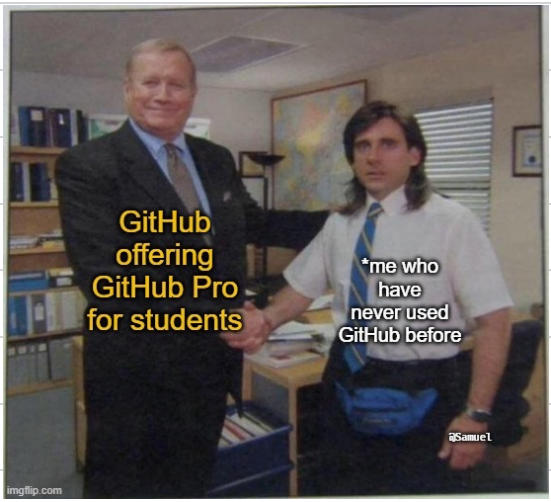
Welcome To MLOps

Session - 1

Git and Github

June 04, 2025



AIC

Agenda

1. Git
2. Github
3. Terminologies (Project) - Push, Pull, Commit
4. Branching
5. Conflict Resolution
6. Contribute to open source projects

Module Agenda

1. Git-HUB
2. Build an ML application - deploy it online, Streamlit.
3. Deploy ML Endpoint - API, Flask
4. Docker - containers, containerization.
5. CI/CD - 2 Sessions.
6. Experiment Tracking - MLFLOW
7. System Design - 1/2 - 2 Sessions.
8. SageMaker - How to use/deploy on Sagemaker.
9. Introduction to Apache Spark - Distributed Computing.

Please Practice.

MLOps

Machine learning pipeline.

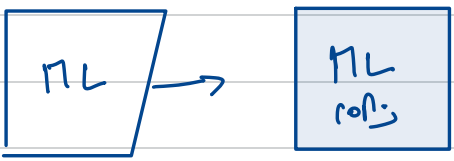
MLOps vs DevOps debate

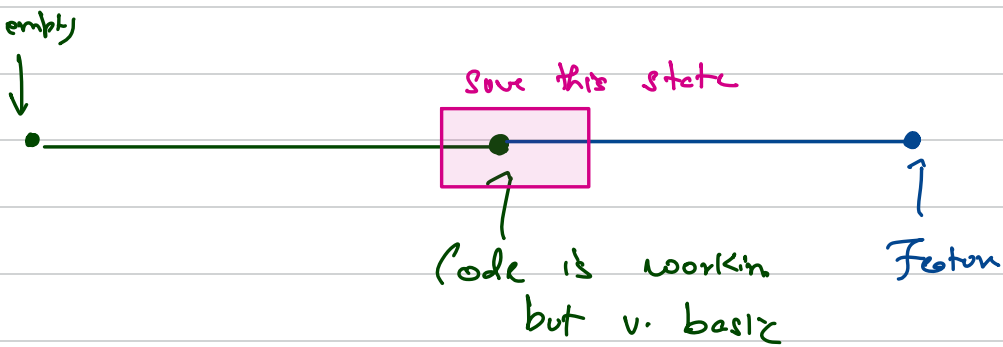
Is MLOps actually like DevOps?

GIT → Open source Version control system

model.ipynb

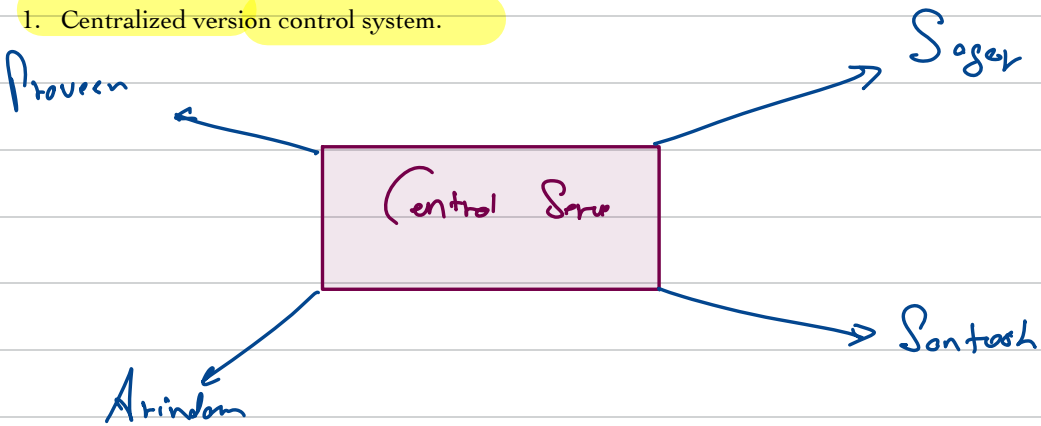
↳ model_copy.ipynb





Different kinds of version control system.

1. Centralized version control system.



2. Distributed version control system.

Pros of Centralized VCS:

1. High Security
2. Ease of Use; no confusion, as for what's the most recent code/version.
3. No Conflicts.
4. Real Time update and monitoring

Cons:

1. Central point of failure.
2. Scalability Issues.
3. Limited offline capabilities.

GitHub

Email -> Gmail
Yahoo
Zoho
Proton

Git ->
- Github (Microsoft)
- GitLab (GitLab)
- Bitbucket (Atlassian)
- Code-commit (Amazon)

What is Git?

19 users have participated

A	A nickname for GitHub.	0%
B	A programming language.	0%
C	A remote repository platform.	11%
D	A version control system.	89%

End Quiz Now

Based on all quizzes from the session

2	Rajaraman	1/1 96.13
1	veera nachiketa	1/1 96.23
3	kiran kumar	1/1 95.53
4	Praveen MC	1/1 95.26
5	Arindam Maji	1/1 95.06
6	Sagar Deka	1/1 94.93
7	Ashwini Uday	1/1 94.67
8	Venkata Sai Pramod Kumar	1/1 94.17
9	Lokesh Sonawane	1/1 94.07
10	Sonali Ghosh	1/1 94.07

Which of the following is true about Centralized version control system??

0 users have participated

A	It does not rely on the central server	0%
B	It is victim to single point of failure	0%
C	It rely on the central server	0%
D	Both B & C	0%

End Quiz Now

Leaderboard

Based on all quizzes from the session

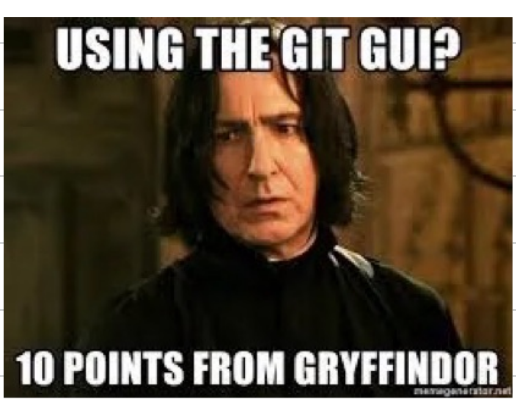
2	Ashwini Uday	2/2 187.30
1	Rajaraman	2/2 190.36
3	kiran kumar	2/2 187.20
4	Arindam Maji	2/2 185.83
5	Praveen MC	2/2 185.62
6	Sagar Deka	2/2 184.73
7	Venkata Sai Pramod Kumar	2/2 184.33
8	Chirantan Sharma	2/2 184.23
9	Sonali Ghosh	2/2 183.20
10	Rajeev Ranjan Kumar Singh	2/2 178.83

Github Terminologies

1. Repository: Fancy word for folder that contains code
2. Local Repository: Folder on my local computer (may or may not be present on the cloud)
3. Remote Repository: Our folder of code, uploaded/stored on the cloud.

Commands:

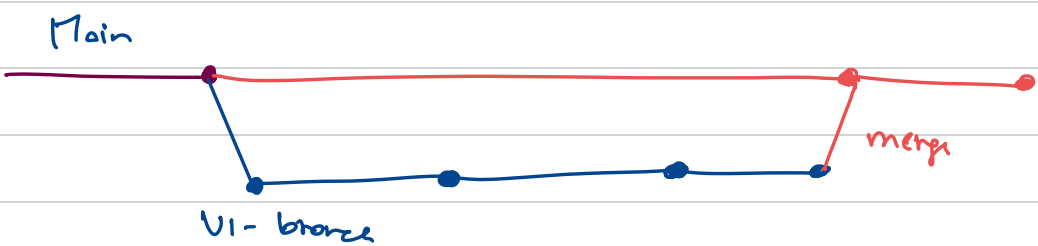
1. Commit: Saving the current state of the repository
2. Pull: Updating our local repository with any possible new changes.
3. Clone: Creating a copy of the repository on my local computer, and connecting it with the repo.
4. Push: Updating the remote repo with new changes made in local repo.



BRANCHES :

Main / Master - branch (most stable code)

V1-branch → Copy of my main branch.



Quiz time!

Time Left: 56s

In Git, a branch is:

0 users have participated

A	A secret part of Git config.	0%
B	A separate version of the main repository.	0%
C	A remote repository on someone elses account	0%
D	A new repository with no code in it	0%

End Quiz Now

based on all quizzes from the session

2	Sagar Deka	3/3 279.63
1	Rajaraman	3/3 285.96
3	Arindam Maji	3/3 278.46
4	Venkata Sai Pramod Kumar	3/3 274.63
5	Rajeev Ranjan Kumar Singh	3/3 272.80
6	Chirantan Sharma	3/3 270.66
7	kiran kumar	3/3 267.49
8	Phani Kishore R PMP	3/3 266.96
9	Lokesh Sonawane	3/3 249.97
10	veera nachiketa	3/3 236.49

https://github.com/shivam13juna/mlops-dsml-june-2025

Which of the following is not true about git?

0 users have participated

A	By default Git has a master branch	0%
B	Git clone operation creates the instance of the repository.	0%
C ✓	Pull operation copies the changes from a local repository to remote repository	0%
D	All of the above	0%

End Quiz Now

Leaderboard

Based on all quizzes from the session

2	Rajeev Ranjan K...	4/4 ⚡ 365.10
1	Rajaraman	4/4 ⚡ 378.29
3	Sagar Deka	4/4 ⚡ 361.93

4	kiran kumar	4/4 ⚡ 356.86
5	Lokesh Sonawane	4/4 ⚡ 336.57
6	veera nachiketa	4/4 ⚡ 324.02
7	Arindam Maji	3/4 ⚡ 278.46
8	Venkata Sai Pramod Kumar	3/4 ⚡ 274.63
9	Chirantan Sharma	3/4 ⚡ 270.66
10	Phani Kishore R PMP	3/4 ⚡ 266.96

What is the opposite of a GIT clone?

0 users have participated

A	GIT push	0%
B	GIT add	0%
C	GIT upload	0%
D	GIT status	0%

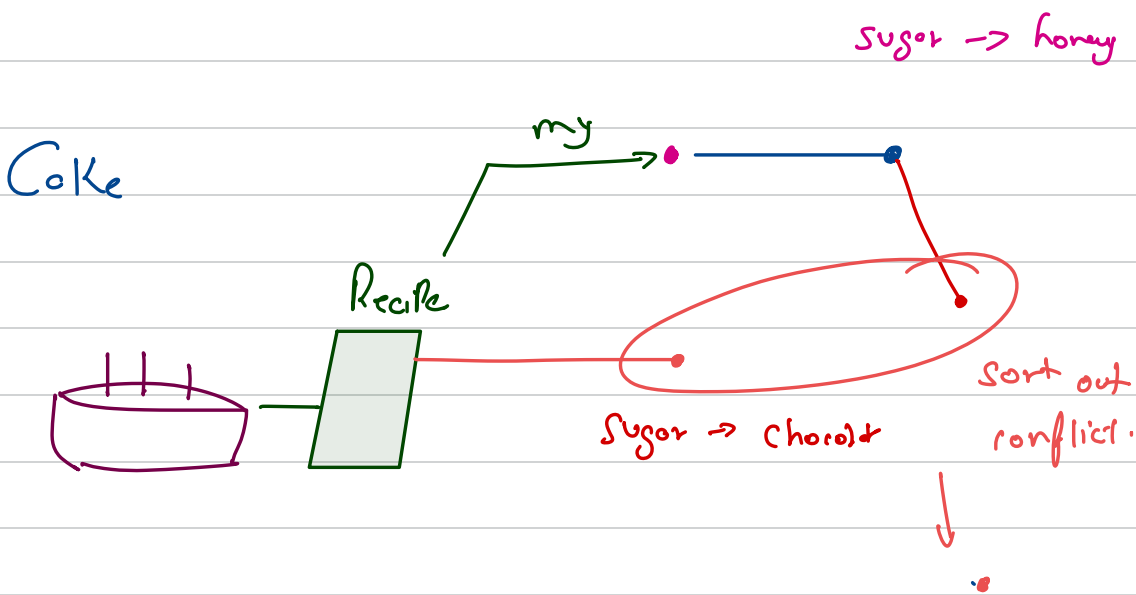
End Quiz Now

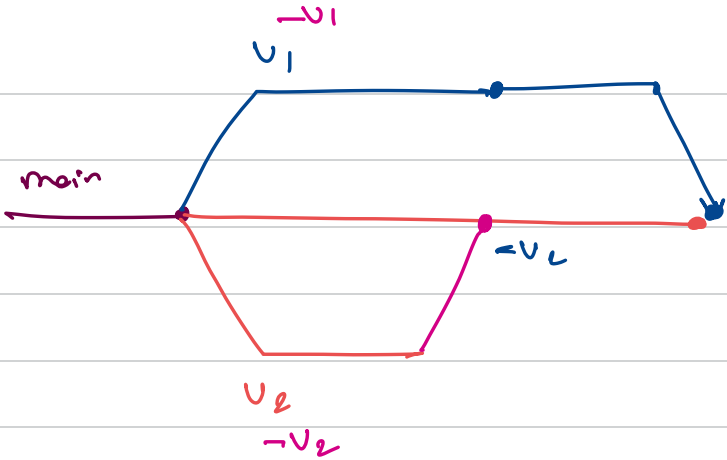
Leaderboard

Based on all quizzes from the session

2	Sagar Deka	5/5 ⚡ 440.46
1	Rajeev Ranjan K...	5/5 ⚡ 459.13
3	Rajaraman	4/5 ⚡ 378.29

4	Arindam Maji	4/5 ⚡ 368.79
5	kiran kumar	4/5 ⚡ 356.86
6	Chirantan Sharma	4/5 ⚡ 344.63
7	Lokesh Sonawane	4/5 ⚡ 336.57
8	veera nachiketa	4/5 ⚡ 324.02
9	Himanshu Rana	3/5 ⚡ 275.23
10	Venkata Sai Pramod Kumar	3/5 ⚡ 274.63





Remove conflict manually