Blogly

Download exercise <../flask-blogly.zip>

This is a multi-unit exercise to practice SQLAlchemy with relationships. Each part corresponds to a unit so make sure that you complete one part and then go onto the next unit.

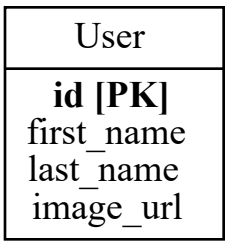
In it, you'll build "Blogly", a blogging application.

Part One

Installing Tools

```
(env) $ pip install psycopg2-binary
(env) $ pip install flask-sqlalchemy
```

Create User Model



First, create a ***User*** model for SQLAlchemy. Put this in a ***models.py*** file.

It should have the following columns:

- ***id***, an autoincrementing integer number that is the primary key
- ***first_name*** and ***last_name***
- ***image_url*** for profile images

Make good choices about whether things should be required, have defaults, and so on.

Create Flask App

Next, create a skeleton Flask app. You can pattern match from the lecture demo.

It should be able to import the ***User*** model, and create the tables using SQLAlchemy. Make sure you have the FlaskDebugToolbar installed — it's especially helpful when using SQLAlchemy.

Make a Base Template

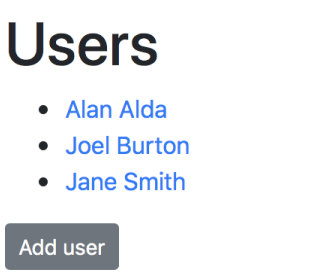
Add a base template with slots for the page title and content. Your other templates should use this.

You can use Bootstrap for this project, but don't spend a lot of time worrying about styling — this is **not** a goal of this exercise.

User Interface

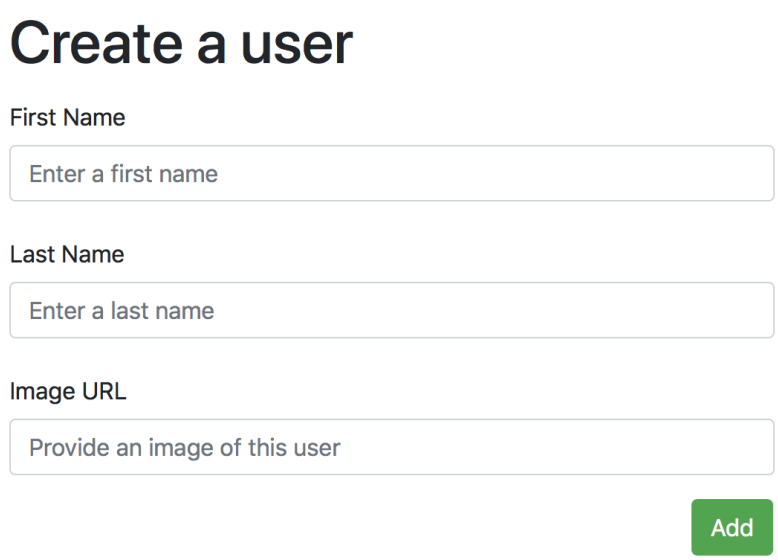
Here is what you should build:

User Listing



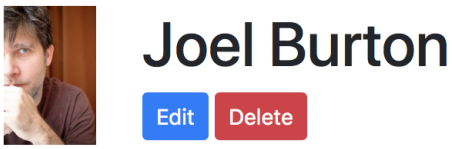
<_images/list.png>

New User Form



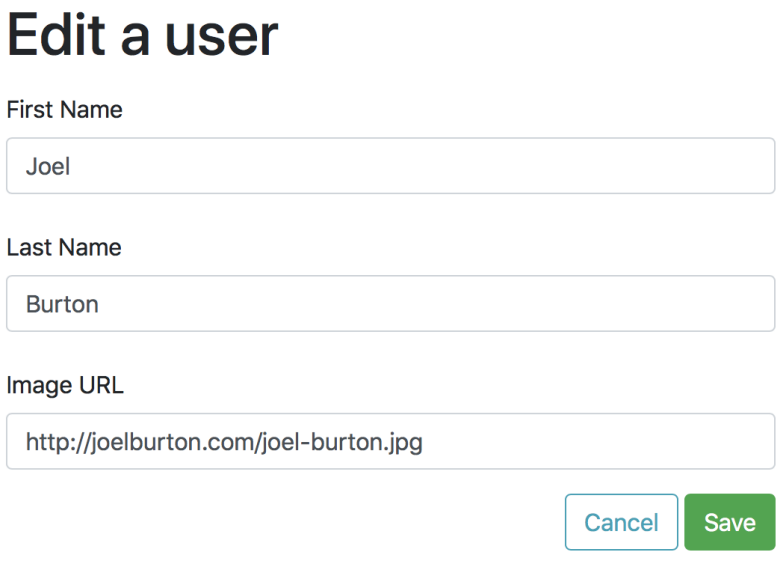
<_images/new.png>

User Detail Page



<_images/detail.png>

User Edit Page



<_images/edit.png>

Make Routes For Users

> **Note: We Won't Be Adding Authentication**
>
> While this appliction will have "users", we're not going to be building login/logout, passwords, or other such thing in this application. Any visitor to the site should be able to see all users, add a user, or edit any user.

Make routes for the following:

GET /

Redirect to list of users. (We'll fix this in a later step).

GET *users*

Show all users.

Make these links to view the detail page for the user.

Have a link here to the add-user form.

GET *users/new*

Show an add form for users

POST *users/new*

Process the add form, adding a new user and going back to ***/users***

GET *users/[user-id]*

Show information about the given user.

Have a button to get to their edit page, and to delete the user.

GET *users/[user-id]/edit*

Show the edit page for a user.

Have a cancel button that returns to the detail page for a user, and a save button that updates the user.

POST *[/users/[user-id]/edit](/users/[user-id]/edit)*

Process the edit form, returning the user to the ***/users*** page.

POST *[/users/[user-id]/delete](/users/[user-id]/delete)*

Delete the user.

Add Testing

Add python tests to at least 4 of your routes.

Part One: Further Study

There are two more big parts to this exercise—but if you feel like you're ahead of the group, here is some further study for this part you can work on.

Add Full Name Method

It's likely that you refer to users by `{{ user.first_name }} {{ user.last_name }}` in several of your templates. This is mildly annoying to have to keep writing out, but a big annoyance awaits: what would happen if you added, say, a ***middle_name*** field? You'd have to find & fix this in every template.

Better would be to create a convenience method, ***get_full_name()***, which you could use anywhere you wanted the users' full name:

```
>>> u = User.query.first()

>>> u.first_name    # SQLAlchemy attribute
'Jane'

>>> u.last_name     # SQLAlchemy attribute
'Smith'

>>> u.get_full_name()
'Jane Smith'
```

Write this.

Change your templates and routes to use this.

List Users In Order

Make your listing of users order them by ***last_name***, ***first_name***.

You can have SQLAlchemy do this—you don't need to do it yourself in your route.

Turn Full Name Into a "Property"

Research how to make a Python “property” on a class — this is something that is *used like* an attribute, but actually is a method. This will let you do things like:

```
>>> u = User.query.first()

>>> u.first_name     # SQLAlchemy attribute
'Jane'

>>> u.last_name      # SQLAclhemy attribute
'Smith'

>>> u.full_name      # "property"
'Jane Smith'
```

Solution

Our Solution for Part One <solution/index.html>