ONNX Git Hands-on

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Data and AI
Open Source Dojo

Outline

- ❖ Unit 1: Git overview and setup
- ❖ Unit 2: The onnx-dojo repository
- ❖ Unit 3: Create branch and commit
- ❖ Unit 4: Create and merge pull request

Unit1: Git overview and setup

- **Goal of unit 1: At the end of unit 1, you will learn git, github, repo, and setup your git environment for remaining labs**

- Prereqs: introduction, details, install, and config videos
- Git is an open-source version control system
- Git stores file changes efficiently and ensures file integrity
- Git is a command-line tool
- Github is where developers store their projects and network with others
- A repository (abbreviated “repo”) is a location where all the files for a particular project are stored.

Unit1: Git overview and setup

- Step 1.1: install git
  - Ubuntu: *$ sudo apt install git*
  - OS X: *$ brew install git*
  - Verify: *$ git --help*
- Step 1.2: Configure git (alternatively using .gitconfig)
  - User name and email
    - *$ git config --global user.name "John Doe"*
    - *$ git config --global user.email johndoe@example.com*
  - Setup a default text editor when git needs you to type in a message
    - *$ git config --global core.editor vi*
  - Setup a push default option to simple
    - *$ git config --global push.default simple*
  - Check settings: *$ git config --list*

Unit 2: ONNX-Dojo Repo

- **Goal of unit 2: At the end of unit 2, you will learn the onnx-dojo repo and how to create a fork, clone, and setup an upstream**

- Quick overview: just about everything for the ONNX-Dojo training (https://github.com/chinhuang007/onnx-dojo)
  - Presentations under the docs folder
  - Labs under lab_xxx folders with all the
  - Participants under profiles folder

Unit 2: ONNX-Dojo Repo

- Step 2.1: fork the repo
  - “Fork” is when you create a new project based off of another project that already exists. It makes a copy the project in the cloud so you can easily make changes, and later create and merge pull requests into the upstream project
  - In a browser, go to https://github.com/chinhuang007/onnx-dojo, and click ‘Fork’ on the upper right hand corner. When prompted, make the fork go to your user account.
  - Verify: Check in browser, you should have a repository https://github.com/<user-name>/onnx-dojo

Unit 2: ONNX-Dojo Repo

- Step 2.2: clone the repo
  - “git clone” clones a repository into a new directory as a local repository, for local changes
  - *$ git clone https://github.com/<user-name>/onnx-dojo.git*
  - Verify: a folder ‘onnx-dojo’ is created
  - Verify: cd to ‘onnx-dojo’ and *$ git remote -v* should return 2 entries with URLs for your remote repository origin
- Step 2.3: setup upstream
  - “upstream” is from where you clone the repository so in our case is https://github.com/chinhuang007/onnx-dojo
  - *$ git remote add upstream https://github.com/chinhuang007/onnx-dojo.git*
  - Verify: in ‘onnx-dojo’ folder *$ git remote –v* should return 4 entries with 2 each for origin and upstream

Unit 3: Create branch and commit

- **Goal of unit 3: At the end of unit 3, you will learn how to create a branch, make changes, and push a commit**

- Quick overview: You are going to add a short intro doc about yourself under the profiles folder. A reference is https://github.com/chinhuang007/onnx-dojo/blob/master/profiles/ChinHuang.md. Please include at least your name and email address. Anything else is a plus ☺

Unit 3: Create branch and commit

- Step 3.1: create a branch
  - Check the current branch first *$ git branch* should show just master branch
  - To make changes and later create commits, we need to create a local branch to work on.
  - *$ git checkout –b add-your-name-profile* (for ex. add-chin-huang-profile)
  - Verify: *$ git branch* should show two branches now and the active one with * mark
- Quick tips:
  - Always work on a new branch and keep master clean
  - Use one branch to solve one problem
  - Limit the size of changes in a branch
  - Never work directly on or commit to master!

Unit 3: Create branch and commit

- Step 3.2: create your profile
  - Create a file under profiles folder. You could use .md or simple text file
  - Check your branch status
    - *$ git status* should show you are on your branch with an untracked file
- Step 3.3: create a commit
  - First need to add the change to be committed
    - *$ git add your-file-name*
    - *$ git status* should show a new file as changes to be committed
  - Next create a commit
    - *$ git commit* should open the editor you specified in step 1.2
    - The first line is the commit title, such as “Add John Doe”
    - Put an empty line and the text below will be the commit message, describing why the commit exists
    - Once done exit the editor with a normal exit and save

Unit 3: Create branch and commit

    - Check your branch status
        - *$ git status* should show you are on your branch with nothing to commit
- Step 3.4: push up a commit
    - Now you need to push the commit up to the remote repo
        - *$ git push origin add-your-name-profile*
        - Enter your git user name and password when prompted
    - Check your commit is pushed up and ready for a pull request
        - In a browser, go to https://github.com/chinhuang007/onnx-dojo and your branch should appear as ready for a pull request
        - Next go to https://github.com/<user-rname>/onnx-dojo and click on Branch: master switch to "*add-your-name-profile" branch*
        - Navigate to profiles folder and your newly added file should be there

Unit 4: Create and merge pull request

- **Goal of unit 4: At the end of unit 4, you will learn how to create, review and merge a pull request**

- A pull request tells other community members about the changes you have pushed to a repository
- Other contributors can review your proposed changes, add review comments, contribute to the pull request discussion, and even add commits to the pull request.
- After everyone is happy with the proposed changes, the pull request will be merged into the target branch.
- Step 4.1: create a pull request
  - In a browser, go to https://github.com/chinhuang007/onnx-dojo and click “compare & pull request” button for your branch
  - You could add more detailed message, screen shots, links to issues and other PRs. Lets add a person mention so he/she will get an email notification for the change.

Unit 4: Create and merge pull request

  - Type ‘@chinhuang007 Check this out” in the text field.
  - Click “Create pull request” button.
  - Verify: The pull request is created. All checks and CI should be run and notification sent.
  - Verify: The “merge pull request” button should be green after all checks passed.

- Step 4.2: review a pull request (instructors lead)
  - In a browser, go to https://github.com/chinhuang007/onnx-dojo and click “Pull Requests” tab.
  - Find the pull request with title “Update readme”
  - Associate with an issue
  - Review the changes and run tests if needed
  - Leave a comment
  - Provide final review and approval (options: comment, request changes, approve)
  - Verify: The pull request has one approval.

Unit 4: Create and merge pull request

- Step 4.3: merge a pull request (instructors lead)
  - Finally click “Merge Pull Request”
  - Click “Confirm Merge”
  - Verify: The pull request status is changed from “Open” to “Closed”
  - Verify: The associated issue is also changed from “Open” to “Closed”
  - Verify: The repo is updated with the changes.
- Step 4.4: delete working branch and rebase master (optional)
  - Once a pull request is merged, the working branch can be deleted.
    - *$ git checkout master*
    - *$ git branch -D add-your-name-profile*
    - *$ git branch* should should master only
  - Rebase your master branch so you are in sync with upstream master.
    - *$ git fetch upstream*
    - *$ git rebase upstream/master*

Unit 4: Create and merge pull request

- *$ git push origin master*
- Enter your git user name and password when prompted
- Your remote repo master should be updated now.
- Verify: go to https://github.com/<user-name>/onnx-dojo and check your master branch is even with upstream master
- Verify: navigate through https://github.com/<user-name>/onnx-dojo to see the latest contents
- Now you are good to go, working on next PR!