

# Hands-on Cloud Lab Project #1

## Deploy an Application on a Platform-as-a-Service Cloud (Etherpad / Etherpad-Lite on PaaS)

### Goal:

Deploy an existing application on a PaaS cloud and demonstrate its functionality of real time collaboration with concurrent remote participants over the Internet. The application is an open source application called Etherpad / Etherpad-Lite. The suggested PaaS is Bluemix. The guidance and code samples provided here are based on Bluemix. However, any other PaaS like CloudFoundry, Pivotal, AWS, Azure may be used.

### Learning Objectives:

1. Cloud-based application deployment and service composition.
2. Agile / rapid speed to launch.
3. Use of run times and services available in a Bluemix (or other industry PaaS providers).
4. Pushing application to and integration between a code repository (GitHub) and PaaS (Bluemix)
5. Disassociating an application (Etherpad) from its built-in database
6. Associating an application (Etherpad) with a cloud-based, application-agnostic database (MySQL)
7. Familiarity with scaling / auto-scaling applications as a result of PaaS delivery.
8. Delivery of a real-time, web based, collaboration application with cloud access to multiple concurrent users.

## What is Etherpad:

**Etherpad** is a web-based, collaborative real-time application and editor. Hence it also lends itself well as an application for cloud-based delivery. Etherpad permits all participant and authors to simultaneously make and see edits to text documents in real-time. The application also provides a chat capability. Etherpad was launched in Nov 2008, acquired by Google in Dec 2009, and released to the open source under Apache License. Several services use Etherpad software, including PiratePad, board.net, Mozilla Pad (MoPad), PrimaryPad, QikPad, TitanPad, and notably in the cloud domain OpenStack Etherpad.

Above is adapted from, and more is available, here:

<http://en.wikipedia.org/wiki/Etherpad>, and [www.etherpad.org](http://www.etherpad.org)

## Lab Resources:

1. **Etherpad:** Latest version on GitHub is here:

<https://github.com/ether/etherpad-lite/releases>

2. **PaaS Account & Destination:** Open your individual PaaS account.

- On Bluemix: <http://bluemix.net/>
- Or at your other PaaS of your choice.

3. **Sample code and Guidebook:**

<https://developer.ibm.com/bluemix/2015/01/13/etherpad-cloud-foundry-quick-start-guide/>

## Lab Scoring & Evaluation Criteria:

1. This project is an individual lab. Please use honor code to perform independent work. However, you have access to material on the Internet. Link to guidebook and sample code is provided.
2. The evaluation of this lab is independent of which PaaS destination is used.
3. Show off your work:
  - a. Schedule a time among at least 3-4 participants with Internet browser access – in one location or remote via conference call. One participant is *you*, the second / third participant is the *Instructor or TA or both*, and for any remaining participant(s) you get to *choose from your friends and family not associated with this course*.
  - b. Bring up your deployment of Etherpad at your unique URL on the PaaS accessible over the Internet.
  - c. (1 point) Provide your unique and independent URL accessible to all participants.
  - d. (1 point) Have all participants join concurrently on your Etherpad session.
  - e. (4 points) Open and show a text document being edited by all participants with edits visible to all in real time.
  - f. (2 point) Show some chat activity generated by each participant and visible to other participants, all in real time.
  - g. (2 points) Take screen shots at key stages during your deployment work (like at the stages shown in code samples provided, and others). Sequence and notate the screenshots into one document. Email it to the TA (not the Instructor). Be prepared to go over and show your screenshots / deployment steps in real time if asked by the Instructor or TA.
4. Semester grade weightage: 10%
5. You are done! Your deployment should appear something like the image below. Enjoy with anyone!!

