Machines:

DevTools: NoSQL , Rstudio, R , MySQL, Kafka and zookeeper are installed in this machine

**Installation Steps for Kafka:**Use following command to install Kafka  
> cd /app/azure\_user  
> sudo wget <http://mirror.fibergrid.in/apache/kafka/0.10.0.0/kafka_2.11-0.10.0.0.tgz>  
> tar -zxvf kafka\_2.11-0.10.0.0.tgz  
> cd kafka\_2.11-0.10.0.0/config  
> vi server.properties

Change following properties

|  |  |
| --- | --- |
| **Configuration name** | **Value** |
| listeners | PLAINTEXT://192.168.2.4:9092 <IP number depending on machine>:9092 |
| zookeeper.connect | 192.168.2.4:2181 <IP number depending on machine>:2181 |

**Create topics**> cd kafka\_2.11-0.10.0.0

1. > bin/kafka-topics.sh --create --zookeeper 192.168.2.4:2181 --replication-factor 1 --partitions 1 --topic sensor\_readings
2. > bin/kafka-topics.sh --create --zookeeper 192.168.2.4:2181 --replication-factor 1 --partitions 1 --topic workflow\_status
3. > bin/kafka-topics.sh --create --zookeeper 192.168.2.4:2181 --replication-factor 1 --partitions 1 --topic failures

**Start Zookeeper**:  
> nohup bin/zookeeper-server-start.sh config/zookeeper.properties &  
**Start Kafka**:  
> nohup bin/kafka-server-start.sh config/server.properties &

**Installation steps for NoSQL**> cd /app/azure\_user  
> sudo wget <http://download.oracle.com/otn-pub/otn_software/nosql-database/kv-ce-4.0.9.tar.gz>  
> tar -zxvf kv-ce-4.0.9.tar.gz  
 **Start NoSQL Service**  
> cd /app/azure\_user/kv-4.0.9/lib  
> nohup java -jar kvstore.jar kvlite &  
 **Enter NoSQL terminal**> java -jar kvstore.jar runadmin -port 5000 -host 192.168.2.4  
Enter the appropriate IP of the machine  
> Connect store –host 192.168.2.4 –port 5000 –name kvstore  
  
**Create topology**  
configure -name kvstore  
plan deploy-datacenter -name "Azure" -rf 1 –wait  
plan deploy-sn -dcname "Azure" -port 5000 -wait -host 40.77.65.136  
plan deploy-admin -sn sn1 -port 5001 –wait  
topology create -name 1X1 -pool AllStorageNodes -partitions 10  
topology preview -name 1X1  
plan deploy-topology -name 1X1 -wait  
  
In place of 40.77.65.136 use current machine IP  
  
**Create Tables:**

|  |  |
| --- | --- |
| **Table Name** | **Table Script** |
| **tag** | table create -name tag  add-field -type string -name tag\_name  primary-key -field tag\_name  exit  plan add-table -name tag –wait |
| **tag.sensor\_reading** | table create -name tag.sensor\_reading  add-field -type long -name tag\_time  add-field -type string -name tag\_value  primary-key -field tag\_time  exit  plan add-table -name tag.sensor\_reading –wait |
| **tag.failure\_sensor\_reading** | table create -name tag.failure\_sensor\_reading  add-field -type long -name tag\_time  add-field -type string -name tag\_value  primary-key -field tag\_time  exit  plan add-table -name tag.failure\_sensor\_reading –wait |
| **tag.failure\_prediction** | table create -name tag.failure\_prediction  add-field -type long -name tw\_start\_date  add-field -type long -name tw\_end\_date  add-field -type integer -name failure\_predicted  add-array-field -name time\_frames  add-field -type long -name time\_frame  exit  add-field -type integer -name data\_points  add-field -type float -name predicted\_probability  add-field -type float -name confidence\_limit  add-field -type float -name time\_to\_failure  primary-key -field tw\_start\_date -field tw\_end\_date  exit  plan add-table -name tag.failure\_prediction –wait |

**Load Data into Tables:**Enter following command in kv prompt to insert data into tables>put table –name tag.failure\_sensor\_reading –file /home/azure\_user/SQL\_Backup/failure\_sensor\_reading.txt  
> put table –name tag.sensor\_reading –file /home/azure\_user/SQL\_Backup/sensor\_reading.txt  
  
**Installation steps for MySQL:**Enter the following command to install mysql   
> wget <http://repo.mysql.com/mysql-community-release-el7-5.noarch.rpm>  
> sudo rpm -ivh mysql-community-release-el7-5.noarch.rpm  
> sudo yum update  
> sudo yum install mysql-server  
> sudo systemctl start mysqld  
> sudo mysql\_secure\_installation  
  
Use attached file bkup.sql to load database(sensuite) into mysql