Assignment: First Deployed Application
Versioning, Implementation, Testing, Deployment

Cmpe 352 - Fundamentals of Software Engineering

Objectives: Learn the basics of implementing code as a team, considering the following:

- ➔ Effective use of a personal development environment (IDE) that is connected to team software development tools and platforms.
- ➔ Effective use of the git versioning system to manage team code-base.
- ➔ Ability to work with third-party services through a RESTful[1] Application Programming Interface (API).
- ➔ Develop an API to prepare you for the implementation of your team project.

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This assignment consists of researching for an API of interest. One that will be useful for your project is a good idea. However, there are many APIs that are relevant to COVID-19 scientific articles and related data. You may be inspired to work with such an API.

You are expected to not only use an API but also to develop your own API. The API you will develop should be useful for your own team project. You will gain experience with critical code development practices using your git repository (serviced by GitHub).

You are free to choose the specific functionality your API will offer – so long as it is well documented.

In this assignments, each team member must submit work that satisfies the following:

1. Push all work related to the assignment under a folder created in your repository (GitHub) called **practice-app**.
2. You must use the API you have chosen to fetch (GET) some content and process it. (Note that some APIs use POST to acquire data, use whatever is necessary). The more you use the functionalities of the API the better you will master the development.
3. Create a RESTful API for your application that utilizes the API of your choice (in item 2) to provide a customized functionality. Your API must, support the GET and POST methods.
4. You should provide a front-end to interact with the end-user – a simple user interface is just fine.

[1] REST is an acronym for REpresentational State – a architectural style for developing web services.

5. Test your API using a tool like Postman, HTTP Get, or similar tools.

6. Create an Amazon AWS EC2 instance[2], and deploy your application to your server. **Update your GitHub wiki page to point to this URL**.

7. Each member of the team **must**:

   (a) **contribute** (create) to the code base

   (b) perform **unit tests** on created code

   (c) request for **code review**

   (d) **review** the code of other team members

   (e) create **pull requests** that implies code review.

   (f) Update your GitHub wiki page with a description of the API and the functionality you introduced.

Note that the effort in this set of assignments requires team work along with **substantial** personal contribution.

Everyone should have many issues related to this work. You would be wise to make a checklist of your work so that you make sure that you have addressed all the work prior to submission.

Useful Links:

- Review: `https://github.com/blog/2123-more-code-review-tools`
- Pull request: `https://help.github.com/articles/about-pull-request-reviews/`
- Developing API: `https://apiblueprint.org`, `http://swagger.io`, `http://raml.org/`
- Testing API/RESTClient: `https://www.getpostman.com`, `http://alternativeto.net/software/httprequester`
- See the Resources under our Course on Piazza for Git related material. There is a very useful tutorial.

[2]See Useful Links under your Piazza Resources.