

Retek[®] Security Manager[™] 11.0.1

Installation Guide

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Contents

Chapter 1 – Hardware and Software Requirements	1
Database Server	1
Application Server	1
Directory Server.....	1
Client PC and Web Browser Requirements.....	1
Client PC requirements	1
Browser requirements.....	2
Chapter 2 – Database Configuration Instructions.....	3
Database Server Installation Instructions.....	3
Create a UNIX user account to install the software	3
Create Staging Directory for RSM database files	3
Create RSM Schema Owner.....	3
Create RSM tables.....	4
Insert data for RSM	4
Chapter 3 – Application Server Configuration Instructions	5
UNIX (Sun Solaris/HPUX/AIX)	5
Configure WebSphere 5.1 Application Server for RSM 11.....	5
Deploy rsm11.ear in WebSphere Application Server 5.1	7
Directory Server information in security.properties.....	8
RPM Bootstrap information in jndi_providers_rpm.xml	9
Chapter 4 – Client Installation Instructions	11
Chapter 5 – Test the RSM Client	13
Appendix A - Retek User Creation Script.....	15

Chapter 1 – Hardware and Software Requirements

RSM is a Service-Oriented Architecture application. The client code is Java-based and is launched from Java WebStart. The RSM service layer is run from the WebSphere Application Server and accesses an Oracle Database server and an LDAP compliant Directory Server.

Database Server

General requirements for a database server capable of running RSM include:

- UNIX based OS certified with Oracle RDBMS 9i release 2 Enterprise Edition (options are AIX5.2, Solaris 9, and HP-UX 11.11)
- Oracle RDBMS 9i release 2 Enterprise Edition

Application Server

General requirements for an application server capable of running RSM include:

- UNIX based OS certified with IBM WebSphere Application Server version 5.1.. (options are AIX5.2, Solaris 9, and HP-UX 11.11)
- IBM WebSphere Application Server version 5.1.

Directory Server

General requirements for a directory server capable of running RSM include:

- Microsoft Windows 2000 (Service Pack 4) Active Directory or OpenLDAP version 2.x*
- LDAP version 3.0 compliant.

* RSM is certified against OpenLDAP version 2.1.12 on Solaris and OpenLDAP version 2.0.19 on Windows NT. Although RSM is not certified against OpenLDAP on AIX or HP, there are no limitations that would prevent RSM from running against an OpenLDAP instance on these or any other operating systems.

Client PC and Web Browser Requirements

Client PC requirements

- Operating system: Windows 2000 or XP
- Display resolution: 1024x768
- Processor: 1GHz or higher;
- Memory: 512MBytes or higher;
- Sun J2RE Runtime equal to v1.4.1.

Browser requirements

The browser is used to launch the Java WebStart client. The following browsers are supported :

- Microsoft Internet Explorer 5.5 or higher.

Chapter 2 – Database Configuration Instructions

Database Server Installation Instructions



Note: Installation of RSM 11.0.1 should be considered a full installation. In the event that a previous version of RSM has been installed, the existing schema will need to be dropped prior to running the RSM 11.0.1 SQL scripts. It is highly recommended that backups of the existing schema be created so that any client customizations can be implemented into the new RSM 11.0.1 schema.

Create a UNIX user account to install the software

- 1 Create a UNIX group named “dev”.
- 2 Create UNIX user named “retek” and assign it to the “dev” group. This user will install the RSM software

Create Staging Directory for RSM database files

- 1 Log into the UNIX server as retek.
- 2 Create a staging directory for the RSM database installation software. There should be a minimum of 1 MB disk space available.
- 3 Copy the rsm11dbserver.zip file from the CD/dbserverunix directory to the staging directory. This will be referred to as INSTALL_DIR for the remainder of this chapter.
- 4 Change directories to INSTALL_DIR and extract the rsm11dbserver.zip file.

Create RSM Schema Owner

Create the Oracle db user that will own the RSM application. Refer to Appendix A.

- 1 Change directories to INSTALL_DIR/
- 2 Log into sqlplus as sysdba and enter the following command to create the schema owner. The following will be prompted for:

Schema Owner – The Oracle user that will own all RSM objects. Referred to in this install guide as RSM11DEV

Password – The password for RSM11DEV

Temp Tablespace – the Temporary Tablespace for RSM11DEV

SQL> @create_user.sql

- 3 Check the log file create_user.log for any errors. This log file should be removed to prevent the password from being compromised.

Create RSM tables



Note: Ensure the following table spaces exist: RETK_DATA and INDEX_DATA. Without these tablespaces the ddl will fail

- 1 Change directories to INSTALL_DIR/
- 2 Log into sqlplus as RSM11DEV and run the following command:

```
SQL> @rsm11ddl.sql
```

Check the log file rsm11ddl.log for any errors.

Insert data for RSM



Note: The test user name ('Alain.Frecon') should be updated to a valid user within your organization. This name also needs to correspond to a valid user from the LDAP directory server user by RSM.

- 1 Change directories to INSTALL_DIR.
- 2 Log into sqlplus as RSM11DEV and run the following command:

```
SQL> @rsm11ctl.sql
```

- 3 Check the log file rsm11ctl.log for any errors.

Chapter 3 – Application Server Configuration Instructions

The RSM server tier is packaged as an EAR file – rsm11.ear. Install the rsm11.ear file on the J2EE application server according to the vendor's documentation.

The following are typical steps for deploying an ear file in WebSphere 5.1, assuming WebSphere Application Server (WAS) and IBMHttpServer 5.1 have already been installed. It is also assumed Oracle has already been configured and loaded with the appropriate RSM Schema for your installation.

UNIX (Sun Solaris/HPUX/AIX)



Note: IBM JVM 1.4.1 is required for RSM (and is shipped with Websphere 5.1)



Note: IBM recommends that the IBMHttpServer be configured to run as the front-end for WebSphere Application Server.



Note: ojdbc14.jar is required for RSM 11. This file can be obtained from the Oracle Technology Network web site, and must be copied to a staging directory on the server where WebSphere 5.1 is installed (ie: /u00/websp/jdbc/ojdbc14.jar)

Configure WebSphere 5.1 Application Server for RSM 11

- 1 Open the WebSphere Administration Console that is to be used for administering the RSM 11 application – **Error! Hyperlink reference not valid..** If the administrative url console is unknown, consult the WebSphere 5.1 documentation for the correct URL.

- server = name or IP address of server where WebSphere 5.1 is running
- admin_port = WebSphere Admin Console Port



Example: <http://server:9090/admin>

- 2 Click on Environment->Manage WebSphere Variables.
- 3 Under WebSphere Variables, set the scope to the Node level:
 - Click ORACLE_JDBC_DRIVER_PATH and set the value of this variable to the directory containing the oracle driver archive file ojdbc14.jar (obtained from otn.oracle.com).



Example: /u00/websp/jdbc

- Click Apply
- 4 Click on Security->JAAS Configuration->J2C Authentication Data.
 - 5 Under J2C Authentication Data Entries, click New and enter the following information in the fields provided:
 - Alias (alias for Authentication Data Entry)
 - UserID (RSM database schema owner)
 - Password (RSM database schema password)

- Click Apply



Example: Alias: RSM11
User ID: rsm11dev
Password: retek

- 6 Click on Resources->JDBC Providers. If the Oracle JDBC Driver (XA) JDBC Provider has already been created for another application that is running on this same WebSphere instance, then skip steps 7 and 8 below and proceed to step 9.
- 7 Under JDBC Providers, click the server radial button and then click Apply.
- 8 Create a new JDBC Provider by clicking New.
 - Select Oracle JDBC Driver (XA) from the JDBC list of values and click Apply
- 9 Under Additional Properties for the Oracle JDBC Driver (XA), select Data Sources and then under Data Sources click the New button, and enter the following information in the fields provided:
 - Data Source Name: RSM (must be this value)
 - JNDI Name: jdbc/RsmDataSource (must be this value)
 - Component-managed Authentication Alias: from the drop-down, choose the J2C Authentication Alias that was created in step 5 above
 - Container-managed Authentication Alias: leave blank; CMP is not used in RSM
 - All other fields leave as default
 - Click Apply



Example: Name: RSM
JNDI Name: jdbc/RsmDataSource
Component-managed Authentication Alias: server/RSM11

- 10 Under Additional Properties, click Custom Properties for the Data Source and make the following updates:
 - Click URL. Enter the following information in the Value field:
 - Value: jdbc:oracle:thin:@<DB Server IP address>:<DB Listener Port>:<Database_name>



Example: jdbc:oracle:thin:@dbserver:1521:prod_db1

- Click Apply; Click OK to go back to Custom Properties
- Click transactionBranchesLooselyCoupled. Enter the following information in the Value Field:
 - true
- Click Apply; Click OK to go back to Custom Properties
- Click preTestSQLString. Enter the following information in the Value Field:
 - select count(*) from dual
- Click Apply

- 11 Save the configuration by clicking the Save link in the Message(s) section, and then by clicking the Save button in the Save to Master Configuration section.
- 12 Verify the configuration by using the “Test Connection” option in the Data Sources configuration section (Resources->JDBC Providers->Oracle JDBC Driver (XA)->Data Sources->Data Source Name->Test Connection button). A successful message in the Message(s) section should appear. In the case of an unsuccessful connection test, review all previous steps to ensure that the configuration thus far is accurate.
- 13 Click on Servers-> Application Servers.
- 14 Under Application Servers, click on the link for the server instance created during the WebSphere installation; the default name of the initial application server instance is server1.
- 15 In the Additional Properties section click on the End points link in the lower section of the page.
- 16 Under BOOTSTRAP_ADDRESS, verify the Host and Port values are set correctly. Record these host and port values as they will be needed when configuring the RSM 11 client.
- 17 Update the j2c.properties file located in the WAS_HOME/properties directory by uncommenting the advanced-connection-properties section and by adding another advanced-connection-properties property for the RSM Data Source created in step 9 above:

**Example:**

```
<advanced-connection-properties
connectionFactoryJNDIName="jdbc/RsmDataSource">
  <testConnection>true</testConnection>
  <testConnectionRetryInterval>5</testConnectionRetryInterval>
</advanced-connection-properties>
```



Note: The j2c.properties file is associated with a particular application server. This application server must be restarted before these changes will take affect.

Deploy rsm11.ear in WebSphere Application Server 5.1

- 1 Log into the UNIX server where WebSphere 5.1 is installed as the retek user and determine where the RSM 11 application server file (rsm11appserver.zip) will be installed. There should be a minimum of 50 MB disk space available for the application installation files.
- 2 Copy rsm11appserver.zip located at CD/appserverunix to a newly created staging directory on the UNIX server. This location will be referred to as INSTALL_DIR for the remainder of this chapter.
- 3 Change directories to INSTALL_DIR and extract the contents of rsm11appserver.zip.
- 4 Open the WebSphere Administrative Console that is to be used for administering the RSM 11 application - http://<server>:<admin_port>/admin
- 5 Click on Applications->Install New Application.
- 6 Under Preparing for the application installation, select the Server path radial button and set this field to INSTALL_DIR/rsm11.ear (from step 3 above), and then click Next.



Example: Server Path: /u01/websp/rsm11/rsm11.ear

- 7 Accept the default options for the rest of the application installation and click Next until reaching “Step 6: Summary”.

- 8 Under “Step 6: Summary”, verify all installation information is correct and click Finish. This may take several minutes. Upon completion, the message “Application RSM11 installed successfully” should appear”.
- 9 Click the [Save to Master Configuration](#) link when it appears.
- 10 Click the Save button in the Save to Master Configuration section. Following a successful save, you will be re-directed to the WebSphere Application Server Administrative Console.
- 11 Click on Applications->Enterprise Applications; click on the RSM11 application link to load the RSM application configuration page
- 12 Under General Properties, set the Classloader Mode property to PARENT_LAST, and then click the OK button.
- 13 Save to master configuration.
- 14 At this point the RSM application has been installed but there are some files that must be configured to match the current installation. First the directory server properties must be updated. Second, if RSM is being used in conjunction with Retek Price Management (RPM), RSM must be configured to point at RPM to administer data level permissions.

Directory Server information in security.properties

Change directories to WAS_HOME/RSM11.ear/conf/retek. Update the LDAP settings in the file security.properties to match your organization’s LDAP configuration.

- Update the authentication provider URL to point to the appropriate LDAP server.



Example: ldap.authenticationprovider.url=ldap://64.238.67.60:389/
ldap.authenticationprovider.url=<ldap://host:port/>

- Update the Distinguished Name where users exist on LDAP server.



Example: ldap.user.basedn=ou=XXX,dc=XXXAD,dc=local
ldap.user.basedn=<ou=orgUnit1,dc=domComponent1,dc=domComponent2...>

- Update the parameters for the administrative user that performs searches on behalf of RSM.



Example: ldap.usersearch.user=cn=Administrator,cn=users,dc=rcomad,dc=local



Example: ldap.usersearch.password=PaSsW0rD
ldap.usersearch.user=<distinguishedUser>
ldap.usersearch.password=<password>

- Update the search filter used to limit the records that are returned when RSM searches for users. The filter represents conditions that must be met for records to be included in the result set. The example below reflects a base Active Directory install. The %v parameter is required by RSM regardless of directory server implementation.



Example: ldap.user.filter=(&(objectCategory=person)(objectClass=user) %v)
ldap.user.filter=<(&(base user search filter) %v)>

- Update the LDAP variable mappings if necessary. The variable mappings below, used to map LDAP to the directory schema, reflect a base Active Directory install. If these variable names differ from the LDAP directory server attributes, they should be updated accordingly.



Example: ldap.firstname.attrname=givenName
ldap.lastname.attrname=sn
ldap.username.attrname=samAccountName



Note: Security.properties also contains examples of ldap variable mappings for a base OpenLDAP implementation.



Note: RSM executes only READ operations against the LDAP directory server; no ADD, UPDATE or DELETE operations.



Note: For initial login to RSM to be possible, the user inserted into the database through the rsm sql (Chapter 2 above) must also be a valid user on the LDAP Directory Server. More specifically the user name inserted into the database must match a valid entry for LDAP mapping attribute ldap.username.attrname.

RPM Bootstrap information in jndi_providers_rpm.xml

Retek Security Manger requires data from other applications in order to administer data level permissions. The file jndi_providers_<app>.xml contains the information necessary for RSM to communicate with other Retek applications. Change to directory INSTALL_DIR/rsm11.ear/conf/retek and update jndi_providers_<app>.xml with the correct WebSphere BOOTSTRAP_ADDRESS of the respective application.



Example: <ejb_context_overrides>
 <provider app="app.rpm" url="iiop://server1:15809"
 factory="com.ibm.websphere.naming.WsnInitialContextFactory">
 </provider>
</ejb_context_overrides>

- 1 In the WebSphere Administration Console, select Applications → Enterprise Applications, and start the rsm11 application.
- 2 At this point, the rsm11 application should have solid green arrow indicating successful startup.

Chapter 4 – Client Installation Instructions

The following steps describe how the RSM 11client is configured. The configuration assumes the IBMHttpServer is configured to be the front-end to the WebSphere Application Server where the rsm11.ear file is installed and configured.



Note: Java WebStart is required to distribute and update Java client code via HTTP. Beginning with Sun JRE 1.4.2+, Java WebStart came as part of the Sun JRE. Sun JRE 1.4.2+ can be downloaded from the Sun site - <http://java.sun.com>. Sun JRE 1.4.1+ must be installed on the client PC in order for the RSM 11client to run.



Note: To launch the RSM client from Retek Navigator, the jnlpgen web application must first be installed.

- 1 On the webserver, change directories to the document root for IBMHttpServer. This location can be determined by examining the file IBMHttpServer/conf/httpd.conf; the value for the DocumentRoot directive in this file specifies the document root for IBMHttpServer.



Example: `cd /u00/webasp/IBMHttpServer/htdocs/en_US`

- 2 Create a /rsm directory under the DocumentRoot directory



Example: `mkdir rsm`

- 3 Change directories to the newly created rsm directory beneath the document root.
- 4 Copy the rsm client zip file located in the INSTALL_DIR/client directory into the newly created current directory.



Example: `/u00/webasp/IBMHttpServer/htdocs/en_US/rsm> cp /u00/webasp/rsm11en/client/RsmClient.zip`

- 5 Unzip the RSM client zip file.



Example: `/u00/webasp/IBMHttpServer/htdocs/en_US/rsm> unzip RsmClient.zip`

- 6 Update the jnlp extension file rsmBC.jnlp located in the directory DocumentRoot/rsm/client. The jnlp codebase parameter points to the base URL where the RSM client code resides.



Example: `<jnlp codebase="http://server:9081/rsm/client" spec="1.0+" href="rsmBC.jnlp">`

The icon href parameter indicates the icon that will be displayed by Java WebStart when the RSM client is downloaded. The parameter should point to the .gif file located in the directory DocumentRoot/rsm/images/.



Example: `<icon href="http://server:9081/rsm/client/images/retek_logo.gif"/>`

- 7 Edit the file IBMHttpServer/conf/mime.types by adding the jnlp MIME type: application/x-java-jnlp-file jnlp



Example: application/x-javascript	js
application/x-java-jnlp-file	jnlp
application/x-koan	skp skd skt skm



Note: The x-java-jnlp-file MIME type may have already been added in a previous application installation. If the MIME type already exists this step can be ignored.

- 8 Reload the IBMHttpServer for the above changes to take effect.

Chapter 5 – Test the RSM Client

The RSM client is launched through the jnlpgen web application. The jnlpgen web application must be installed to test the RSM client. See the jnlpgen documentation included in the Retek Navigator Install Guide for more information on configuring the RSM jnlp template and launching the RSM client.

Appendix A - Retek User Creation Script

Run the following commands as the sysdba user. Replace “schema_owner” with an appropriate account name. The empty role developer must be created before running the following commands.

```
create user schema_owner
identified by retek
default tablespace RETEK_DATA
temporary tablespace temp;
grant select_catalog_role,
    alter session,
    analyze any,
    create any synonym,
    create any type,
    create database link,
    create library,
    create procedure,
    create public database link,
    create public synonym,
    create sequence,
    create session,
    create synonym,
    create table,
    create trigger,
    create view,
    drop any synonym,
    execute any procedure,
    execute any type,
    select any sequence,
    select any table,
    query rewrite,
    create materialized view to &schema_owner
/
alter user schema_owner quota unlimited on retek_data
/
alter user schema_owner quota unlimited on retek_index
/
alter user schema_owner quota unlimited on lob_data
```

```
/
grant select on sys.dba_role_privs to schema_owner
/
grant select on sys.dba_jobs to schema_owner
/
grant select on sys.dba_roles to schema_owner
/
```