**USER’S**

**Guide**

*Smart Bin Application*

Techngage Competition

April, 2016

**USER'S MANUAL**

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**1.0 INTRODUCTION**

**1.1 Purpose**

Purpose of this document is to define scope and document instructions to setup the prototype, as a part of submission of the **Nasscom TechNgage Hackathon**. The prototype described in this document would be for the online submission of round one deliverable as part of the contest.

**1.2 Scope**

Following features will be considered as the scope of the prototype to be submitted for Route 1 of Techngage 2016:

* Web portal and dashboard to view optimized garbage collection routes.
* Convert location data into optimized routes on digital map.
* Assign routes to vehicles / vehicle drivers.

Following is for future scope:

* Pushing the digital routes on mobile devices for navigation.
* Polling thread to pull bin location data on the mongoDB server, from the sensors.
* Polling thread to escalate unassigned routes.

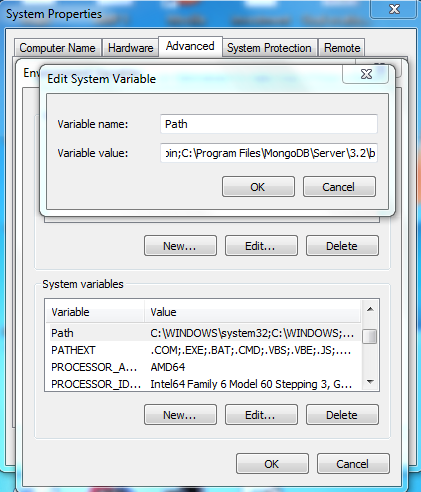
**2.0 INSTALLATION**

**2.1 Software Requirements**

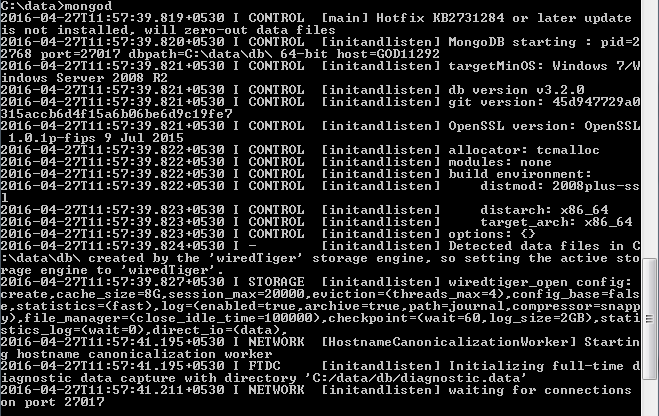
We have currently deployed our SmartBin application successfully on Windows 64-bit machine which needs the software components as MongoDB 3.2, Maven 3.x and JDK 1.7

**2.2 Installation of MongoDB**

1. Unzip the prototype zip and look for mongod.bat file located in repository.
2. Run this mongod by double clicking on it.
3. Now, check for mongod installed at path “C:\Program Files\MongoDB”
4. Add path till bin folder i.e. “C:\Program Files\MongoDB\Server\3.2\bin” to Path in System Properties as shown in the screenshot below.



1. Please ensure you have created data folder in the same path from where you are executing this command. For e.g. “C:\data”
2. Now open a command prompt and run mongod command. You will see waiting for connections on port 27017 upon successful execution of this command as shown below.



MongoDB is now up and running.

**2.3 Installation of Maven**

1. The prototype is tested on apache-maven-3.2.5. Download the same, or preferably any other version above 3.x from the maven apache org. Please find the download link here <http://maven.apache.org/download.cgi#Installation>
2. Go to path in prototype “\SmartBin\apache-maven-3.2.5\bin”
3. Now, add “D:\SmartBin\apache-maven-3.2.5\bin” to Path in System Properties as how it was done above for MongodDB.

**2.4 Installation of JDK 1.7**

1. Download JDK 1.7 from Oracle.com for windows. Please find the download link below. <http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html>
2. Run the installer downloaded.
3. After the installation is complete, you will see it is being installed at “C:\Program Files\Java”
4. Add “C:\Program Files\Java\jdk1.7.0\_45\bin” to Path in System Properties similarly as how it was done for MongoDB and Maven.

**3.0 DEPLOYMENT**

**3.1 Deployment on Windows**

1. Ensure that all the mandatory software components like JDK 1.7, Maven 3.x and MongoDB 3.2 are installed and configured successfully on windows machine.
2. Unzip the download fetched from the GIT repository: <https://github.com/axecoders/smartbin>
3. Go to the location where pom.xml file exists.
4. Ensure that the mongoDB is up and running, as explained in previous section.
5. Run the following dump restore commands for MongoDB from current location:

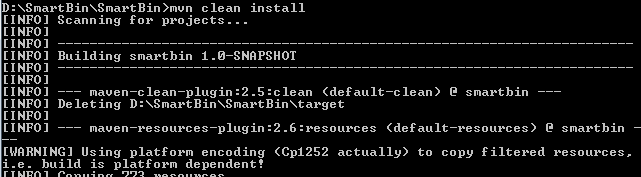
mongorestore --db smartbin --collection route dump/route.bson

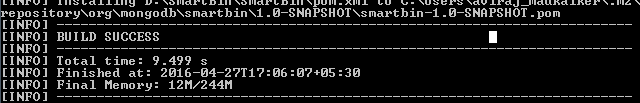
mongorestore --db smartbin --collection truck dump/truck.bson

**Note:** This step is mandatory, and the deployment would not be successful if this is skipped.

1. Open a command prompt here, and run the mvn clean install command as shown below. This will take some time to download all the required dependencies. Once completed successfully you will see a message in command prompts as BUILD SUCCESS.

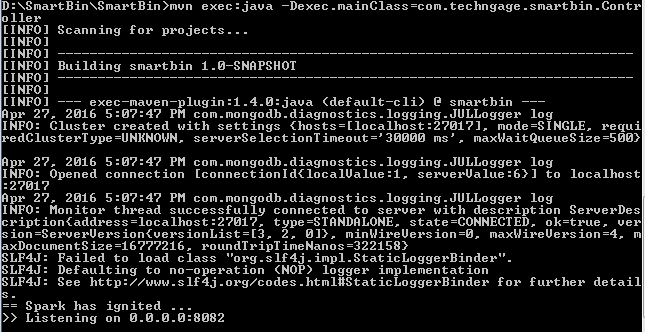
D:\ SmartBin\SmartBin>mvn clean install





1. Run the main Controller class of smartbin Application by executing the following command. Please check the screenshot. Upon successful execution of this command, you will see the message in command prompt as == Spark has ignited ... >> Listening on 0.0.0.0:8082

D:\SmartBin\SmartBin >mvn exec:java -Dexec.mainClass=com.techngage.smartbin.Controller



1. Now the SmartBin application is deployed successfully and is available on <http://localhost:8082/signup>
2. Go to Crome or IE browser and type <http://localhost:8082/signup>
3. Create a new user here as admin / admin
4. On successful creation of the user, you will be redirected to the welcome page.