

Data Storage and Management

Project B Description [35%]

Choose either

(i) MySQL and Cassandra

OR

(ii) MongoDB and HBase

Project Requirements

Requirement A. Install and implement instances of your chosen data storage and management systems. You must install your instances on the NCI OpenStack Cloud Platform. (See *Creating OpenStack Ubuntu VM for Project B* document for instructions on how to set-up a virtual machine on OpenStack.)

[10 marks]

Requirement B. Devise and implement a test strategy in order to perform a comparative analysis of the capabilities of each system in terms of the **performance**. You should record a set of appropriate metrics and perform a quantitative analysis for comparison purposes between the two chosen systems.

Requirement C. Additionally, for comparison purposes, research and present your findings of the capabilities of your chosen systems in **one** of the following four areas:

- (i) Storage and retrieval of Structured, Semi-Structured and Unstructured Data
- (ii) Scalability, Availability and Reliability
- (iii) Transaction Management
- (iv) Security

Requirement D. You must complete a technical report document including the following sections (3000 – 5000 words):

- (i) Abstract
- (ii) Introduction [5 marks]
- (iii) Key Characteristics of Chosen Data Storage Management Systems [10 marks]
- (iv) Database Architectures [5 marks]
- (v) Chosen Area from **Requirement C** section [15 marks]
- (vi) Learning from Literature Survey [10 marks]
- (vii) Performance Test Plan [10 marks]
- (viii) Evaluation and Results [25 marks]
- (ix) Conclusion and discussion [10 marks]
- (x) References

*Please read the plagiarism policies before submitting the report.