CERN Summer Student Project

Implementation and Setup of a System Dedicated Logbook based on ELisA

Raynette van Tonder
University of Cape Town

Supervisor: Alina Corso Radu

August 4, 2016

Abstract

ELisA is a web tool used by the ATLAS community as a daily logbook facility in order to record and share information concerning the experiment's operation and deployment. A few subsystems, notably the FTK subsystem, of the ATLAS experiment would like to setup a logbook based on the ELisA logbook for their own private usage. This new logbook would be completely separated from the main ATLAS logbook and will only be accessed from the general public network. In this project the implementation and setup of the ELisA based logbook will be discussed as well as various modifications that were made to the new logbook. These modifications were specified by the FTK users in order to make the logbook relevant to the FTK subsystem. Once the logbook was functioning as expected and the users were satified with the modifications, the FTK logbook was installed on a FTK dedicated machine where it is currently being used by members of the FTK group.

1 Introduction

ELisA(electronic logbook for the information storage of ATLAS) is a web based tool that is used by the ATLAS community as an electronic logbook containing messages about the experiment deployment, operation and data taking activities. Its main purpose is to enable users to chronologically store information online as short, time-stamped messages with the option to edit or reply to these entries, as well as adding additional attachments [1]. The logbook has built-in features which enables users to easily access the stored information through a user-friendly Web interface. Users are also able to browse or search entries and download attachments, with the additional option to reply or update relevant entries. The result is a flexible tool with high availability and scalability, enabling fast and effective manipulation of logbook entries [1].

A few subsystems of the ATLAS experiment, notably the FTK subsystem, would like to setup their own ELisA based logbook for their own private usage. This new logbook would be separated from the main ATLAS logbook and will only have access to the general public network. In this report the setup and implementation of the new FTK logbook will be described as well as modifications and customisations that were made to the new logbook, which were specified by the users.

2 Software and Technology

The ELisA web tool is based on web technologies making use of the Spring Web MVC framework, which provides a Model-View-Controller architecture. The modern web application is hosted by the servlet engine, Apache Tomcat. In order to be able to use the Spring framework a development environment must be prepared. Detailed instructions to setup this environment are usually provided on various Spring MVC framework tutorials and the brief outline described below is based on a tutorial from Tutorialspoint [2]. The development environment can be created by first downloading and setup the latest, or preferred, version of the Java Development Kit (JDK) from Oracle's Java site. The next step would be to download and install the latest version of Eclipse IDE and for this project, the Eclipse IDE package specifically for Java EE developers was installed. Finally, the latest version of the Apache Commons Logging API libraries must be downloaded and installed, as well as the latest version of the Spring libraries must be setup. Once all these steps have been completed, the development environment would be setup

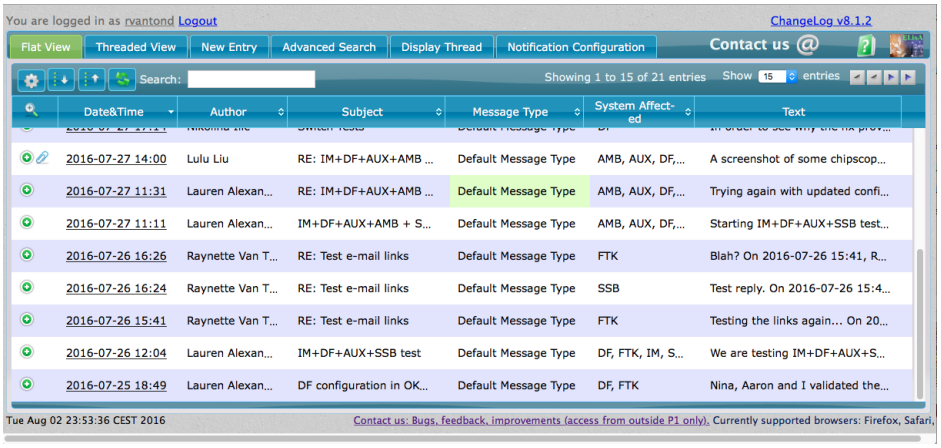

Figure 1: Screenshot of the new ELisA based logbook.

correctly and the Spring framework may be used to start developing web applications.

A web application can be deployed on a machine by first installing the correct version of Apache Tomcat on the machine that will be hosting the aplication. The application must then be exported as a WAR file to the web apps folder located inside the Tomcat folder on the host machine. The application can the be accessed by connecting to the local host and choosing the application from the Tomcat manager page.

3 FTK Logbook

3.1 Setup

The FTK logbook was setup by creating two new accounts, ATLAS_ELISA_LOG and ATLAS_ELISA_CONF_LOG, which would contain information about the data and the logbook configuration, respectively, on the ATLR database. The existing ELisA configurations were then imported to the ATLAS_ELISA_CONF_LOG in order to create a new logbook, that can be seen in Figure 1.

3.2 Testing and Modifications

In order to ensure that all the features of the ELisA web tool are still functioning as expected in the new logbook, a test logbook was also created. This test logbook was used to check whether a user would still be able to add new entries to the logbook as well as editing, replying and adding attachments to

Figure 2: Screenshot of the switch page.

the entries. The test logbook was also used to ensure that the search function was still working properly.

A "switch page" was created for the user to choose which logbook they wish to use. The page was also necessary to ensure that the user would not accidentally be redirected to a different logbook, for example the main ATLAS logbook, which would confuse the user. The switch page was drawn using html and jsp script was then written to redirect the user to the correct logbook, once the desired logbook has been selected. Figure 2 shows a screenshot of the switch page. If the FTK machine is being used to access the FTK logbook, then the switch page is not drawn and the user is automatically redirected to the FTK logbook.

Various modifications were made to the e-mail notification settings of the logbook. First, the recipients of the logbook's e-mail notifications had to be changed such that a notification would be sent to the mailing list specified by the FTK users, if the FTK logbook is being used. The logbook was then installed on a different machine in order to test whether the e-mail notifications are still sent to the proper recipients. Since there are now many different logbooks that are installed on different machines, the links to display, edit or reply to the entry in the notification had to be changed to show the correct URL for each of the logbooks. Finally, in order to avoid confusion with notifications sent for P1, an extra line was added to the subject line of the e-mail notification stating that the notification is from Lab 4.

As specified by the FTK users, new System Affected options that are rele-

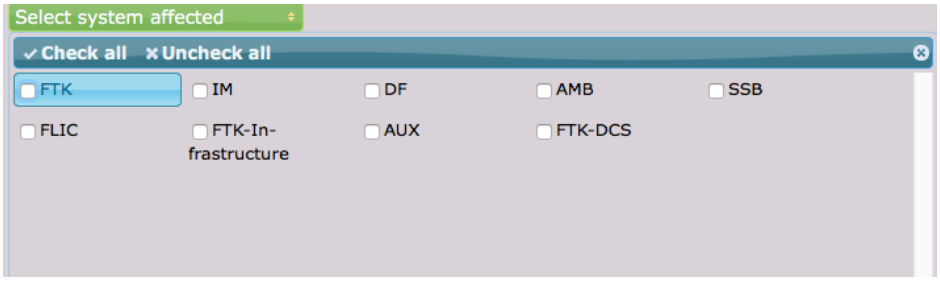

Figure 3: Screenshot of the new SA relevant to the FTK.

vant to the FTK were added to the ATLR database. The System Affected list was then filtered depending on the logbook name in order to only show the relevant System Affected to the user. A screenshot of the new System Affected can be seen in Figure 3.

4 Conclusion

A system dedicated logbook based on ELisA was setup and implemented for the FTK subsystem of ATLAS for its own private usage. The main requirements of this new logbook were that it would be separated from the main ATLAS logbook and would only be accessible from the general public network. This logbook was first installed on a local machine and a test logbook was used to perform various tests in order to ensure that all the features of the ELisA tool were still functioning as expected. Various modifications were also made. Some of these modifications were done to increase the usability of the Web application, while other modifications were specified by the FTK users in order to make the new logbook more relevant to the FTK subsystem. Once the logbook was functioning properly and the FTK users were satified with the modifications that were made, the FTK logbook was installed on a FTK dedicated machine where it is currently being used by members of the FTK group.

References

[1] A Corso Radu, G Lehmann Miotto, and L Magnoni. The electronic logbook for the information storage of ATLAS experiment at LHC (ELisA). In *Journal of Physics: Conference Series*, volume 396, page 012014. IOP Publishing, 2012.

[2] Tutorialspoint Spring MVC Tutorial. http://www.tutorialspoint.com/spring/index.htm. Accessed: 2016-08-02.