**Credit Card Management System**

**2 System Requirements**

**2.1 Functional Requirements – Operational Database**

**2.1.1 Customer and Transaction Details Module**

**Description:**

Java Project is in DECaseStudy.zip. Import the project and launch: Click DECaseStudy -> runner -> RunnerMain.jave..

MySQL database is in Db.zip.

**File Path:**

2.1.1\ DECaseStudy.zip

2.1.1\ Db.zip

**2.2.1 Data Extraction and Transportation with Sqoop**

**Description:**

1. Use File View in Ambari to create /Credit\_Card\_System folder
2. Open Hive window in Ambari.
3. Login sandbox shell as root user.
4. Run the scripts in hadoop.txt.

**File Path:**

2.2.1\ hadoop.txt

**2.2.2 Data Loading Module**

**Description:**

1. Open Hive window in Ambari.
2. Run scripts in hive.txt to perform dynamic partitioning.

**File Path:**

2.2.2\hive.txt

**2.2.3 Automating the Process with Oozie**

**Description:**

1. Unzip oozie.zip.
2. Use File View in Ambari to create to create /Credit\_Card\_System/oozie folder and upload the following files to the folder: branch.hive, creditcard.hive, customer.hive, time.hive, workflow.xml and coordinator.xml.
3. Create /Credit\_Card\_System/ oozie/lib and upload java-json.jar.
4. Login sandbox shell as root user.
5. Create /root/Documents/oozie folder:
6. Use WinSCP to copy the following files to /root/Documents/oozie folder: oozieJob.properties and coordJob.properties.
7. Run scripts from oozie.txt.

**File Path:**

2.2.3\oozie.zip

**2.2.4 Process Optimization Module**

**Description:**

1. Unzip oozieOpt.zip.
2. Use File View in Ambari to upload the following files to /Credit\_Card\_System/oozie: workflowOpt.xml and coordinatorOpt.xml.
3. Use WinSCP to copy the following files to /root/Documents/oozie folder: oozieJobOpt.properties and coordJobOpt.properties.
4. Run scripts from oozieOpt.txt.

**File Path:**

2.2.4\oozieOpt.zip

**2.2.5 Data Visualization**

**Description:**

1. Unzip dataVisualization.zip.
2. Open Hive Window in Ambari and run first scripts in DataVisualization.txt.
3. Click on “Data Visualization tab” -> drag ‘branch zip code’ to ‘x’ positional and select type as ‘text’, drag ‘total transaction value’ to ‘y’ positional. Finally, select the Tick graph type.
4. The graph of top 20 zip codes (hint: branch\_zip) by total transaction value shows in "Top20ZipCodes.PNG" file.
5. Run second scripts in dataVisualization.txt.
6. Click on “Data Visualization tab” -> drag ‘quarter’ to ‘x’ positional, drag ‘total transaction value’ to ‘y’ positional, and drag ‘transaction type’ to ‘col’ positional. Finally, select the line graph type.
7. The graph of total transaction value for each transaction type by Quarter in 2018 shows in "TransactionType.PNG" file.

**File Path:**

2.2.5\dataVisualization.zip