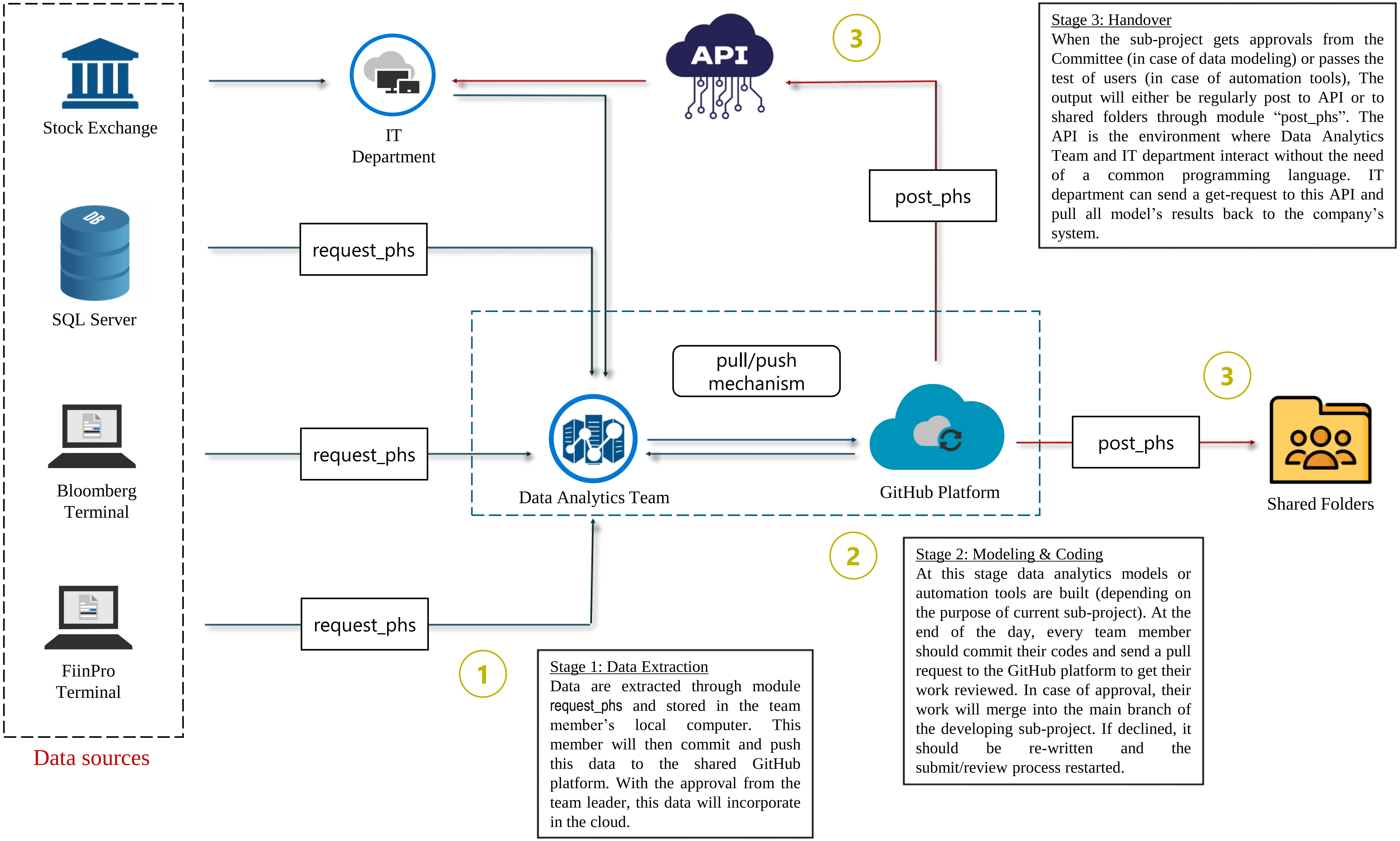
Data Analytics Team

Operational Framework

We design a operational framework that describes:

- The team's workflow
- How the team cooperates with other departments
- The way we manage internally
- How we protect ourselves from data leak

Workflow

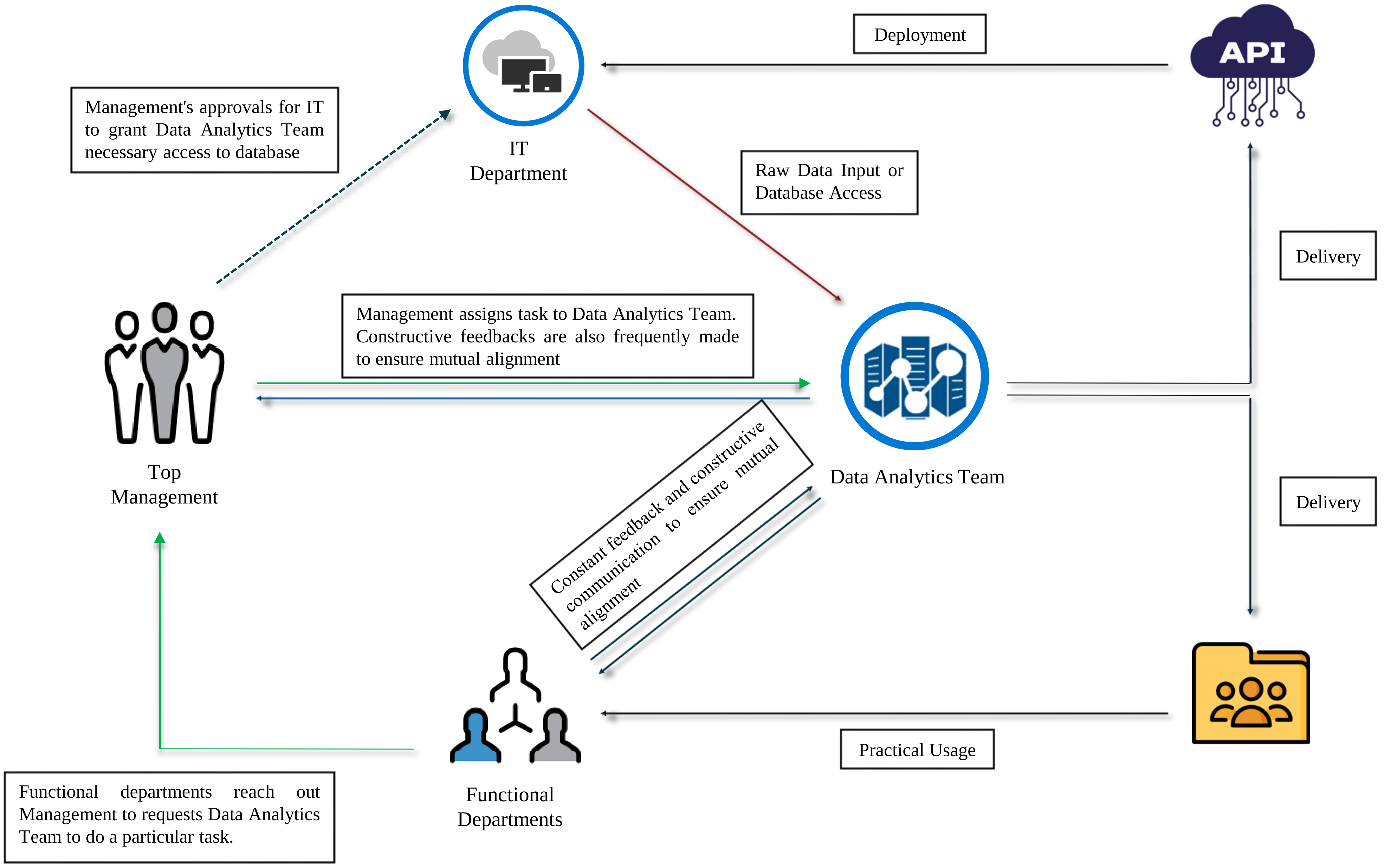


Stage 1: Data Extraction
Data are extracted through module request_phs and stored in the team member's local computer. This member will then commit and push this data to the shared GitHub platform. With the approval from the team leader, this data will incorporate in the cloud.

Stage 2: Modeling & Coding
At this stage data analytics models or automation tools are built (depending on the purpose of current sub-project). At the end of the day, every team member should commit their codes and send a pull request to the GitHub platform to get their work reviewed. In case of approval, their work will merge into the main branch of the developing sub-project. If declined, it should be re-written and the submit/review process restarted.

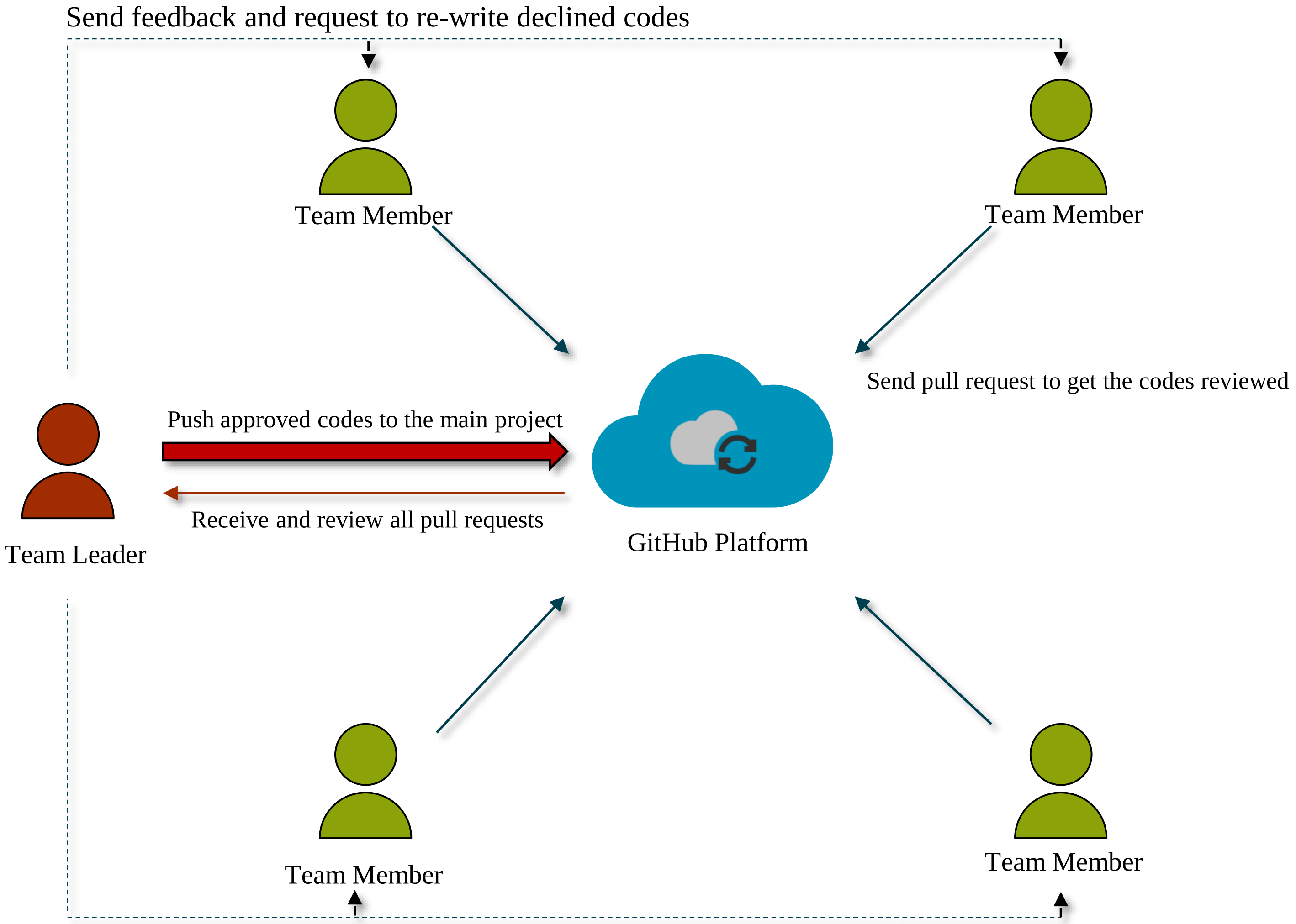
Stage 3: Handover
When the sub-project gets approvals from the Committee (in case of data modeling) or passes the test of users (in case of automation tools), The output will either be regularly post to API or to shared folders through module "post_phs". The API is the environment where Data Analytics Team and IT department interact without the need of a common programming language. IT department can send a get-request to this API and pull all model's results back to the company's system.

The way our team cooperates with other departments

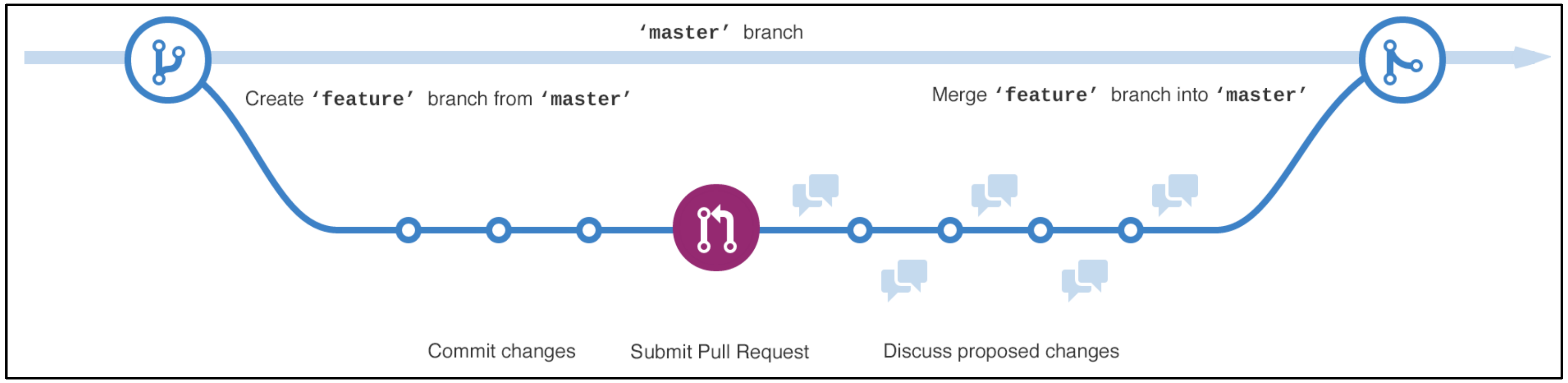


Deployment
IT
Department
API
Management's approvals for IT to grant Data Analytics Team necessary access to database
Raw Data Input or Database Access
Delivery
Management assigns task to Data Analytics Team. Constructive feedbacks are also frequently made to ensure mutual alignment
Top
Management
Data Analytics Team
Constant feedback and constructive communication to ensure mutual alignment
Delivery
Practical Usage
Functional departments reach out Management to requests Data Analytics Team to do a particular task.
Functional
Departments

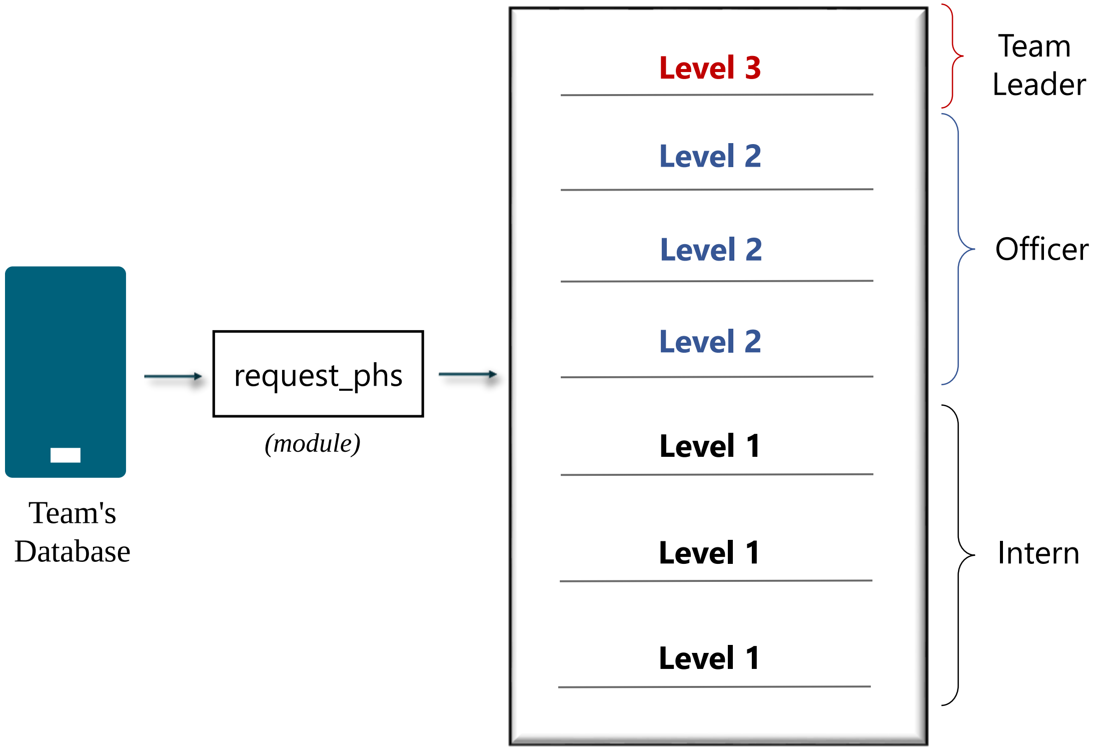
The way our team managed internally


Send feedback and request to re-write declined codes
Team Member
Team Member
Send pull request to get the codes reviewed
Push approved codes to the main project
Receive and review all pull requests
Team Leader
GitHub Platform
Team Member
Team Member

There is always *a single version* of project maintained in platform.
At the beginning of the day, each team member should send a request directly to the platform to clone the latest version of project to their local computers.
During the day, they write their code locally as usual.
At the end of the day, they are required to submit their codes by sending a pull request to the platform. The platform will notify the team leader about this submission and display a comparison between the latest version and the newly-written codes.
If the code is approved by the team leader, it will be incorporate to platform and becomes the latest version. If it's declined, it will be sent back the submitter to re-write, and the submit/review process restarts.


'master' branch
Create 'feature' branch from 'master'
Merge 'feature' branch into 'master'
Commit changes
Submit Pull Request
Discuss proposed changes

How we protect ourselves from data leak but ensure efficiency



Team's Database

request_phs

(module)

Level 3

Level 2

Level 2

Level 2

Level 1

Level 1

Level 1

Team Leader

Officer

Intern

- (1) Staff of all levels are prohibited from using USB and external hard-drives.
- (2) Interns and officers are only permitted to certain approved websites that directly support their work (Team Leader shall prepare a list of these websites). Team Leader is permitted to access to most websites for necessary reference. However, all kinds of social media, data drives, messaging platforms, personal emails are prohibited from staff of all levels.
- (3) Interns are not registered for a company email, they are not able to send/receive emails during their entire internship. Officers have Outlook email but anytime they send out attachment to internal email addresses, that email will cc to Team Leader & Head of RMD immediately. They are blocked from sending emails to external addresses. Team Leader has full use of email to ensure the team's communication with other departments.
- (4) Every team members are provided an SQL Server username to extract the data. However the password of intern's accounts and officer's accounts expire at 5:00PM and 9:00PM everyday, respectively. This mechanism is to ensure that they will not be able to access to the database out of work without supervision of the Team Leader. Team Leader has full-time access to the database to conduct heavy analysis that might be left running over-night.
- (5) Interns have no Base accounts. Officers do have Base account but only permitted to login via company's intranet, which means they cannot use Base out of the office. This mechanism is to ensure that they cannot upload files to Base apps and download those files later from personal devices. Team Leader is fully permitted to use Base.

Authorization Table

	USB Portal (1)	Web Browsing (2)	Email (3)	Server Username (4)	Base (5)
Level 1	Prohibited	Allow specified websites only	Prohibited	Dynamic (expire at 5:00PM everyday)	Prohibited
Level 2	Prohibited	Allow specified websites only	All internal emails with attachment will cc to Team Leader & Head of RMD automatically. Sending emails to external address is completely blocked	Dynamic (expire at 9:00PM everyday)	Permit access via intranet only
Level 3	Prohibited	All websites excepts drives, messenger apps, personal emails	Fully permitted	Full-time Access (permanent account)	Fully permitted

THANK YOU

👤 Hiep Dang
☎ +84 912 801 714
✉ hiepdang@phs.vn
🔗 www.phs.vn