

Git & GitHub: In-Team Collaboration and Open Source Contributions

Quantum Software Development Journey: From Theory to Application with Classiq - Part 2



Program Overview

Quantum Software Development Journey: From Theory to Application with Classiq

- Week 1: Introduction to the Classiq Platform & High-Level Functional Design
- **Week 2: Git & GitHub - Software Development Skills**
- Week 3: Introduction to Quantum Machine Learning & VQE
- Week 4: QNN and Advanced Applications

Session Overview

Git & GitHub - Software Development Skills

Introduction to Git & GitHub - 30 min

- What is Version Control, Git and GitHub?
- How it works?
- Basic Concepts and Commands of Git & GitHub

Hands-On First Good issue - 60 min

- Git-Katas
- Push & Pull
- Pull Request (PR) & issues

Let's practice!

Version Control

- What is it?
 - System responsible for managing changes of computer programs
- Why is it good?
 - Keeping track
 - Safeguarding & Backup
 - Collaboration

Git

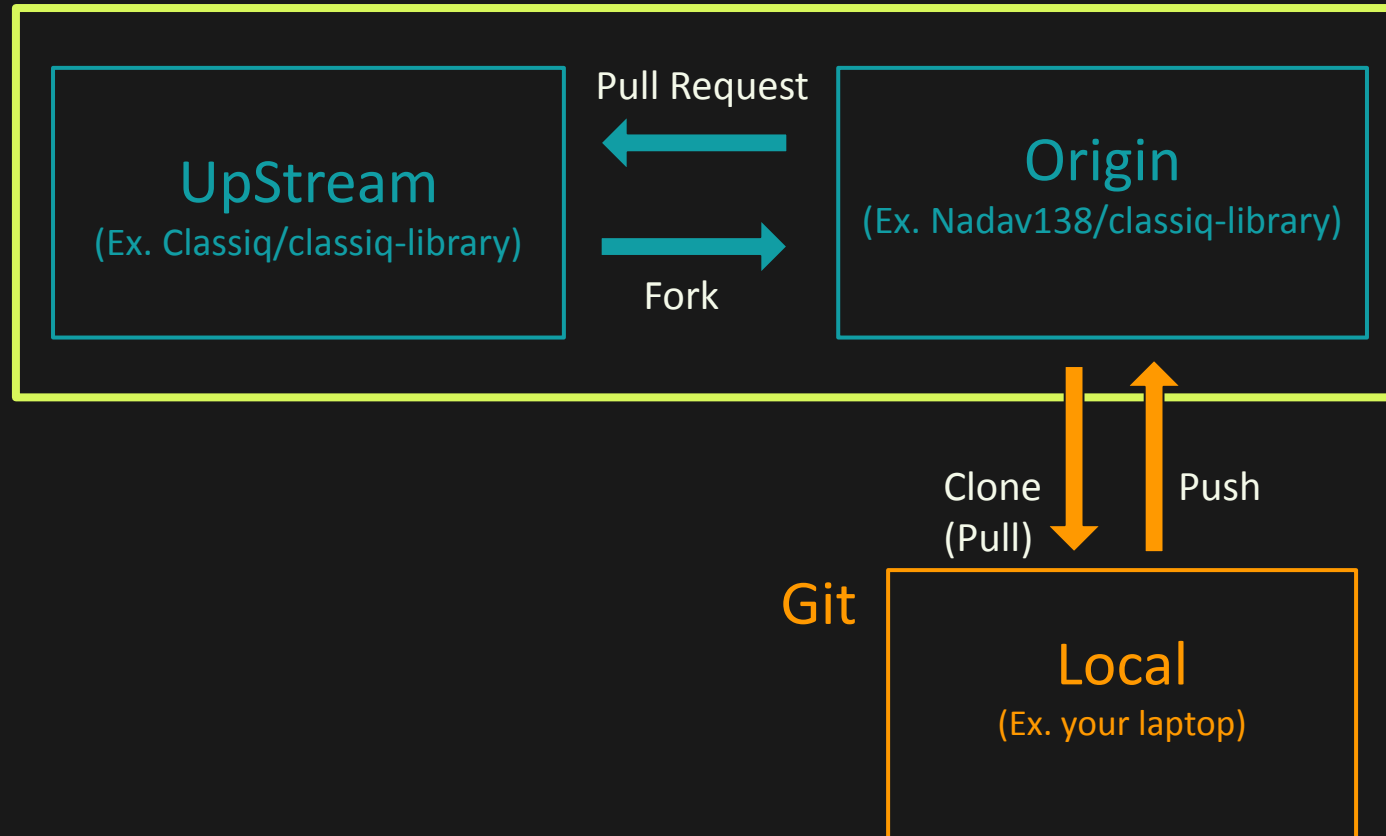
- What is it?
 - Distributed version control system (in contrary to centralized)
 - Simply - A memory system!
- Why is it good?
 - Each user has a working copy and the full change history
 - Allows users to work productively when not connected to a network
 - Common operations are faster

GitHub

- What is it?
 - Simply - Website!
- Why is it good?
 - Enable to store, manage and share code
 - Open source collaborations
 - Bugs tracking
 - Tasks management
 - Integration & Automation

Git & GitHub

GitHub



Basic Commands

- `git init`
- `git clone [URL]`
- `git status`
- `git add [file name]`, `git add .`
- `git commit -m "[commit message]"`

Basic Commands

- `git branch`, `git branch [branch-name]`, `git branch [branch-name] -d`
- `git checkout [branch-name]` , `git switch [branch-name]`
- `git merge [branch-name]`
- `git push`
- `git pull`

Session Overview

- What is Version Control, Git and GitHub?
- How it works?
- Basic Concepts and Commands of Git & GitHub
- **Hands-on Practice**
 - [Install Git](#)
 - [Register to GitHub](#)
 - [Install GitHub Desktop \(optional\)](#)
- **Git-Katas**
- **Push & Pull**
- **Pull Request (PR) & issues**
- **Let's practice!**

Hands-On Practice: Git

- In GitHub search for “git-katas”
<https://github.com/eficode-academy/git-katas>
- **Hands-on Practice**
 - **Basic Commits**
 - **Basic Staging**
 - **Basic Branching**
 - **Fast Forward Merge**

Hands-On Practice: GitHub


- In GitHub search for “QClass-2024”
<https://github.com/Nadav138/QClass-2024>
- **Hands-on Practice**
 - Pull and Push
 - Pull Request
 - Issues

Notes

- [State Vector Simulator](#) (from the last session)
- ML poll in our Slack channel (for the next session)
- [GitHub repo](#) for course materials and submissions
- Assignment #2: "HW2_QClass2024.ipynb" + ML basics preparation

 CLASSIQ

THANK YOU

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