

# CLOUD COMPUTING

## Practical 3: Google App Engine

School of Computer Science  
University College Dublin

### Description

In this practical we will explore a cloud computing environment through Google App Engine. This will bring you through Google App Engine to explore some of the cloud computing concepts. Also, we will explore some of the key concepts and components of a cloud computing environment.

### *Part I:* Google App Engine

Using online resources, explore the Google App Engine;  
(<https://cloud.google.com/appengine/kb/>).

1. What is Google App Engine?
2. Describe briefly the services offered by Google App Engine.
3. What is Google Compute Engine?

### *Part II*

- 1- Do you think that the homogeneity of a large-scale distributed systems is an advantage? Justify your answer.
- 2- Which components of hardware homogeneity are the most relevant? why?
- 3- What components of software homogeneity do you think are the most relevant? why?

### *Part III*

- 1- Compare the three cloud computing delivery models, SaaS, PaaS, and IaaS, from the point of view of the application developers and users.
- 2- Discuss the security and the reliability of each one of them.
- 3- Analyse the differences between the PaaS and the IaaS.
- 4- An organization is trying to decide whether to adopt private cloud or a public cloud, e.g., the AWS, for its computational and storage needs, asks your advice. What information will you require to base your recommendation on, and how will you use each one of the following items:
  - a. the description of the algorithms and the type of the applications the organization will run;
  - b. the system software used by these applications;
  - c. the resources needed by each application;
  - d. the size of the user population;
  - e. the relative experience of the user population;
  - f. the costs involved.

**COMP**xxxxx\_Surname\_FirstName\_StudentNo\_**Practical03**.{doc,pdf}

Example: ( **COMP41110\_Smith\_John\_12345\_Practical03.pdf** )