WEB322 Assignment 3

Assessment Weight:

9% of your final course Grade

Objective:

Build upon the foundation established in Assignment 2 by providing new routes / views to support adding new posts and querying the data.

NOTE: If you are unable to start this assignment because Assignment 2 was incomplete - email your professor for a clean version of the Assignment 2 files to start from (effectively removing any custom CSS or text added to your solution).

Specification:

For this assignment, we will be enhancing the functionality of Assignment 2 to include new routes & logic to handle the code to add new posts. We will also add new routes & functionality to execute more focused queries for data (i.e. fetch a post by id, all posts by a category, etc.)

Part 1: Adding / Updating Static .html & Directories

Step 1: Modifying about.html

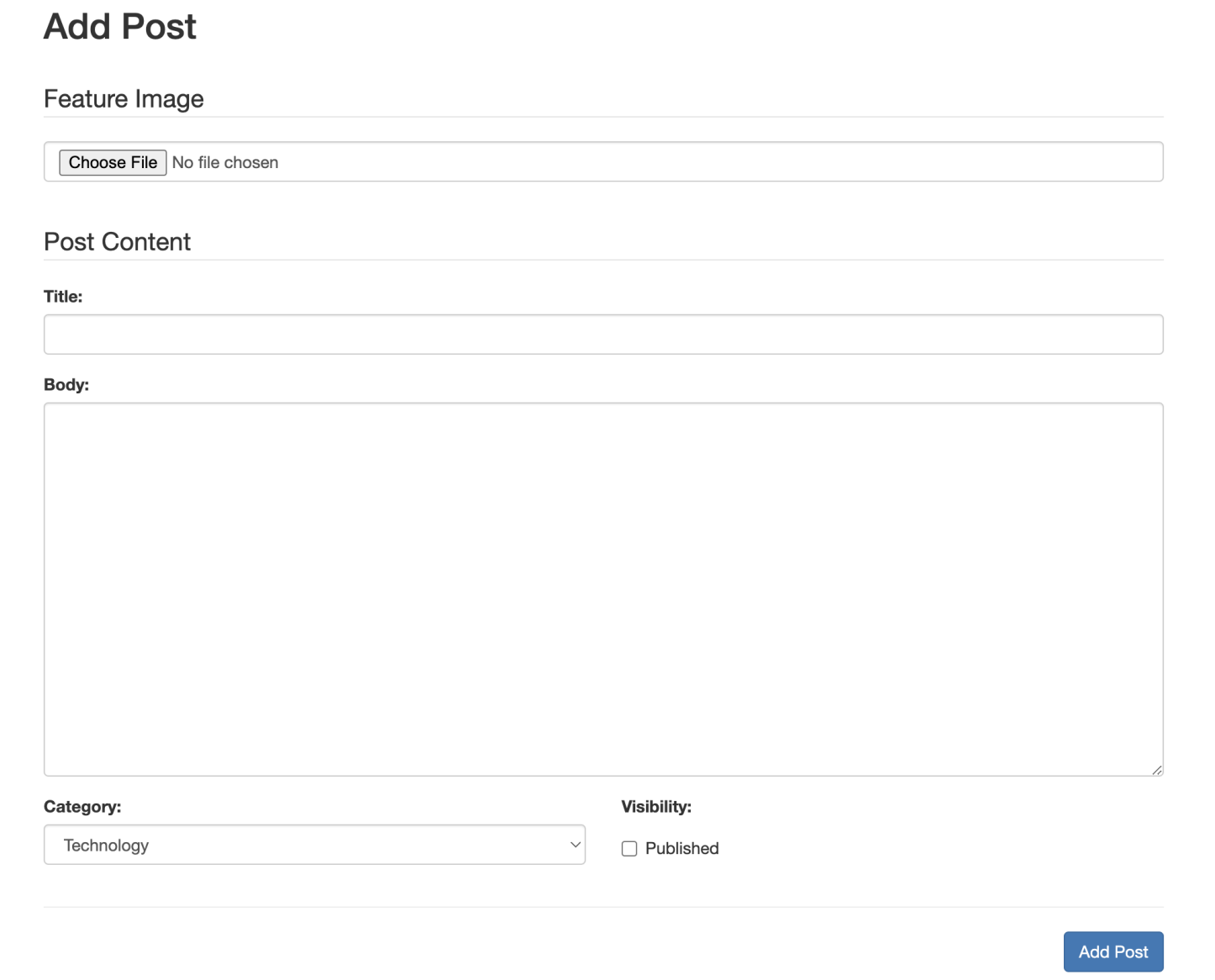
- Open the about.html file from within the "views" folder
- Add any entry to your navigation menu that has “Add Post” in it, and points to “/posts/add”.

Step 2: Adding a routes in server.js to support the new view

- Inside your server.js file add the following route (HINT: do not forget __dirname & path.join):
    - GET /posts/add
        - This route simply sends the file “/views/addPost.html"

Step 3: Adding new file: addPost.html

- Create a new blank HTML file in your "views" directory called "addPost.html" and open it for editing
- Make you addPost.html look similar to the following:



Part 2: Adding Routes / Middleware to Support Adding Posts

Before we begin adding logic to our server, we must first register an account with an image hosting service. This is required since the file hosting on our hosting service is "ephemeral", essentially meaning that any files that we upload (such as featured images for our Blog posts), will not be permanently stored on the file system. Therefore, instead of relying on the hosting service to store our images, we will instead use Cloudinary.

- Sign up for a free account here: https://cloudinary.com/users/register/free (Choose "Programmable Media for image and video API" as your "product")
- Validate your email address once Cloudinary sends you a "Welcome" email
- Log in to Cloudinary and navigate to the "**Dashboard**"
- Record your "**Cloud Name**", "**API Key**" and "**API Secret**" values (we will need them later).

Once you have successfully created your Cloudinary account and obtained the required information, we can proceed to update our code:

Step 1: Adding multer, cloudinary and streamifier

- Use npm to install the following modules:
    - "multer"
    - "cloudinary"
    - "streamifier"
- Inside your server.js file "require" the libraries:
    - const multer = require("multer");
    - const cloudinary = require('cloudinary').v2
    - const streamifier = require('streamifier')

- Set the cloudinary config to use your "**Cloud Name**", "**API Key**" and "**API Secret**" values, i.e.

```
cloudinary.config({
  cloud_name: 'Cloud Name',
  api_key: 'API Key',
  api_secret: 'API Secret',
  secure: true
});
```

- Finally, create an "upload" variable without any disk storage, i.e.

- const upload = multer(); // no { storage: storage } since we are not using disk storage

Step 2: Adding the "Post" route

- Add the following route: POST **/posts/add**
  - This route uses the middleware: **upload.single("featureImage")**
  - Inside the route, add the following code (from: the Cloudinary Documentation)

```
if(req.file){
  let streamUpload = (req) => {
    return new Promise((resolve, reject) => {
      let stream = cloudinary.uploader.upload_stream(
        (error, result) => {
          if (result) {
            resolve(result);
          } else {
            reject(error);
          }
        }
      );

      streamifier.createReadStream(req.file.buffer).pipe(stream);
    });
  };

  async function upload(req) {
    let result = await streamUpload(req);
    console.log(result);
    return result;
  }

  upload(req).then((uploaded)=>{
```

```
            processPost(uploaded.url);
        });
    }else{
        processPost("");
    }

    function processPost(imageUrl){
        req.body.featureImage = imageUrl;

        // TODO: Process the req.body and add it as a new Blog Post before redirecting to /posts
    }
```

Step 3: Adding an "addPost" function within blog-service.js

- Create the function "addPost(postData)" within blog-service.js according to the following specification: (**HINT**: do not forget to add it to module.exports)
    - Like all functions within blog-service.js, this function must return a Promise
    - If **postData.published** is undefined, explicitly set it to **false**, otherwise set it to **true** (this gets around the issue of the checkbox not sending "false" if it's unchecked)
    - Explicitly set the **id** property of **postData** to be the **length of the "posts"** array **plus one (1)**. This will have the effect of setting the first new post's id to: 31, and so on.
    - **Push** the updated **PostData** object onto the **"posts"** array and **resolve** the promise with the updated **postData** value (i.e. the newly added blog post).
- Once this is complete, make use of the new "addPost(postData)" function within POST **/posts/add** route in order to correctly add the new blog post before redirecting the user to the **/posts** route

Step 4: Verify your Solution

At this point, you should now be able to add new blog posts using the "/posts/add" route and see the full posts listing on the "/posts" route.

IMPORTANT NOTE:

At the moment, we are not persisting our newly created Blog Posts (they simply exist in memory), however any images that we add **are** being stored within Cloudinary. This means that once our server restarts, the new blog posts will be gone, but the featureImage link will still be valid. To cut down on your storage usage on Cloudinary,

please remember to delete these images once you have completed your testing (see the "Media Library" tab in Cloudinary)

Part 3: Adding New Routes to query "Posts"

Step 1: Update the "/posts" route

- In addition to providing all of the posts, this route must now also support the following optional filters (via the query string)

  NOTE: We ***do not*** have to support the possibility of having both "category" and "minDate" queries present at the same time in the URL.

  - /posts?category=***value***
    - return a JSON string consisting of all posts whose category property equals ***value*** - where ***value*** could be one of 1,2,3,4 or 5 (there are currently 5 categories in the dataset). This can be accomplished by calling the **getPostsByCategory(category)** function of your blog-service (defined below)

  - /posts?minDate=***value***
    - return a JSON string consisting of all posts whose postDate property is equal or greater than ***value*** **-** where ***value*** is a date string in the format YYYY-MM-DD (i.e. 2020-12-01 would only show posts **8** and **9**) . This can be accomplished by calling the **getPostsByMinDate(minDateStr)** function of your blog-service (defined below)

  - /posts
    - return a JSON string consisting of all posts without any filter (existing functionality)

Step 2: Add the "/post/***value***" route

- This route will return a JSON formatted string containing a single post whose **id** matches the ***value***. This can be accomplished by calling the **getPostById(id)** function of your blog-service (defined below).

Part 4: Updating "blog-service.js" to support the new "Post" routes

Note: All of the below functions must return a **promise** (continuing with the pattern from the rest of the blog-service.js module)

Step 1: Add the getPostsByCategory(category) Function

- This function will provide an array of "post" objects whose **category** property matches the ***category*** parameter (i.e. if ***category*** is 5 then the array will consist of only posts who have a "category" property value of 5) using the **resolve** method of the returned promise.
- If for some reason, the length of the array is 0 (no results returned), this function must invoke the **reject** method and pass a meaningful message, i.e. "no results returned".

Step 2: Add the getPostsByMinDate(minDateStr) Function

- This function will provide an array of "post" objects whose **postDate** property represents a **Date** value that is greater than, or equal to the ***minDateStr*** parameter **Date** value. For example, if minDateString is "2020-12-01", then all "post" objects returned will have a **postDate** property that represents a *larger* **Date**.

  Note: Date strings in this format can be compared by creating new Date objects and comparing them directly, i.e.

```
if(new Date(somePostObj.postDate) >= new Date(minDateStr)){
   console.log("The postDate value is greater than minDateStr")
}
```

  If for some reason, the length of the array is 0 (no results returned), this function must invoke the **reject** method and pass a meaningful message, i.e. "no results returned".

Step 3: Add the getPostById(id) Function

- This function will provide a single "post" object whose **id** property matches the ***id*** parameter using the **resolve** method of the returned promise.
- If for some reason, the post cannot be found, this function must invoke the **reject** method and pass a meaningful message, i.e. "no result returned".

Part 5: Pushing to GitHub and Cyclic

Once you are satisfied with your application, push to GitHub and deploy it to Cyclic:

- Ensure that you have checked in your latest code using **git** (from within Visual Studio Code)
- Push commits to the same *private* **web322-app** GitHub repository either through the integrated terminal (**git push**) or through the button interface on Visual Studio Code (publish, sync, etc.)
- If set up correctly from Assignment 2, it will automatically be deployed to Cyclic but if there are any problems, follow the Cyclic Guide on web322.ca for more details on pushing to GitHub and linking your app to Cyclic for deployment
- **IMPORTANT NOTE:** Since we are using a **free** account on Cyclic, we are limited to only **3 apps**, so if you have been experimenting on Cyclic and have created 3 apps already, you must delete one. Once you have received a grade for Assignment 1, it is safe to delete this app (login to the Cyclic website, click on your app and then click **Advanced** and finally, **Delete App**).

- The “helloprof” GitHub account should already be added as a collaborator to your **web322-app** GitHub repository

Assignment Submission:

- Next, Add the following declaration at the top of your **server.js** file:

```
/*********************************************************************************
* WEB322 – Assignment 03
* I declare that this assignment is my own work in accordance with Seneca  Academic Policy.  No part
* of this assignment has been copied manually or electronically from any other source
* (including 3rd party web sites) or distributed to other students.
*
* Name: _____ Student ID: _____ Date: _____
*
* Cyclic Web App URL: _____
*
* GitHub Repository URL: _____
*
********************************************************************************/
```

- Compress (.zip) your web322-app folder and submit the .zip file to My.Seneca under **Assignments** -> **Assignment** 3

Important Note:

- Submitted assignments must run locally, i.e. start up errors causing the assignment/app to fail on startup will result in a **grade of zero (0)** for the assignment.