Seth Bennett

Independent Study

Dr. Aziz Fellah

2nd May 2021

Independent Study Experience Overview

**Initial Objectives:**

Research and learn the different ways to use Kafka and how to integrate it with other cloud streaming services(One example being confluent).

**Experience Overview:**

When setting out to learn more about Kafka for this independent study I was embarking on a totally new experience. The things I learned were not limited to skills involving kafka, but also general self management skills. Looking first at what I learned as it relates to my project, I found that there are many uses for Kafka and how flexible its data streaming is.

1. **Kafka Producers:** Producers are used to pull in data from a specified source and pass that data into a given kafka topic. This input data may be retrieved from a variety of sources as seen listed below.
   1. Using curl on web pages
   2. CSV files
   3. Textfiles
   4. Ect.
2. **Kafka Consumer:** Within Kafka, consumers serve the opposite purpose of producers. Consumers pull data from a given topic and are used to output the finished product after data processing. Examples of where data can be output to are seen below.
   1. CSV files
   2. Textfiles
   3. Output as text to the console
   4. Ect.
3. **Kafka Streams:** Streams are used to do the actual processing of data within kafka. Unlike producers or consumers, they are not limited to just posting to or pulling from a topic, because streams do both. Furthermore, though streams are not always necessary with every use case, most times Kafka producers and consumers are used in tandem with one or more streams. One interesting fact about streams is that they will keep the status of previously inserted data, unless logs are cleared.
4. **Self Management Skills:** When I first began this independent study I really underestimated how hard it is to motivate myself to learn without the driving force of a regular teacher. Furthermore, I learned very useful time management skills from planning my sessions to work on this project. Through this project, I gained a much greater sense of confidence in learning on my own as well as better time management skills to further push myself to work.

**Conclusion:**

In conclusion, I learned a lot from this independent study, including but not limited to: a more concise knowledge of the different ways to use Kafka and self management skills. Furthermore, everything I learned within this independent study is something that I feel I will use and appreciate in the future. In the end, I not only completed the main objective of this Independent study, but completed an extra objective of learning skills that I may apply to all my future work, school and otherwise.