SETTING UP JUPYTERHUB ON FEDGEN PRIVATE CLOUD FOR COLLABORATIVE AI PROGRAMMING

BY

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The 3rd Google TensorFlow College Outreach Bootcamp and FEDGEN Mini-Workshop

Date: 11th to 13th December, 2023

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Outline

- Background
- Jupyter Notebook and Jupyterhub
- Installation
- Demo
- Question

Background

Science in our modern day has become more collaborative and scalable in nature.

Background(2)

- In pursuant of SDG goal of achieving equal and quality education, opensource science has become a vital tool.

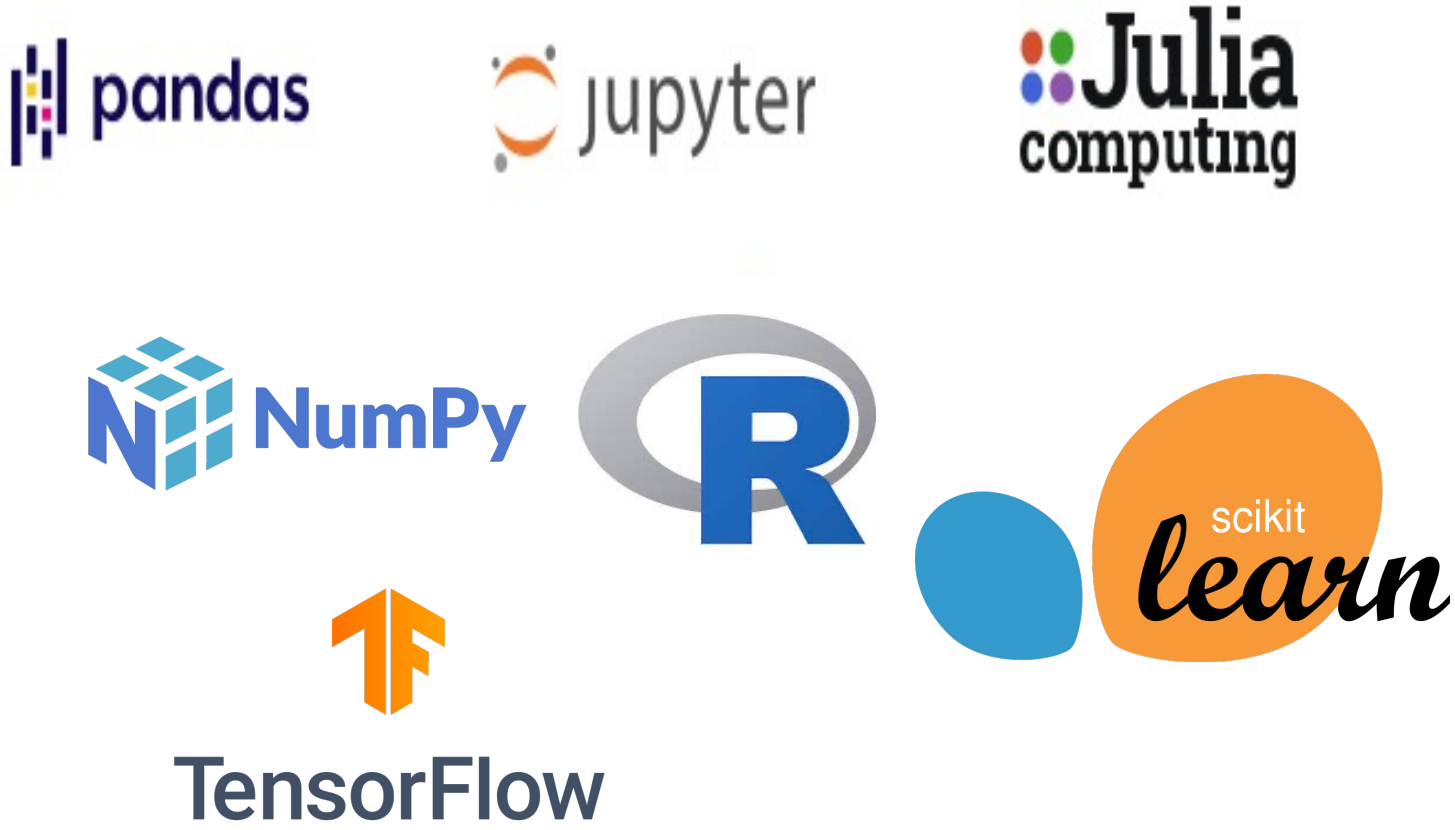
Background(3)

Needs of an Open-source Science

- Computational resource
- Platform for coding
- Channel of communicating work done
- Tool for exchange(Sharing)
- Replication
- Ease, Access and scale

Background(4)

- Ecosystem of software tools are available.



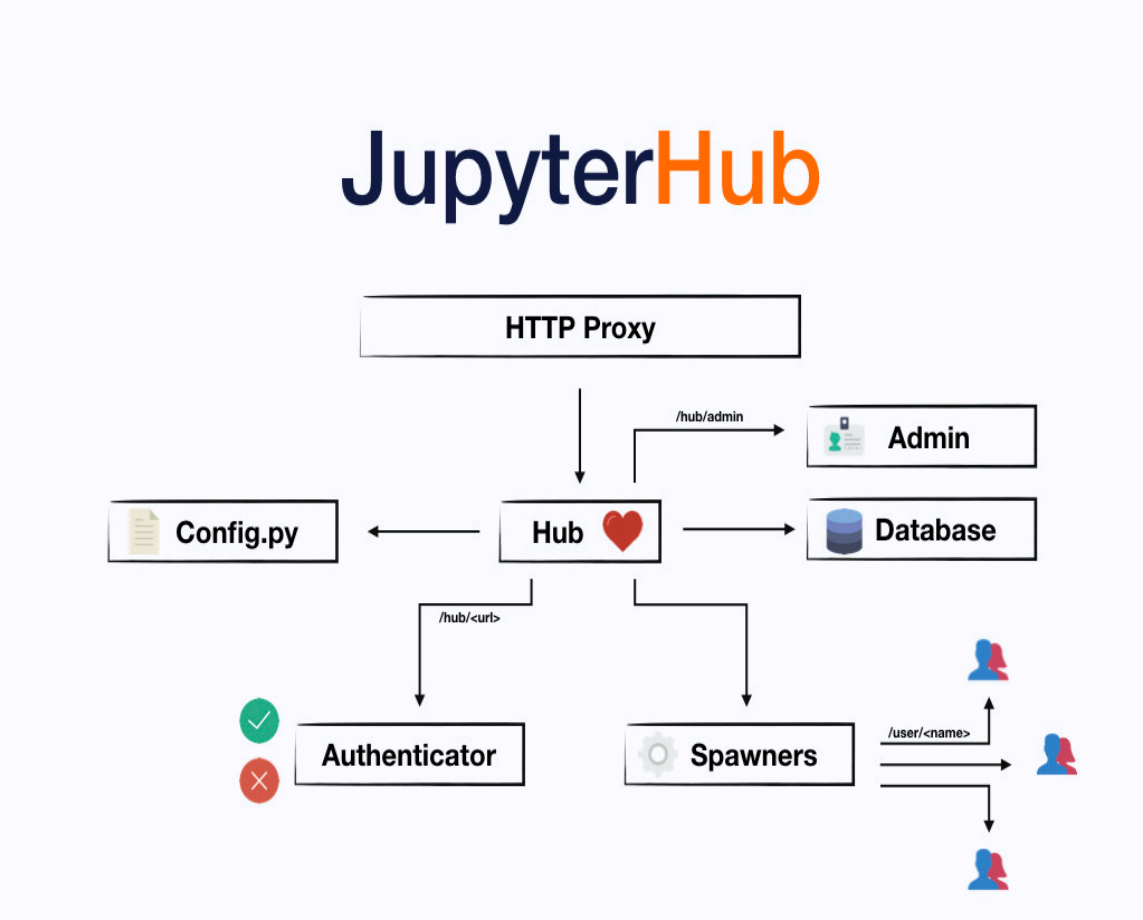
Background(5)

How can we

- Use these tools.
- Integrate languages
- Accessible to all

Background(6)

Jupyter notebook and Jupyterhub



- JupyterHub is a multi-user, web accessible, tool for running Jupyter notebook.
- Jupyter notebook is a interactive web application that enables the editing and running of documents using a browser.

Installation

Requirements

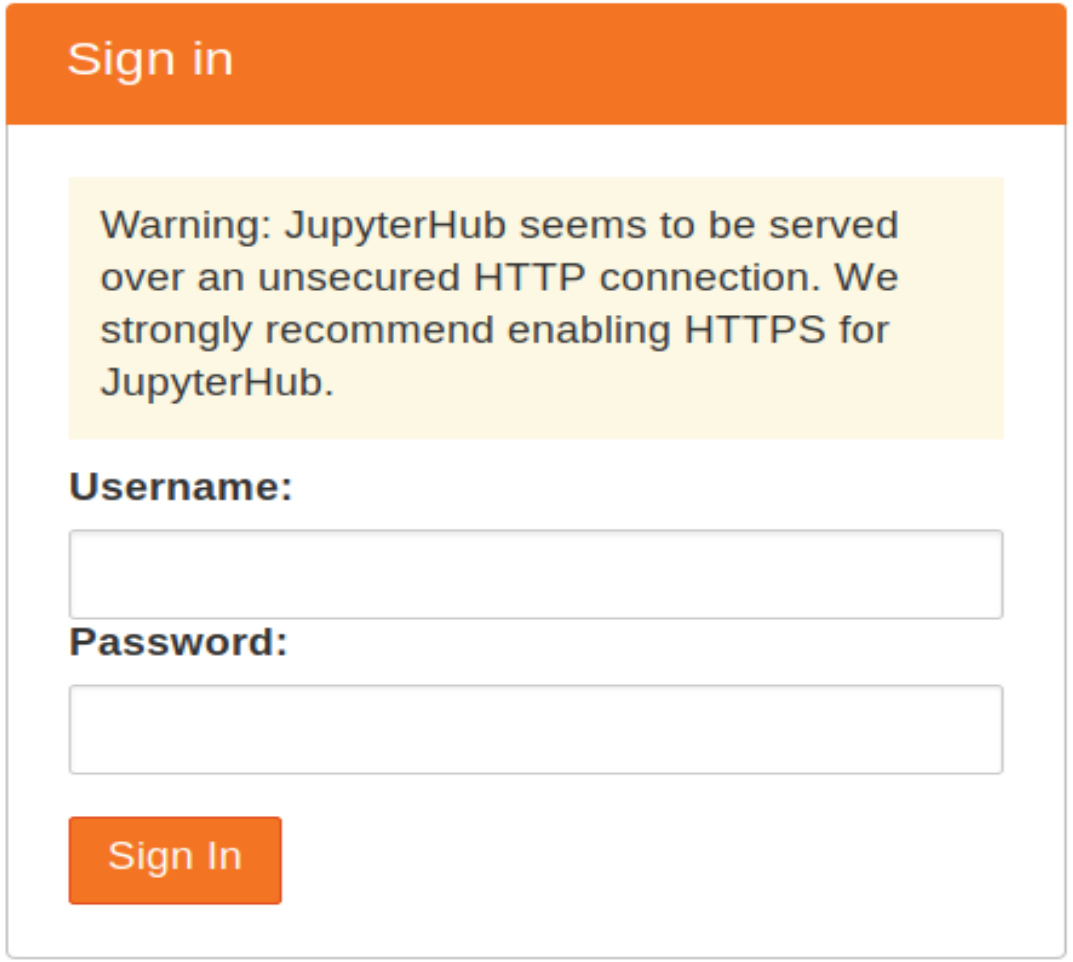
- Familiarity with command line
- A server with linux(preferably Ubuntu)
- Minimum o 1GB on the server
- A reachable IP address
- Ensure your server has python3, python3-dev, curl, and git

Installation(2)

STEP 1

- ssh into your server
- Type the command *sudo apt install python3 python3-dev git curl* in your terminal and press enter
- Type the command curl -L https://tljh.jupyter.org/bootstrap.py | sudo -E python3 - --admin <admin-user-name> into your terminal and press enter(replace <admin-user-name>) with a username of your choice.
- Copy the IP address of your server and access it from your browser

Installation(3)



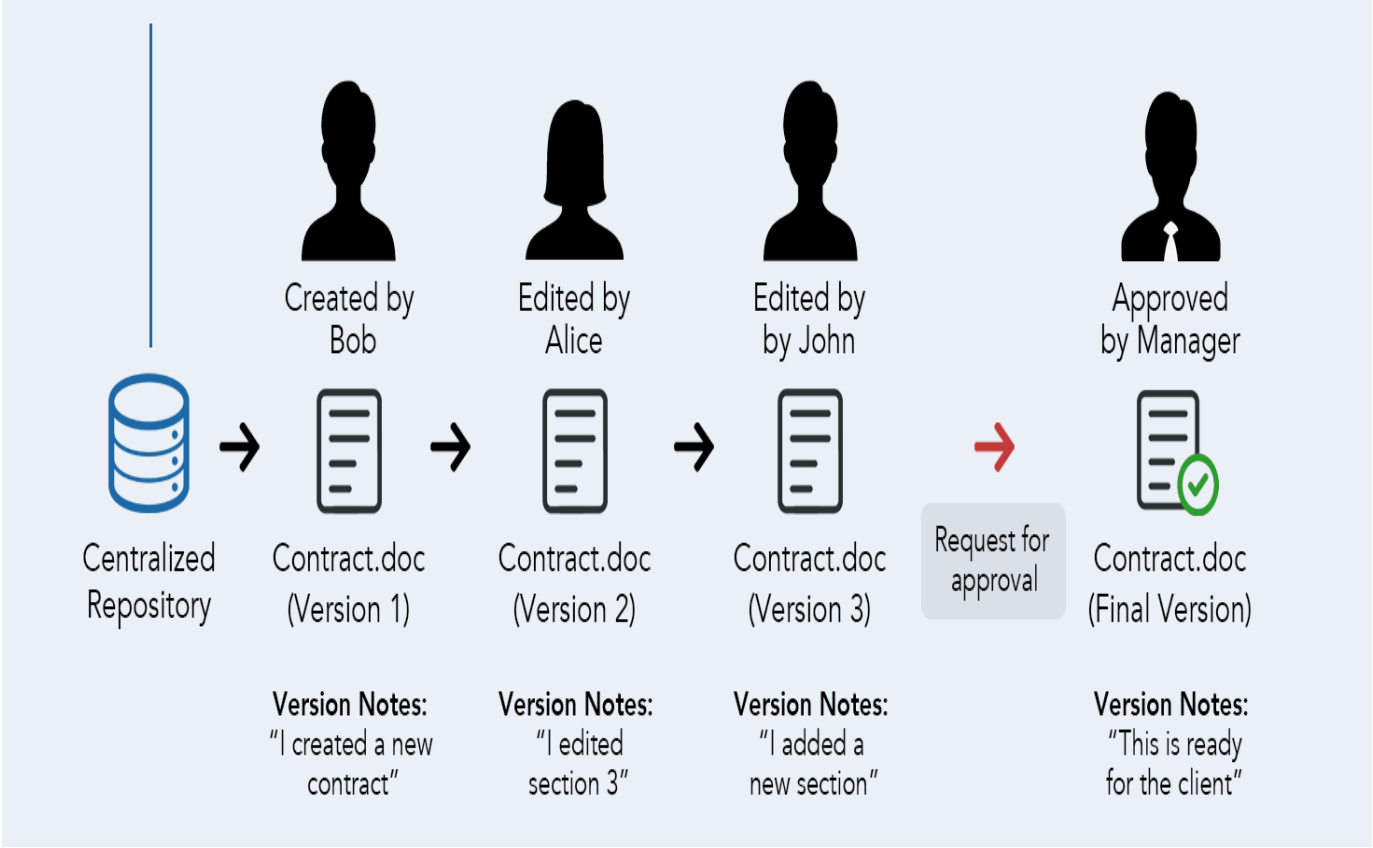
QUESTIONS

VERSION CONTROL WITH GIT AND GITHUB

OUTLINE

- What is Version Control
- Why Need Version Control
- Version Control Tools
- Git
- Basic Terms
- Hands-On

What is Version Control



- Version control is the management of document modification, computer codes, and other collection of information.
- The modifications are usually known as versions

Why Need Version Control

- Team work becomes easier and efficient.
- Proper documentation

Why Need Version Control

- Backup
- Analysis

Version Control System Tools

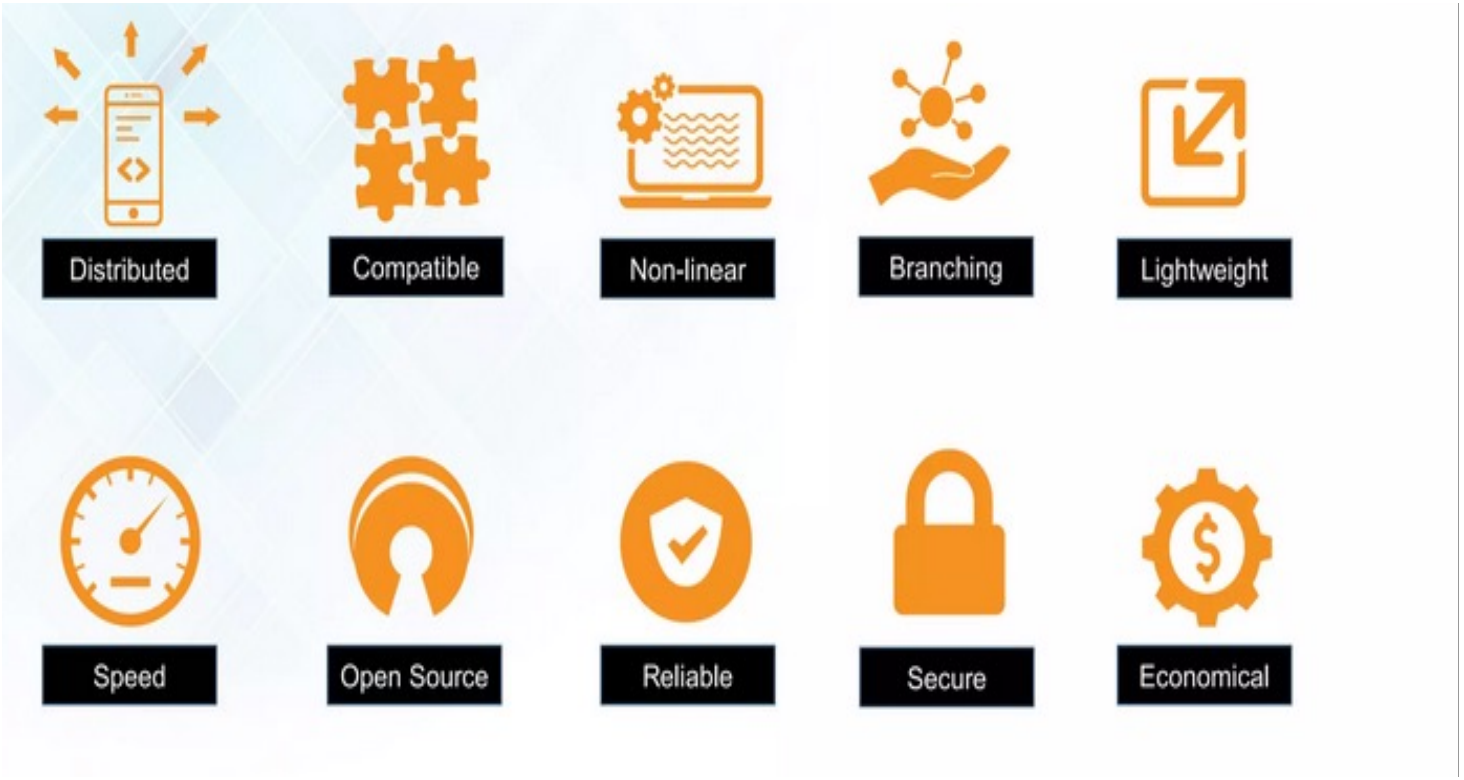
Git

- This is a distributed and non-linear VCS tool for developing softwares in a collaborative approach.

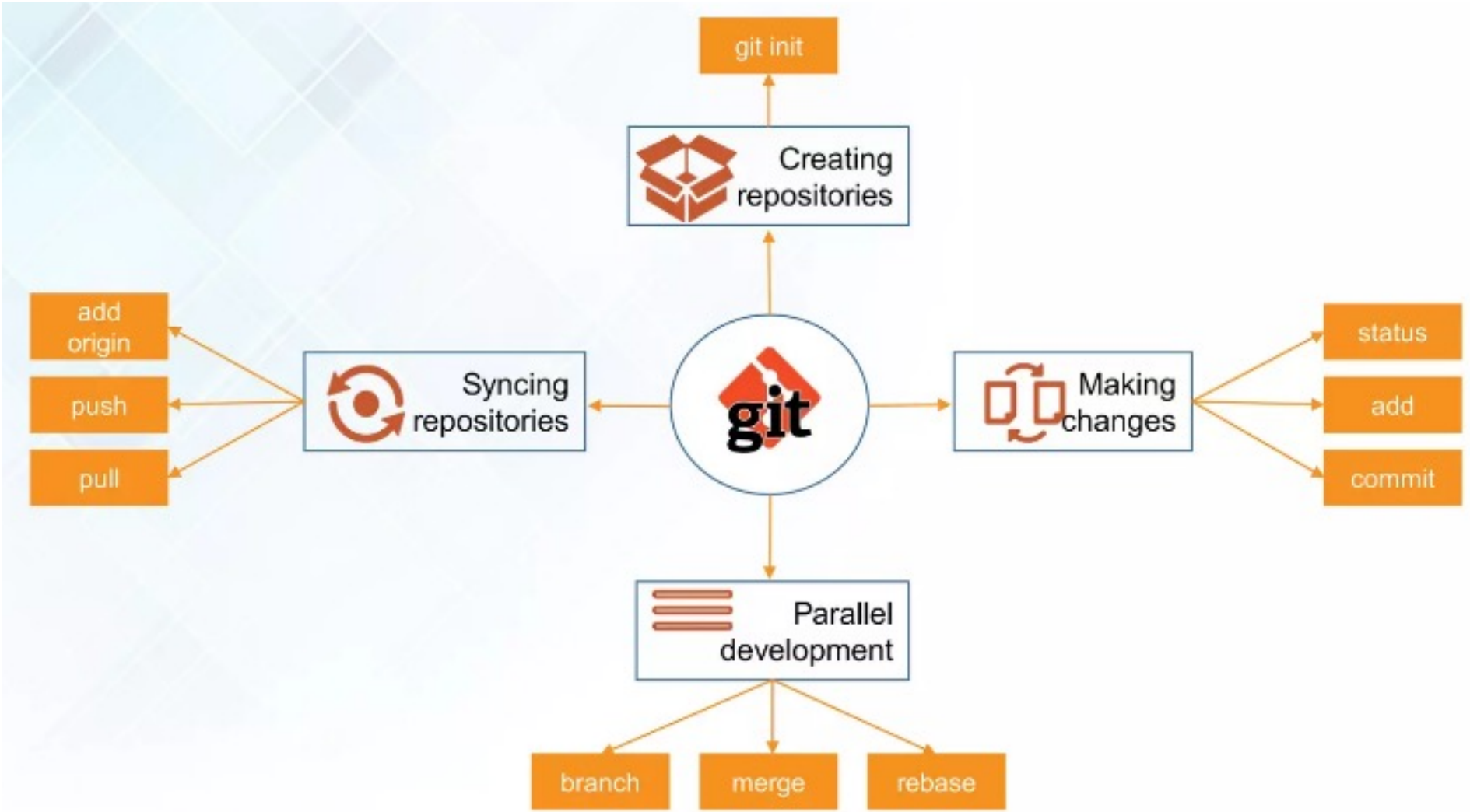
git

Git(2)

What are the features of Git



Git Commands



Basic Terms

- Directory
- Repository
- CLI
- Cd
- Code Editor
- Github
- Clone

Git Installation

- Visit : https://git-scm.com/downloads to download git for your version of operating system
- On your machine, run the downloaded git setup and follow the prompt to install git
- Launch the git bash after installation to start the git terminal
- Visit the https://github.com to sign up for a github account

Hands-On

References

1. Google images
2. What is Git | What is GitHub | Git Tutorial | GitHub Tutorial | Devops Tutorial | Edureka | PPT (slideshare.net)
3. https://www.globalgoals.org/goals/4-quality-education/
4. Are You Collaborative In Your Research? – eShipGlobal
5. Sustainable Development Goal #4: Quality Education | Flickr

THANK YOU FOR YOUR TIME