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Automated Routing of Messages using Apache Camel.

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ABSTRACT

Apache Camel framework. Apache Camel is an open source and emerging framework and it acts as mediator between client and server. It is basically used in this work to exchange, route and transfer data. Automated routing of messages is a desktop application which aid for simple and easy delivery of messages even in offline using JBoss Fuse ESB (Enterprise Service Bus) server. Fuse ESB act as a container on which, this proposed application has been deployed. Fuse ESB will support an Apache Camel internally. Our work has been developed in Spring DSL (domain specific language) and Apache Maven is used as a build tool. In this work, three network servers such as Gmail, Face book and twitter are accessed simultaneously by using proposed framework.

Keywords: Apache camel framework, JBoss fuses ESB, Automated routing of messages, Spring DSL and Apache Maven.

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I. INTRODUCTION

Apache camel is an integration framework, a java object based implementation of the Enterprise Integration Patterns. Apache camel uses Java, Spring XML, Scala or Groovy. It uses URIs to work directly with messaging models like HTTP, FTP, JMS, EJB, JPA, RMI, JMS, and JMX etc. Apache camel is a simple framework with short reliance for quick setting in all the java applications. Apache camel can be deployed as standalone application in a JEE application server like JBoss fuse.

JBoss Fuse server is an open source server which has the capability based on Apache Camel, Apache ActiveMQ and Apache Karaf in integrated patterns.

JBoss Fuse is an open source Enterprise Service Bus with a tight footprint that indicates the integration of data center. The capacity to deploy

JBoss Fuse in different configurations enables excellent integration in the cloud.

In enterprise IT organizations, JBoss Fuse server supports JBL and OSGI. It has a removable architecture that allows enterprise IT organizations to use their needed software services in service-oriented architecture. All the engines may be deployed to a JBoss Fuse container and Jboss Fuse components can also be deployed to other ESBs.

II. EXISTING WORK

The existing approaches are dealt with launching all the three network servers separately. All the three channels such as Gmail, Facebook and Twitter will work in different desktop applications or through web browsers. Gmail, twitter and Facebook has a desktop application which can be accessed only if internet is available. The desktop applications for these channels need login and password.

The following are the drawback of the existing approaches,

- All the three channels cannot be accessed in a single application.
- The other issue is the speed. It has less speed in waiting for the Gmail to respond.
- It is impossible to route the messages automatically.
- It is not possible to use the three channels simultaneously.
- We cannot send a same message to all the three channels at same time.

There are some existing frameworks like Aspect language and the JBoss AOP framework is used for changing security policies at run time [1]. A newest JBOSS framework enables to support bus traffic through a browser [2]. A good connection is established between presentation and persistence layers using a JBOSS framework proposed in [3].

III. PROPOSED WORK

III.1 Automated Routing of Messages Using Apache Camel

This application is developed in a java platform by implementing an apache camel framework. Since apache camel is an integration framework, it is used to exchange, transform and route the messages. Java program is developed in eclipse IDE and build using a Maven tool. Earlier, ant was a build tool for all such type of applications. Apache Maven is an advanced build tool for the applications which is implemented by an apache camel. Once the jar file is generated, it will deploy in a JBoss fuse ESB server. This proposed application is made to send messages to three different network servers at the same time in a single application environment.

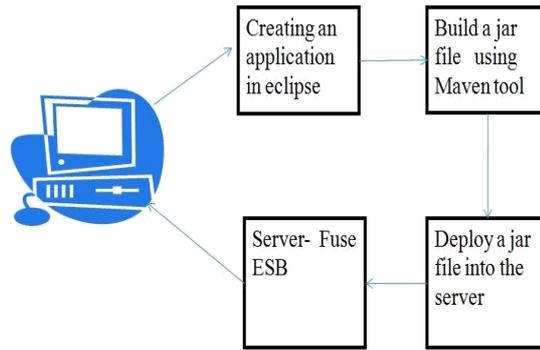


Figure .1 Architecture diagram of proposed framework.

III.2 Steps to Start this Application

The following are the steps to establish the connection between the client and server to send the messages automatically,

- JBoss fuse server should be installed in separate drive.
- User defined XML file should be deployed in JBoss fuse server.
- The folders for separate three channel communications need to be created under JBoss folder.
- JBoss server is started for running the application.
- Create a message text file and keep in all three channel communications folders.
- The lock file for the same will be created automatically and the message has been delivered to the recipients.
- The sent text file will be saved inside a .camel folder

III.3 Advantages of Camel over JAVA Application

- Apache camel application has code simplicity whereas java application has code complexity.
- Apache camel application has the feature of accessing three channels at a time whereas java application does not have that feature.
- There is no need to give login and password for this application whereas java application needs to be in online.

IV.EXPERIMENTAL RESULTS

The following are the screenshots of our proposed work,

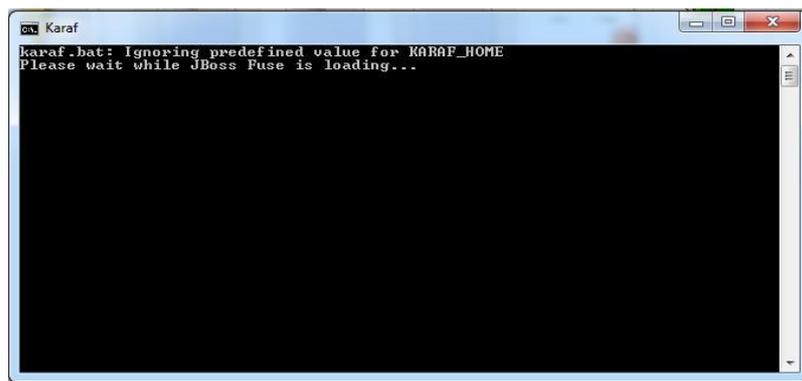


Figure2. Karaf control

Apache karaf is used to provide advanced and flexible security system for this camel application. To start this application, karaf control will be initialized and then the JBoss Fuse will be started.



Figure 3. JBoss fuse is started

If the karaf control is initialized, then the JBoss Fuse will be started. JBoss fuse is a server which is used to integrate the application components.

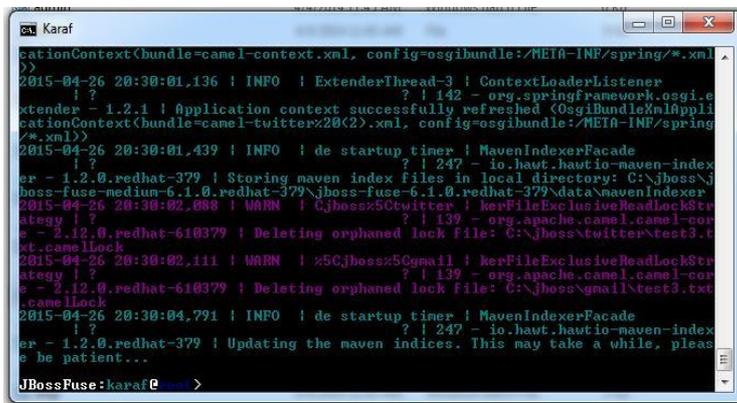


Figure 4. Display of files

Once the JBoss Fuse server is started, the karaf control will display the list of files.

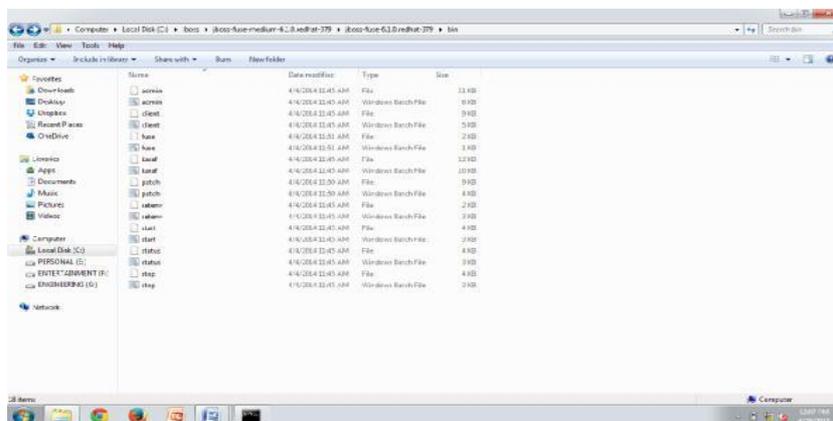


Figure 5. JBoss bin folder

All the starting point JARs and entry scripts are located in the JBoss Bin directory.

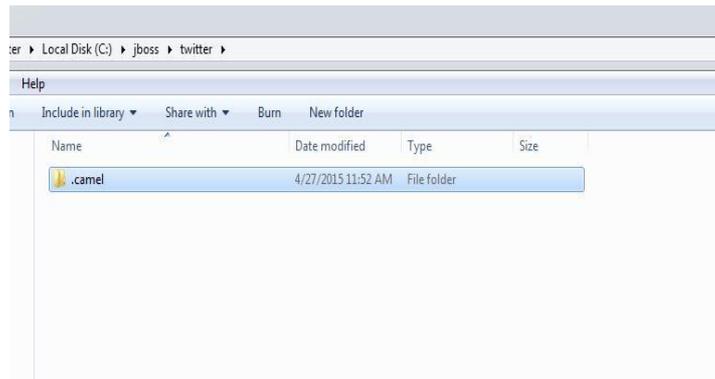


Figure 6. Camel folder

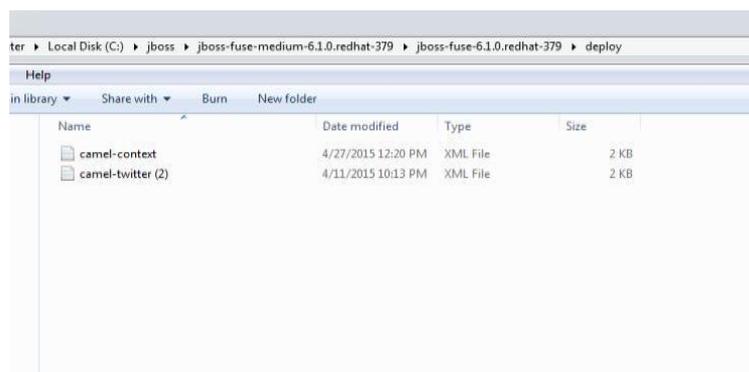


Figure 7. Deploy folder

Once the camel lock file is created for the Gmail message, then the mail will be sent.

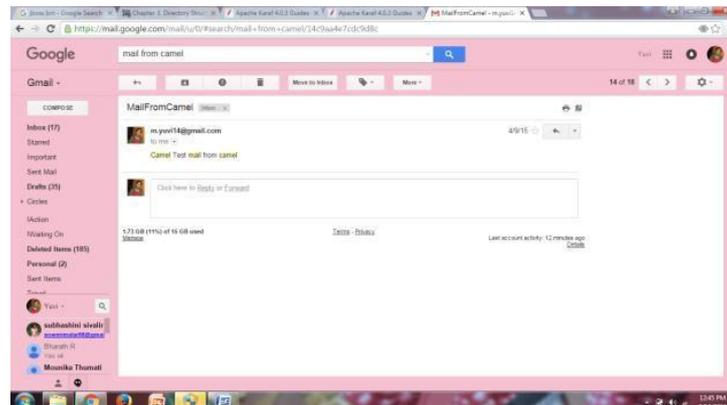


Figure 8. Gmail output

Camel folder is included in both Gmail and twitter folders. It consists of the list of files which is to be posted in Gmail and twitter channels. The file which is to be posted in these channels will be put outside the .camel folder. Then it will create the camel lock file for posting the messages and it goes inside the .camel folder.

Once the coding part is done, the application is to be deployed in deploy folder. The deploy folder has two files separately for Gmail and twitter. The first file has the Gmail post coding and the second file has the twitter post

Once the camel lock file is created for the twitter message, then the message will be posted in twitter.

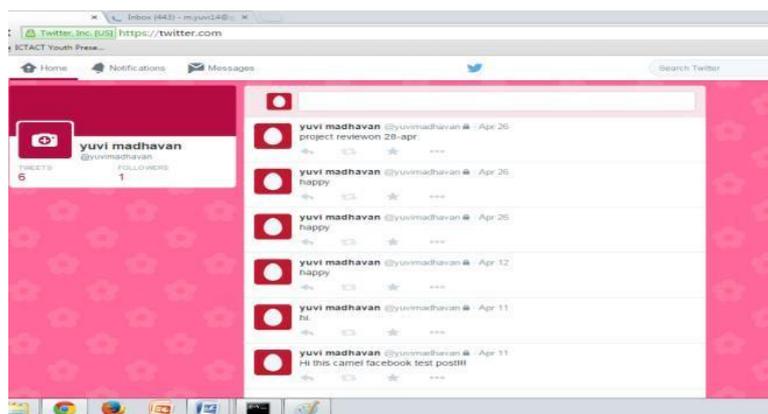


Figure 9. Twitter output

V.CONCLUSION AND FUTURE WORK

In this work, we have proposed a new framework to communicate with three communication channels such as Twitter, Gmail and Facebook through single interface. It is achieved by using an emerging framework called Apache Camel. Apache Camel is acting as a mediation router in this work. Apache Camel supports producing messages as status updates or direct messages. In future, the work can be extended to creating this as a web application.

REFERENCES

- [1] G. Eason, B. Noble, and I.N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," *Phil. Trans. Roy. Soc. London*, vol. A247, pp. 529-551, April 1955. (*references*)
- [2] J. Clerk Maxwell, *a Treatise on Electricity and Magnetism*, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68-73.
- [3] I.S. Jacobs and C.P. Bean, "Fine particles, thin films and exchange anisotropy," in *Magnetism*, vol. III, G.T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271-350.
- [4] K. Elissa, "Title of paper if known," unpublished.
- [5] R. Nicole, "Title of paper with only first word capitalized," *J. Name Stand. Abbrev.*, in press.
- [6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," *IEEE Transl. J. Magn. Japan*, vol. 2, pp. 740-741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].
- [7] M. Young, *the Technical Writer's Handbook*. Mill Valley, CA: University Science, 1989.