

COMP3381 Software, Systems and Applications III
Cloud Computing
Assignment
2017/18

This is a self-directed learning assignment aimed to enhance your knowledge by exploring topics and problems on cloud computing that expand beyond those covered in the lectures. To provide responses to the questions of the assignment, you will need to do independent research and read a variety of relevant, different sources. You are expected to heavily refer to academic literature. You should cite at least 15-20 references in your report. An indicative reading list is provided on Duo as a starting point. In writing your responses be concise, focus clearly on the question asked and avoid providing large amounts of descriptive information which does not directly support your answer.

Deadline: 8/12/17 14:00

Report Length limit: up to 3000 words.

Submission: via duo

Use Z codes or userid (not names)

PLEASE READ THE MARKING SCHEME BEFORE YOU START THIS ASSIGNMENT

You have been asked to advise a company that is interested in migrating its business-critical infrastructure to the Cloud. With the help of academic and industrial literature/offers discuss how such a deployment would need to be managed in terms of infrastructure and security. Assume a 24/7/365 operation, custom software stack, an infinitely scalable product and a variable demand load.

Your report should address each of the following 3 sections, outlining the issues and trends:

1. Infrastructure Management:
 - a. Deployment techniques [10%]
 - b. Autonomic Management [10%]
 - c. Scalability under constraints [10%]
 - d. Product offerings from different providers [10%]
2. Security (include where the responsibilities and liabilities are e.g. Cloud Provider, Company or Customer):
 - a. Data Management and Protection [20%]
 - b. Potential Threat Vectors (network, tenant, infrastructure, datacentre etc.) and Mitigation Techniques (manual and automatic) [20%]
3. Identify and discuss the implications of other new trends that are emerging within Cloud Computing (try to focus on Infrastructure as a Service) [20%]