

**From:** ASCE support team

**To:** ASCE Users

**Title:** User guide for the ASCE eCassandra plugin

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## Contents

1	Introduction .....	1
2	Requirements .....	2
2.1	ASCE requirements.....	2
2.2	eCassandra and desktop Cassandra requirements.....	2
2.3	Known limitations.....	2
3	Installation .....	2
4	Usage .....	2
4.1	Inserting the ASCE DNRs .....	3
4.2	Examples in use .....	6
4.3	Connecting to eCassandra .....	7
4.4	Connecting to exported MDB files .....	9
4.4.1	CassUser.mdw .....	10
5	Troubleshooting.....	10
6	Technical support .....	11
Appendix A	Risk matrix file for legacy hazard logs (pre Cassandra 3.2 SR1).....	12
A.1	Structure of the riskmatrix.xml file .....	13

## 1 Introduction

This document is a user guide for the ASCE/eCassandra plugin.

The plugin provides a DNR (Dynamic Narrative Region) facility that allows the safety case in ASCE to summarise and report on information held in Cassandra (desktop version and eCassandra) Hazard logs. The plugin works with all ASCE Schemas (e.g. Claims, Arguments, Evidence, Goal Structuring notation etc).

The plugin provides two core reporting services:

1. Summary of an individual hazard, accident, control, cause or reference from Cassandra. Optionally, this can include a list of linked items
2. Summary of a hazard log as a whole, showing a populated risk matrix that indicates the current risk status for accidents managed in the hazard log

The plugin can connect to two data services:

1. Exported MDB hazard logs from desktop Cassandra.
2. Hazard logs held on the eCassandra server, accessible via the RLI.

## **2 Requirements**

### *2.1 ASCE requirements*

The plugin requires ASCE v4 or later.

### *2.2 eCassandra and desktop Cassandra requirements*

To connect to hazard logs in eCassandra, you will need to have:

- Access to the eCassandra webservice on the RLI
- An account to use web based version of eCassandra
- One or more hazard logs hosted on eCassandra

If you wish to connect to hazard logs exported from desktop Cassandra, we strongly recommend that the latest version of desktop Cassandra is used. Previous version (prior to Cassandra 3.2 SR1) do not produce a complete export.

Appendix A provides additional information on a workaround that can be used in the situation where hazard logs.

### *2.3 Known limitations*

The current version of the plugin cannot summarise from CAS files directly. Instead you must create an exported MDB file (see Section 4.4 for details).

## **3 Installation**

To install the plugin, use the plugin manager to install then enable the plugin.

## **4 Usage**

The general process is that in the safety case, a claim would be made that hazards are being adequately managed. Evidence for this would typically be held in the hazard log.

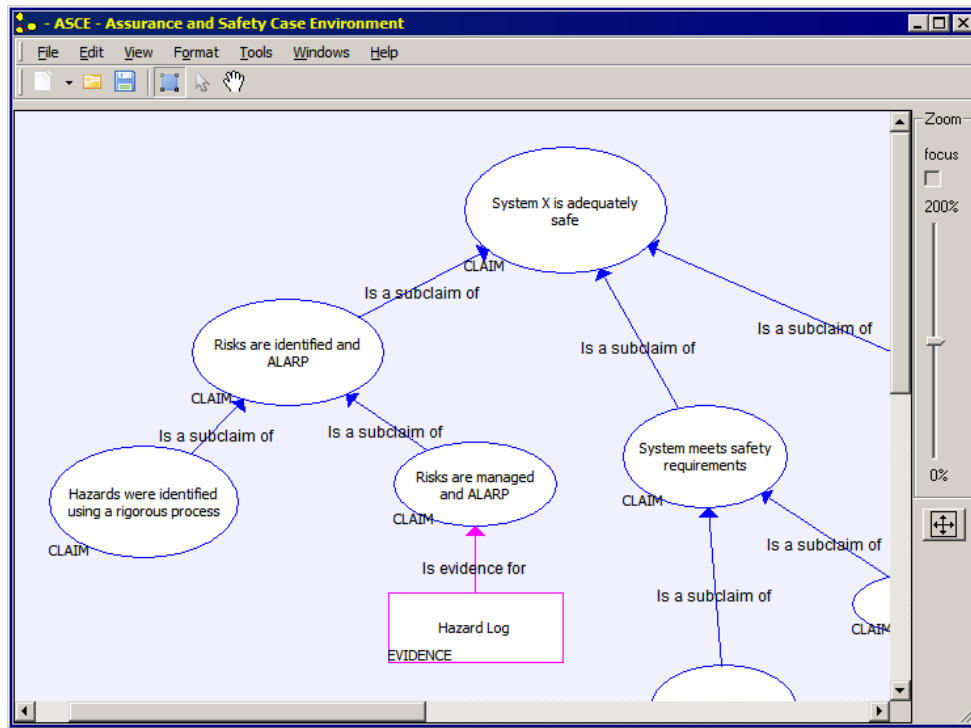


Figure 1: Safety case in ASCE with Hazard log evidence

#### 4.1 Inserting the ASCE DNRs

To insert the Cassandra DNR, open the node editor and then from the Plugin DNR menu, insert the DNR from the Insert->Plugin (DNR element).

Select one of the four options from the Adelard eCassandra plugin:

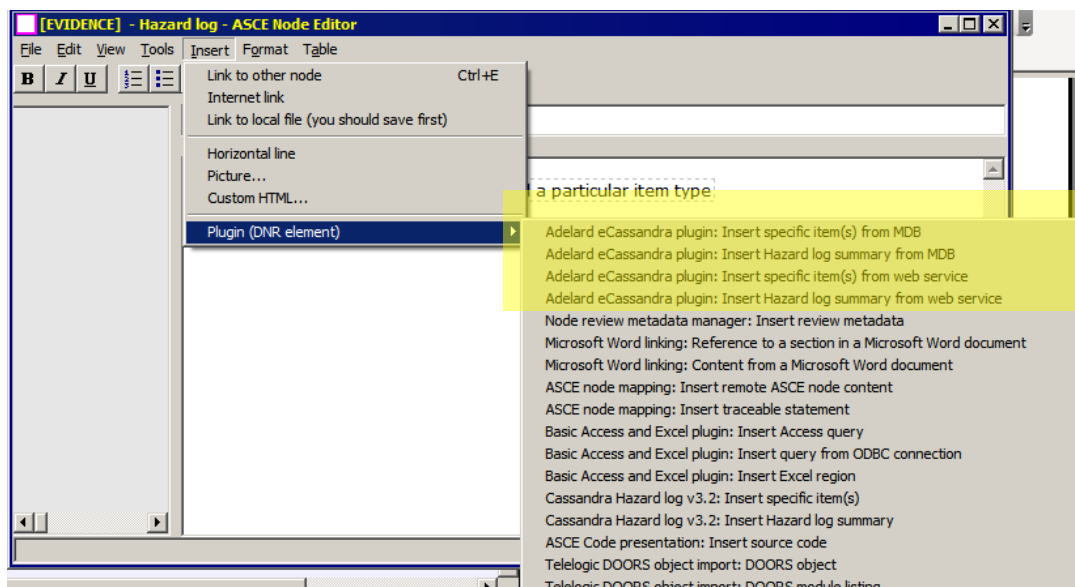


Figure 2: Menu options for ASCE eCassandra plugin in node editor

This will insert an unconfigured DNR element, to configure it, click on it

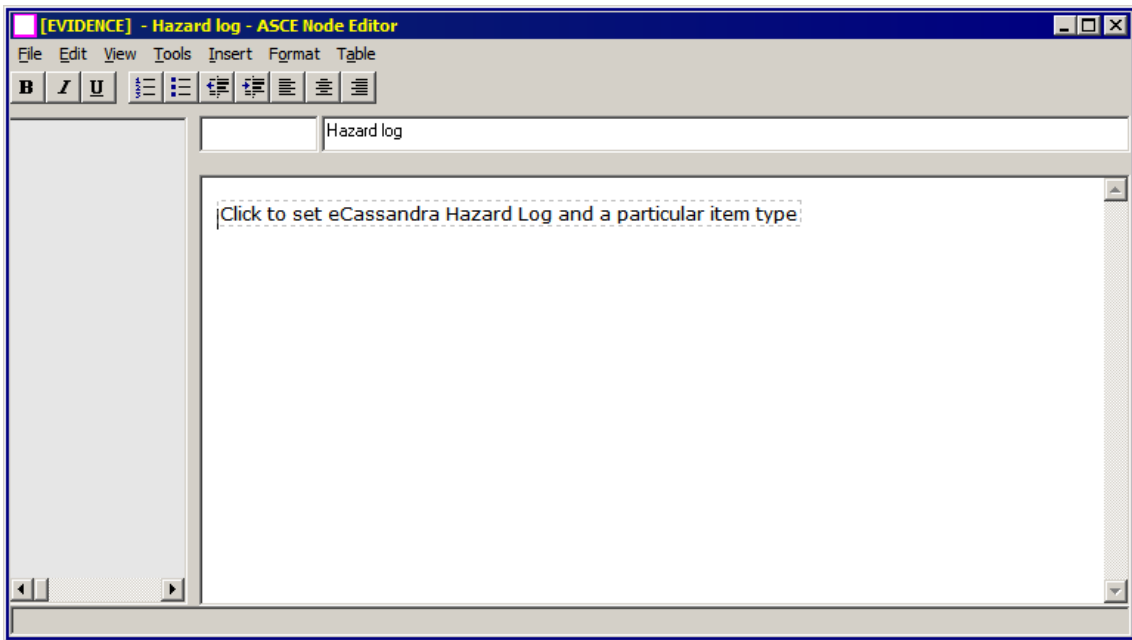


Figure 3: Inserted DNR for Cassandra hazard log

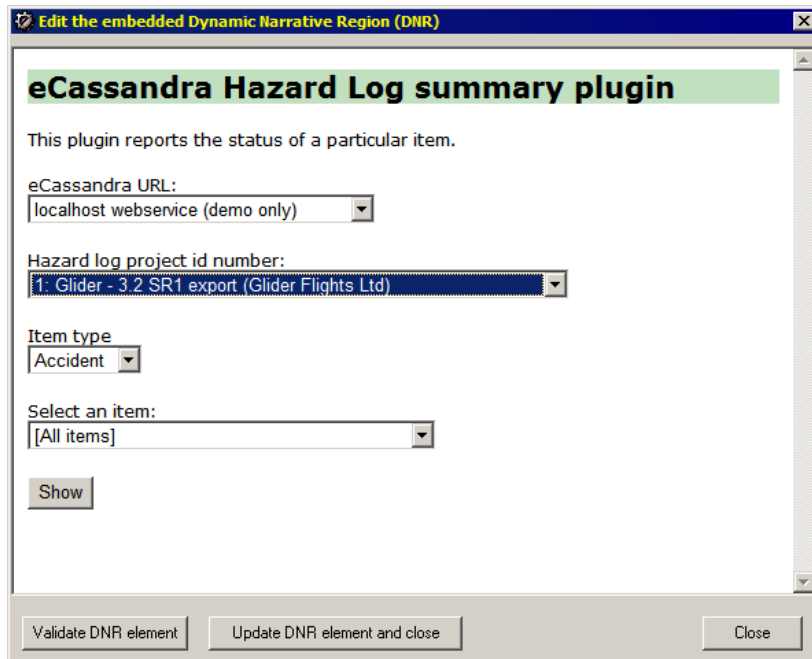


Figure 4: Configuring the DNR options

The following DNRs are available:

DNR menu option	Purpose	Required parameters
<p>1. Insert specific item(s) from MDB</p>	<p>Allows summarizing a specific item (Hazard, Accident, Control, Cause, Reference) from an exported MDB file from Cassandra. A summary of a specific item will include:</p> <ul style="list-style-type: none"> <li>● all fields for that item,</li> <li>● (optionally) a summary of linked items (e.g. hazards linked to some accident)</li> </ul> <p>Allows summarizing all items of a specific type. In this case, summary fields (title id, description) will be shown.</p>	<p>Path to the MDB file, created from desktop Cassandra</p> <p>Selection of the item type to be summarized</p>
<p>2. Insert Hazard log summary from MDB</p>	<p>Provides a populated risk matrix showing either:</p> <ul style="list-style-type: none"> <li>● Identifier of each accident, grouped by the various risk categories</li> <li>● Lifecycle status for each risk class</li> </ul>	<p>Path to MDB file, created from desktop Cassandra</p> <p>Summary type required</p>
<p>3. Insert specific item(s) from Webservice</p>	<p>As per 1</p>	<p>Selection of hazard log available on eCassandra</p> <p>Selection of the item type to be summarized</p> <p>A valid logon account on eCassandra (see also Section 4.2 below)</p>
<p>4. Insert Hazard log summary from MDB</p>	<p>As per 2</p>	<p>Selection of hazard log available on eCassandra</p> <p>Summary type required</p> <p>A valid logon account on eCassandra (see also Section 4.2 below)</p>

4.2 Examples in use

The following screenshots provides examples that show how the plugin will summarise and report information from Cassandra hazard logs.

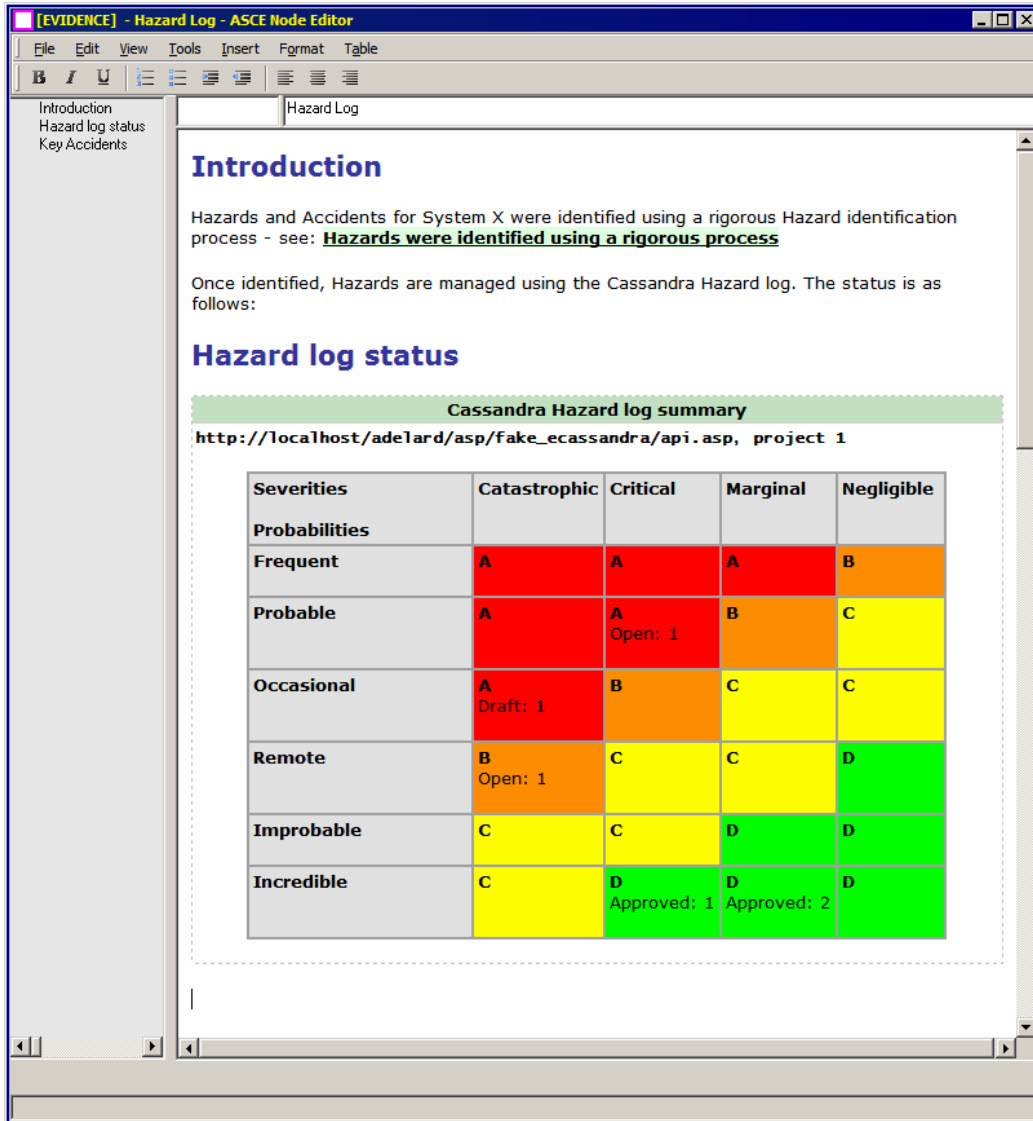


Figure 5: Hazard log summary – showing populated risk matrix

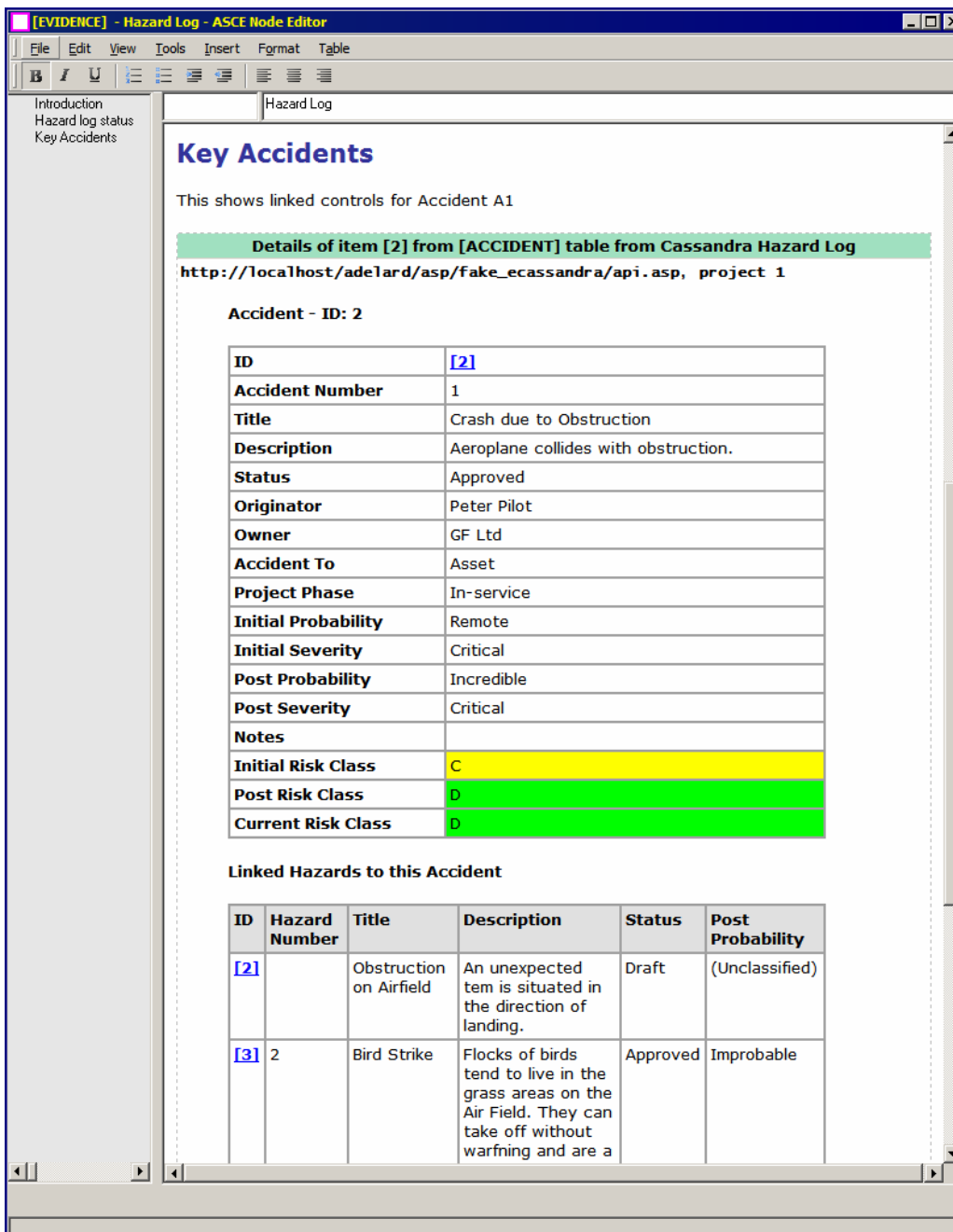


Figure 6: Example showing summary of a particular accident held in eCassandra

### 4.3 Connecting to eCassandra

In order to connect to eCassandra webservice you must first provide your log in details . This is done via the login window that is accessible from the Main Window File menu, and the item added by the eCassandra plugin:

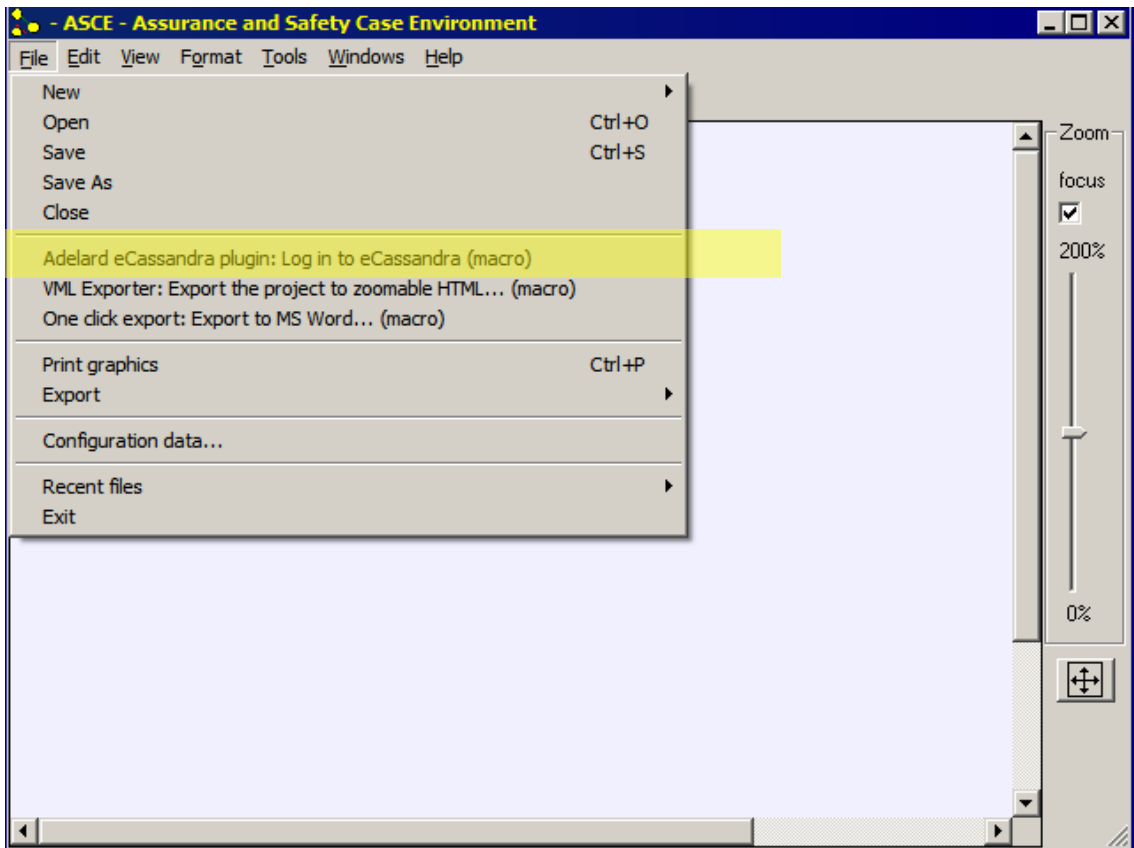
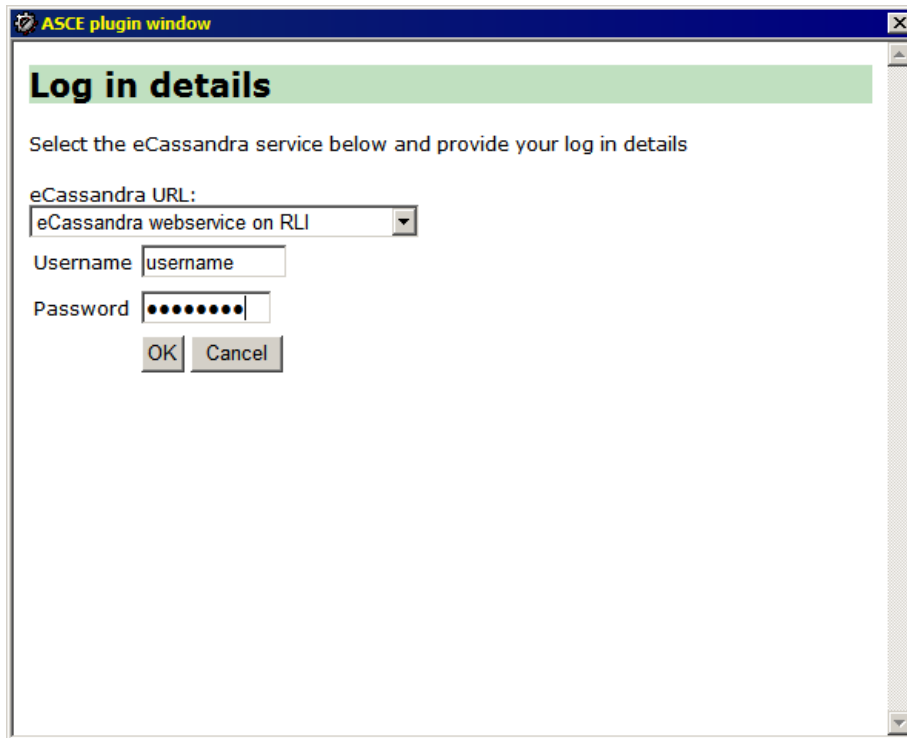


Figure 7: Menu to log in to eCassandra from ASCE

This will open the following window





**Figure 8: Login window for eCassandra**

Select the webservice that hosts the hazard log that you wish to connect to - most likely this will be called

- “eCassandra webservice on RLI” – the official webservice for eCassandra
- Enter your normal eCassandra user name and password and press [OK]
- Subsequent access to the webservice by the ASCE eCassandra plugin will now access using your credentials

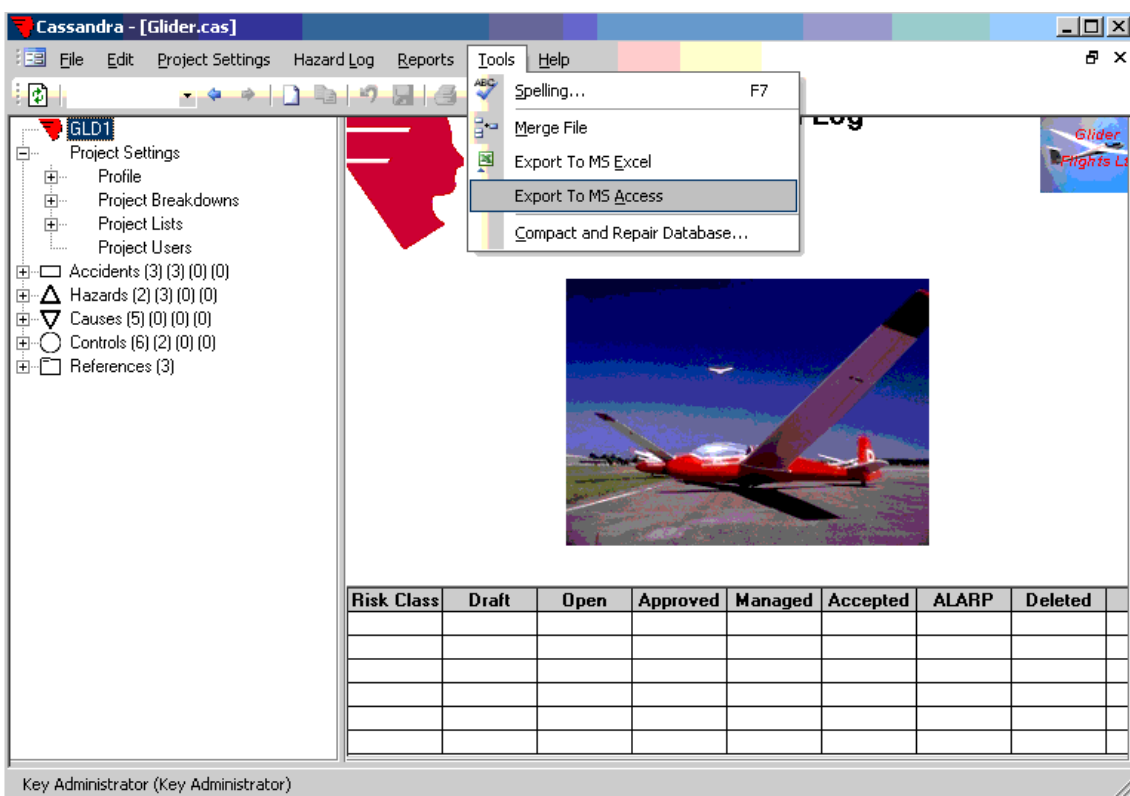
Login information for eCassandra is only held during the current editing session. However when you next open the safety case in ASCE, you will need to log in again.

Your login information will determine which eCassandra projects will be available for you to access from ASCE. If you wish to summarise a project that you are not enabled on, you will need to ask the administrator for the eCassandra project to add you to the list of users that are permitted to view that hazard log.

#### 4.4 Connecting to exported MDB files

The ASCE eCassandra plugin can summarise hazard logs exported from desktop Cassandra. To export the MDB file select:

- Tools->Export to MS Access

**Figure 9: Exporting your hazard log from Cassandra**

Once the MDB file is exported, you will be able to report on it from ASCE.

We recommend that you keep an updated MDB version of your hazard log in the same folder as the original Cassandra CAS file.

4.4.1 *CassUser.mdw*

The ASCE plugin uses this workgroup file to access data held in the exported MDB file. Therefore you should add a copy of this file to the folder containing the exported MDB file:



Figure 10: Example folder containing exported hazard log and CassUser.mdw

5 Troubleshooting

The following table contains advice covering various issues that may arise when using the plugin

Issue	Solution
<i>eCassandra</i>	
I cannot see any projects when configuring the DNR for eCassandra	Ensure you are logged in Ensure you are connected to the RLI network
I cannot see a particular project in the DNR window for eCassandra.	Ensure the user you logged in as has been granted read access to the project
<i>Desktop Cassandra MDB files</i>	
I get an error message about a missing CassUser.mdw file	Copy the CassUser.mdw file to the same folder as the exported MDB file
The information in the hazard log report does not reflect the state of the hazard log	Re-export the MDB file from Cassandra (see Section 4.4)

	It is recommended that the MDB file is re-exported whenever a significant change is made to the Cassandra file.
I get an error message about a missing risk matrix	<p>Re-export the hazard log using a later version of Desktop Cassandra (at least Cassandra 3.2 SR1)</p> <p>OR</p> <p>Create a manual risk matrix XML file – see Appendix A for details</p>

## 6 Technical support

For technical support on this plugin, email ASCE technical support on:

- [asce\\_support@adelard.com](mailto:asce_support@adelard.com)

## Appendix A Risk matrix file for legacy hazard logs (pre Cassandra 3.2 SR1)

*Please note – you do not need to create a legacy risk matrix file as described in this appendix if you have exported from Cassandra 3.2 SR1 or later.*

Older versions of Cassandra (pre 3.2 SR1) do not create a complete export to MDB. In particular the risk matrix information is not included.

HVR fixed this issue in later versions of Cassandra, so if you can use a later version of Cassandra to create your exported MDB file, we recommend that you do so.

It is possible to employ a workaround to summarise older hazard logs. This workaround requires that you create a risk matrix XML file that replicates the risk matrix table held in Cassandra.

Creating this risk matrix file is an advanced task and we recommend you do only if you are an Administrator user in Cassandra and are also confident in editing XML files.

The risk matrix file must be saved in the same folder as the exported MDB file as follows:

```
\path\to\exported\mdb\file\<exported filename>.riskmatrix.xml
```

Where <exported\_filename> is the name of the MDB file.

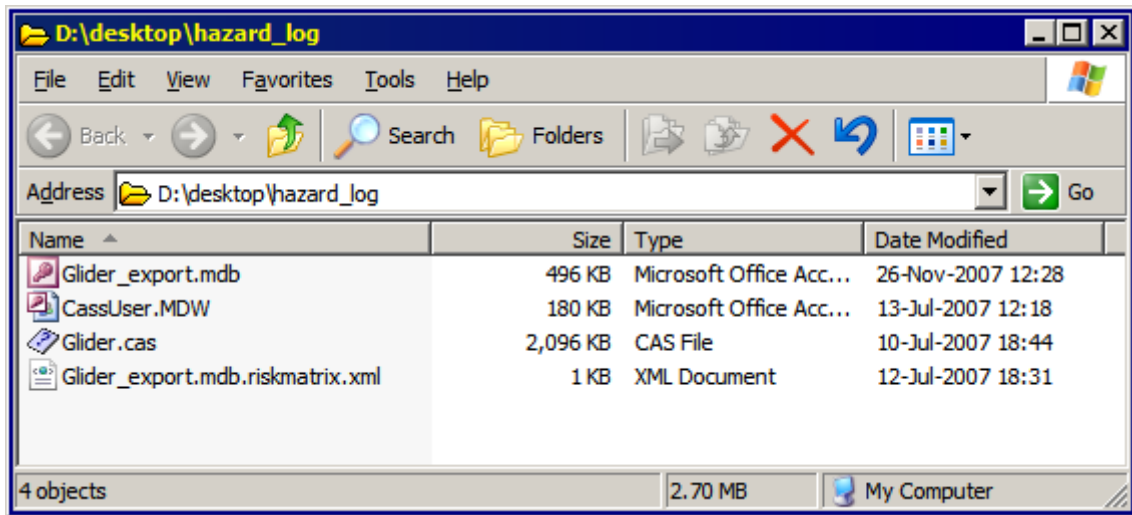
For example if the example “Glider” example was exported as:

```
d:\desktop\hazard_log\Glider_export.mdb
```

The associated risk matrix would have to be saved to a file called

```
d:\desktop\hazard_log\Glider_export.mdb.riskmatrix.xml
```

This is shown in the following screenshot:



**Figure 11: Risk matrix XML file saved to export folder**

### A.1 Structure of the riskmatrix.xml file

The structure of the riskmatrix file should be the same as that used in the exported Cassandra file. It should have a list of severities and probabilities defining the columns and rows of the risk matrix.

The <matrix> section of the file should replicate exactly the same risk matrix structure used in hazard log.

An example of the required structure of the XML file is as follows:

```
<?xml version="1.0"?>
<!--
  A simple specification of a risk matrix.
  Severities are the columns, Probabilities are the rows
  and the risk matrix specifies the assigned risk classes
  for the various pairs.
-->
<risk-matrix>
  <severities>Catastrophic,Critical,Marginal,Negligible</severities>
  <probabilities>Frequent,Probable,Occasional,Remote,Improbable,Incredible</probabilities>
  <matrix>
    <row>A,A,A,B</row>
    <row>A,A,B,C</row>
    <row>A,B,C,D</row>
    <row>B,C,D,D</row>
    <row>C,D,D,D</row>
    <row>D,D,D,D</row>
  </matrix>
</risk-matrix>
```

**Figure 12: Example content required for a legacy Risk matrix XML file**