Lab 6 - Team project resources

Due   **Friday 11/19/21**

Note: *You will receive full credit if you submit <u>at least some</u> of this assignment (e.g., Part A) by "midnight" on this date, then complete the rest within **3 days** of the due date. See the [grading policies section of the syllabus](#) for details.*

Also

Make a copy of this google doc (using the File menu) and share it with mca-tas@stolaf.edu
- Please use your **St. Olaf email account** (@stolaf.edu).
- Please retain **Copy** and **Lab 6** in the document title.
- **Enter your username here:**

  khan6

A. Team stogit repo

1. First, **on your laptop (or desktop) OR a Link machine** (whichever is most certain to work…), make a clone of your project team's repo in a new subdirectory `~/MCA/proj` .

```
cd ~/MCA
git clone git@stogit.cs.stolaf.edu:mca/f21/repo.git  proj
```
   Notes:
   - For ***repo*** , use your project team's repo name, which is one of the following:

     ```
     food home sched alert comm sky
     ```

     - Look in email for a notice that you became a member of one of these repos.
   - Include the final command-line argument **proj** as the (new) destination directory for that clone. (We will refer to the name proj in the future.)
   - **Do not push files within ~/MCA/proj to your personal MCA repository.**
     Instead, *cd to ~/MCA/proj* (or a subdirectory of that) to perform pushes and pulls for your project work.

     - The remote called `origin` within `~/MCA/proj` will refer to your shared team repository.
     - The remote called `origin` within `~/MCA/examples` will refer to the

> MCA examples repository `mca/f21/examples` (after Lab 5).
> ● The remote called `origin` **elsewhere** in ~/MCA will refer to your personal MCA repo `mca/f21/username`.

If you had any trouble with this step, please describe it here. Otherwise enter "None"

The remaining steps of this part should be carried out in coordination with your project team.

2. **One person on the team** should create a subdirectory lab6 **within your shared team repository**, then create a file named with their username

```
# ONE PERSON ONLY
cd ~/MCA/proj
mkdir lab6
cd lab6
touch username
```

- ● The touch command creates an empty file (or if that file already exists, it changes the access date associated with that existing file to the current time).
- ● You could alternatively create the file (perhaps containing content) using an editor.

Now **that person only** should add/commit/pull/push that new file `proj/username` to stogit.

- ● This updates the *team repository*, not that person's course repository.

If you had any trouble with this step, please describe it here. Otherwise enter "None"

3. **After the previous step, the other person(s) on the team** should pull to update their ~/MCA/proj directories.

```
# OTHER PERSON(S) ON THE TEAM ONLY
cd ~/MCA/proj
git pull origin master
```

The other person(s) should check that they now have a ~/MCA/proj/lab6 subdirectory containing a copy of the file that the first person created.

If you had any trouble with this step, please describe it here. Otherwise enter "None"

None

- The touch command creates an empty file (or if that file already exists, it changes the access date associated with that existing file to the current time).
- You could alternatively create the file (perhaps containing content) using an editor.

Next, the other person(s) should create their own files named with their own usernames in ~/MCA/proj/lab6, and add/commit/pull/push to upload those files to stogit.

If you had any trouble with this step, please describe it here. Otherwise enter "None"

> none

4. Next, all members of the team should read other members' files, change the contents of their own files and pull/push to update stogit, pull to obtain the changes others made in their files, etc.

If you had any trouble with this step, **or saw unexpected results,** please describe it here. Otherwise enter "None"

> none

5. Now try some modifications of your own file in ~/MCA/proj/lab6 **on your laptop** (if you previously used a Link machine) **OR on a link machine** (if you previously used your laptop/desktop)
    - First, you'll have to clone your team's repo to ~/MCA/proj on the new system.

```
cd ~/MCA
git clone git@stogit.cs.stolaf.edu:mca/f21/repo.git  proj
```

If you had any trouble with this step, **or saw unexpected results,** please describe it here. Otherwise enter "None"

> none

6. Finally, team members should try editing **each other's** files and pull/push the modifications.
    - **Note:** If two people edit the same file, there may be merge conflicts…

If you had any trouble with this step, **or saw unexpected results,** please describe it here. Otherwise enter "None"

> none

Note: Your submission for this part is your team's ~/MCA/proj/lab6 directory - no need for additional submission steps.

B. Team database schema on anansi

1. **On a Link machine**, use psql to connect to your **team's** database schema **on anansi.stolaf.edu**

```
shell prompt$  psql mca_f21 -h anansi.stolaf.edu
mca_f21=> SET search_path = mca_f21_repo, username,public;
mca_f21=> \d
```

Notes:
- For `mca_f21_repo` , use your project team's schema name, which is one of the following:
  `mca_f21_sky mca_f21_alert mca_f21_comm mca_f21_food`
  `mca_f21_home mca_f21_sched`
- Use your own *username* , e.g., `jones1`
- The \d command shows all tables you can access using your current search path. You should see some tables such as sailor for the public schema, plus any tables you created in your own **anansi** schema (such as button_count), but no tables for the team's `mca_f21_repo` schema at this point.

If you had any trouble with this step, please describe here. Otherwise enter "None"

The remaining steps of this part should be carried out in coordination with your project team.

2. **One person on the team** should create a table lab6 within psql connected to anansi .

```
-- ONE PERSON ONLY
mca_f21=> CREATE TABLE lab6 (
            id int PRIMARY KEY,
            val text
          );
mca_f21=> GRANT ALL ON TABLE lab6 TO mca_f21_repo;
```

- Since the `mca_f21_repo` schema is listed first in the current search path, the new table will appear in that team schema.
- The GRANT command in SQL provides privileges to others for a table you control. The person who CREATEs the table lab6 owns that new table, and other team members will not have privileges to perform SELECT, INSERT, UPDATE, or other operations on that table without a GRANT command giving them those rights.
- This GRANT command confers privileges on your *postgres group*

mca_f21_*repo*. Your group includes all of your team members, plus the course's professor(s) and grader(s). Note that Postgres permits a group and a schema to have the same name, just as it allows your username and your personal schema to have the same name.

If you had any trouble with this step, please describe here. Otherwise enter "None"

3. Now, all members of the team should see the new table lab6 **in the** mca_f21_*repo* **schema** on their own psql programs (connected to anansi). (No counterpart to "pull" is needed.)

```
-- EVERYONE
mca_f21=> \d
mca_f21=> SELECT * FROM lab6;
```
  ○ No rows will appear in that table lab6 at this point.

If you had any trouble with this step, please describe here. Otherwise enter "None"

4. Finally, all members of the team should use INSERT to add rows to the table lab6 using their own psql's.
  ○ Everyone should see everyone's changes immediately.
  ○ Entering the same id value should cause rejection, because of the primary key constraint.

If you had any trouble with this step, please describe here. Otherwise enter "None"

Note: Your submission for this part is your team's shared database schema on anansi - no need for additional submission steps.

Deliverables: answers in your shared copy of this google doc
And items in your stogit team repository (in ~/MCA/proj/lab6): *username*
And items in your Postgres team schema within the database mca_f21 **on anansi.stolaf.edu** (in schema mca_f21_*repo*): lab6