



Informatica® MDM Registry Edition
10.5

Data Director Installation Guide

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Preface

The *MDM-RE Setup Guide* provides information on how to install and configure Informatica Data Director overview of

Learning About Informatica MDM Registry

This section provides details of documentation available with the Informatica MDM Registry product.

Introduction Guide

Introduces MDM Registry product and it's related terminology. It may be read by anyone with no prior knowledge of the product who requires a general overview of MDM Registry.

Installation Guide

This manual is intended to be the first technical material a new user reads before installing the MDM Registry software, regardless of the platform or environment.

Design Guide

This is a guide that describes the steps needed to design, define and load an MDM Registry "System".

Developer Guide

This manual describes how to develop a custom search client application using the MDM - Registry Edition API.

Operations Guide

This manual describes the operation of the run-time components of MDM - Registry Edition, such as servers, search clients and other utilities.

Populations and Controls Guide

This manual describes SSA-Name3 populations and the controls they support. The latter are added to the Controls statement used within an IDX-Definition or Search-Definition section of the SDF.

Security Framework Guide

This manual describes how to implement security in the MDM-RE product.

Release Notes

The Release Notes contain information about what's new in this version of MDM - Registry Edition. It is also summarizes any documentation updates as they are published.

What Do I Read If. . .

I am. . .

. . . a business manager

The INTRODUCTION to MDM- Registry Edition will address questions such as "Why have we got MDM - Registry Edition?", "What does MDM - Registry Edition do"?

I am. . .

. . . installing the product?

Before attempting to install MDM-RE, you should read the INSTALLATION GUIDE to learn about the prerequisites and to help you plan the installation and implementation of the MDM-Registry Edition.

I am. . .

...an Analyst or Application Programmer?

A high-level overview is provided specifically for Application Programmers in the INTRODUCTION to MDM Registry Edition.

When designing and developing the application programs, refer to the DEVELOPER GUIDE which describes a typical application process flow and API parameters. Working example programs that illustrate the calls to MDM-RE in various languages are available under the <MDM-RE_client_installation>/samples directory.

I am. . .

...designing and administering Systems?

The process of designing, defining and creating Systems is described in the DESIGN GUIDE. Administering the servers and utilities is described in the OPERATIONS manual.

Informatica Resources

Informatica provides you with a range of product resources through the Informatica Network and other online portals. Use the resources to get the most from your Informatica products and solutions and to learn from other Informatica users and subject matter experts.

Informatica Network

The Informatica Network is the gateway to many resources, including the Informatica Knowledge Base and Informatica Global Customer Support. To enter the Informatica Network, visit <https://network.informatica.com>.

As an Informatica Network member, you have the following options:

- Search the Knowledge Base for product resources.
- View product availability information.
- Create and review your support cases.
- Find your local Informatica User Group Network and collaborate with your peers.

Informatica Knowledge Base

Use the Informatica Knowledge Base to find product resources such as how-to articles, best practices, video tutorials, and answers to frequently asked questions.

To search the Knowledge Base, visit <https://search.informatica.com>. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team at KB_Feedback@informatica.com.

Informatica Documentation

Use the Informatica Documentation Portal to explore an extensive library of documentation for current and recent product releases. To explore the Documentation Portal, visit <https://docs.informatica.com>.

If you have questions, comments, or ideas about the product documentation, contact the Informatica Documentation team at infa_documentation@informatica.com.

Informatica Product Availability Matrices

Product Availability Matrices (PAMs) indicate the versions of the operating systems, databases, and types of data sources and targets that a product release supports. You can browse the Informatica PAMs at <https://network.informatica.com/community/informatica-network/product-availability-matrices>.

Informatica Velocity

Informatica Velocity is a collection of tips and best practices developed by Informatica Professional Services and based on real-world experiences from hundreds of data management projects. Informatica Velocity represents the collective knowledge of Informatica consultants who work with organizations around the world to plan, develop, deploy, and maintain successful data management solutions.

You can find Informatica Velocity resources at <http://velocity.informatica.com>. If you have questions, comments, or ideas about Informatica Velocity, contact Informatica Professional Services at ips@informatica.com.

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Informatica Global Customer Support

You can contact a Global Support Center by telephone or through the Informatica Network.

To find your local Informatica Global Customer Support telephone number, visit the Informatica website at the following link:

<https://www.informatica.com/services-and-training/customer-success-services/contact-us.html>.

To find online support resources on the Informatica Network, visit <https://network.informatica.com> and select the eSupport option.

CHAPTER 1

Introduction

This document explains how to install and configure Informatica Data Director (IDD) for the Informatica MDM Registry Edition.

CHAPTER 2

Installing IDD

IDD is a web application that runs in an Apache Tomcat 5.5 container. It is installed automatically by the MDM-RE Installer provided that the IDD component is selected for installation.

The following softwares are the pre-requisites for installing IDD:

- JDK is required for MDM-RE (Java 1.6)
- Web Browser Internet Explorer (IE) 7 and 8 or Firefox 3.6 or Safari 5.0.3
- Adobe Flash Player 9.0.28.0 or later (required for IDD Relationship View)

The IDD package consists of the following directories:

- tomcat/ - Apache Tomcat servlet container with deployed IDD application
- dbscript/ - scripts used to create database schema needed for IDD
- icons/ - directory contains sample icons for IDD Relationship View

CHAPTER 3

Configuring Informatica Data Director

Perform the following steps to configure Informatica Data Director:

1. Download and install JDBC libraries for your database.
2. Create database tables for Informatica Data Director to store metadata.

Note: Informatica Data Director and MDM Registry Edition must use different database users. When you run the `create_schema.sql` script, specify a user name which is different from the name that MDM Registry Edition uses to access the source and target databases.

Download and Install JDBC Libraries

Informatica Data Director requires JDBC libraries to connect to the database. The following table lists the required libraries for each supported database:

Database	Library Name
IBM DB2 UDB	db2jcc.jar
Oracle	ojdbc5.jar orai18n.jar
Microsoft SQL Server	sqljdbc4.jar

1. Download the required libraries from the database vendor's web site.
2. Copy the libraries to the following directory:
 - On Windows: <MDM Registry Edition Installation Directory>\tomcat\lib
 - On UNIX: <MDM Registry Edition Installation Directory>/tomcat/lib

Oracle

1. Run the `create_schema.sql` script that you can find in the following directory by using a user name that has the DBA privileges:

- On Windows: <MDM Registry Edition Installation Directory>\dbscript\ora
- On UNIX: <MDM Registry Edition Installation Directory>/dbscript/ora

In the `create_schema.sql` script, the default schema name is `CMX_IDD`, and you can change this name in the script.

2. After you create the schema, create a Tomcat datasource for the schema.
3. Open the `server.xml` file that you can find in the following directory:
 - On Windows: <MDM Registry Edition Installation Directory>\tomcat\conf
 - On UNIX: <MDM Registry Edition Installation Directory>/tomcat/conf
4. In the <GlobalNamingResources> section, update the following values for Oracle:

host

Name of the host on which Oracle runs.

port

Port number through which Oracle listens.

instance

Name of the database instance.

user

Name of the user that the `create_schema.sql` script creates.

Password

Password of the user that the `create_schema.sql` script creates.

An example database configuration is as follows:

```
<Resource name="jdbc/siperian-cmx_system-ds"
  auth="Container"
  type="oracle.jdbc.pool.OracleDataSource"
  driverClassName="oracle.jdbc.driver.OracleDriver"
  factory="oracle.jdbc.pool.OracleDataSourceFactory"
  url="jdbc:oracle:thin:@localhost:1521:infaorcl"
  user="CMX_IDD"
  password="!!cmx!!"
  maxActive="20"
  maxIdle="10"
  maxWait="-1" />
```

Microsoft SQL Server

1. Run the `create_schema.sql` script that you can find in the <MDM Registry Edition Installation Directory>\dbscript\msq directory.

```
sqlcmd -U <user> -P <password> -S <server> -i create_schema.sql -v  
idd_database=<database> idd_schema=<schema> idd_user_name=<idd_user_name>  
idd_user_pwd=<idd_user_password>
```

The command uses the following parameters:

user

Use name that has permissions to create user and schema.

password

Password for the user name.

server

Name of the Microsoft SQL Server.

idd_database

Name of the database that the script uses to create user and schema. Ensure that you create the database before you run the `create_schema.sql` script.

idd_user_name

User name that the script creates.

idd_user_password

Password for the user that the script creates.

idd_schema

Name of the schema that the script creates.

For example:

```
sqlcmd -U admin -P admin -S server1 -i create_schema.sql -v idd_database=idd  
idd_schema=idd idd_user_name=idd idd_user_pwd=idd
```

2. After you create the schema, create a Tomcat datasource for the schema.
3. Open the `server.xml` file that you can find in the <MDM Registry Edition Installation Directory>\tomcat\conf directory.
4. In the <GlobalNamingResources> section, update the following values for Microsoft SQL Server:

host

Name of the host on which Microsoft SQL Server runs.

port

Port number through which Microsoft SQL Server listens.

database

Name of the database that contains Informatica Data Director tables.

user

Name of the user that the `create_schema.sql` script creates.

Password

Password of the user that the `create_schema.sql` script creates.

An example database configuration is as follows:

```
<Resource name="jdbc/siperian-cmx_system-ds"
  auth="Container"
  type="javax.sql.DataSource"
  driverClassName="com.microsoft.sqlserver.jdbc.SQLServerDriver"
  url="jdbc:sqlserver://localhost:1433;DatabaseName=idd;SelectMethod=cursor;"
  username="idd"
  password="idd"
  maxActive="20"
  maxIdle="10"
  maxWait="-1" />
```

IBM DB2 UDB

Informatica Data Director uses JDBC type 4 driver to access database, and you must configure the IBM DB2 UDB instance for TCP/IP communication. For more information about configuring TCP/IP communication, see the IBM DB2 UDB documentation.

1. Create a database and name it as `idd_db`.
2. Create a user with `idd_db` as the user name.
Note: IBM DB2 UDB uses the external authentication mechanism, so you can use the operating system to create the user.
3. Grant the following authorities to the user:
 - CONNECT
 - CREATETAB
 - IMPLICIT_SCHEMA
4. On a IBM DB2 UDB command line processor, run the `create_schema.sql` script that you can find in the following directory:
 - On Windows: <MDM Registry Edition Installation Directory>\dbscript\udb
 - On UNIX: <MDM Registry Edition Installation Directory>/dbscript/udb

```
db2 -tvf create_schema.sql -z create_schema.log
```

In the `create_schema.sql` script, `idd_db` is the default database name, user name, and password, and you can change this name in the script.
5. After you create the database, create a Tomcat datasource for the database.
6. Open the `server.xml` file that you can find in the following directory:
 - On Windows: <MDM Registry Edition Installation Directory>\tomcat\conf
 - On UNIX: <MDM Registry Edition Installation Directory>/tomcat/conf
7. In the <GlobalNamingResources> section, update the following values for IBM DB2 UDB:
host
Name of the host on which IBM DB2 UDB runs.
port
Port number through which IBM DB2 UDB listens.

database

Name of the database that contains the Informatica Data Director tables.

user

Name of the user that the `create_schema.sql` script creates.

Password

Password of the user that the `create_schema.sql` script creates.

An example database configuration is as follows:

```
<Resource name="jdbc/siperian-cmx_system-ds"
  auth="Container"
  type="javax.sql.DataSource"
  driverClassName="com.ibm.db2.jcc.DB2Driver"
  url="jdbc:db2://localhost:50000/
idd_db:fullyMaterializeLobData=true;fullyMaterializeInputStreams=true;progressiveStre
aming=2;progressiveLocators=2;"
  username="idd_db"
  password="idd_db"
  maxActive="20"
  maxIdle="10"
  maxWait="-1" />
```

Configure the Path to the IDHome Directory

You must configure the path to the `IDHome` directory in the `server.xml` file for the Informatica Data Director to create temporary files during run time.

1. Open the `server.xml` file that you can find in the following directory:
 - On Windows: <MDM Registry Edition Installation Directory>\tomcat\conf
 - On UNIX: <MDM Registry Edition Installation Directory>/tomcat/conf
2. Search for the `iddHome` entry in the `server.xml` file, and update the `value` parameter with the path to the `IDHome` directory.

```
<Environment name="iddHome" value="<IDD Home Directory Path>"
  type="java.lang.String" override="false"/>
```

For example, `<Environment name="iddHome" value="c:/InformaticaIR/tomcat/IDHome/"`
`type="java.lang.String" override="false"/>`

Enable SSL for Informatica Data Director

You can enable SSL for a secured communication between Informatica Data Director and MDM Registry Edition Server.

1. Open the `server.xml` file that you can find in the following directory:
 - On Windows: <MDM Registry Edition Installation Directory>\tomcat\conf
 - On UNIX: <MDM Registry Edition Installation Directory>/tomcat/conf

2. Remove the following entries from the `server.xml` file:

```
<Connector executor="tomcatThreadPool"
  port="8080" protocol="HTTP/1.1"
  connectionTimeout="20000"
  redirectPort="8443"/>
```

3. Add the following entries to the `server.xml` file:

```
<Connector port="8443"
  protocol="HTTP/1.1"
  SSLEnabled="true"
  maxThreads="150"
  scheme="https"
  secure="true"
  keystoreFile="<Directory Path of the server.keystore File>"
  keystorePass="informatica"
  clientAuth="false"
  sslProtocol="TLS"/>
<!-- Define an AJP 1.3 Connector on port 8009 -->
<Connector port="8009"
  protocol="AJP/1.3"
  redirectPort="8443"/>
```

Ensure that you update the value of `keystoreFile` parameter with the absolute path of the `server.keystore` file that you can find in the following directory:

- On Windows: <MDM Registry Edition Installation Directory>\security\cert
- On UNIX: <MDM Registry Edition Installation Directory>/security/cert

For example, `keystoreFile="C:\InformaticaIR\security\cert\server.keystore"`

CHAPTER 4

Configuring Security

Before you configure security for the Informatica Data Director client, ensure that you configure the `SecConfig.xml` file. For information about configuring the `SecConfig.xml` file, see *MDM Registry Edition Security Framework Guide*.

To configure security for the Informatica Data Director client, perform the following steps:

1. Open the `server.xml` file that you can find in the following directory, and configure the parameters based on your environment.

- On Windows: <MDM Registry Edition Installation Directory>\tomcat\conf
 - On UNIX: <MDM Registry Edition Installation Directory>/tomcat/conf
- ```
<!-- Configuration for Secure Search Server -->

 <Environment name="iir_login_server_host" value="localhost"
type="java.lang.String" override="false"/>
 <Environment name="iir_login_server_port" value="1670" type="java.lang.Integer"
override="false"/>
 <Environment name="iir_trust_store" value="C:\InformaticaIR\security\cert
\infastore" type="java.lang.String" override="false"/>
 <Environment name="iir_trust_store_password" value="informatica"
type="java.lang.String" override="false"/>
 <Environment name="iir_key_store" value="C:\InformaticaIR\security\cert
\infastore" type="java.lang.String" override="false"/>
 <Environment name="iir_key_store_password" value="informatica"
type="java.lang.String" override="false"/>
```

Ensure that you configure the following parameters:

- `iir_login_server_host`. Name of the host on which the MDM Registry Edition servers run.
  - `iir_login_server_port`. Port number of the Secure Search Server.
2. Based on the database that you use, run the database security script by running the following command:

### Oracle

```
sqlplus <User Name>/<Password>@<Oracle Server> @secora.sql
```

### IBM DB2 UDB

```
db2 "connect to <Database> user <User Name> using <Password>"
db2 -tvf secudb.sql
```

### Microsoft SQL Server

```
sqlcmd -U <User Name> -P <Password> -S <Service Name> -i secmsq.sql
```

You can find the database security scripts in the following directory:

- On Windows: <MDM Registry Edition Installation Directory>\security\scripts
- On UNIX: <MDM Registry Edition Installation Directory>/security/scripts



3. Open the following file, and add -tDB to the end of the start command:

- On Windows: <MDM Registry Edition Installation Directory>\bin\secup.bat
- On UNIX: <MDM Registry Edition Installation Directory>/bin/secup.sh

```
start /b "Security Server" "%SSAJAVA%" %SSA_JAVA_OPTS% %SSA_SEC_JAVA_OPTS% ^
-Djavax.net.ssl.keyStore=%SSA_SEC_KEYSTORE% ^
-Djavax.net.ssl.keyStorePassword=%SSA_SEC_KEYPASSWORD% ^
-Djava.util.logging.config.file="%SSA_SEC_LOGGING_PROPERTIES%" ^
-classpath "%SSA_SEC_CLASSPATH%" com.informatica.rbss.server.impl.SecurityServer ^
-w%SSASERVERWORKDIR%-l%SSASERVERLOGSDIR% -h%SSA_SSHOST% %SSA_SEC_ARGS% -tDB
```

**Note:** On Windows, you do not have to run the secup.bat file separately because the idsup.bat file automatically runs the secup.bat file. On UNIX, you do not have to run the secup.sh script separately because the idsup.sh script automatically runs the secup.sh script.

## CHAPTER 5

# Starting Tomcat

Before you start Tomcat, ensure that the `JRE_HOME` environment variable is set. If the variable is not set, set the variable with the location of the directory that contains the supported JRE as its value.

By default, Java allocates only 64 MB of memory heap. For enterprise applications, 64 MB is small and might cause `OutOfMemoryErrors`. Initially, set the `JAVA_OPTS` environment variable as follows, and you can update the variable based on your environment:

```
JAVA_OPTS=-Xms256m -Xmx512m -XX:MaxPermSize=256m
```

- On Windows, run the following command to run the `catalina.bat` file that you can find in the <MDM Registry Edition Installation Directory>\tomcat\bin directory:

```
catalina.bat run
```

- On UNIX, run the following command to run the `catalina.sh` script that you can find in the <MDM Registry Edition Installation Directory>/tomcat/bin directory:

```
catalina.sh run
```

**Note:** If you do not have execute permission on the <MDM Registry Edition Installation Directory>/tomcat/bin directory, run the `chmod +x *.sh` command to grant execute permission to all the scripts.

Use the following URL to launch Informatica Data Director:

```
http://localhost:8080/idd/config
```

To shut down Tomcat, run the `shutdown.bat` command on Windows and the `shutdown.sh` script on UNIX.