Google App Engine Coding Project

http://swationcloud.appspot.com

1. What have you learnt from this project?

   I used Python as my coding language for this project.
   My basic learning involved how to develop and upload applications on Google App Engine.
   Some important concepts I learnt during development are:

   a. Developing a web application in Python, uses a web application framework called "**webapp2**," which is included with App Engine.
   b. The WSGI application receives requests and dispatches the appropriate handler, returning a response to the client.
   c. Webapp2 applications consist of one or more request handlers which are mapped to URLs and are executed when client makes a request to the URL.
   d. To produce the response, webapp2 instantiates the RequestHandler class and then calls a method of the class that corresponds to the HTTP method of the request.
   e. On typing a URL into the browser's address bar, the browser uses the HTTP GET method with the request, so webapp2 calls the get( ) method of the request handler.
   f. While submitting a web form, the browser uses the HTTP POST method, which would attempt to call a post ( ) method.
   g. The WSGIApplication constructor is also given a debug=True parameter. This tells webapp2 to print detailed error messages to the browser when things go wrong.
   h. A single WSGIApplication instance can handle multiple URLs, routing the request to different RequestHandler classes based on the URL pattern.
   i. There are many templating systems for Python like Django and Jinja2.
   j. An app can only read 32 megabytes from a Blobstore value with a single API call. If it needs more, it must make multiple calls.

2. What are the major challenges and corresponding solutions when implementing this project?
   a. **Challenge:**

      Due to lack of poor documentation about Blobstore on https://developers.google.com, it was a challenge to view files uploaded on blobstore. I tried uploading but could not confirm, if it is uploaded or not.

      Solution:

      I used BlobstoreDownloadHandler API and DB Datastore to programmatically view files uploaded on blobstore.

b. **Challenge:**

Code became too complex to handle when I tried to segregate uploaded files according to file type.

Solution:

I separated the html files from the python files and gave links instead to reduce complexity of the code.

c. **Challenge:**

Difficult to debug as could not install a plugin on eclipse

Solution:

Used the logs provided by Google App Engine Launcher.

3. What are the pros and cons of GAE based on your own experience?

Pros:

1. Less money spent as there is no need to buy servers and no maintenance required.
2. Scaling is possible.
3. It has many useful built-in services like blobstore.
4. It is free to a limit.
5. It has almost 0% downtime.
6. Can use already existing Google account to develop and maintain application.
7. Can instantly run applications on Cloud Playground instead of running on your own machine.

Cons:

1. Cannot be ported from one language to other.
2. Requires a new mindset to implement as it does not use relational database as in Mysql.