

# Instructions GitHub and PHREEQC

## 1 Installation and Access to PHREEQC and GitHub

### 1.1 GitHub Repository

We store files for our PHREEQC modelling on GitHub. Connect to the relevant GitHub repository for the lecture. If you don't have a GitHub account, create one. We take you through the process below. If you have any questions, we will help during the lecture.

#### 1.1.1 How to Create a GitHub Account

1. Visit [github.com](https://github.com) in your browser.
2. Click Sign up and follow the prompts to create an account with your email.
3. Verify your email and set up two-factor authentication for security.
4. This is free for basic use and requires no installation.
5. Here is the link with information on setting up an account

#### 1.1.2 How to Access the Repository

Here is link to the needed repository. You should see this when connected.

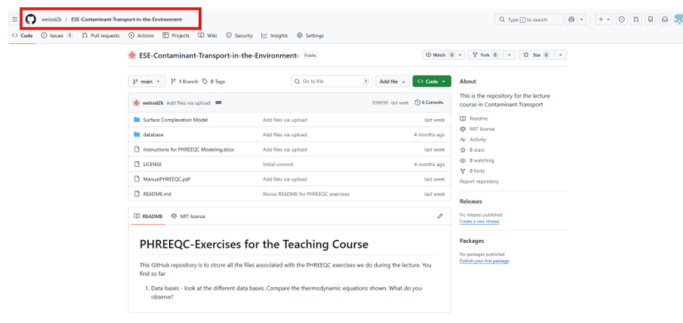


Figure 1: Git Hub repo for course

Different options for connecting to the repository are available.

**Option 1: Via Internet** Instructions for connecting to the repository via internet are provided here [link](#)

## Option 2: Via your computer

First we need to instal Git on your computer. Git enables you to access GitHub repositories from your terminal or command prompt. Download it from the official site: [git-scm.com/downloads](https://git-scm.com/downloads). Installation varies by OS

### On Windows

1. Download the installer from [git-scm.com/download/win](https://git-scm.com/download/win)—it starts automatically.
2. Run the .exe file and follow the wizard. Accept defaults unless you have specific preferences (e.g., use Git Bash as your terminal).
3. During setup, choose to add Git to your PATH for easy access from the command prompt.
4. After installation, open Command Prompt or Git Bash and verify with `git -version`.

### On macOS

1. If you have Xcode Command Line Tools installed (common for developers), Git might already be there—check with `git -version`.
2. Otherwise, download it from [git-scm.com/download/mac](https://git-scm.com/download/mac) or instal via Homebrew: Open Terminal and run `brew instal git` Instal Homebrew if needed.  
`/bin/bash -c "(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"`.
3. Verify with `git -version`.

### On Linux (e.g., Ubuntu/Debian)

1. Open your terminal.
2. Update packages: `sudo apt update`.
3. Install Git: `sudo apt install git`.
4. For other distributions like Fedora: `sudo dnf install git`.
5. Verify with `git -version`.

### Then we need to configure Git with Your GitHub Account

1. Set your username: `git config -global user.name "Your Name"`.
2. Set your email (use the one from your GitHub account): `git config -global user.email "your.email@example.com"`.
3. Generate an SSH key for secure connections: `ssh-keygen -t ed25519 -C "your.email@example.com"` (press Enter for defaults).

4. Add the key to your GitHub account: Copy the public key  
(`cat ~/.ssh/id_ed25519.pub`),  
go to GitHub Settings  $\rightarrow$  SSH and GPG keys  $\rightarrow$  New SSH key, and paste it.
5. You can now clone repositories, e.g., `git clone https://github.com/username/repo.git`.

You can also install GitHub Desktop (For a GUI Experience) If you want a user-friendly app instead of the command line:

Download from [desktop.github.com](https://desktop.github.com).

- For Windows: Click Download for Windows (64bit) and run the installer.
- For macOS: Click Download for macOS, unzip, and move to Applications.

Launch the app, sign in with your GitHub account, and it will guide you through setup (including installing Git if missing).

Additional Option: Install GitHub CLI (For Advanced Command-Line Tools) If you need GitHub-specific commands (e.g., creating pull requests from terminal): Download from [cli.github.com](https://cli.github.com). Install via package manager (e.g., `brew install gh` on macOS, `winget install -id GitHub.cli` on Windows). Authenticate: Run `gh auth login` and follow prompts. If this doesn't match

## 1.2 PHREEQC software

Option 1 – Via Software Hub

1. Log in to Software Hub using Imperial username and password. (Log in — Imperial AppsAnywhere)
2. Download AppsAnywhere if not installed.

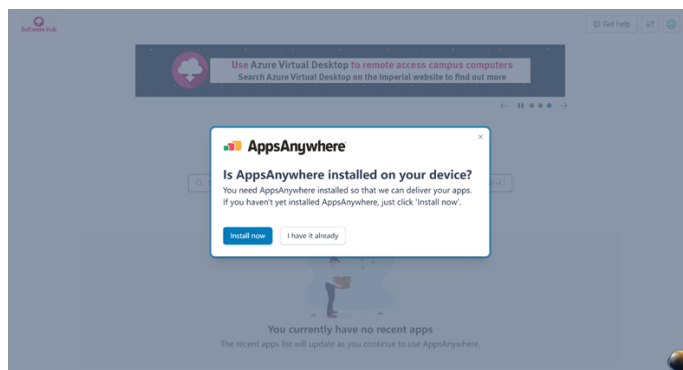


Figure 2: Window inviting you to download AppsAnywhere

3. Search for PHREEQC in the search bar to launch the software.
4. The PHREEQC interface will appear, enabling you to run input files.

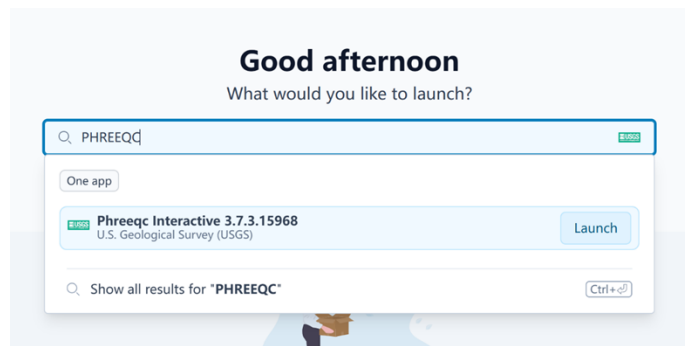


Figure 3: Dowloand software

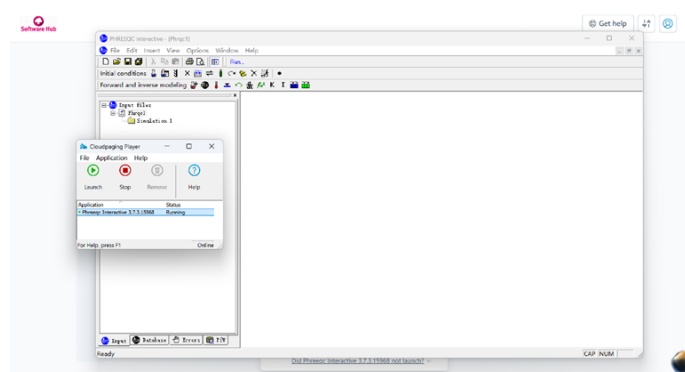


Figure 4: PHREEQC Interface

Option 2 – via programme downloaded from the web

1. Access the USGS web page and download “phreeqci-3.8.6-17100.msi” under Graphical User Interfaces (Only batch version of PHREEQC is available for MacOS, so it is recommended to use Software Hub for Macbooks).

#### Download Current Version of PHREEQC

##### Graphical User Interfaces

- Windows 32-bit: [phreeqci-3.8.6-17100.msi](#) - Executable, database files, examples, PDF documentation
- Windows 32-bit: Notepad ++ [interface](#) - Appelo's Notepad ++ interface to PHREEQC version 3

Figure 5: Link to download PHREEQC

2. Complete the installation and run Phreeqc Interactive.