Interdisciplinary Division of
Aeronautical and Aviation Engineering
航空工程跨領域學部

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

ENG1003 Freshman Seminar for Engineering AAE
Design of Path Planning Algorithm for Aircraft Operation

Week 3: Introduction to GitHub Collaboration

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Assisted by

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Mutual editing on a document with collaborators remotely?

acceptance	26/3/2021 11:58 AM	File folder	
final submission	2/8/2021 11:38 AM	File folder	
ieee_taes_novatel_heatmap	29/7/2020 2:44 PM	File folder	
My EndNote Library.Data	20/7/2020 9:17 PM	File folder	
My EndNote Library.enl.unzipped	14/7/2020 9:26 AM	File folder	
revision 1	28/12/2020 5:31 PM	File folder	
Artical file (single column).docx	24/8/2020 3:55 PM	Microsoft Word D...	4,036 KB
Article Processing Charges.pdf	19/4/2021 9:33 AM	Adobe Acrobat D...	118 KB
cover letter.docx	28/7/2020 12:26 PM	Microsoft Word D...	17 KB
figure.pptx	22/6/2020 11:11 AM	Microsoft PowerP...	7,122 KB
ieee_taes_3dma_rtk (20200612 Ivan).docx	22/6/2020 10:12 AM	Microsoft Word D...	4,103 KB
ieee_taes_3dma_rtk (20200622 GH).docx	22/6/2020 2:52 PM	Microsoft Word D...	4,112 KB
ieee_taes_3dma_rtk (20200709 WS).docx	9/7/2020 3:38 PM	Microsoft Word D...	4,294 KB
ieee_taes_3dma_rtk (20200714 LT).docx	15/7/2020 5:47 PM	Microsoft Word D...	4,306 KB
ieee_taes_3dma_rtk (20200722 lucy).docx	23/7/2020 4:49 PM	Microsoft Word D...	7,319 KB
ieee_taes_novatel_heatmap.rar	29/7/2020 2:42 PM	WinRAR archive	13,851 KB
Manuscript_two_columns.docx	13/10/2020 1:45 PM	Microsoft Word D...	4,030 KB
My EndNote Library.enl	8/1/2021 10:42 AM	EndNote Library	141 KB
References.docx	14/7/2020 9:16 AM	Microsoft Word D...	18 KB

Download files from various channels, such as mail, whatsapp, etc?

Can we edit the documents online ? Google, Microsoft has the solutions!

Can we edit the **"code"** online?

Github

Archive your coding online (in the cloud)

Pull: *To update local branch with remote, update all remote tracking branches*

Video: VSC-Git Basic Operations

Pull

Clone : *To download a repository to your local machine*

Check out to: *Switch to a specific branch*

Cloud repository (project)

Clone/Fetch

Open file and Check out to

Code and Debugger

Local repository (project)

Fetch : *To pull a branch to your local machine*

Push

Commit

New Version

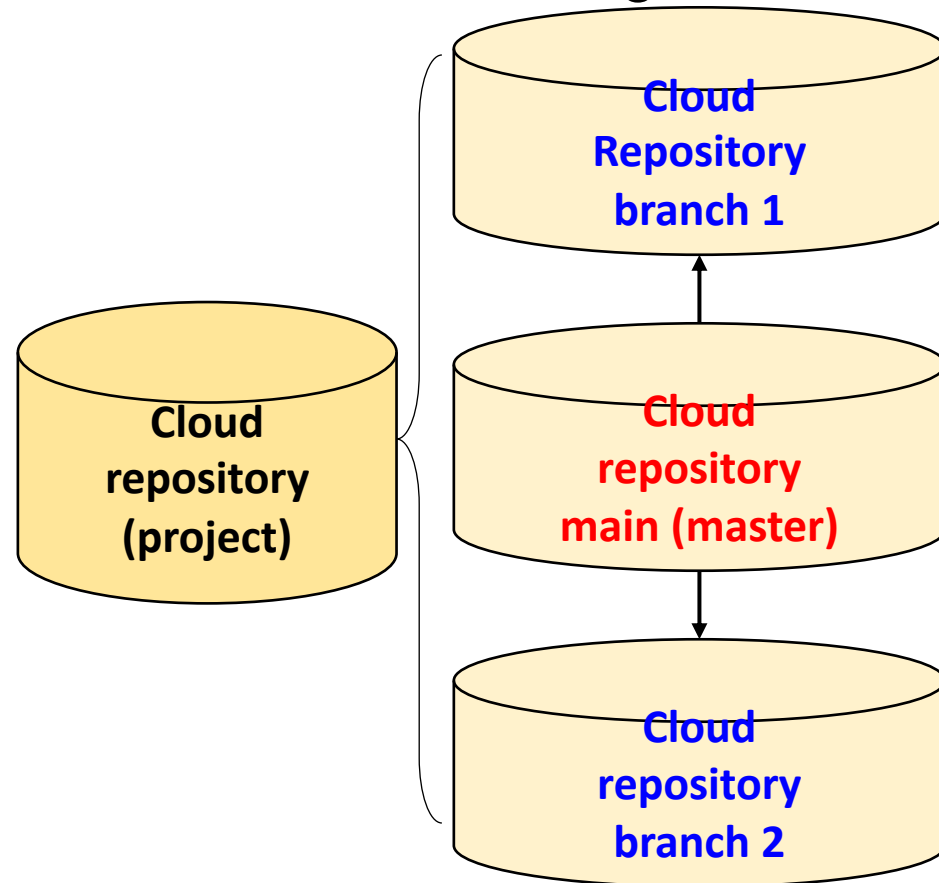Add (Stage)

Push: *To upload the commit made on a local branch to GitHub*

Commit: *To create a snapshot of the repository*
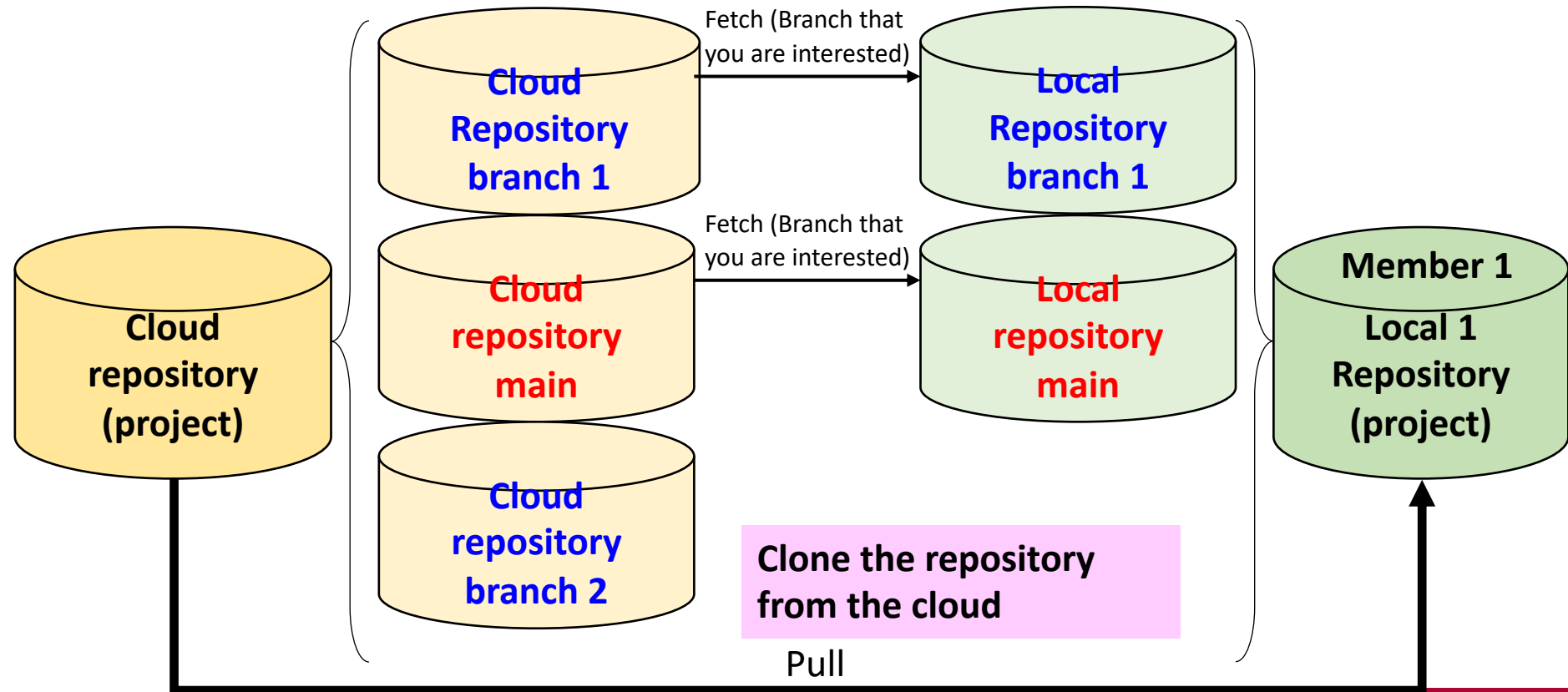
Add (Stage): *To add files or segments in the next commit*

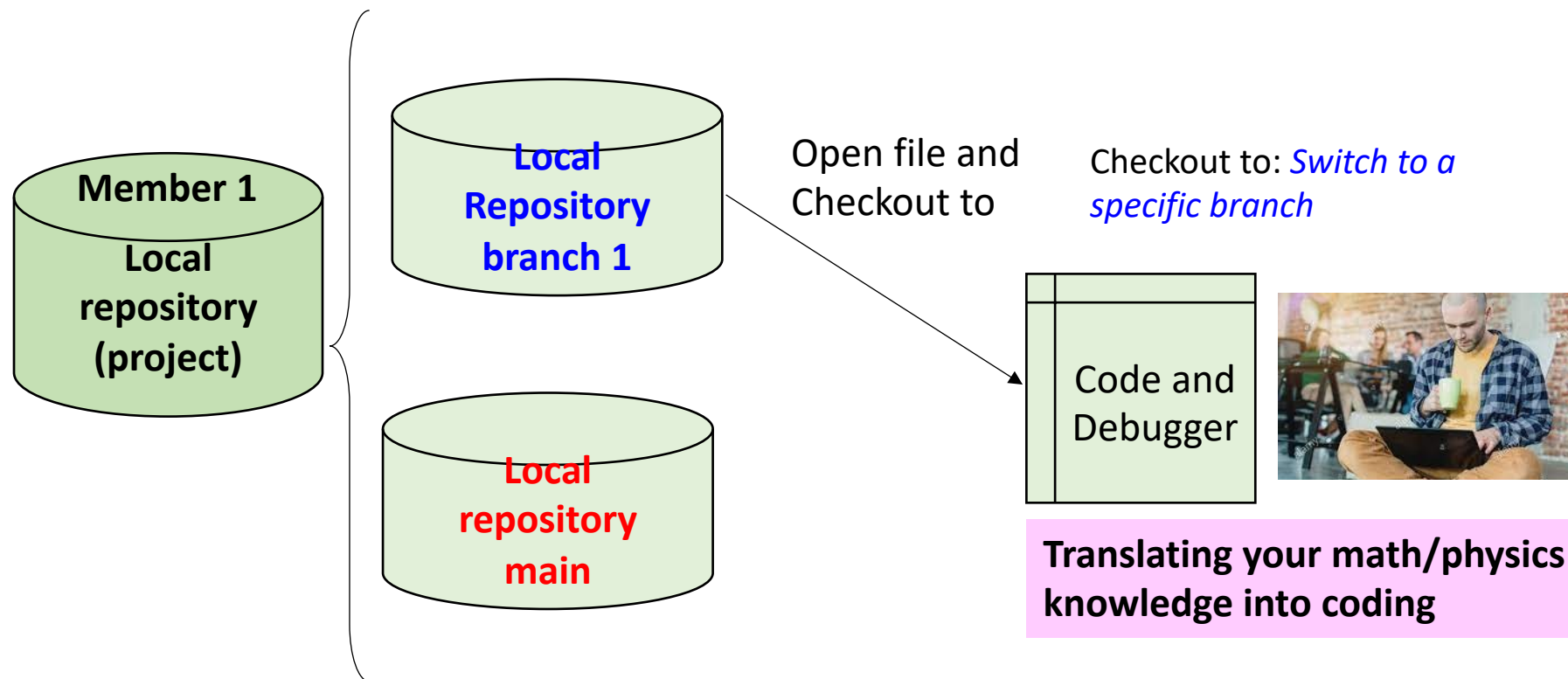# Collaborative coding online – Generate Branch (Member)

To generate a branch for different member that participant the project, creating a contained area of your repository to develop features, fix bugs and more.
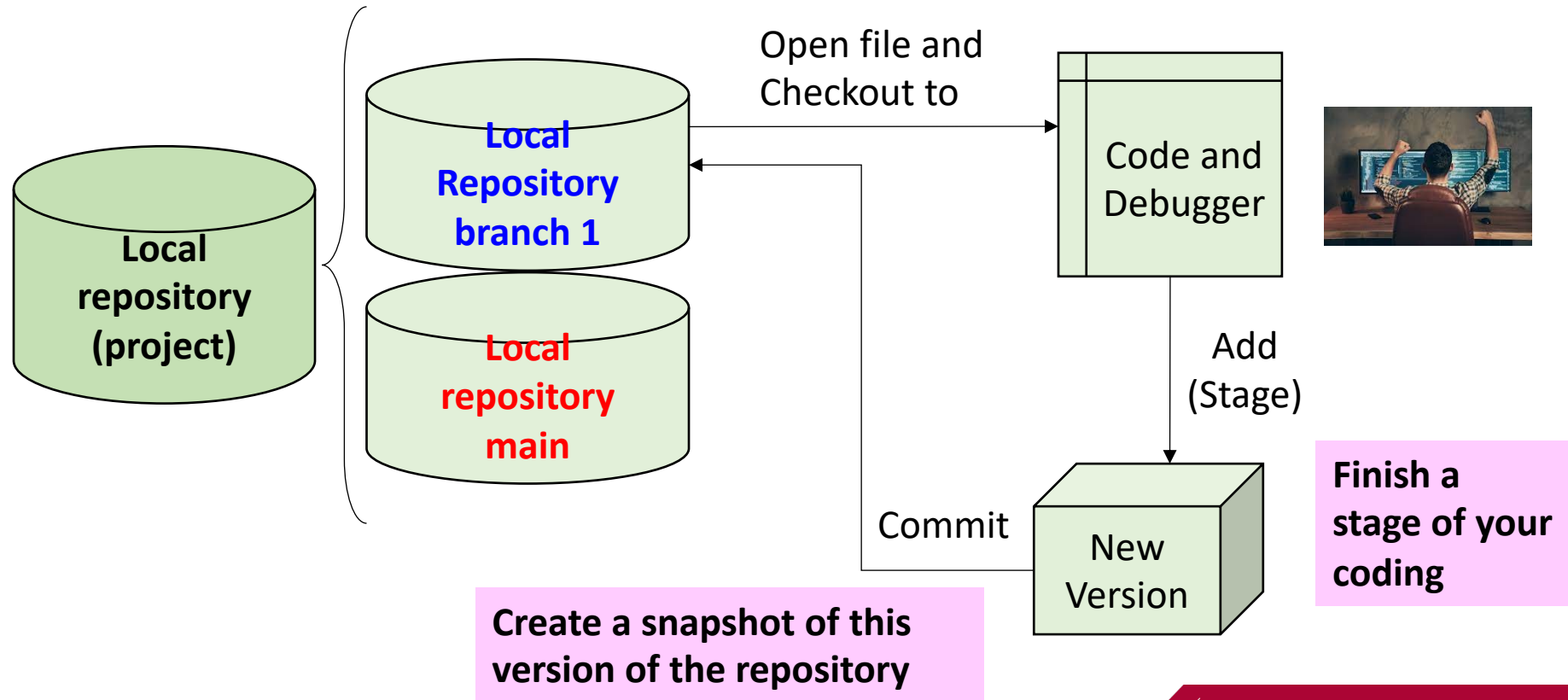
Collaborative coding online – Fetch/Pull Branch from Cloud

Collaborative coding online – Edit the code in the local computer

Member 1

Local repository (project)

Local Repository branch 1

Local repository main

Open file and Checkout to

Checkout to: *Switch to a specific branch*

Code and Debugger

Translating your math/physics knowledge into coding

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Collaborative coding online – Edit the code in the local computer

Local repository (project)

Local Repository branch 1

Local repository main

Open file and Checkout to

Code and Debugger

Add (Stage)

Finish a stage of your coding

Commit

New Version

Create a snapshot of this version of the repository

Concept of collaborative coding online

Web based

Video: VSC-Git Branches

Ready to update to the cloud branch!

Open file and Check out to

Push

Cloud Repository branch 1 ← **Local Repository branch 1** → Code and Debugger

Let the group leader knows my work

Merge by Pull Request

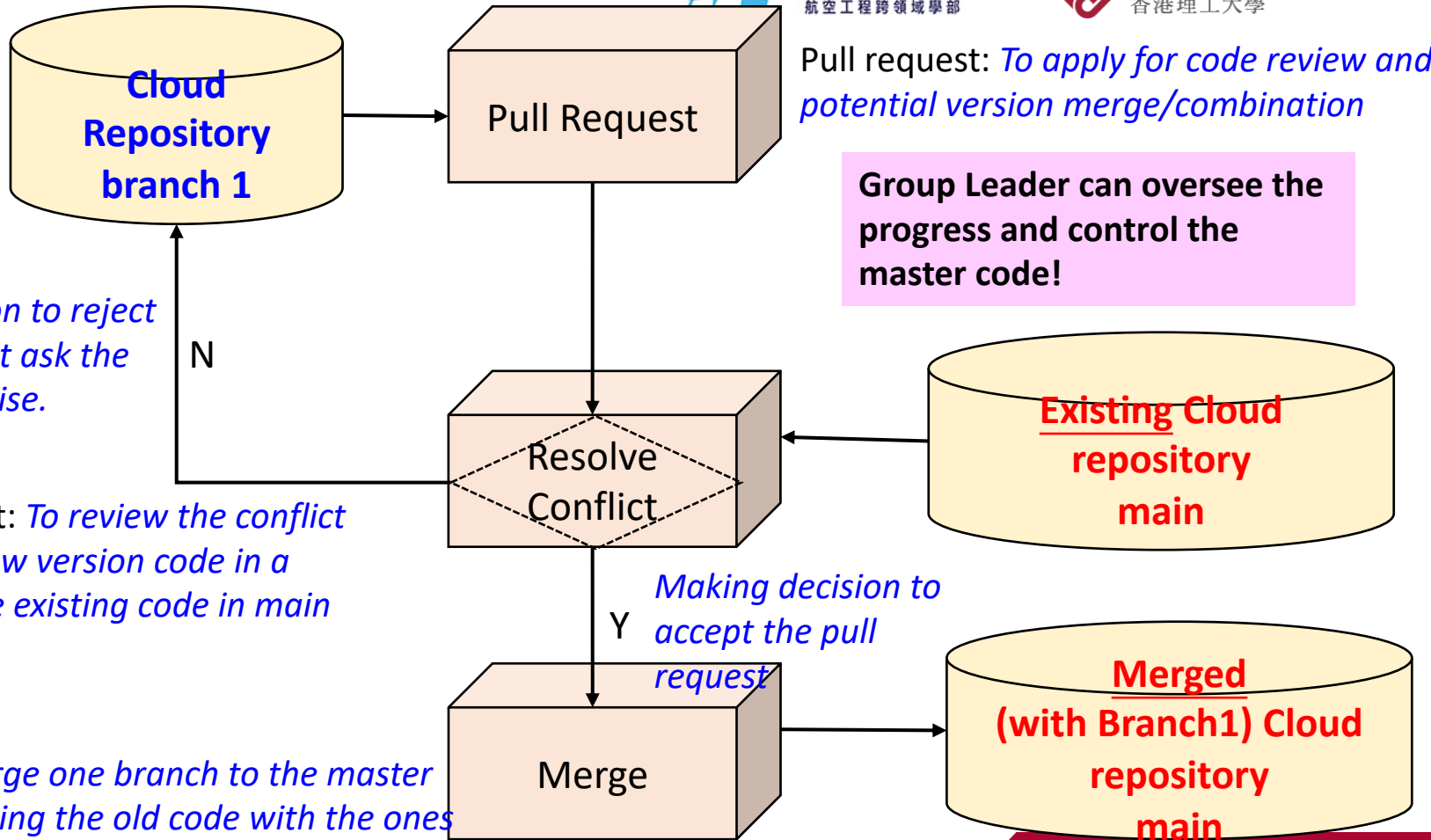File 1 in the local

Cloud repository main

File 1 in the cloud

Add (Stage)

Commit → New Version

If the project leader does not know what you upload to the source code, you will create a lot of confusions!

Web based

Cloud Repository branch 1

Pull Request

Pull request: *To apply for code review and potential version merge/combination*

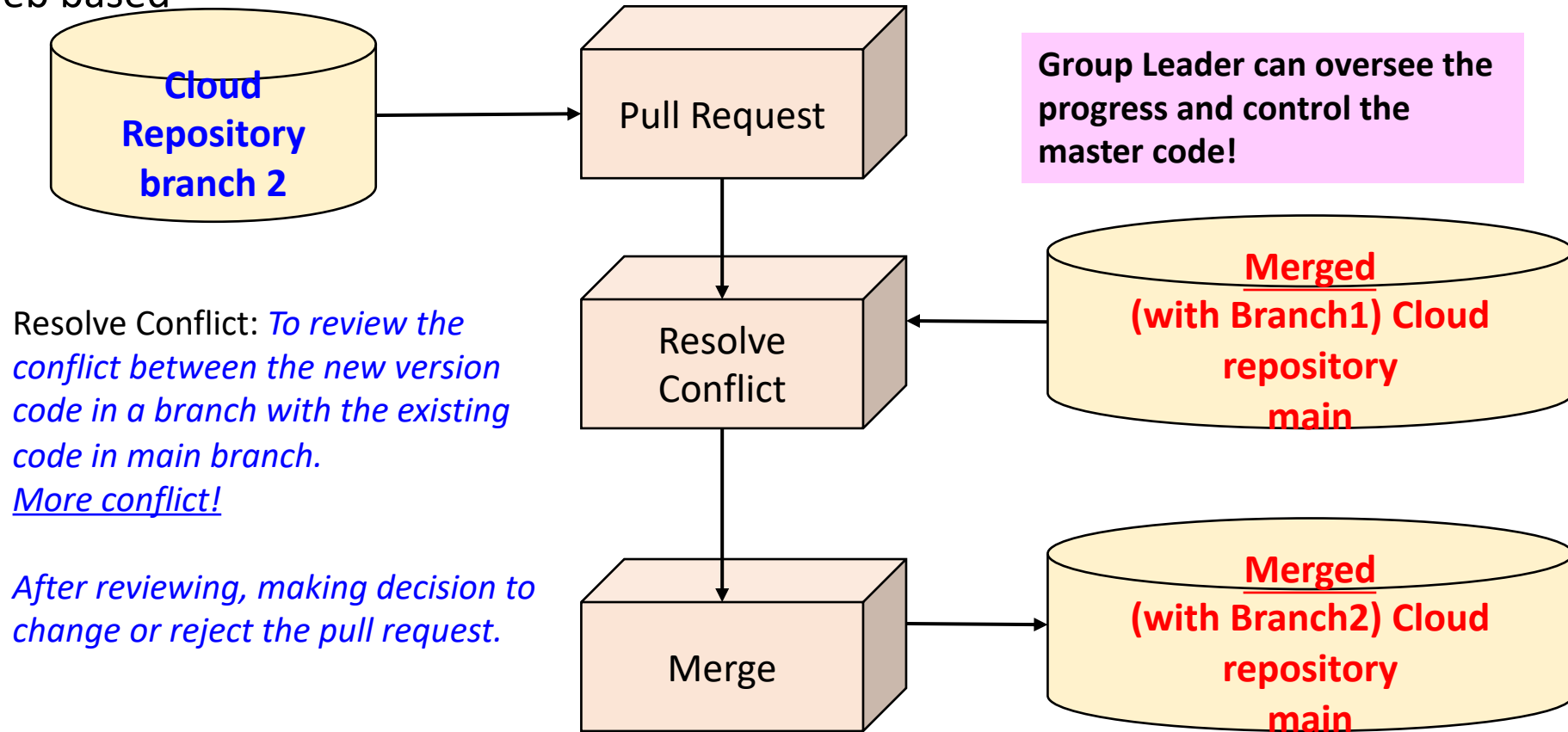**Group Leader can oversee the progress and control the master code!**

Making decision to reject the pull request ask the member to revise.

N

Resolve Conflict

Existing Cloud repository main

Resolve Conflict: *To review the conflict between the new version code in a branch with the existing code in main branch.*

Y

Making decision to accept the pull request

Merge: *To merge one branch to the master branch, replacing the old code with the ones with new features and updates*
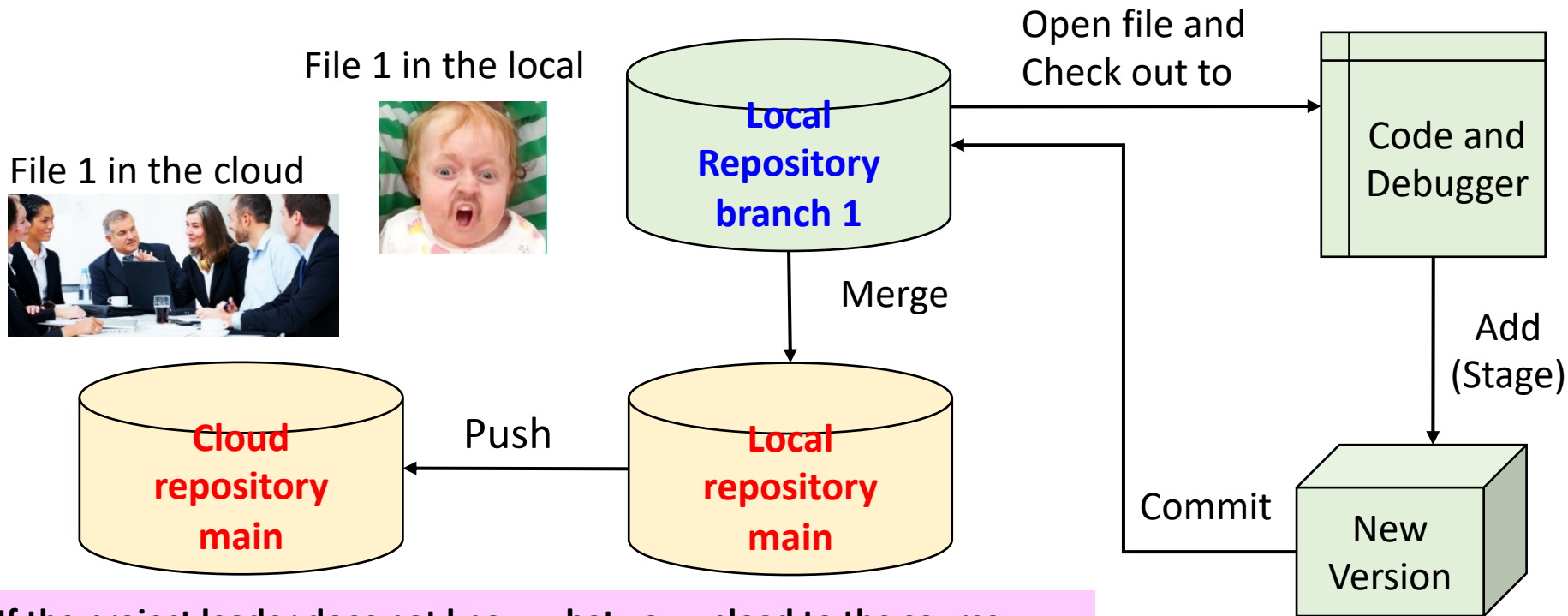
Merge

Merged (with Branch1) Cloud repository main

Cloud Repository branch 2

Pull Request

Group Leader can oversee the progress and control the master code!

Resolve Conflict: *To review the conflict between the new version code in a branch with the existing code in main branch.*
More conflict!

After reviewing, making decision to change or reject the pull request.

Resolve Conflict

Merged (with Branch1) Cloud repository main

Merge

Merged (with Branch2) Cloud repository main

Concept of collaborative coding online

VS code based

Video: VSC Git Conflicts

File 1 in the local

File 1 in the cloud

Local Repository branch 1

Open file and Check out to

Code and Debugger

Merge

Add (Stage)

Cloud repository main

Push

Local repository main

Commit

New Version

If the project leader does not know what you upload to the source code, you will create a lot of confusions!

VS code based