# CMLA Components Installation

This document contains step-by-step instructions on setting up the integration environment by installing CMLA components. All the necessary packages/files will be attached.

## Prerequisites:

1. Java JDK 1.8 or above should be installed into a location without spaces: ex. **C:\Java\jdk1.8.0_60**
2. Python27_64 should be installed (Set path to the Scripts folder and root folder of Python)
3. Winzip or winrar to unzip packages

## Setup:

**Note: Make sure to run all the batch and command files as an administrator.**

1. Login to the machine: SE124380 (10.61.60.125) using DEVOAK credentials.
2. Copy the following two files in **F:\** drive and then move it to **C:\**:  **kafka-broker** and **kafka-rest-3.2.3**
3. Services for Zookeeper, kafka and kafka-rest proxy can be deployed via nssm:

    a. Copy **nssm-2.24** file in the **F:\** drive and set PATH to the application
    b. Open administrator command prompt to add the following three services via nssm:
    c. Example for starting zookeeper service:
        i. *nssm install zookeeper-for-kafka*
        ii. Enter information for the three fields as shown below:
        iii.
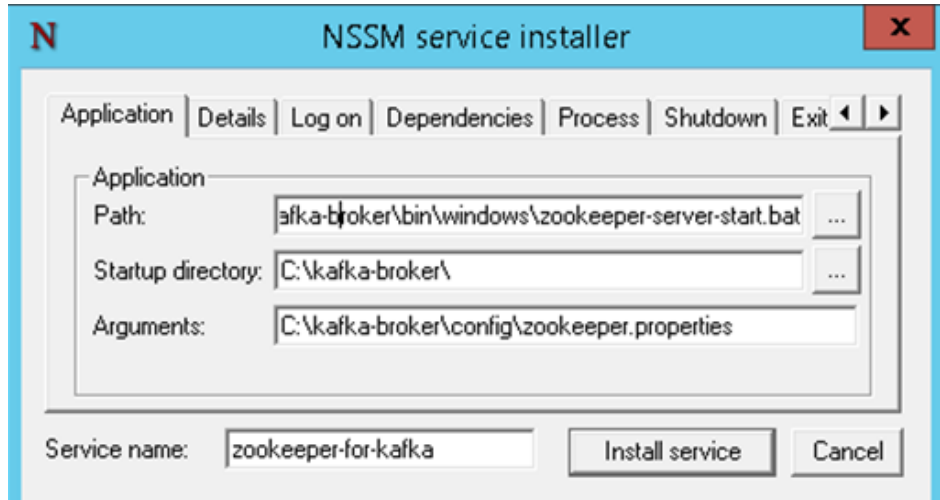


        iv. *nssm start zookeeper-for-kafka*
        v. Follow the same steps to install kafka-service and kafka-rest-service
        vi. Make sure all three services are running before moving onto next steps

4. Copy the **storm** package into **F:\** drive and set PATH to the bin folder
    a. To run storm: Double click on run_storm shortcut on desktop - Path to the shortcut: **F:\storm\storm\bin**
    b. To view storm UI, open from another machine: http://se124380.devoak.devfg.rbc.com:8080

5. Copy the **hadoop-2.7.1** into **F:\** drive and set PATH to the sbin and bin folder
    a. Before running for first time, enter the following command in administrator command prompt: *hdfs namenode -format* = This will create a namenode folder.
    b. To run hdfs: Double click on **start-all** shortcut on desktop - Path to the shortcut: **F:\hadoop-2.7.1\sbin**
    c. To view hdfs UI, open from another machine: http://SE124380.devoak.devfg.rbc.com:50070

## Portal:

1. Copy the following two files in **F:\** drive: **cmlportal-0.1.23** and **Tools**
2. Open administrator command prompt and create a new symbolic link using the following command: *mklink /D c:\cmlportal f:\cmlportal-0.1.23*
3. In order to run portal, we need to setup virtual environment with **requirements.txt** file (in **cmlportal-0.1.23** folder)

a. If copying the existing virtual environment folder (***CMLA_ENV***), then make sure to change ***run_portal*** file to current paths and hostname
b. Set HDFS_PRINCIPAL=*DXQN0SRVAuto1@DEVOAK.DEVFG.RBC.COM* if you receive HDFS_PRINCIPAL error while running portal
c. Once the setup is done, double click on ***run_portal*** shortcut to start portal
4. To view portal, from another machine login onto *SE124380.devoak.devfg.rbc.com:8083/admin/login*
5. Login as admin and change the settings to connect to your instance
6. Add your app code through Apps

# Storm Topology:

1. After portal is running, we can test a new version of storm topology.
2. Download latest topology (***cml-storm****<version>**.jar*) and put it in the following folder: ***F:\cml-storm***
3. Kill current topology if running by the following commands:
    a. *storm list* --It will list all the topologies
    b. *storm kill <topology name>* --It will kill topology
4. Deploy latest topology by using the following command:
    a. `storm jar  F:\cml-storm\cml-storm<version>.jar   com.rbccm.rik0.storm.CMLATopologyMain  -portal http://SE124380.devoak.devfg.rbc.com:8083 -esuser es_admin -espassword 123 -latest`
5. To view storm UI with latest topology, open from another machine: *SE124380.devoak.devfg.rbc.com:8080*

# HDFS:

1. Open command prompt and enter hdfs dfs -ls or any other hdfs command to make sure it's running.
2. From another machine, open http://SE124380.devoak.devfg.rbc.com:50070

# Kafka-Rest Proxy:

1. The kafka-rest service is running through nssm.
2. From another machine, open http://SE124380.devoak.devfg.rbc.com:8082/topics

# ElasticSearch:

1. Copy ***elasticsearch-5.4.3*** package into ***F:\*** drive and unzip it.
2. Configure the cluster through **Settings** on *SE124380.devoak.devfg.rbc.com:8083/admin/login*
3. Set the **cluster.name** and **network.host** in the ***elasticsearch.yml*** file.
4. Open administrator command prompt and run ***elasticsearch.bat*** file in the ***bin*** folder.
5. From another machine, open http://10.61.60.125:9200/

# Kibana:

1. Copy ***kibana-5.4.3-windows-x86*** package into **F:\** drive and unzip it.
2. Set **server.host** to and **elasticsearch.url** to your elasticsearch instance in the ***kibana.yml*** file.
3. Open administrator command prompt and run ***kibana.bat*** file in the ***bin*** folder.
4. From another machine, open http://10.61.60.125:5601/
5. Upload index templates to configure index pattern with ElasticSearch using DevTools

# X-Pack:

1. Copy ***x-pack-5.4.3.zip*** package into **F:\** drive.
    a. Make sure the version of X-Pack matches the version of Elasticsearch and Kibana.
2. Stop ElasticSearch and Kibana before installing X-Pack
    a. Enter the following *xpack.security.enabled: false* into ***elasticsearch.yml*** and ***kibana.yml***
3. Open administrator command prompt and do the following:
    a. For Elasticsearch: *bin/elasticsearch-plugin install file:///path/to/file/x-pack-5.4.3.zip*
    b. For Kibana: *bin/kibana-plugin install file:///path/to/file/x-pack-5.4.3.zip*
4. Start ElasticSearch and Kibana

**Note: All the necessary files/packages are stored in the H:\ drive.**

# Ingest Agents

# Troubleshooting Problem:

1. ## Storm:
   a. The config file for storm should have the following fields:  (Nimbus Error)

      storm.zookeeper.servers: 10.61.60.125:2181
      nimbus.seeds: ["10.61.60.125"]
      storm.local.dir: f:\storm\storm-local
      logviewer.port: 8081
      storm.log4j2.conf.dir: f:\storm\log4j2

   b. No workers or executors and supervisor dies when ElasticSearch or Kibana started
      i. Stop Storm
      ii. Remove storm using ***zookeeper-shell.bat*** found in ***C:\kafka-broker\bin   zookeeper-shell.bat localhost:2181***
      iii. Restart storm and redeploy the topology
      iv. Restart zookeeper, kafka broker and kafka rest
      v. If the issue persists, completely uninstall storm and reinstall it again to clear it out.

2. ## Portal:
   a. New user should login and all the settings will be configured automatically.
   b. Make sure correct versions of all the required packages are installed.

# All the necessary links:

| Storm | http://se124380.devoak.devfg.rbc.com:8080 |
|---|---|
| HDFS | http://SE124380.devoak.devfg.rbc.com:50070 |
| Portal | *SE124380.devoak.devfg.rbc.com:8083/admin/login*<br><br>admin, coffee00<br><br>*SE124380.devoak.devfg.rbc.com:8083/login* |
| Kafka-Rest | http://SE124380.devoak.devfg.rbc.com:8082/topics |
| ElasticSearch | http://10.61.60.125:9200/ |
| Kibana | http://10.61.60.125:5601/ |