

# PROJECT DESCRIPTION

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Project title	Practical Cloud Storage
Students	Patrick Håland, Tor Christian Frausing
Course	DATBAC - Bachelor thesis, Computer Science, Spring 2016
Department	Department of Electrical Engineering and Computer Science
Supervisor	Hein Meling [hein.meling@uis.no], Leander Jehl [leander.jehl@uis.no]
Responsible professor	Hein Meling [hein.meling@uis.no]

## Background

In todays society the computer trends lean towards cloud computing. One major aspect of Cloud computing is the secure and reliable storage of user data. To meet the users high expectations regarding availability and performance, providers need to ensure fault tolerant, low latency, updated and secured solutions.

## Motivation

The aim of this project is to implement a simple cloud storage based on different register abstractions where we address some of these requirements, specifically the fault tolerant, updated and low latency requirements.

In order to achieve fault tolerant highly available data, user data will be replicated among 3 or more virtual servers. With the use of register abstractions that guarantees that a read request will return the last write / concurrently written data, the clients will receive updated data. Algorithms of interest are Large Data Replication (LDR) and a register abstraction based on major voting.

Regarding performance our main focus will be on latency and throughput, as these criteria are easily comparable among various implementations.

## Objectives

1. Implement a simple register for R/W based on a Major Voting algorithm.
2. Implement the Large Data Replication (LDR) algorithm.
3. Test implementation
  - (a) Compare throughput and latency.
  - (b) Find limit where the LDR algorithm is no longer efficient.
4. If time allows
  - (a) File rollback of user data by tagging and not deleting data.
  - (b) Hash files and only send file updates that are needed.
  - (c) Testing on a wide area network, e.g. on Amazon EC2 instances.