

CORE - caDSR : caDSR Sentinel Tool 4.0.0.0 Installation

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Introduction

The purpose of this document is to detail the Installation Steps and Site Configuration Options for the caDSR Sentinel Tool Version 4.0.0.0. The Sentinel Tool source and all related documentation can be accessed at <http://gforge.nci.nih.gov/projects/sentinel>. All caCORE companion projects can be referenced from <http://gforge.nci.nih.gov>.

Pre-requisites

The caDSR Sentinel Tool project conforms to the NCICB Auto Deploy Project Template ([Wiki](#), [PDF](#)). All such projects are installed by identical steps as detailed in the NCICB Auto Deploy Project Installation ([Wiki](#), [PDF](#)). Exceptions will be noted below.

Installation Steps

1. Download the project package from the NCICB [Download Site](#).
2. Extract all project files into the desired location. For the purpose of this document, /cadsrsentinel-4000/ is assumed to be the project root folder. File references beginning with "./" can be found in the project path from this root.
3. Create an Ant properties file, named **build.properties**, using the ./template.build.properties and the [Auto Deploy Project Installation](#) (noted above).
 -  Always start with the template.build.properties as it describes the specific properties used for this project. The Auto Deploy document lists all property descriptions used across all Auto Deploy projects, not all properties are required in all projects. The properties in the template.build.properties must be cross referenced back to the supporting documentation.
4. Review the ./conf/template.load_options.sql file. This file contains defaults for the dynamic runtime values used during specific tasks in the Sentinel Tool. The Runtime Options section below provides more specifics about each.
5. Execute `ant -DPROP.FILE=build.properties -f build.xml build-all deploy`
The project will be built and deployed per the property settings in the build.properties file.
6. Start JBoss if not started, restart JBoss if already started. An issue was found in the JBoss hot-deploy that will exhaust executable memory if it is not restarted after a new WAR is deployed.
7. Open a browser and enter `http://<server>/cadsrsentinel/` to start the Sentinel Tool.
 -  When deployed to a secure server enter `https://<server>/cadsrsentinel/`.
 -  The user must have access to the server and in some environments this may require running a Virtual Private Network (VPN) connection.
 -  Sentinel Tool 4.0.0.0 has only been certified with IE 7 and above. Firefox and other browsers may be used but may not behave properly and may encounter Javascript issues.
8. Schedule automatic daily Alert Report generation using CRON or other appropriate utility. The execution script, autorun.sh, will be in the Tool Bin directory as specified in the build.properties file, TOOL.ROOT.DIR property, subdirectory /bin/. This script runs as a console application and generates the Alert Reports per the interval specified in the Alert Definition. At NCICB this script runs every morning at 4:00 a.m. Eastern Time.

-  When installed on a secure server as "https" it may be necessary to also install trusted security certificates on multiple servers to allow for programmatic access between applications.

Runtime Options

Following is some information concerning the runtime options, administering the caDSR Sentinel Tool and the generated output. Property references in the following are in all upper case, e.g. EMAIL.SUBJECT, and can be found in the `./deployment-artifacts/sql/load_options.sql` and `./conf/template.load_options.sql` files. Required changes to non-substitution values should be made in the template file. To distinguish the descriptive substitution of the values from simple references the property is surrounded by at-signs, '@', e.g. EMAIL.SUBJECT is a reference to the property and @EMAIL.SUBJECT@ is a reference to the property value.

Alert Reports Creation

Alert Reports are created by the automated run and manually via the Sentinel Tool user interface Run command. A manual submission causes a new execution thread to be started by the Servlet to ensure the user's browser is not locked up waiting for the Alert report creation.

Every manual run writes internal messages to the Sentinel log as defined in the JBoss log4j.xml and generates two (2) files. One is the formatted output (in HTML form with a file extension of html) containing the caDSR information matching the Alert Definition which is sent to the Alert Definition recipients via email. The other is a secondary log file (in HTML form with a file extension of html) containing messages from the run sent to the Alert Administrator via email.

The automated process will create multiple report files in HTML, write internal messages to the Sentinel log as defined in the Auto Run log4j.xml and create a secondary log file which is sent to the Sentinel Administrator via email.

Alert Report Distribution

The email sent to the Alert recipients contains links, not attachments, to the HTML file. Each recipient is sent a separate email consequently the 'CC' and 'BCC' fields are blank. To avoid potential spamming some SMTP servers are set with a limit of the number of emails that can be sent per connection. Consequently, to avoid a problem with this limit, the software establishes one (1) connection, sends one (1) email and closes the connection. If any problems occur, please contact the appropriate email support or administrator.

Additionally the configured ADMIN.* accounts receive an email with a link to the log file. The subject of this email is "@EMAIL.SUBJECT@ LOG" provided there are no errors. Should errors occur the word 'ERRORS' is suffixed to the subject. This was done to facilitate the review of the emails and the creation of rules within an email reader.

Disk Space Use

As there is no way for the software to know when a user is finished with a report, every file is generated with a unique name using a combination of the type of submission and a time stamp. This could cause a substantial number of files to accumulate in the folder identified by OUTPUT.DIR. To manage this, please provide a server with a large amount of free space. The autorun.sh created during the build contains a command to delete all files more than 20 days old. This default may be changed in the `./scripts/autorun.sh` file.

Links vs. File Attachments

The use of links was chosen after careful consideration. During development of the Sentinel Tool the options considered included:

1. Attach the report file to the email.
2. Embed the report in the body of the email.
3. Zip all the reports and attach to the email.
4. Place links to the report files in the email.

Each of these approaches has advantages and disadvantages. Considerations for each approach included:

1. Potential size of a single report.
2. Potential number of recipients for any one report.
3. Total number of reports created during a single automated run.
4. Email servers stripping off attachments for possible virus protection.
5. Management of disk space.
6. Access to the reports.
7. User forwarding of a report.
8. Retrieving or accessing older reports.

The Sentinel Tool Automated Run does control the number of emails sent by creating only one per recipient. For example, if one Alert is to go to 5 recipients and a second goes to 3 of the same recipients, those 3 will receive a single email which contains two (2) links, one for each report. Further the logic organizes the output by email address to avoid problems with one person having multiple accounts with distinct names associated to the same email address.

Process Monitoring

While the report creation is running, progress can be determined by finding the most recent log file in the OUTPUT.DIR and using the UNIX 'tail' command. For Windows environments a freeware version can be obtained from Cygwin (<http://www.cygwin.com/>). For those not familiar with this command it displays the lines at the end of a file. The Run process (both automated and manual) flush the log file buffer with each write to facilitate tracking progress and to ensure the most up to date information is in the file should an unforeseen error occur.

Required Technology

The product versions which follow were used during the development and system testing of the caDSR Sentinel Tool. Although new versions of the products have been released they have not yet been certified with the Sentinel Tool Version 4.0.

 Deviating in any way from the products and versions listed below may cause errors. When attempting to deploy the project to a different technology stack, please first deploy as documented in this Installation Guide and then begin the migration.

Product	Version	Web Site & Notes
JBoss	4.0.5	http://www.jboss.org/downloads/index
Struts	1.3.5	http://struts.apache.org/
JDK	1.5.0_10	http://java.sun.com/j2se/1.5.0/ Recommend downloading the J2EE 1.5 SDK.
ANT	1.6.5	http://ant.apache.org/
Eclipse	Current	http://www.eclipse.org/platform/ This is a development environment only and provides no runtime or build components.
IE	7.0+	http://www.microsoft.com/windows/ie/downloads This is the latest Internet Explorer from Microsoft.
EVS API	4.1	http://ncicb.nci.nih.gov/download/cacoreevsapilicenseagreement.jsp This is the EVS client JAR files which provide access to EVS. When creating a remote installation which will not use EVS, please

refer to Removing caCORE API for more information.

Troubleshooting

Following is a list of known errors and resolutions that may occur during the build and deployment process. If you have a question or situation not covered in this document please contact the NCICB Help Desk via email at ncicb@pop.nci.nih.gov.

1. java.lang.NoClassDefFoundError: oracle/jdbc/driver/OracleDriver in JBoss server.log.
The message indicates the oracle ojdbc14.jar is missing or not in the class path. This file is included in the open source package. If the problem persists, find the JAR in the Oracle installation folders and copy it to the appropriate JBoss lib folder or modify the class path to include the file. If Oracle is not installed on the machine contact your database or system administrator to acquire the file.
2. The Sentinel Tool Login screen appears and a valid user name and password is not accepted.
 - Verify the caDSR database references above, i.e. cadrsentinel-oracle-ds.xml and cadrsentinel.xml.
 - Open a command prompt and enter the command "tnsping <database server>", without quotes and substituting the database server with the server reference from cadrsentinel-oracle-ds.xml in the JBoss/deploy directory.
 - Verify the Oracle Application Server is not running.
3. Using Firefox, Mozilla and other web browsers
The Sentinel Tool has only been certified with Microsoft Internet Explorer version 6.0 and higher. If you have a question or situation not covered in this document please contact the NCICB Help Desk via email at ncicb@pop.nci.nih.gov.