

# Homework 05

## ECE 473/573, Fall 2025

*Due Date: 11/23 (Sun.) by the end of the day (Chicago time)*

(2 points) We have gained a lot of knowledge of different kind of cloud services so it is time to investigate what cloud computing platforms can provide beyond computing and storage as well as virtual private servers. Indeed, many of them provide managed services so that developers can work more efficiently by outsourcing deployment and maintenance of mature services like databases and focusing on core application and business logics instead.

Choose a major cloud provider, ideally one from AWS, Azure, and GCP, and investigate one managed service among distributed database (like Cassandra), message queues (like Kafka), and container orchestration (like Kubernetes).

- What cloud provider are you using and what is the name of the managed service?
- What kind of service is provided? Are the features exactly the same as those from the one we have discussed in the lectures, or what is the major difference?
- Is it possible to automatically scale out the service horizontally if demand rises?
- What is the pricing model?

Note that this homework does not require you to actually run the service. Sometimes you could get more accurate pricing information by registering an account with the provider but for this homework you should not provide any payment information, e.g. credit card, during the process.