



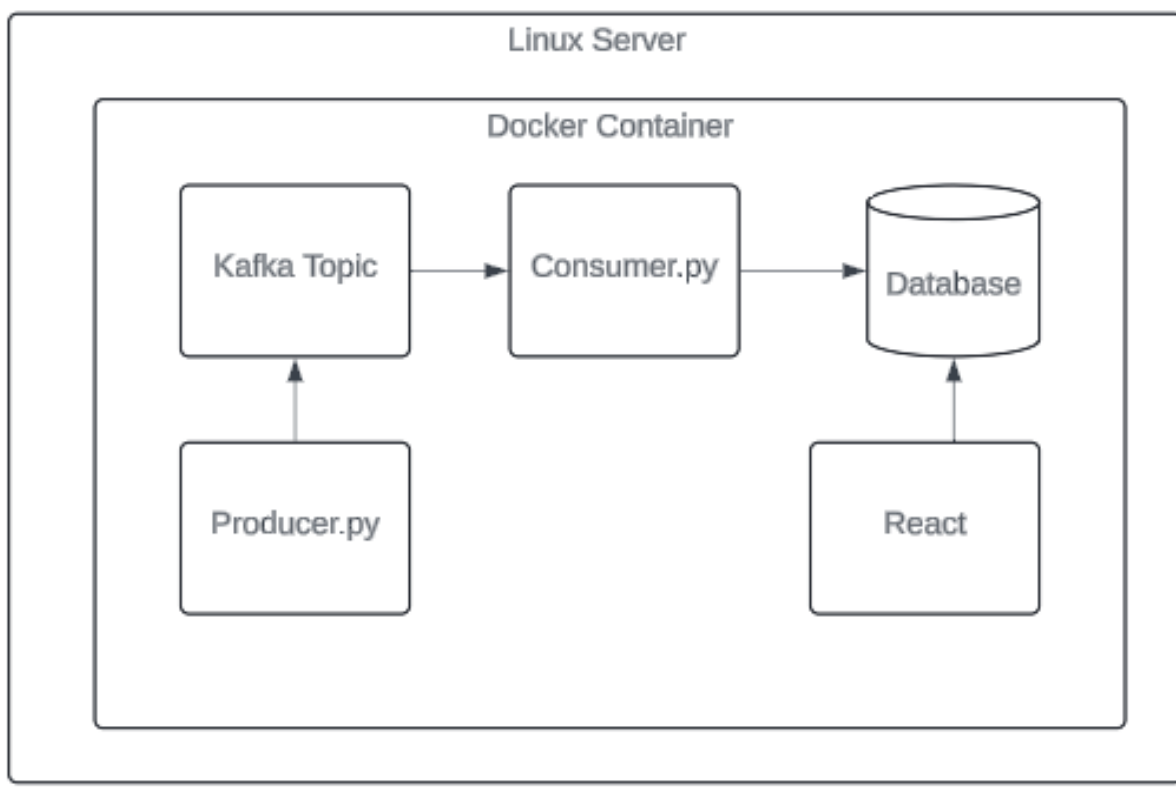
Fall 2024 GCPS Bus Monitoring Milestone 2

Team 2: Alex Baker, Sarah
Fashinasi, Tyler Hood, Amali
McHie, Jeffrey Sanderson

Team Recap

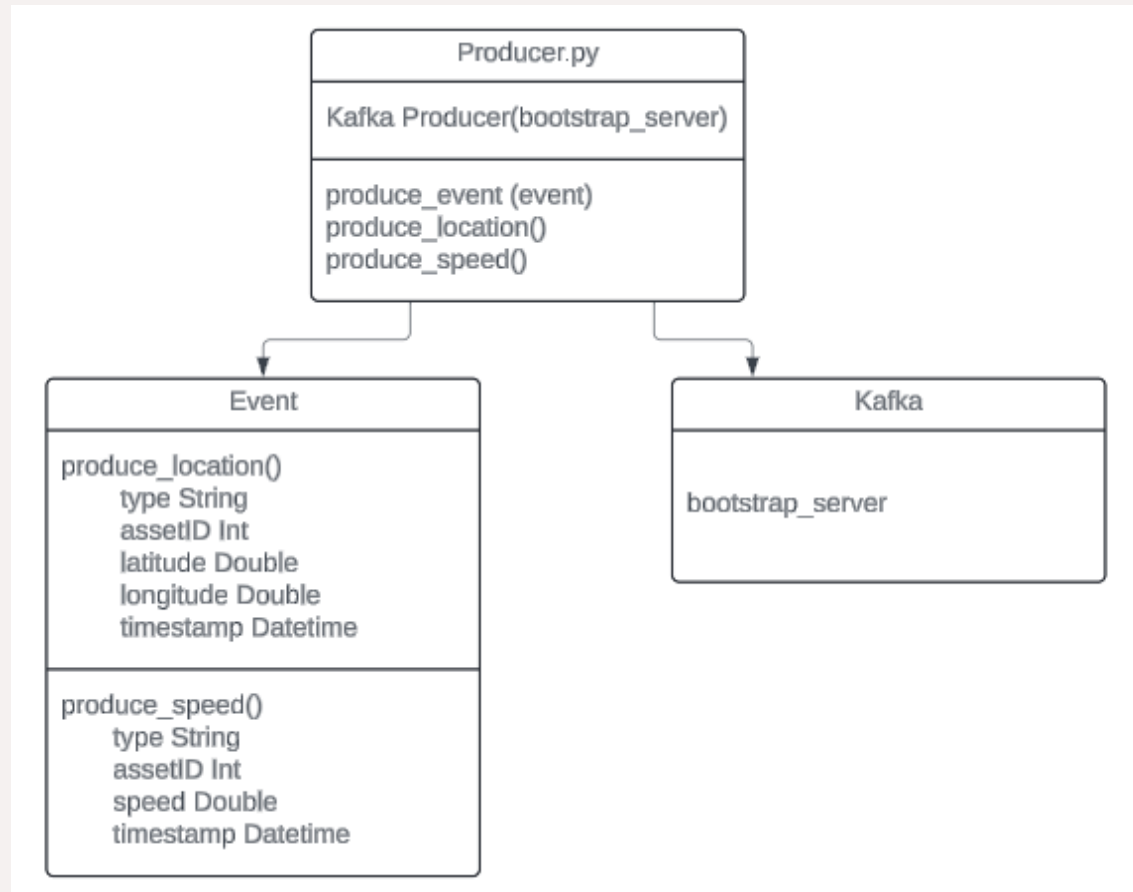
- Alex Baker
 - Python Developer
- Sarah Fashinasi
 - Team Lead
- Tyler Hood
 - Documentation and Management
- Amali McHie
 - Python and React Developer
- Jeffrey Sanderson
 - Database Configuration

Design Overview



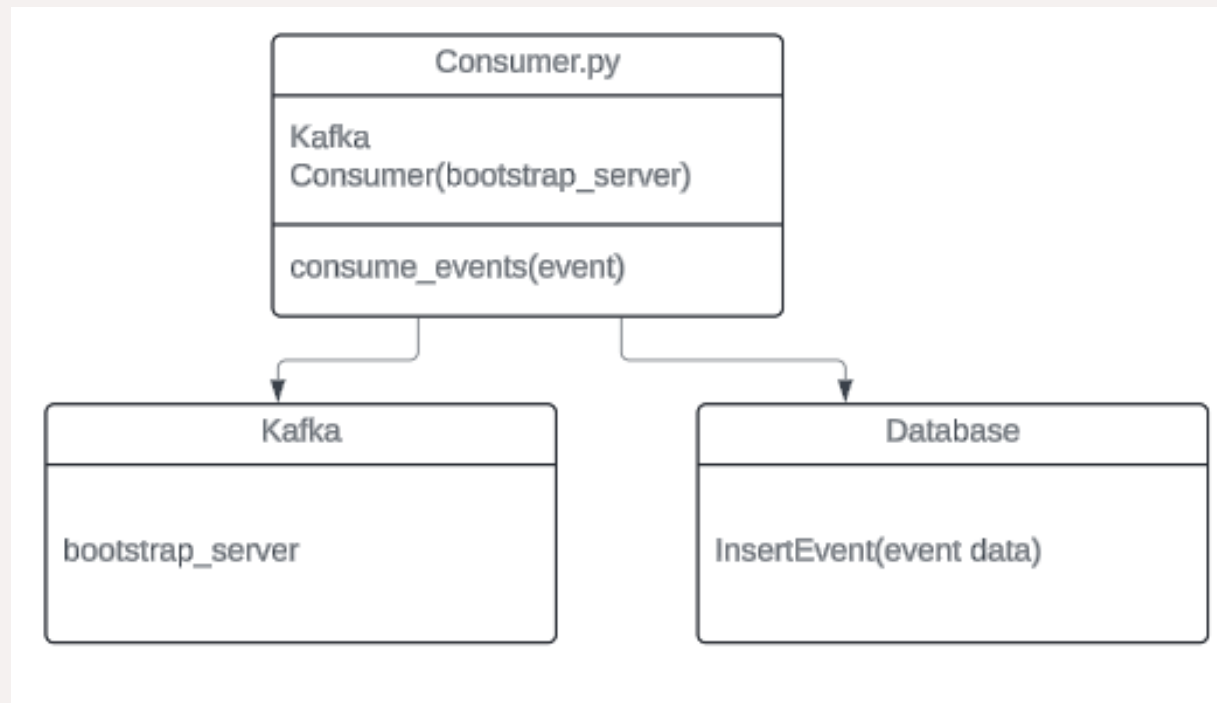
- Linux Server: RedHat9
- Kafka: 3.8.0
 - Zookeeper: 6.2.3
- Producer: Python 3
- Consumer: Python 3
- Database: Microsoft SQL Server 2022
- React: 18.3.1

Producer



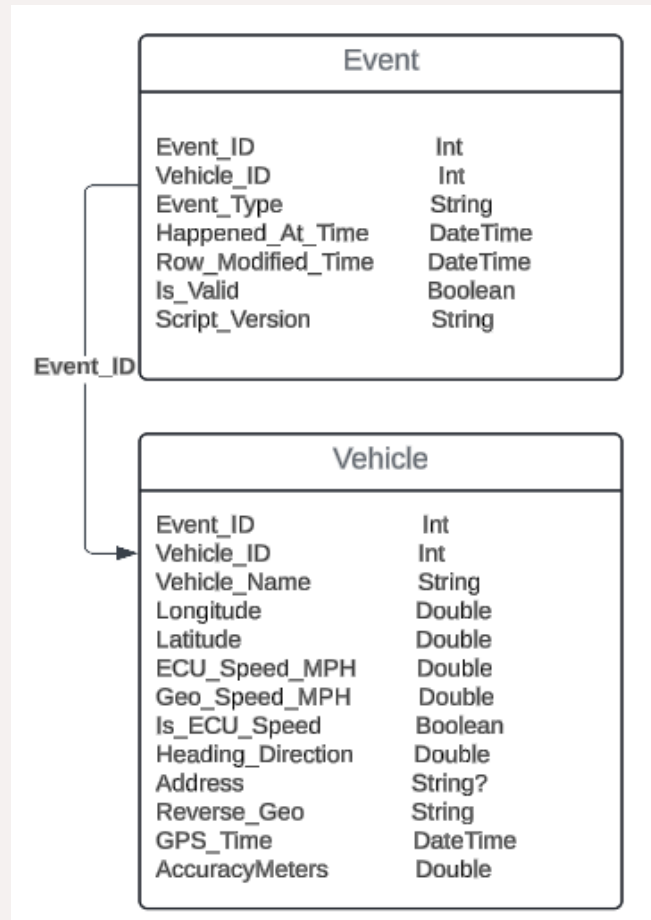
- Producer.py
 - Instantiates a Kafka producer
- Produce Event
 - Takes in asset location and speed to create a Json in Kafka
- Produce Location
 - Randomly generates longitude and latitude
- Produce Speed
 - Randomly chooses the speed of the bus
- Kafka
 - Represents connection the Kafka producer is making

Consumer



- Consumer
 - Instantiates a Kafka Consumer
- Consume Events
 - Awaits produced events and consumes them by creating a database entry
- Kafka
 - Represents connection the Kafka consumer is making
- Database
 - Shows the event insertion to the database

Database Design



- Event
 - Contains all information relevant to an asset tracking event. This table stores the information from tracking events.
- Vehicle
 - Contains all processed data from Consumer.py and the processor.
- Event_ID links the two tables for simple tracking between the data and the event that produced the data.

Progression Chart

| Due Date | Goal | Description | Progress |
|----------|--------------------|---|------------|
| 9/8 | Project Proposal | Basic project proposal with design overview | Done |
| 9/16 | Milestone 1 | Add basic Kafka Producer and Consumer | Done |
| 10/14 | Milestone 2 | Add database tables and event insertion | Done |
| 11/4 | C-Day | Deadline to submit @ 5:PM 9/4 Presentation 4-7:30PM 9/19 | Incomplete |
| 11/11 | Milestone 3 | Refine data processing, front-end, and containerize | Incomplete |
| 11/17 | Test Document | Test Document and User Manual | Incomplete |
| 11/21 | Final Presentation | Final Presentation (Week before Break) | Incomplete |

Questions?

