

Oracle Financial Services Reporting for Reserve Bank of India - Lombard Risk Integration Pack

Security Guide

Release 8.1.1.0.0

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ORACLE
Financial Services

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1 Preface

Oracle Financial Services Regulatory Reporting for Reserve Bank of India (OFS REG REP RBI) (developed on Oracle Financial Services Data Analytical Applications Infrastructure) provides for configuration of security parameters and this guide provides information about the configurations required and how to set it. You can find the latest copy of this document in the [OHC Documentation Library](#) which includes all the recent additions or revisions (if any) done to date.

The information contained in this document is intended to give you a quick exposure and an understanding of the security configurations required after the installation of Oracle Financial Services Regulatory Reporting for Reserve Bank of India (OFS REG REP RBI).

Topics:

- [Audience](#)
- [Prerequisites](#)
- [Related Documents](#)

1.1 Audience

This guide is intended for System Administrators (SA) who are instrumental in installing and performing secure configurations for Oracle Financial Services Regulatory for Reserve Bank of India (OFS REG REP RBI). It is assumed that the SAs are technically sound and proficient in UNIX, Database Administration, and Web Application Administration to install and configure OFSDF in the released environment.

1.1.1 Prerequisites for the Audience

The document assumes you have experience in installing Enterprise components. Basic knowledge about the Oracle Financial Services Data Foundation Application Pack components, OFSAA Architecture, UNIX commands, Database concepts, and web server or web application server is recommended.

1.2 Related Documents

The list of related documents is provided here.

- [Oracle Financial Services Regulatory Reporting for Reserve Bank of India \(OFS REG REP RBI\) Installation Guide Release 8.1.1.0.0](#)
- [Oracle Financial Services Data Foundation Installation and Configuration Guide Release 8.1.1.0.0](#)
- [Oracle Financial Services Data Foundation Application Pack Security Guide](#)
- [Oracle Financial Services AgileREPORTER Application Installation Guide Release 8.0.9.0.0](#)

2 Installing OFS REG REP RBI Integration Pack

See the [Oracle Financial Services Regulatory Reporting for Reserve Bank of India \(OFS REG REP RBI\) Installation Guide Release 8.1.1.0.0](#), for detailed installation steps.

3 Secure Configuration

The OFS REG REP RBI application pack components are developed on the OFSAA infrastructure and uses the OFS AAI secure configurations.

See the following sections to configure the security parameters in OFS AAI.

3.1 Security Configuration

Configure a set of security parameters to have a secure environment for the OFSAA installation. The required configurations are presented in the following list. For more information about the configuration, see the [OFS AAI Administration Guide](#) and the [OFSAA Security Guide](#).

- **Input and Output Encoding:** OFS REG REP RBI is enabled with input validation and output encoding to protect from various types of security attacks.
- **Transparent Data Encryption (TDE):** Enable this option to secure the data at rest when stored in the Oracle database. To configure TDE during installation, see the *Transparent Data Encryption (TDE)* section in the [OFSAAI Installation and Configuration Guide](#). If you want to configure after installation, see the *Transparent Data Encryption (TDE)* section in the [OFSAAI Administration Guide](#).
- **Oracle Data Redaction** – This is an Oracle Database Advanced Security option to enable the protection of data. It is used to mask (redact) sensitive data shown to the user in real-time. To enable this option during installation, see the section Enabling Data Redaction in the [OFSAAI Installation and Configuration Guide](#). To enable post-installation, see the section Data Redaction in the [OFS AAI Administration Guide](#).
- **CSRF Enabled** - Enabling this option results in setting CSRF tokens in requests. OFSAAI System Configuration UI provides the option to enable or disable CSRF. For more information on enabling CSRF, see the section Update General Details in the [OFSAAI User Guide](#).
- **Key Management** - The OFSAA configuration schema (CONFIG) is the repository to store passwords for users and application database schemas centrally. These values are AES 128 bit encrypted using an encryption key uniquely generated for each OFSAA instance during the installation process. The OFSAA platform provides a utility (EncryptC.sh) to rotate/generate a new encryption key, if needed.

The Key Management section in the [OFS AAI Administration Guide](#) explains how to generate and store this key in a Java Key Store.

NOTE Integration with any other Key management solution is out of scope in this release.

- **File Encryption** – OFSAA supports file encryption using AES 256 Bit format. For more information, see the section File Encryption in the [OFS AAI Administration Guide](#).

NOTE For detailed information about the data protection implementation in OFSAA, see [Oracle Financial Services Data Foundation Application Pack Data Protection Implementation Guide](#).

- **Database Password Reset:** Change the database password for the Config schema and Atomic schema periodically. For more information, see the *Database Password Reset/ Change* section in the [OFS AAI Administration Guide](#).
- **Password Reset:** Reset passwords for users, if required. For more information, see the *Database Password Reset/ Change* section in the [OFS AAI Administration Guide](#).
- **Enable and Disable Users:** For more information, see the *Enable and Disable Users* section in the [OFS AAI Administration Guide](#)
- **SSO Authentication (SAML) Configuration:** For more information, see the *SSO Authentication (SAML) Configuration* section in the [OFS AAI Administration Guide](#).
- **Public Key Authentication:** Configure the Public Key Authentication on UNIX. For more information, see the *Setting Up Public Key Authentication on Client-Server* section in the [OFS AAI Administration Guide](#).
- **Data Security and Data Privacy:** Configure to protect data against unauthorized access and data theft. For more information, see the *Data Security and Data Privacy* section in the [OFS AAI Administration Guide](#).
- **Input and Output Encoding:** OFSAAI is enabled with input validation and output encoding to protect from various types of security attacks.
- **Password rotation every 30 days:** For more information, see the *Changing Password* section in the relevant version of the [OFSAAI User Guide](#).
- **Additional Cross-Origin Resource Sharing (CORS):** Configure CORS. For more information, see the *Knowing Additional Cross-Origin Resource Sharing (CORS)* section in the [OFS AAI Administration Guide](#).
- **System Configuration and Identity Management:** Configure the following parameters from the information in the *System Configuration and Identity Management* section in the relevant version of the [OFSAAI User Guide](#):
 - Set session timeout
 - Enable CSRF
 - Set frequency of password change
 - Configure password restriction details
 - Configure password history
 - Configure security questions for a password reset
 - Configure the activation period by setting Dormant Days, Inactive Days, and Working Hours

For detailed information about data security implemented in OFSDF, see the [Oracle Financial Services Data Foundation Data Protection Implementation Guide Release 8.1.x](#).

4 Secure Header Configuration

Secure header configurations protect you from website attacks such as XSS. OFS AAI 8.1.1.0.0 is the platform used to build OFS REG REP RBI 8.1.1.0.0, and is packaged with the OFS REG REP RBI installer. OFSAAI supports the following configurations to protect from website attacks such as XSS:

- Configure X-Frame-Options
- Configure CORS Header
- Set Content Security Policy
- Configure Referrer Header Validation
- Configure HSTS in Response Header

Secure header configurations protect you from website attacks such as XSS and Clickjacking. See the *Secure Header Configurations* chapter in the [OFSAA Security Guide](#) for more information.

5 Web Application Server Security Configuration

OFS AAI 8.1.1.0.0 is the platform used to build OFS REG REP RBI 8.1.1.0.0, and is packaged with the OFS REG REP RBI installer.

The OFSAAI framework defines the following security configurations for the web servers:

- Enable HTTPS Configuration for OFSAA
- Configure Security for Tomcat
- Configure Security for WebSphere
- Configure Security for WebLogic

Depending on your configured web application server, see the sections in the *Web Application Server Security Configurations* chapter in the [OFSAA Security Guide](#) for more information.

6 Additional Security Configuration

OFS AAI 8.1.1.0.0 is the platform used to build OFS REG REP RBI 8.1.1.0.0, and is packaged with the OFS REG REP RBI installer. OFSAAI framework defines the following additional configurations for providing security to the applications:

- Configure to Restrict Access to Default Web Server Pages
- Configure to Restrict Display of the Web Server Details
- Configure to Restrict File Uploads
- Configure to Restrict HTTP Methods other than GET or POST
- Configure to Enable Unlimited Cryptographic Policy for Java

For more information, see the *Additional Security Configurations* section in the [OFSAA Security Guide](#).

7 Secure Database Connection Configuration

The Oracle database product supports SSL/TLS connections in its standard edition. The Secure Sockets Layer (SSL) protocol provides network-level authentication, data encryption, and data integrity. When a network connection over SSL is initiated, the client and server perform a handshake that includes the following:

- Negotiating a cipher suite for encryption, data integrity, and authentication
- Authenticating the client by validating its certificate
- Authenticating the server by verifying that its Distinguished Name (DN) is expected
- Client and server exchange key information using public-key cryptography

For more information, see the *Secure Database Connection Configurations* section in the [OFSAA Security Guide](#).

8 Appendix A: Servlet Filter Configuration

Servlet Filter is a controller in the web-container with the Servlet Filter required configurations. This section also lists out the Keywords and Key Characters as follows:

- Security and Access
- Vulnerability Checks
- Cross-Site Scripting
- SQL Injection
- Configure Servlet Filter

For more information, see the *Appendix A - Servlet Filter Configurations* in the [OFSAA Security Guide](#).

9 Using X-Frame-Options to Embed Drill-down in the Lombard Report

By default, the OFSAA configuration refrains to embed the OFSAA content in the Lombard portal, therefore, the web.xml must be modified to enable the same.

NOTE The preceding step is mandatory to access the OFSAA drill-down from the Lombard AgileREPORTER portal.

To embed the drill-down content in the Lombard portal, change the default OFSAA setting of X-Frame-Options from **SAMEORIGIN** to **ALLOW-FROM** in the web.xml file.

9.1 Modifying the Web.xml file

This section describes the steps to modify the web.xml file to embed the drill-down content from the Lombard portal as follows:

1. Navigate to the web.xml file in the \$FIC_HOME/ficweb/webroot/WEB-INF/ directory.
2. Open the web.xml file in an editor.
3. Search for the following tag:

```
<filter>
<filter-name>FilterServlet</filter-name>
<filter-class>com.iflex.fic.filters.FilterServlet</filter-class>
</filter>
```

4. Add the following tag before the tag shown in the preceding step:

```
<filter>
    <filter-name>FilterServlet</filter-name>
    <filter-class>com.iflex.fic.filters.FilterServlet</filter-
class>
    <init-param>
        <param-name>AllowHosts</param-name>
        <param-value><url1>/ <url2>/</param-value>
    </init-param>
</filter>
```

NOTE Separate <url1> and <url2> with a single space. Adding the URLs without a space between them, or adding two or more spaces between them, results in errors. Make sure that ends with a forward slash (/). Replace the /url1 with the URL of Lombard portal and replace the /url2 with the OFSAA relative url.

5. Generate and deploy war. Restart services for the changes to reflect.

This embeds the OFSAA content in the Lombard portal.

OFSAA Support

Raise a Service Request (SR) in [My Oracle Support \(MOS\)](#) for queries related to the OFSAA applications.

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