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Hello,

I apologize for not doing the assignment properly the first time, and thank you for giving your feedback and for allowing me to resubmit this assignment.

*1. You must say what cloud provider you used.*

The cloud provider that I used this time is Google Cloud Platform.

*2. Discuss how the provider offers a cloud service rather than a product (different providers have different offerings, is yours Infrastructure? It is a Platform?)*

Google Cloud Platform offers both platform-as-a-service and infrastructure-as-a-service options. For PaaS, there is the option to run the Google App Engine with “standard environment” options. This means using Google’s standard configuration and gcloud commands to deploy applications to a project. For the option of a very tightly integrated environment option, Google Cloud offers four language-specific SDKs, for Java, Python, PHP, and GO, to use with its app engine. Using the app engine comes with some restrictions though: for example, it cannot write to the filesystem, make any system calls, opens socket or access another host directly, or span a sub-process or thread. Also, processes that take more than a few seconds are terminated to avoid overloading the server, so a website hosted on Google App Engine can’t take more than a few seconds to respond to a web request.

There is also an infrastructure-as-a-service option, which is using Google Cloud Compute Engine. In this case, the user creates a virtual machine (or set of virtual machines) and does normal computer tasks over ssh on there, like running an app through one of the ports and accessing it via the vm’s external IP.

*3. Upcoming assignments will require dynamic page generation based on user input (so you will need to be able to have the user input data then do something with that data) and they will require the use of a non-relational database. To this end, discuss what kind of options are available to implement advanced dynamic web pages with the cloud provider you used and how you will get access to a non-relational database. (These sorts of things will vary significantly if you are using a Platform as a service or Infrastructure as a service)*

For the Compute Engine, the user has the option to create a database on a back-end machine, and optionally to connect a back-end VM to a front-end VM to host it. For example, creating a MongoDB service and running it on a backend port, and then using a nohup command on the front-end VM to connect the two.

For the app engine, you can use an external database-as-a-service websites. For example, if you use mLab, you can connect to a MongoDB database hosted there with the official MongoDB drivers or by using mLab’s API.

*4. In a clearly labeled section of the document come up with at least two ideas for a web application that would be dynamic and store reasonably complex data. This would be similar to the sort of thing you did for a final project in your Databases or Web Development class.*

Idea 1:

A “most recommended” website that would have a list of categories and people could add entries for “best” of whatever item in that category, and the entries would be listed in order by the highest-to-lowest number of people who agree.

Idea 2:

A lost-and-found website that allows users to enter the location, description, and possible photo and geographic points of a lost item, and the website would also keep track of the date and time of entries and this would be searchable.