Code Logic: Execute the below steps to complete the project.

Step1:

Run the below commands to start kafka server
/home/hadoop/kafka_2.13-3.5.0/bin/zookeeper-server-start.sh /home/hadoop/kafka_2.13-3.5.0/config/zookeeper.properties
/home/hadoop/kafka_2.13-3.5.0/bin/kafka-server-start.sh /home/hadoop/kafka_2.13-3.5.0/config/server.properties

Step2:

Run the below command to create topics in kafka
/home/hadoop/kafka_2.13-3.5.0/bin/kafka-topics.sh --create --topic PatientVitalInfo --bootstrap-server localhost:9092 --replication-factor 1 --partitions 1
/home/hadoop/kafka_2.13-3.5.0/bin/kafka-topics.sh --create --topic DoctorQueue --bootstrap-server localhost:9092 --replication-factor 1 --partitions 1

Step 3:

Run the below command to list the topics
Command:
/home/hadoop/kafka_2.13-3.5.0/bin/kafka-topics.sh --list --bootstrap-server localhost:9092

Step 4:

Follow the steps mentioned in SNS , to create SNS topic for email alert generation to doctor.

Step 5:

Run the below commands to read data from RDS and push to kafka topic.
python kafka_produce_patient_vitals.py

Step 6:

Run the command mentiones in the Hbase to view threshold data

Step 7.

Run the commands mentioned in the word document **hive1,** to read threshold data from hive table with reference to Hbase table.

Step 8:

Run the command mentioned in the **SQOOP** document, to export patient info from Mysql to hive.

Step 9:

Run the below spark streaming program, to read data from Kafka topic and push to HDFS as parquet format.
spark-submit --packages org.apache.spark:spark-sql-kafka-0-10_2.12:3.2.0 --conf spark.executor.memory=1g --conf spark.executor.cores=1 --conf spark.driver.memory=1g kafka_spark_patient_vitals.py

Step 10:

Run the commands mentioned in the word document **hive2,** to read the patients vital information from hive table

Step 11:

Run the below spark streaming program, to read data from HDFS and compare with threshold data, to send the alert to Kafka topic.
spark-submit --packages org.apache.spark:spark-sql-kafka-0-10_2.12:3.2.0 --conf spark.executor.memory=1g --conf spark.executor.cores=1 --conf spark.driver.memory=1g kafka_spark_patient_vitals.py

Step 12:

Run the below python program, to read data from Kafka topic and send it to SNS
Python kafka_consume_alerts.py