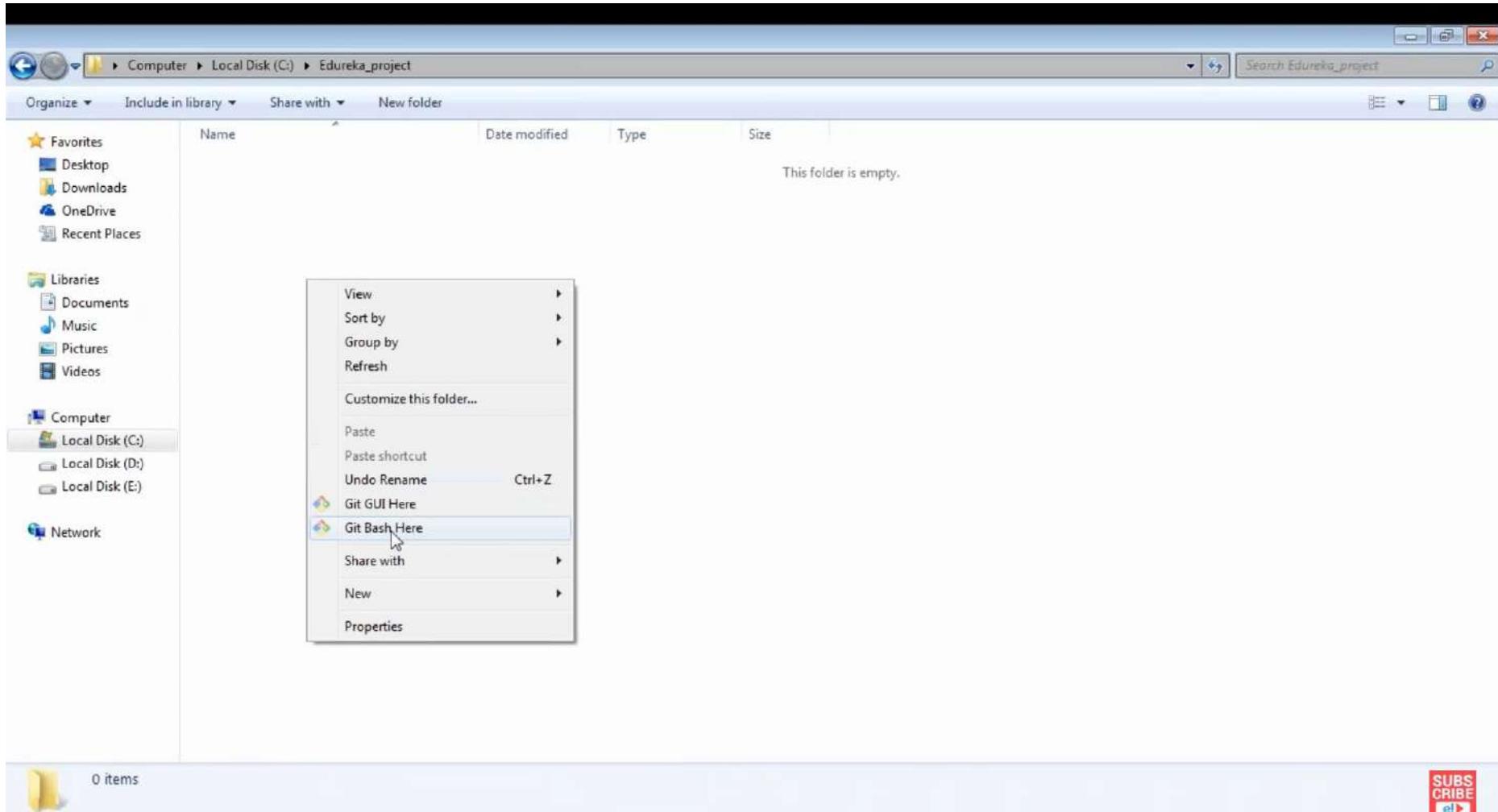
Git Bash Here

Share with

New Folder

Properties

The screenshot shows a Windows File Explorer window with the path 'Computer > Local Disk (C:) >'. The 'GingerSetup' folder is selected, and a context menu is open over it. The menu includes options like 'View', 'Sort by', 'Group by', 'Refresh', 'Paste', 'Paste shortcut', 'Undo Rename' (with a keyboard shortcut 'Ctrl+Z'), and two custom entries: 'Git GUI Here' and 'Git Bash Here'. Below these are standard Windows context menu items: 'Share with', 'New' (with a submenu item 'Folder' highlighted), and 'Properties'. The status bar at the bottom left shows '11 items'. A red 'SUBSCRIBE' button is visible in the bottom right corner.



MINGW64:/c/Edureka\_project

Reshma@Edureka83 MINGW64 /c/Edureka\_project  
\$

I



MINGW64:/c/Edureka\_project

```
Reshma@Edureka83 MINGW64 /c/Edureka_project
$ git init
```



MINGW64:/c/Edureka\_project

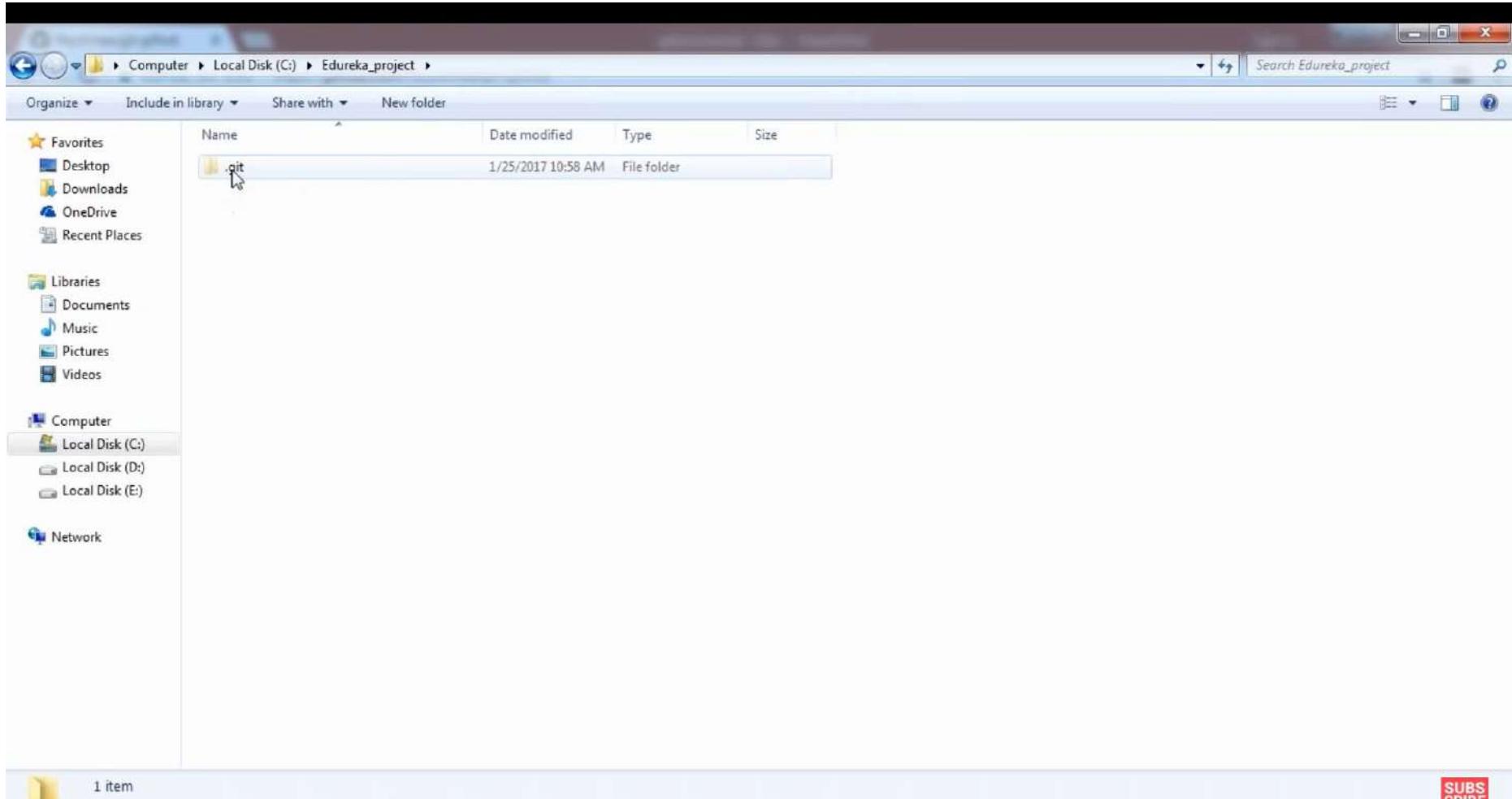
Reshma@Edureka83 MINGW64 /c/Edureka\_project

\$ git init

Initialized empty Git repository in c:/Edureka\_project/.git/

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$



Computer > Local Disk (C:) > Edureka\_project > .git >

Organize ▾ Include in library ▾ Share with ▾ New folder

Favorites

- Desktop
- Downloads
- OneDrive
- Recent Places

Libraries

- Documents
- Music
- Pictures
- Videos

Computer

- Local Disk (C:)
- Local Disk (D:)
- Local Disk (E:)

Network

Name	Date modified	Type	Size
hooks	1/25/2017 10:58 AM	File folder	
info	1/25/2017 10:58 AM	File folder	
objects	1/25/2017 10:58 AM	File folder	
Date created: 1/25/2017 10:58 AM	1/25/2017 10:58 AM	File folder	
Folders: info, pack	1/25/2017 10:58 AM	File	1 KB
description	1/25/2017 10:58 AM	File	1 KB
HEAD	1/25/2017 10:58 AM	File	1 KB

7 items

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# Syncing Repositories

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- Create Repo
- Syncing Repos
- Making Changes
- Parallel Development
- Branching
- Merging
- Rebasing
- Git Flow



- Use '**git add origin <link>**' to add remote repo.
- Pull files with '**git pull**'
- Push your own changes into central repo with '**git push**'

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git remote add origin "https://github.com/Reyshmaa/git-github.git"
```

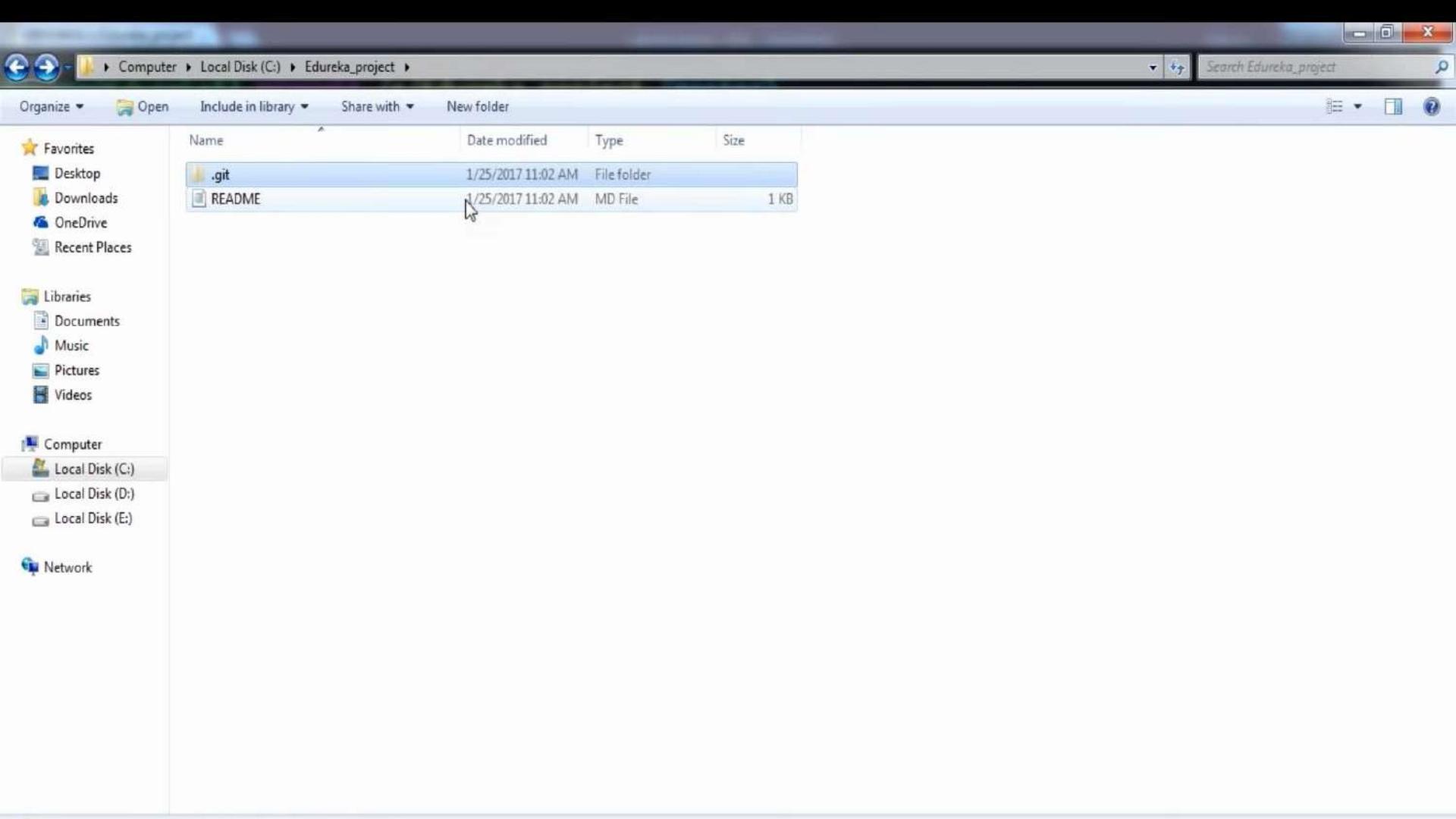
```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git remote add origin "https://github.com/Reyshmaa/git-github.git"

Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git pull origin master
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git remote add origin "https://github.com/Reyshmaa/git-github.git"
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git pull origin master
remote: Counting objects: 6, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), done.
From https://github.com/Reyshmaa/git-github
 * branch           master      -> FETCH_HEAD
 * [new branch]     master      -> origin/master
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```



# Syncing Repositories

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- Create Repo
- **Syncing Repos**
- Making Changes
- Parallel Development
- Branching
- Merging
- Rebasing
- Git Flow



- Use '**git add origin <link>**' to add remote repo.
- Pull files with '**git pull**'
- Push your own changes into central repo with '**git push**'

# Making Changes

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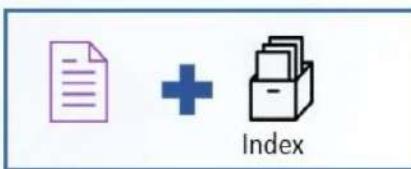
- Create Repo
- Syncing Repos
- **Making Changes**
- Parallel Development
- Branching
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- Git Flow

git status



- Tells you which files are added to index and are ready to commit.

git add



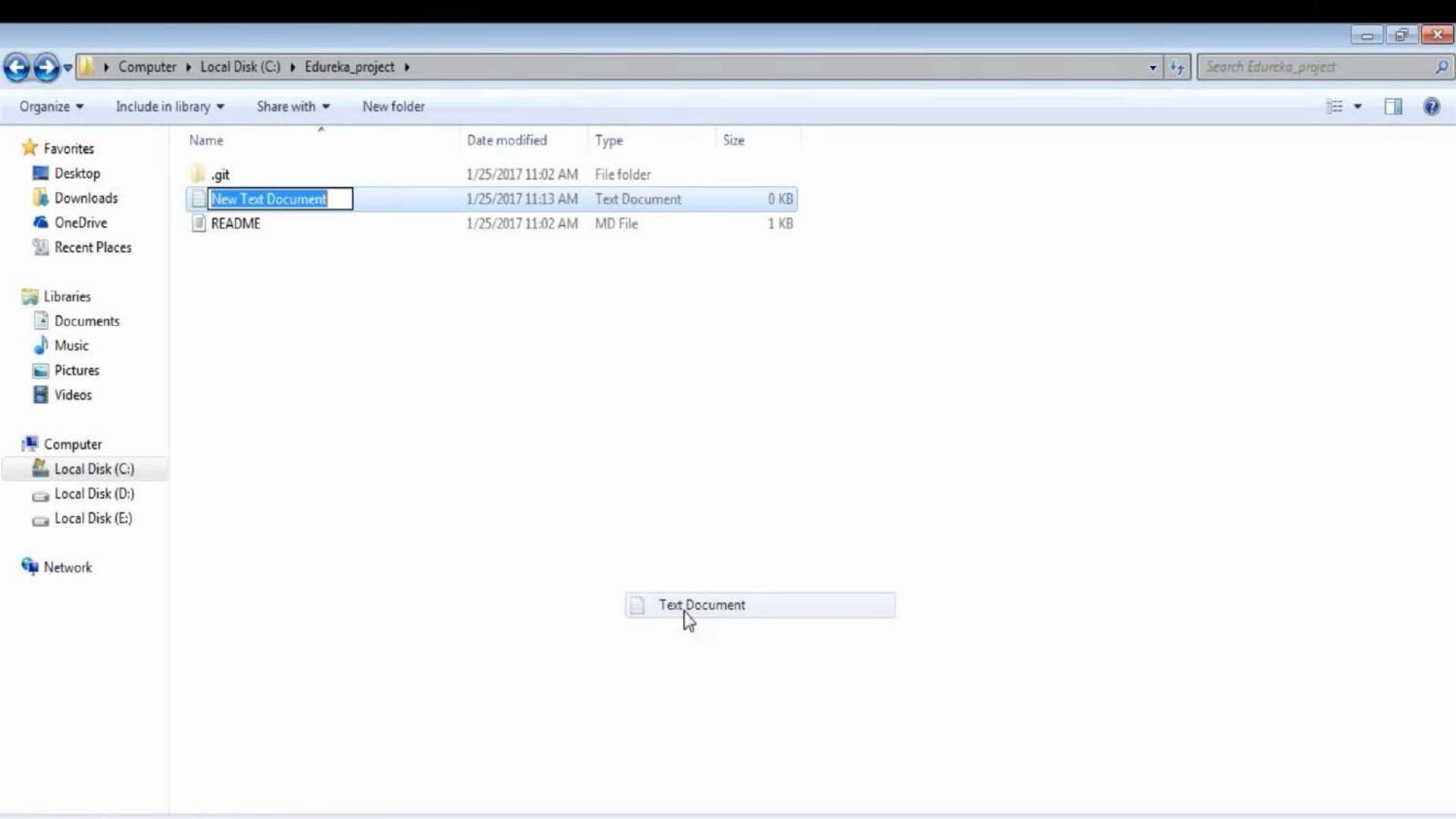
- Lets you add files to your index.

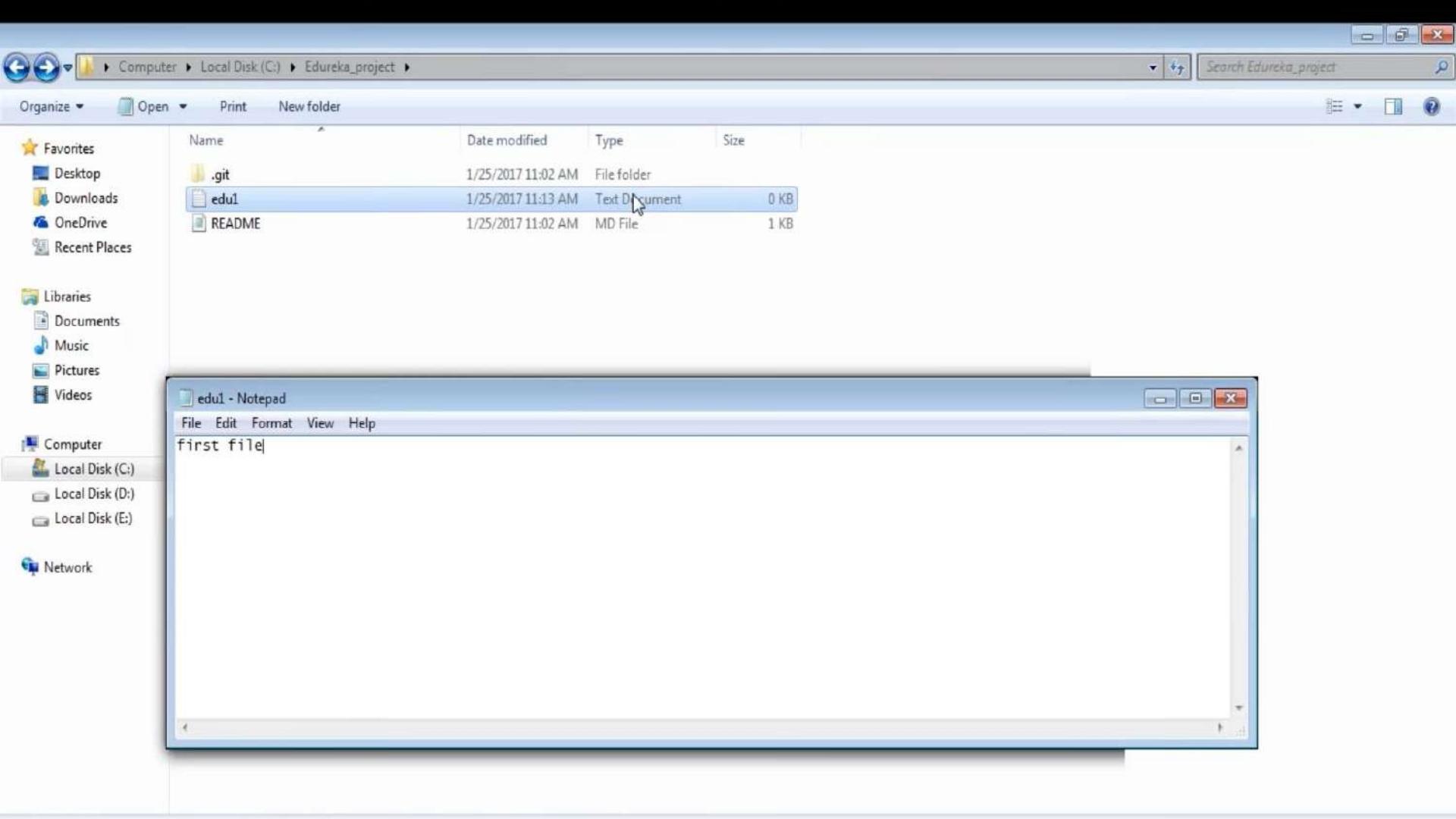
git commit

Commit

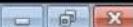


- It refers to recording snapshots of the repository at a given time.
- Committed snapshots will never change unless done explicitly.





MINGW64:/c/Edureka\_project



```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git status
```

MINGW64:/c/Edureka\_project

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)

    edu1.txt
```

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

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git status
On branch master
Untracked files:
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```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git add edu1.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```

MINGW64:/c/Edureka\_project

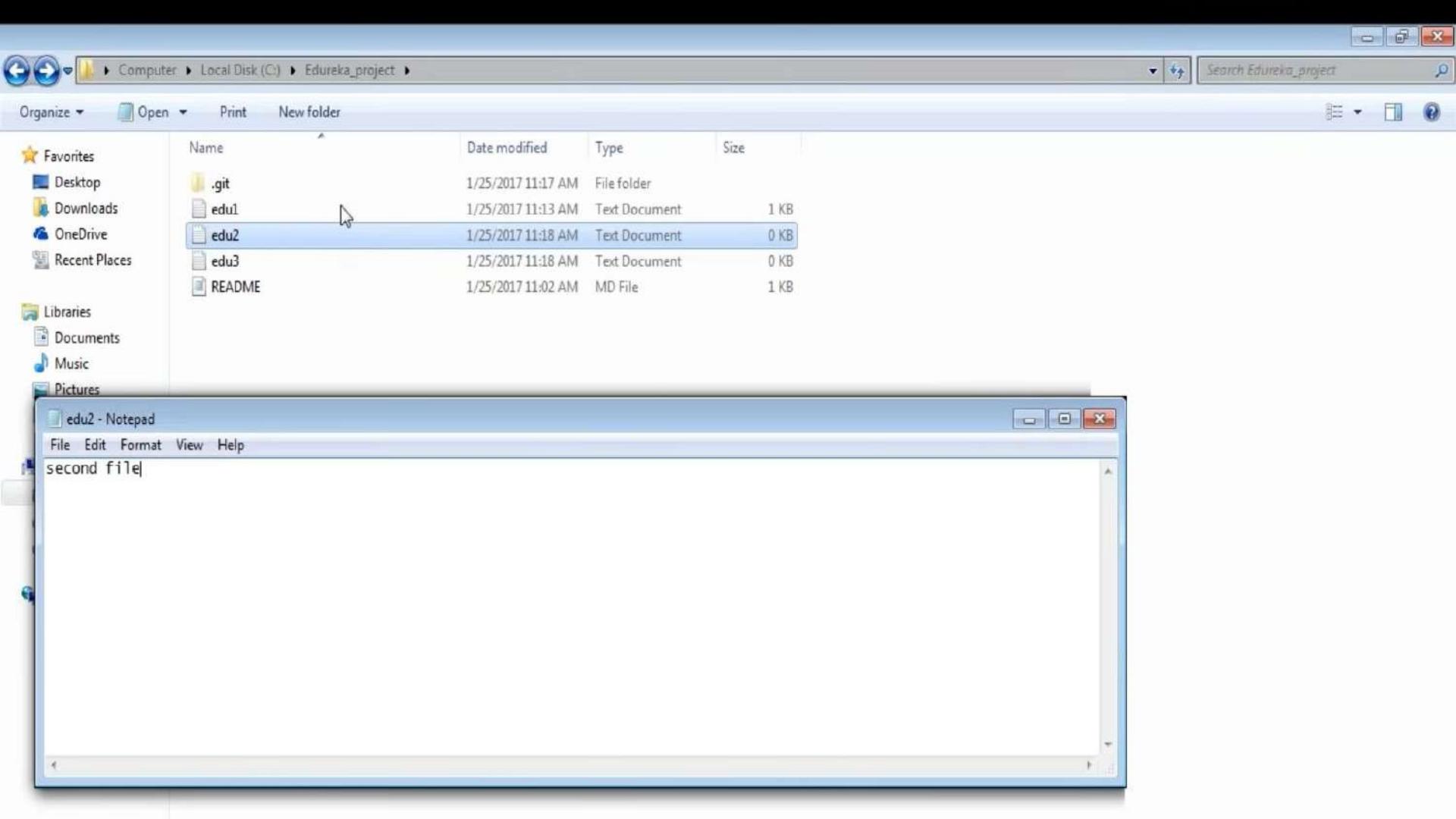
```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

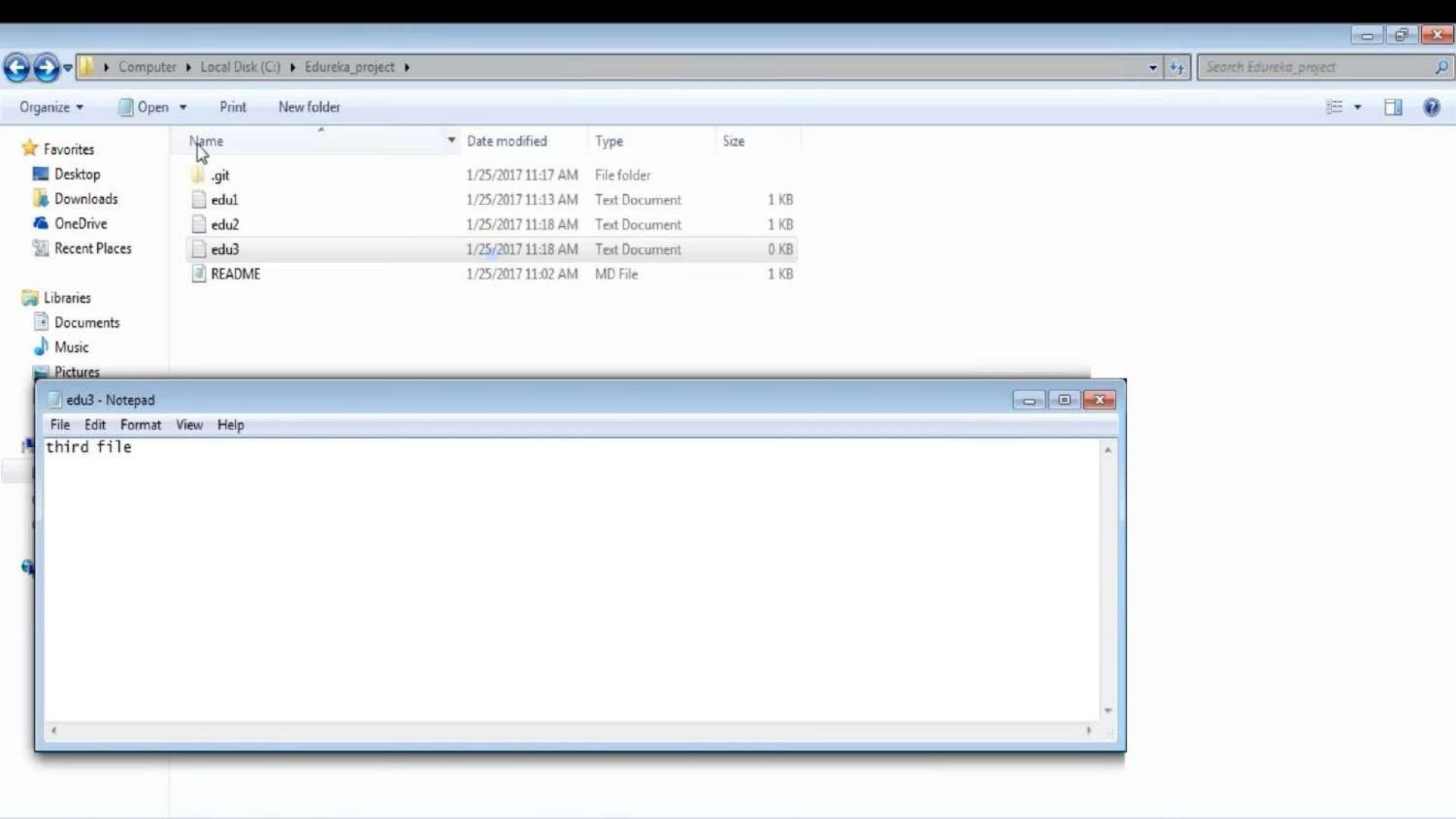
    new file:   edul.txt
```

```
I
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```

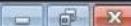
```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git commit -m "adding first commit in local repo"
[master 74106d4] adding first commit in local repo
 1 file changed, 1 insertion(+)
 create mode 100644 edul.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$
```





MINGW64:/c/Edureka\_project



Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$ git status

On branch master

Untracked files:

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

edu2.txt

edu3.txt

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

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$ |

MINGW64:/c/Edureka\_project

```
$ git status
on branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)

    edu2.txt
    edu3.txt
```

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

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

```
$ git status
on branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    modified:   edu1.txt
```

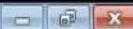
Untracked files:
 (use "git add <file>..." to include in what will be committed)

```
    edu2.txt
    edu3.txt
```

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

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

MINGW64:/c/Edureka\_project



```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git add -A
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git st|
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git commit -a -m "adding 3 files together"
[master 6b5b8e4] adding 3 files together
 3 files changed, 3 insertions(+), 1 deletion(-)
 create mode 100644 edu2.txt
 create mode 100644 edu3.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$
```



```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ git log
```

```
commit 6b5b8e42d10da93d658970e23a933de1127c160b
```

```
Author: Reshma Ahmed <reshma@edureka.co>
```

```
Date: Wed Jan 25 11:21:03 2017 +0530
```

```
adding 3 files together
```

```
commit 74106d4fae358400fb232b9d485f0b11a621eeb1
```

```
Author: Reshma Ahmed <reshma@edureka.co>
```

```
Date: Wed Jan 25 11:17:45 2017 +0530
```

```
adding first commit in local repo
```

```
commit ce8ec6f1a7ec1f01202194ef107d20e72c9a8df4
```

```
Author: Reышмаа <reyshma123@gmail.com>
```

```
Date: Wed Jan 25 10:55:48 2017 +0530
```

```
Update README.md
```

```
commit 102ed8647cc97b5337a94fc148edea9578c7a3b
```

```
Author: Reышмаа <reyshma123@gmail.com>
```

```
Date: Wed Jan 25 10:54:46 2017 +0530
```

```
Initial commit
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

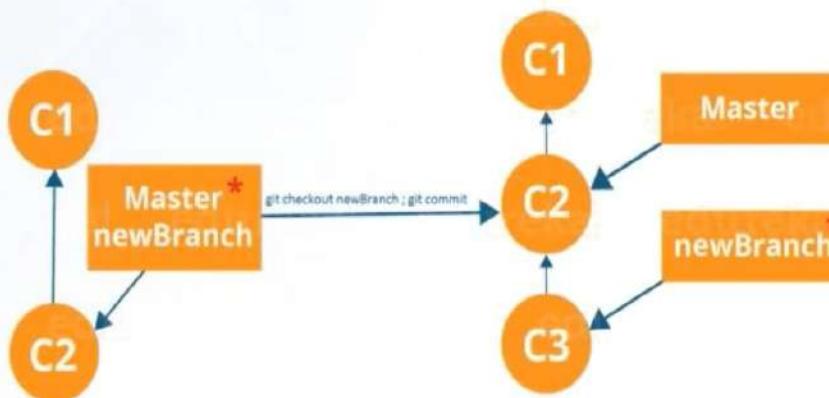
```
$
```

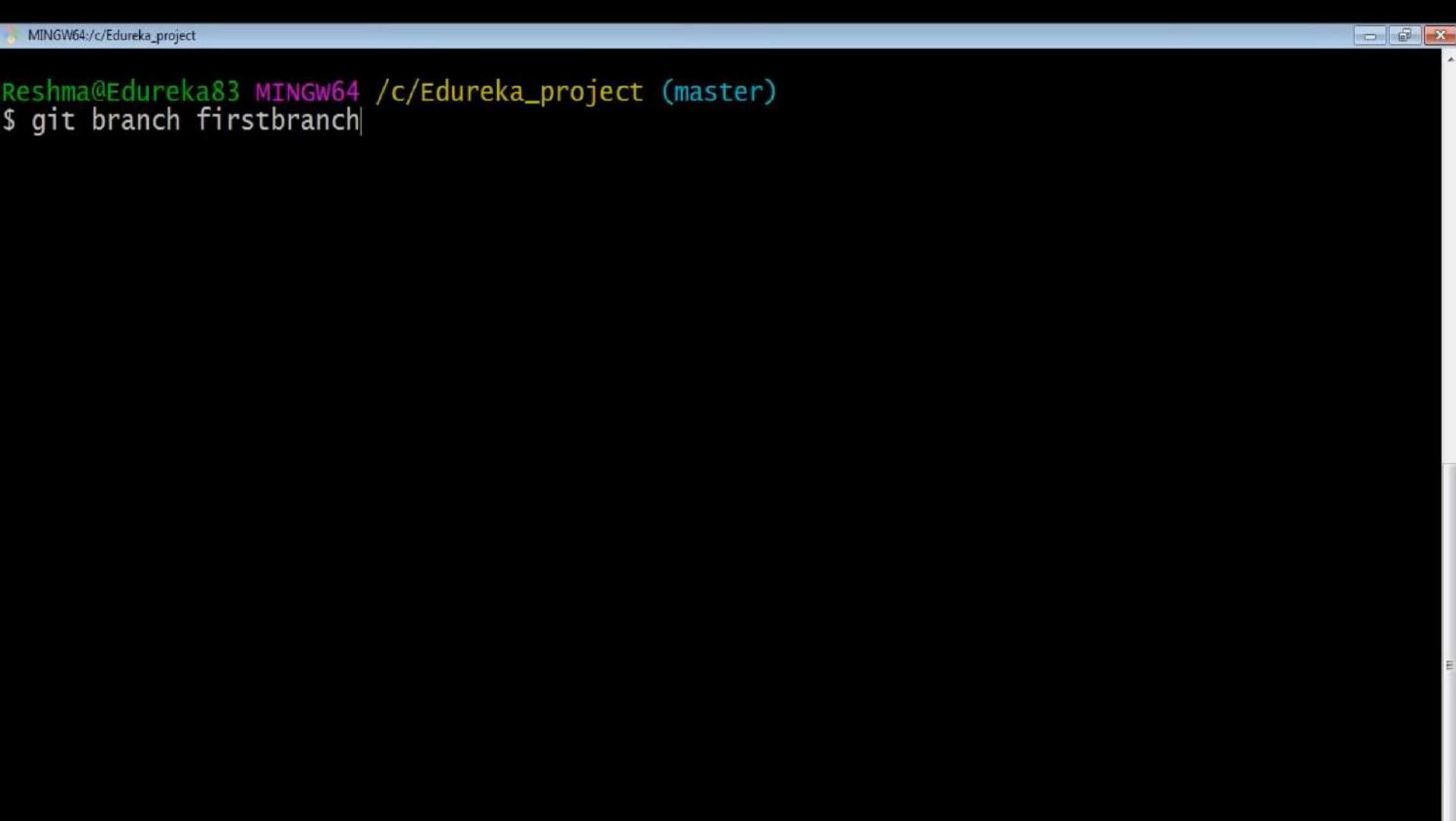
# Parallel Development - Branching

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- Branches are pointers to a specific commit.
- Branches are of two types:
  - Local branches
  - Remote-tracking branches

- Create Repo
- Syncing Repos
- Making Changes
- **Parallel Development**
- Branching
- Merging
- Rebasing
- Git Flow





MINGW64:/c/Edureka\_project

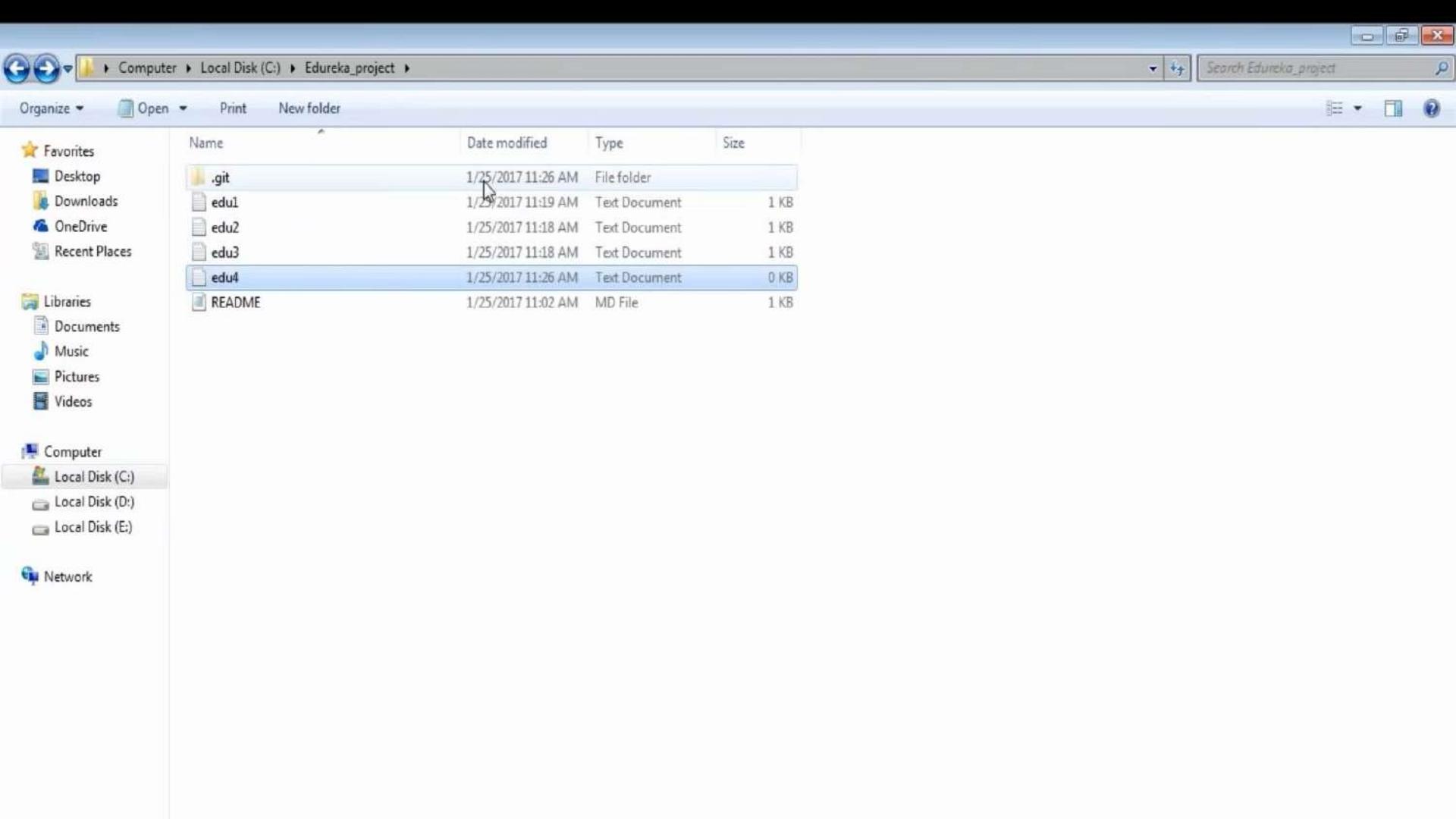
Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)  
\$ git branch firstbranch|

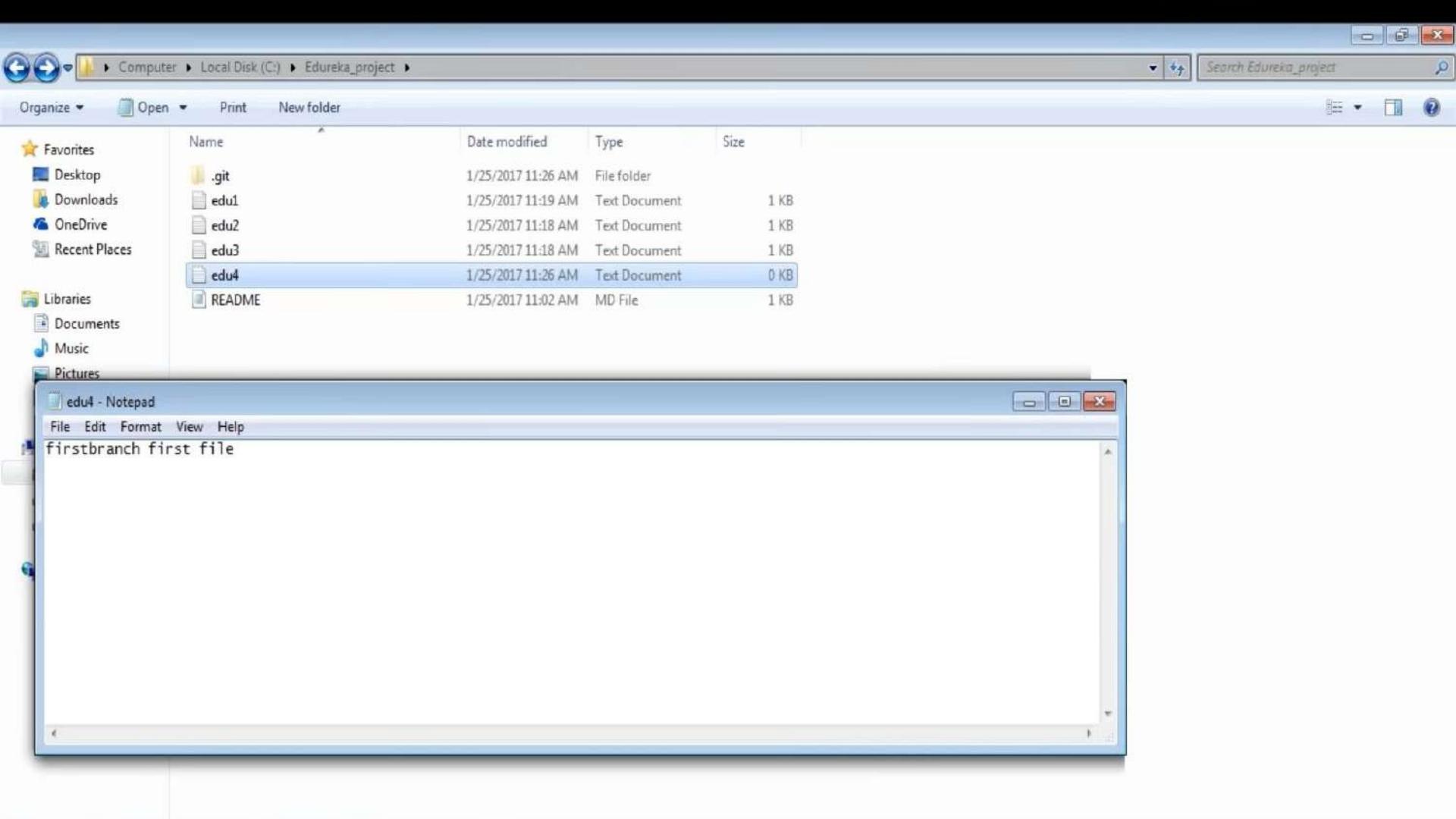
MINGW64:/c/Edureka\_project

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)  
\$ git branch firstbranch

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)  
\$ git checkout firstbranch  
Switched to branch 'firstbranch'

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)  
\$ |





```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git branch firstbranch
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git checkout firstbranch
Switched to branch 'firstbranch'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git add edu4.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git branch firstbranch
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git checkout firstbranch
Switched to branch 'firstbranch'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git add edu4.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git commit -m "making changes in firstbranch"
[firstbranch 418a63c] making changes in firstbranch
 1 file changed, 1 insertion(+)
 create mode 100644 edu4.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ ls
edu1.txt  edu2.txt  edu3.txt  edu4.txt  README.md
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$
```

MINGW64:/c/Edureka\_project

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ ls
edu1.txt  edu2.txt  edu3.txt  edu4.txt  README.md
```

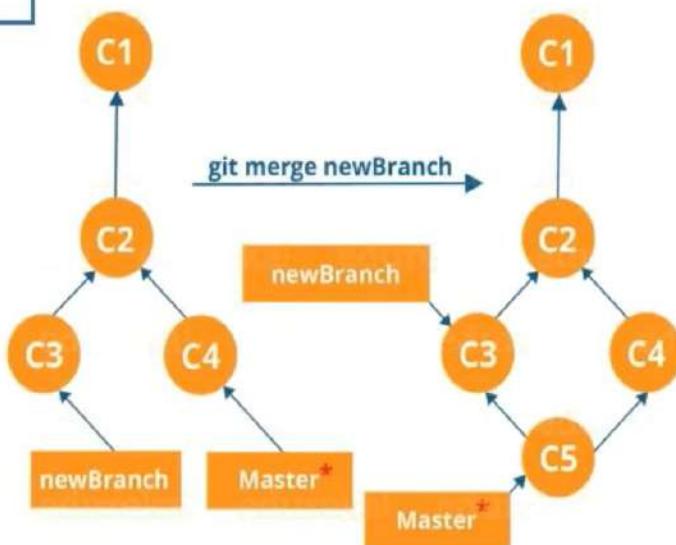
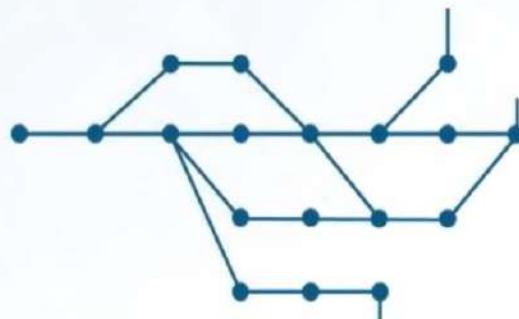
```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git checkout master
Switched to branch 'master'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```

# Parallel Development - Merging

edureka!

- It is a way to combine the work of different branches together.
  - Allows to branch off, develop a new feature & combine it back in.



```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git merge firstbranch
Updating 6b5b8e4..418a63c
Fast-forward
 edu4.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 edu4.txt
```

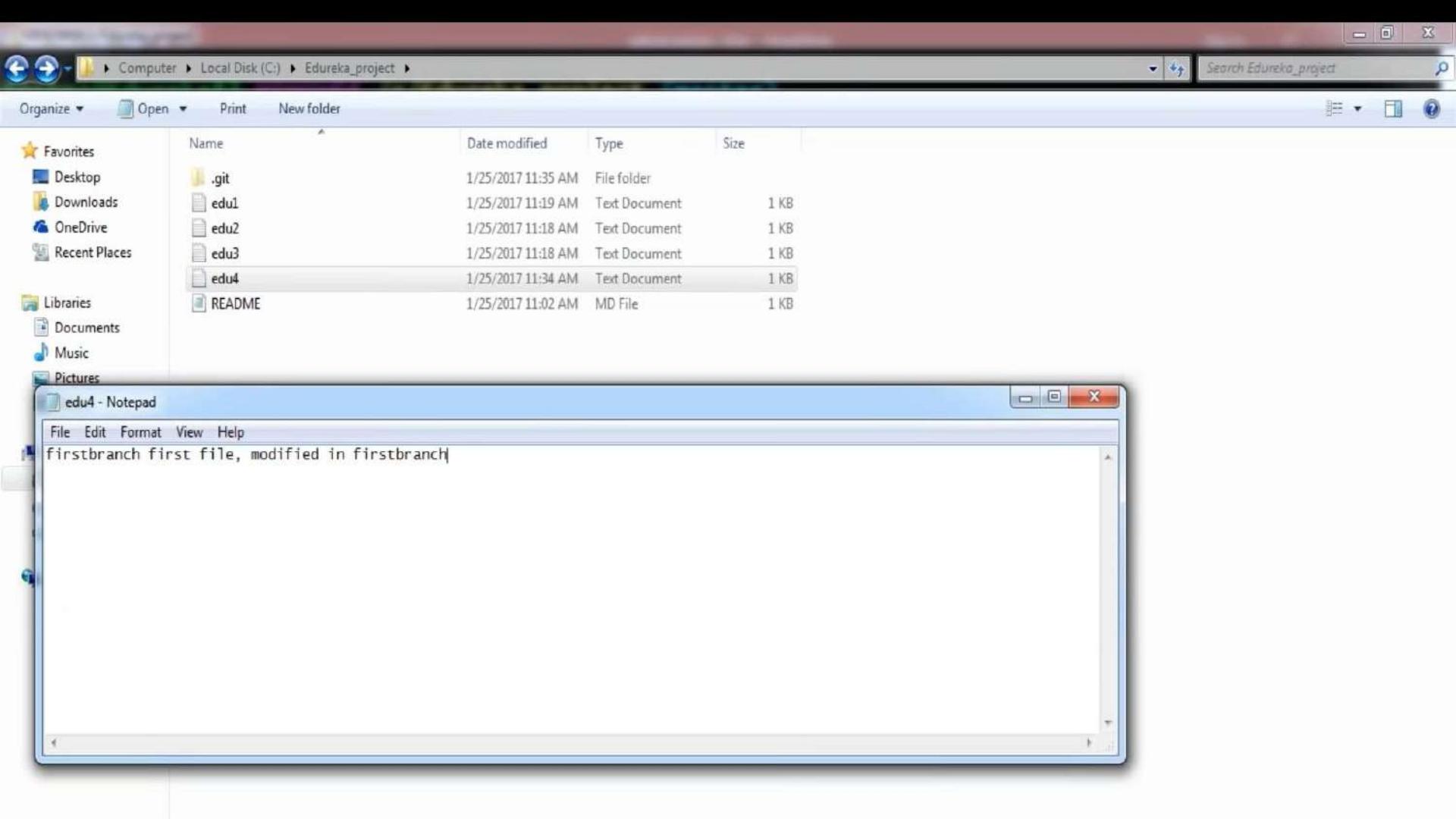
```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$
```

MINGW64:/c/Edureka\_project

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git merge firstbranch
Updating 6b5b8e4..418a63c
Fast-forward
 edu4.txt | 1 +
 1 file changed, 1 insertion(+)
create mode 100644 edu4.txt
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ ls
edu1.txt  edu2.txt  edu3.txt  edu4.txt  README.md
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```



```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ git checkout firstbranch
```

```
Switched to branch 'firstbranch'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ git commit -a -m "modifying edu4"
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ git checkout firstbranch
```

```
Switched to branch 'firstbranch'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ git commit -a -m "modifying edu4"
```

```
[firstbranch 0060b37] modifying edu4
```

```
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$
```

MINGW64/c/Edureka\_project

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$ git checkout firstbranch

Switched to branch 'firstbranch'

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)

\$ git commit -a -m "modifying edu4"

[firstbranch 0060b37] modifying edu4

1 file changed, 1 insertion(+), 1 deletion(-)

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)

\$ cat edu4.txt

firstbranch first file, modified in firstbranch

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)

\$

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ git checkout firstbranch
```

```
Switched to branch 'firstbranch'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ git commit -a -m "modifying edu4"
```

```
[firstbranch 0060b37] modifying edu4
```

```
1 file changed, 1 insertion(+), 1 deletion(-)
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ cat edu4.txt
```

```
firstbranch first file, modified in firstbranch
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ git checkout master
```

```
Switched to branch 'master'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ cat edu4.txt
```

```
firstbranch first file
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

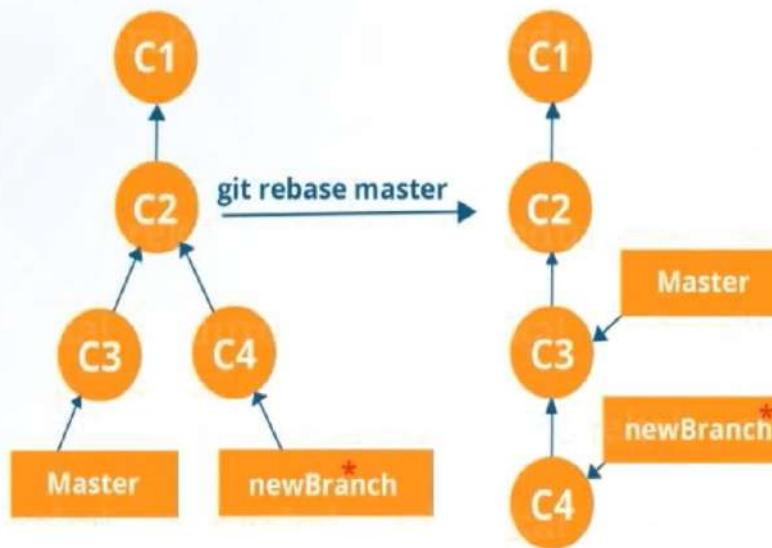
```
$
```

# Parallel Development - Rebasing

edureka!

- This is also a way of combining the work between different branches.
- It can be used to make a linear sequence of commits.

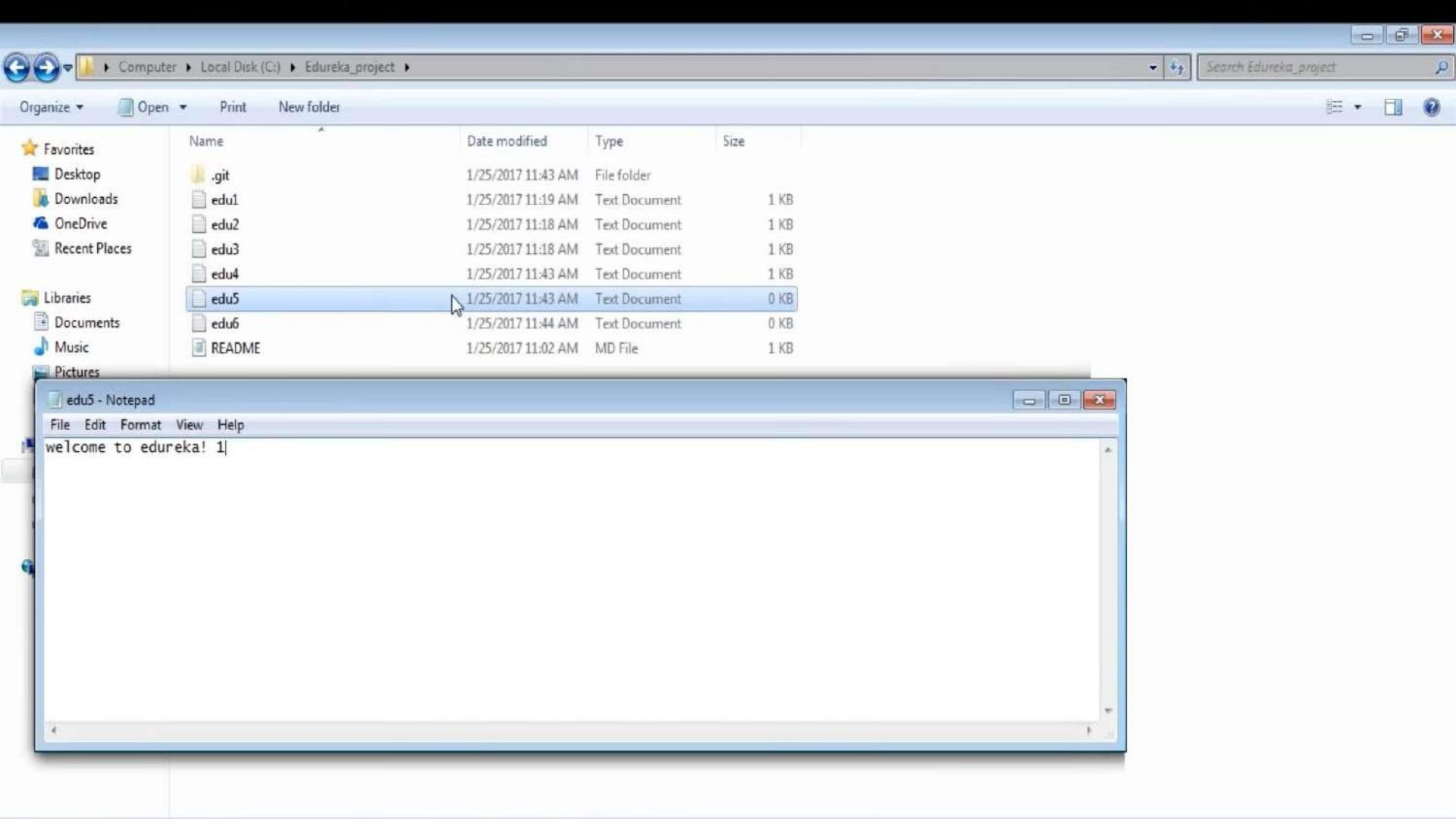
- Create Repo
- Syncing Repos
- Making Changes
- **Parallel Development**
- Branching
- Merging
- Rebasing
- Git Flow

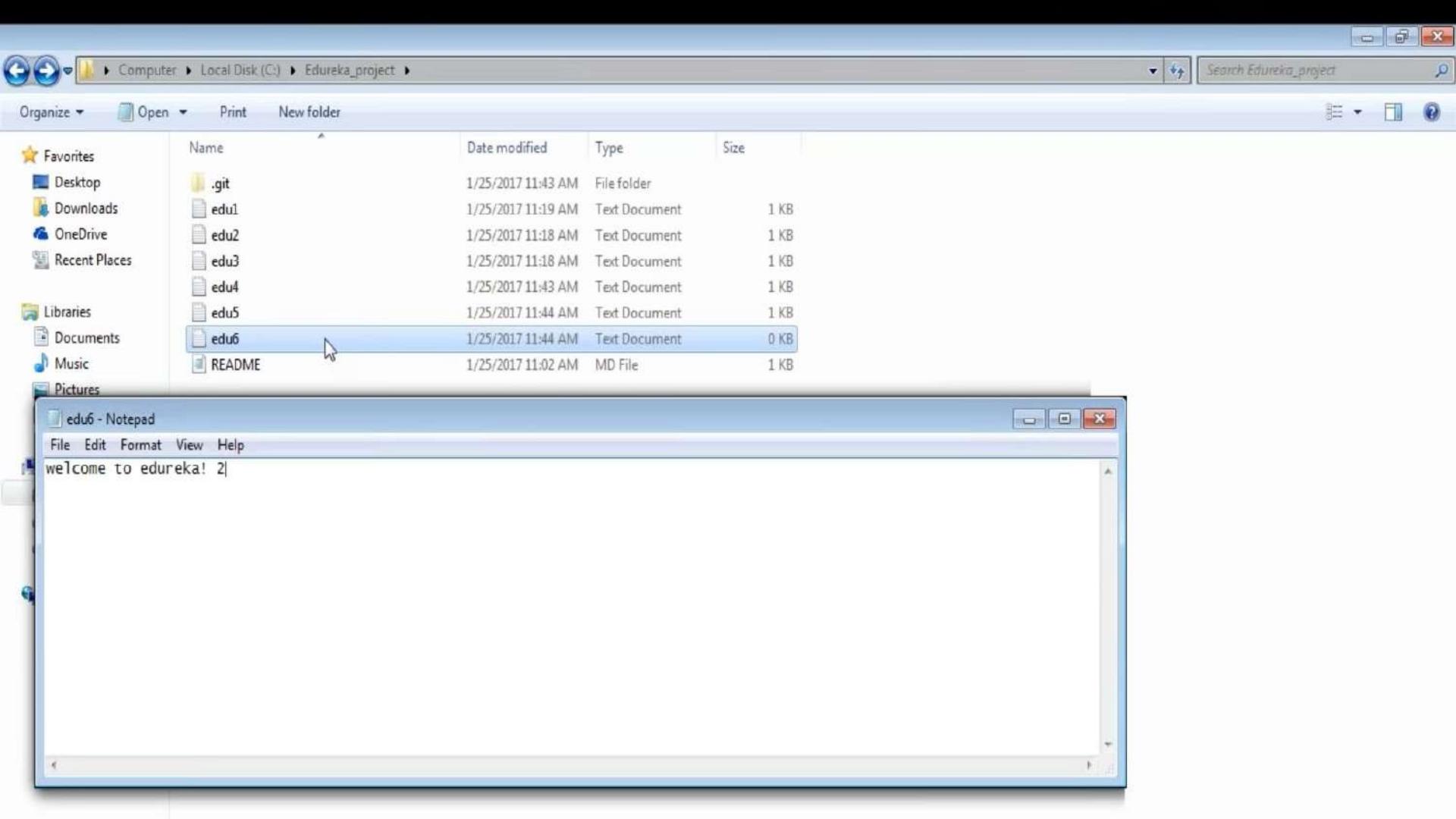


MINGW64:/c/Edureka\_project

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)  
\$ git checkout firstbranch  
Switched to branch 'firstbranch'

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)  
\$





MINGW64:/c/Edureka\_project

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$ git checkout firstbranch

Switched to branch 'firstbranch'

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)

\$ git add -A

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)

\$ git commit -a -m "adding for rebasing"

[firstbranch 7f83c6c] adding for rebasing

2 files changed, 2 insertions(+)

create mode 100644 edu5.txt

create mode 100644 edu6.txt

Reshma@Edureka83 MINGW64 /c/Edureka\_project (firstbranch)

\$

MINGW64:/c/Edureka\_project

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ ls
edu1.txt  edu2.txt  edu3.txt  edu4.txt  edu5.txt  edu6.txt  README.md
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$
```

MINGW64:/c/Edureka\_project

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$ ls

edu1.txt edu2.txt edu3.txt edu4.txt README.md

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

\$

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ git rebase master
```

```
Current branch firstbranch is up to date.
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ |
```

MINGW64:/c/Edureka\_project

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git rebase master
Current branch firstbranch is up to date.
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git checkout master
Switched to branch 'master'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git rebase firstbranch
First, rewinding head to replay your work on top of it...
Fast-forwarded master to firstbranch.
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ ls
edu1.txt  edu2.txt  edu3.txt  edu4.txt  edu5.txt  edu6.txt  README.md
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```

Reyshmaa/git-github Reshma

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github

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# Reyshmaa / git-github

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No description or website provided. Edit

2 commits 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

Reyshmaa committed on GitHub Update README.md

README.md Update README.md

README.md

Clone with HTTPS Use SSH  
Use Git or checkout with SVN using the web URL.  
<https://github.com/Reyshmaa/git-github.git>

Open in Desktop Download ZIP

## git-github

This is for tutorial purpose .

Reyshmaa/git-github

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github

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Code Issues 0 Pull requests 0 Projects 0 Wiki Pulse Graphs Settings

No description or website provided.

2 commits 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

Reyshmaa committed on GitHub Update README.md

README.md Update README.md

README.md

Clone with SSH Use HTTPS  
git@github.com:Reyshmaa/git-github.git

Open in Desktop Download ZIP

# git-github

This is for tutorial purpose .

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/users/Reshma/.ssh/id_rsa):
/c/Users/Reshma/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/users/Reshma/.ssh/id_rsa.
Your public key has been saved in /c/users/Reshma/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:Gkqw7tQ40w+R8FLLe28kuel8Dzi3xMLv7DW+vUUbXikg Reshma@Edureka83
The key's randomart image is:
+---[RSA 2048]---+
|          .   .
|          E   . o
|          B o   . o o
|          o * o S . . +
|          . * o O X   o
|          * = o O * .
|          o o oo. + =..
|          . .o.o=o..+o.
+---[SHA256]---+
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```

MINGW64:/c/Edureka project

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /c/users/Reshma/.ssh/id\_rsa.

Your public key has been saved in '/c/Users/Reshma/.ssh/id\_rsa.pub'.

The key fingerprint is:

SHA256: Gkaw7t040w+R8FLe28kue18Dzi3xMLv7Dw+vUubXikg Reshma@Edureka8

The key's randomart image is:

-----[RSA 2048]-----

```

    0 .      E   .  0
    B 0     . . 0 0
    0 * 0 S . . +
    . * 0 0 X   0
    * = 0 0 *
    0 0 00. + = ..
    . . 0=0..+0.

```

+---[SHA256]---

Reshma@Edureka83 MINGW64 /c/Edureka\_project (master)

```
$ cat /c/Users/Reshma/.ssh/id_rsa.pub
```

ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDWc8kMNE/mkUFb6rrPfdyg1dc73efPqwMe/L5bjJnqEFz0x8JDsnYKEktciNgBw6taRTGJkkCuzkq08AD8mxtY6jInq7/8+VKLPdvHwyM5thhEl3aAOC5TqlxiJ3QBGcfjj9WEGJRF8kfKAva2igydg3XNcQGxSt2btIepdXEV+FR59EDsJxQ1GN1K/v+A1CxcsRNkuTudMjiwb/15fsp/xyR6AMUCKdz2kP5D9xjfMIkzuVTHV+GJtfLT560vjdj1RBnpmhULDfz7mHWTAEJFGhpkte7wSkPdFmv3qkGsi8pzHVIi/n9zDdhFlRMW+e9ExDum5tH9eEFHJulob Reshma@Edureka83

Reshma@Edureka83 MINGW64 /c/Edureka project (master)

8

Reyshmaa/git-github

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github

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Signed in as Reyshmaa

Your profile Your stars Explore Integrations Help

Settings

No description or website provided.

2 commits 1 branch 0 releases

Branch: master New pull request Create new file Upload files Find

Reyshmaa committed on GitHub Update README.md Latest commit ce8ec6f an hour ago

README.md Update README.md an hour ago

README.md

git-github

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## Personal settings

Profile

Account

Emails

Notifications

Billing

## SSH and GPG keys

Security

Blocked users

Repositories

Organizations

Saved replies

Authorized applications

Installed integrations

## SSH keys

New SSH key

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.



ssh1

Fingerprint: 80:03:63:5e:23:43:50:7a:21:81:6d:42:b9:b9:05:0d



Added on Jan 24, 2017 — Last used within the last day

Delete



ssh2

Fingerprint: e9:d9:c7:e2:34:4b:fd:85:c5:ec:e0:d6:55:2d:1d:29



Added on Jan 25, 2017 — Last used within the last day

Delete

Check out our guide to generating SSH keys or troubleshoot common SSH Problems.

## GPG keys

New GPG key

There are no GPG keys with access to your account.

Learn how to generate a GPG key and add it to your account.



## SSH and GPG keys

[Security](#)[Blocked users](#)[Repositories](#)[Organizations](#)[Saved replies](#)[Authorized applications](#)[Installed integrations](#)

## Developer settings

[OAuth applications](#)[Integrations](#)[Personal access tokens](#)

Fingerprint: e9:d9:c7:e2:34:4b:fd:85:c5:ec:e0:d6:55:2d:1d:29

[SSH](#)

Added on Jan 25, 2017 — Last used within the last day

[Delete](#)**Title****Key****ssh-rsa**

```
AAAAB3NzaC1yc2EAAAQABAAQDWc8kMNE/mkUfB6rrPfdyG1dC73efPqWMe/lSbjJnqEFz0X8JDsnYKE
ktciNgBw6taRTGjkCuzkq08AD8mXtY6jInq7/8+VKLPdvHwyM5thhEl3aAOc5TqlxJ3QBGcfjj9WEGRF8kFkAvA2i
gydg3XNcQGxSt2btIepdXEV+FR59EDsJxQIGN1K/v+AICXcsRNkuTudMjiWb/15fSp/xyR6AMUCkdZ2kPSD9xjFM1
kZuVTHV+GJTfdLT560vjdl1RBNmphULDRfZ7mHWTAEJFGhppte7wSkPdfmv3qkGsi8pzHVl/n9zDdhFIRMW+e9
ExDum5tH9eEFH/jlOb Reshma@Edureka83|
```

[Add SSH key](#)

Check out our guide to generating SSH keys or troubleshoot common SSH Problems.

## GPG keys

[New GPG key](#)

There are no GPG keys with access to your account.

Learn how to generate a GPG key and add it to your account.

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ ssh -T git@github.com
```

```
Hi Reyshmaa! You've successfully authenticated, but GitHub does not provide shell access.
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$
```



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## SSH and GPG keys

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Authorized applications

Installed integrations

## Developer settings

## SSH keys

New SSH key

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.



ssh1

Fingerprint: 80:03:63:5e:23:43:50:7a:21:81:6d:42:b9:b9:05:0d



ssh2

Fingerprint: e9:d9:c7:e2:34:4b:fd:85:c5:ec:e0:d6:55:2d:1d:29



ssh3

Fingerprint: 6f:39:4e:e3:28:bf:f8:1c:99:e6:fd:77:32:f2:bf:b1

Delete

Delete

Delete

Check out our guide to generating SSH keys or troubleshoot common SSH Problems.

## GPG keys

New GPG key

There are no GPG keys with access to your account.

Learn how to generate a GPG key and add it to your account.

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
```

```
$ git checkout firstbranch
```

```
Switched to branch 'firstbranch'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$ git push origin firstbranch
```

```
Counting objects: 18, done.
```

```
Delta compression using up to 4 threads.
```

```
Compressing objects: 100% (10/10), done.
```

```
Writing objects: 100% (18/18), 1.39 KiB | 0 bytes/s, done.
```

```
Total 18 (delta 3), reused 0 (delta 0)
```

```
remote: Resolving deltas: 100% (3/3), done.
```

```
To ssh://github.com/Reyshmaa/git-github.git
```

```
* [new branch]      firstbranch -> firstbranch
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
```

```
$
```

Reyshmaa/git-github Reshma

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github

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## Reyshmaa / git-github

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No description or website provided. Edit

2 commits 2 branches 0 releases 1 contributor

Your recently pushed branches:

[firstbranch](#) (less than a minute ago) Compare & pull request

Branch: master New pull request Create new file Upload files Find file Clone or download

Reyshmaa committed on GitHub Update README.md Latest commit ce8ec6f an hour ago

README.md Update README.md an hour ago

README.md

git-github

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github/tree/firstbranch

firstbranch (1 minute ago)

Branch: firstbranch ▾ New pull request

Create new file Upload files Find file Clone or download ▾

This branch is 5 commits ahead of master.

Pull request Compare

reyshma adding for rebasing

Latest commit 7f83c6c 28 minutes ago

README.md	Update README.md	an hour ago
edu1.txt	adding 3 files together	an hour ago
edu2.txt	adding 3 files together	an hour ago
edu3.txt	adding 3 files together	an hour ago
edu4.txt	modifying edu4	36 minutes ago
edu5.txt	adding for rebasing	28 minutes ago
edu6.txt	adding for rebasing	28 minutes ago

README.md

# git-github

This is for tutorial purpose .

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (firstbranch)
$ git checkout master
Switched to branch 'master'
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ git push origin master
Total 0 (delta 0), reused 0 (delta 0)
To ssh://github.com/Reyshmaa/git-github.git
  ce8ec6f..7f83c6c  master -> master
```

```
Reshma@Edureka83 MINGW64 /c/Edureka_project (master)
$ |
```

GitHub, Inc. [US] | https://github.com/Reyshmaa/git-github/tree/master Press Esc to exit full screen

This repository Search Pull requests Issues Gist + ⌂

## Reyshmaa / git-github

Watch 0 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Pulse Graphs Settings

No description or website provided. Edit

7 commits 2 branches 0 releases 1 contributor

Branch: master ▾ New pull request Create new file Upload files Find file Clone or download ▾

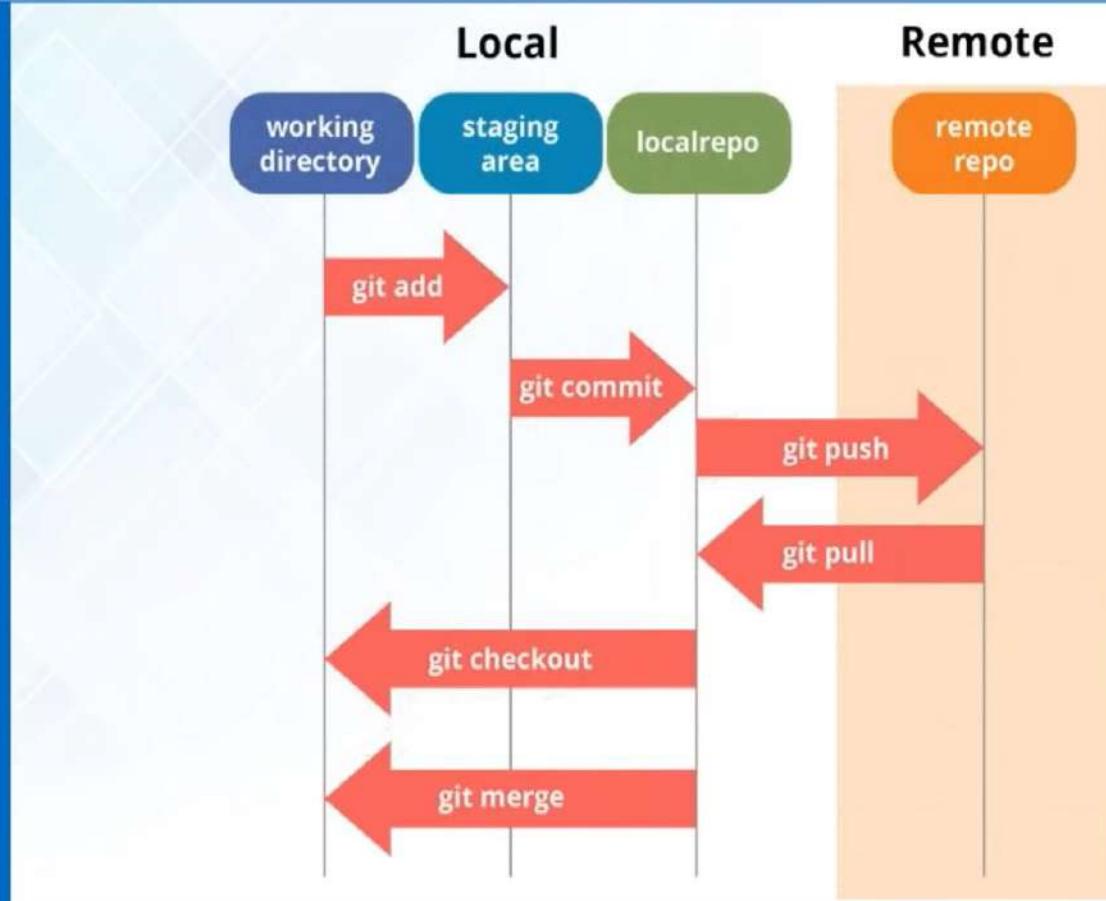
reyshma adding for rebasing Latest commit 7f83c6c 29 minutes ago

README.md	Update README.md	an hour ago
edu1.txt	adding 3 files together	an hour ago
edu2.txt	adding 3 files together	an hour ago
edu3.txt	adding 3 files together	an hour ago
edu4.txt	modifying edu4	37 minutes ago
edu5.txt	adding for rebasing	29 minutes ago
edu6.txt	adding for rebasing	29 minutes ago
README.md		

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Establishing secure connection...

- Create Repo
- Syncing Repos
- Making Changes
- Parallel Development
- Branching
- Merging
- Rebasing
- **Git Flow**



# Summary

edureka!

## Version Control



## Version Control Tools



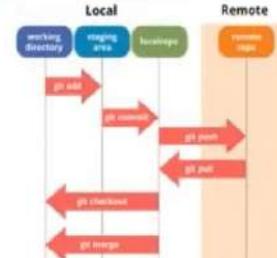
## Git & GitHub



## Features of Git



## Operations & Commands



## Dominion Enterprises Case Study

