

Remote Matching Service

Installation and Upgrade Guide

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Overview

The Remote Matching Service (RMS) provides centralized search services to applications such as Brainware Intelligent Capture (BIC) Runtime Server and BIC Verifier, and a web-based administration client. RMS is also capable of supporting large search data pools.

Compatibility

The following table lists the BIC versions compatible with Remote Matching Service.

Releases	BIC 5.7.x	BIC 5.8.1	BIC 5.9.x	Foundation EP1	Foundation EP 2
RMS 2.1.x	Yes	Yes	Yes	Yes	Yes
RMS 2.0.x	Yes	Yes	Yes	No	No

Prerequisites

You can install RMS on the following operating systems: Windows Server 2019, 2016, 2012, 2012 R2, and Windows 10. Before you install RMS, verify the following applications are present.

- Java Runtime Environment 8 or 7.
- Apache Tomcat 8.5 or 9.
- Microsoft SQL Server 2012, 2014, 2016, or 2017.
- Oracle 12c, Oracle 12c R2.
- Microsoft Visual C++ 2008 SP1 Redistributable Package (x64).

When working with Microsoft SQL Server, verify the following settings are in place.

- Go to **SQL Server Configuration Manager > SQL Server Network Configuration** and enable TCP/IP connections.
- Go to **TCP/IP > Properties > IPAll** and enter the desired port for your SQL server instance. The value is usually 1433.
- Activate SQL Server authentication.
- Prepare a database account that RMS can use.

Create a Database User for SQL Environment

For SQL environment, before installing RMS, it is recommended that you create new database user credentials in order to prevent RMS from creating tables under the master database.

To create a database user in an SQL environment, complete the following steps.

1. Create a new empty database.
2. Create new user credentials for logging on to the database server. The default database of the newly

created user credentials must be mapped with the database created in Step 1.

Under **User Mapping**, assign **DB Owner** role to the database user account.

Create a Database User for Oracle Environment

To create a database user in an Oracle environment, complete the following steps.

1. Create a user account that is identified or authenticated by a specific password using the system or a predefined administrative account which gets generated during Oracle installation.

Note:

A default tablespace and a temporary tablespace are required to create the RMS user and the schema.

2. Assign **DBA** role to the user account created in Step 1.

For more information on creating users and tablespace, refer to Oracle documentation.

Types of installation

When the installer starts, it automatically detects whether RMS is currently installed and, if so, which version is installed. The installer has three types of installation: new, repair and upgrade.

- New. RMS has never been installed on the machine.
- Repair. The version to be installed is the same as the version that is currently installed.

Note:

The repair option is useful if the RMS installation is corrupt, for example, if files or folders have been deleted or the database configuration has been lost. During a repair installation, you have the opportunity to change the database configuration.

- Upgrade. A newer version is being installed.

Note:

During an upgrade, you can either change the database configuration or continue to use the existing configuration.

Install Remote Matching Service

To install RMS, perform the following procedures.

1. Download the setup package.
2. Run the installation setup.

Download the setup package

To obtain RMS installation files, complete the following steps.

1. Contact the Hyland Software Technical Support group.

For a list of Technical Support phone numbers, go to www.hyland.com/pswtscontact.

2. Save and unzip the installation files locally so you can access them during installation.

Run the installation setup

You can run the installation on a Windows machine with User Account Control turned on or off.

Prerequisite

To run the installation setup with User Account Control turned on, right-click **RMSSetup.exe**, and select **Run as Administrator** and perform the following actions.

1. Accept the license agreement
2. Select the components
3. Configure the Web application
4. Choose RMS install location
5. Choose server install location
6. Select a database
7. Configure the installation

Accept the license agreement

You must accept the terms of the license agreement to install RMS.

Note: If you are repairing the installation, you will not be asked to accept the license agreement.

To accept the license agreement, complete the following steps.

1. Use the Page Down and Page Up keys to move forwards and backwards through the license.
2. Click **I Agree**.

Select the components

To select the components, complete the following step.

1. In the **Components** dialog box, select the component(s), and then click **Next**.
 - **RMS Application:** This mandatory component includes the server and the web application.
 - **ASSA Support:** Provides Associative Search Engine search index capabilities.
 - **Load Balancer:** Designates this machine as a load balancer.
 - **Advanced Scoring Support:** Provides advanced scoring options in Search Index editing. If you are using RMS with BIC, you do not need to select this option because BIC has its own scoring mechanism.

Note: The **Space required** field indicates the disk space that the installation will consume.

Configure the Web application

The services and the web client deploy as a web application to an Apache Tomcat installation.

To configure the web application, complete the following steps.

1. In the **Web Application Name** field, enter the name under which the application will be deployed. This name becomes part of the URL.
2. In the **Web Server Base URL** field, enter the base URL of your Tomcat installation.

Note: The web application name and the web application base URL become the full URL of the web application.

3. Click **Next**.

Configure RMS install location

To set where the RMS web application will be installed, complete the following steps.

1. In the **Destination Folder** field, the location where Tomcat is installed is displayed by default. If the **Destination Folder** field is not pre-populated, you need to enter the location of the **webapp** folder for tomcat. For example `C:\Program Files\Apache Software Foundation\{Tomcat Version}\webapps`.

2. Click **Next**.

The installation folders are preserved when performing repair and upgrade installations.

Configure server install location

Some native libraries are installed to a folder outside of the Tomcat folder structure. That folder is also used as the data folder for local files. To set where the RMS server software will be installed, complete the following steps.

1. In the **Destination Folder** field, enter the folder where RMS is to be installed.
2. Click **Next**.

Result The necessary files are copied to the target destinations. If you have selected the ASSA Support option, the system PATH environment variable is updated. If updating the PATH fails, an error message will advise you to edit the PATH manually and add the values that are displayed in the error message.

Select a database

RMS stores its configuration in a database. When performing repair and upgrade installations, the existing database configuration can be kept or modified.

1. To select a database to store the RMS configuration, complete the following substep.
 - In the **User Name** field, type the name of the user who can connect to the database, as configured in the **Create Database User**.
 - In the **Choose a database** dialog box, select either **Microsoft SQL Server** or **Oracle**, and then click **Next**.

2. To configure the database, set the following options.
 - In the **Host** field, type the name or IP address of the host on which the database is running.
 - In the **Port** field, type the port for TCP/IP connection. The value is usually 1433 for SQL Server and 1521 for Oracle.
 - If you are connecting to an Oracle database, in the **SID** field, type the Oracle SID.
 - In the **User Name** field, type the name of the user who can connect to the database.
 - In the **Password** field, type the password.
3. Click **Next**.
4. Once the installation completes successfully, click **Finish** to close the installer.

Result The installer will connect to the database and prepare the configuration repository. If there is an error, a message will be displayed.

Note:

For more information on accessing and using RMS, refer to The Administration Client section in the [Remote Matching Service User Guide](#).

Configure the installation

Once the installation is complete, you need to configure RMS further. For a new installation, the default login administration credentials for username and password are “Administrator” and “secret”.

Apache Tomcat Troubleshooting

Tomcat URL Character Restrictions

In the more recent versions of Apache Tomcat, such as 9.0.8, 8.5.31 and above, the characters that can be present in a URL has been restricted. For RMS to work correctly, this restriction must be relaxed. To configure your Apache installation, complete the following steps.

1. Modify the **server.xml** file in the Apache Tomcat Conf directory.
2. Find the Connector element that defines the port on which Tomcat receives requests. Typically, it is port 8080 but this could have been modified at your site.

Example

```
<Connector port="8080" protocol="HTTP/1.1" xpoweredby="false"
  server="Web" connectionTimeout="20000" redirectPort="8443" />
```

3. Add the underlined lines and restart Tomcat.

Example

```
<Connector port="8080" protocol="HTTP/1.1" xpoweredby="false"
  server="Web" connectionTimeout="20000" redirectPort="8443"
  relaxedPathChars='[]|' relaxedQueryChars='[]|
{ } ^ &#x5c; &#x60; &quot; &lt; &gt; ; ' />
```

Note:

You must apply this configuration to all Tomcat servers which have the RMS web application installed.

Starting and Stopping RMS with the Tomcat Web Application Manager

Tomcat displays the message, "Application at context path/RMS could not be started" if you start and stop RMS with the Tomcat Web Application Manager and you use the ASSA search method on any of your search indexes.

To prevent this issue from occurring you can either:

- Restart Apache Tomcat via the services management console
- Or,
- Update the Apache Tomcat configuration

Restart Apache Tomcat via the services management console

To restart the Apache Tomcat via the services management console complete the following steps.

1. Open the services management console.
2. Right click on the Apache Tomcat service and select **Restart**, or use the **Stop / Start** options as required.

The risk with this is that the Apache Tomcat Web Application Manager could still be used to stop and start RMS and result in failures using RMS under both Run Time Service (RTS) and in Verifier.

Note:

You must perform the steps above to every Tomcat web server that is running RMS.

Update the Apache Tomcat configuration

You can update the Apache Tomcat configuration so that it doesn't attempt to reload the Java Native Interface every time the web application is started.

Prerequisite

Before proceeding with the steps below, ensure that a backup is taken of the Tomcat installation area.

1. Ensure that all dependent systems, such as Run Time Service (RTS), Web Verifier Client (WVC), and Thick Verifier Client (TVC) are not being used. If required, stop the relevant services and/or website.
2. Stop the Apache Tomcat service.
3. Create a new folder called **shared** under the lib folder within the Tomcat installation area.
4. Browse to the Apache Tomcat folder where RMS is installed "...\\WEB-INF\\lib\".
5. Move the bwjni.jar file from the location in step 4 to the new folder created in step 3.

6. Browse to the conf folder within the Tomcat installation area and open the catalina.properties files in a text editor.
7. Search for the **shared.loader** entry and update this as follows:

Example

```
shared.loader="${catalina.base}/lib/shared", "${catalina.base}/lib/shared/*.jar", "${catalina.home}/lib/shared", "${catalina.home}/lib/shared/*.jar"
```

8. Restart the Apache Tomcat service.
9. Restart any services or websites stopped in step 1.

Note:

You must perform the steps above to every Tomcat web server that is running RMS.

Next

For more information on how to configure RMS, refer to the About configuring Remote Matching Service section in the [Remote Matching Service User Guide](#).

Upgrade Procedure

This section provides high-level information on how to upgrade RMS from a previous version to the latest version.

RMS 2.1 to RMS 2.1.1

Prerequisite

User Account Control must be enabled.

1. Right-click `RMSSetup.exe`, and select **Run as Administrator**. A confirmation message saying **Your version of RMS will be upgraded from 2.1.0 to 2.1.1** is displayed.
2. Click **OK**. A confirmation message is displayed.
3. When prompted to keep the existing RMS 2.1 database connection information, click **Yes** only if you want to keep the same database configuration.
4. Complete the RMS installation through the setup wizard.
5. Navigate to the library directory under Apache Tomcat folder where RMS is installed (For example: `..\RMS\WEB-INF\lib\`). If you find any log4j jars (log4j-api-/log4j-core-) other than 2.12.2 version, remove them manually and restart the Apache Tomcat service.

RMS 2.0 to RMS 2.1

1. Right-click `RMSSetup.exe`, and select **Run as Administrator**. A confirmation message saying **Your version of RMS will be upgraded from 2.0.0 to 2.1.0** is displayed.
2. Click **OK**. A confirmation message is displayed.
3. When prompted to keep the existing RMS 2.0 database connection information, click **Yes** only if you want to keep the same database configuration.
4. Complete the RMS installation through the setup wizard.

PME 1.0 to RMS 2.0

1. Ensure that all the existing PME servers are stopped. There can be multiple servers located on different machines.
2. Navigate to the install location of PME on the server (ex ..\PME\WEB-INF\conf), open pme-config.xml and make a note of the user name. This will be required during the installation of RMS 2.0.
3. The username will appear as a property of the bean with id of sysDs. `<property name="username" value="pme" />`
4. Uninstall PME from each machine.

Note:

Do not delete the database.

5. Execute the following script for Microsoft SQL Server or Oracle, depending on your environment.

SQL:

```
DECLARE @DB varchar(30) = 'RMS_1' -- Change this to the desired
Database name DECLARE @DBSCHEMA varchar(5) = '.dbo.' DECLARE @TABLE
varchar(30) = 'PRIME_SRV_INSTANCE' DECLARE @STATEMENT varchar(max)
= 'DELETE from ' + @DB + @DBSCHEMA + @TABLE BEGIN TRANSACTION
EXECUTE (@STATEMENT) COMMIT
```

Oracle:

```
-- Connect to the PME Database START TRANSACTION; DELETE FROM
PRIME_SRV_INSTANCE; COMMIT;
```

6. Install RMS on one machine using the same database user credential that was used with the original PME installation.
7. Start the server.
8. Log on to RMS.
9. Repeat step 6 through step 8 for each RMS server.
10. After each server is configured, log on to RMS and verify all servers are present in the Server Instances area.
11. Rebuild all search indexes.

Uninstall Remote Matching Service

To uninstall RMS, complete the following steps.

1. On the task bar, click **Start > Control Panel > Programs and Features** and double-click **Remote Matching Service**.
2. Click **Yes** to confirm you want to remove RMS and all of its components. The setup wizard guides you through the uninstallation process of RMS.
3. When prompted to remove the database tables, select this option only if you are uninstalling the last remaining server instance.

Note: The database is shared between multiple RMS servers.

4. Click **Finish** to close the installer.