Our Git workflow

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Online (remote) and local repositories

GitHub

pull request

push

pull

the_feature

main

Local: Emma

another_feature
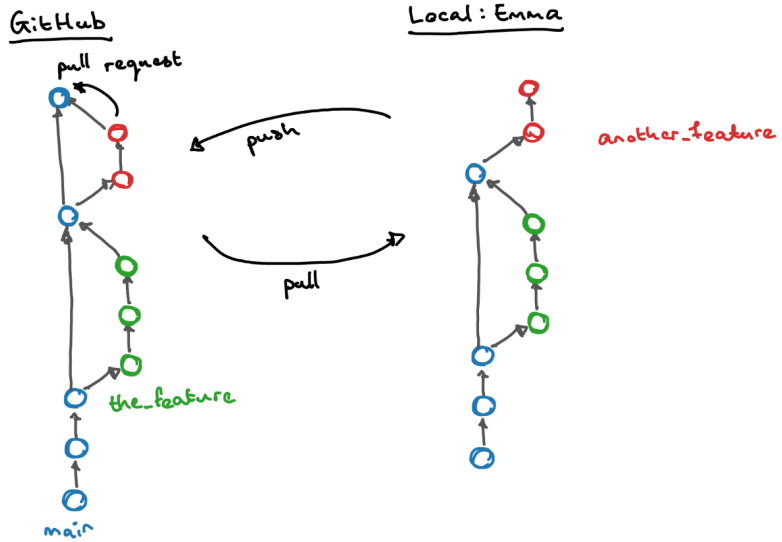
Git workflow

Create the repository

Do this directly on GitHub.

Clone the repository

```
git clone https://github.com/kamperh/newproject
```

Create a branch

```
git checkout -b newfeature
```

Make changes and push

```
subl newscript.py
git add newscript.py
git commit -a -m "Added my new script"
git push --set-upstream origin newfeature
```

Create a pull request

Do this directly on GitHub.

After pull request accepted: Pull and delete your branch

```
git checkout main
git pull
git branch -d newfeature
```
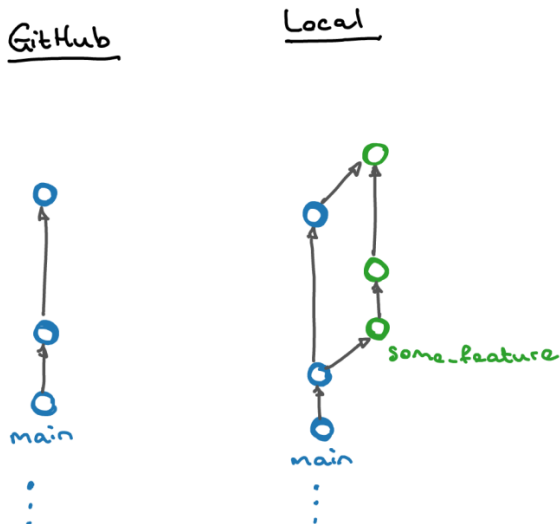
Finer-grained workflow

Create a branch online

You can also create a new branch directly on GitHub.

Then you need to pull that branch to your local repository:

```
git branch -r
git checkout another_feature
```

Merging in changes from main into your branch

```
git checkout main
git pull
git checkout newfeature
git merge main
```

Trunk-based development

You don't want several collaborators to be working on separate feature branches for several days and weeks while the main branch moves on.

The idea in trunk-based development is that collaborators do work in many small batches and then merge their updates directly into the main branch (the trunk), ensuring that everything works when they do so. The implications are that:

- You will push into main often: at least once a day, but probably several times per day.

- Your branches will have a short lifespan. Just delete them when you are done.

- The main branch is always up to date with everyone's work.

Other Git things to know about

- Merge conflicts

- gitignore files

- Git credentials, i.e. saving your username and password:

    ```
    git config --global credential.helper store
    git pull
    ```

    To reset your credentials when they expired:

    ```
    git config --global --unset credential.helper
    ```

- Graphical user interfaces for Git:

    ```
    gitg
    gitk
    ```

Further reading

A successful Git branching model

GitHub flow

How can I save username and password in Git?

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