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Insbridge Enterprise Rating RateManager Apache TomEE Installation Guide

Release 5.6.1

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Oracle Insurance Insbridge Enterprise Rating Installation Guide

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CONTENTS

PREFACE 1

RateManager Installation 1

SoftRater Installation 1

Upgrading a Current Installation 1

Definitions 1

Related Documents 3

Conventions 3

Guide History 3

SYSTEM REQUIREMENTS 4

SoftRater Database File Location 4

Upgrade Files 5

Internet Explorer 5

SETTING UP APACHE TOMEE 6

Recommended SoftRater Permissions: 6

Insbridge SoftRater Oracle Database 6

Oracle 7

User Account Requirements 7

SOFTRATER FOR APACHE TOMEE INSTALLATION 8

Prerequisites: 8

Create IBSS image from base image Apache TomEE (version 8.0.1-plume): 8

Verify the image 9

Mount windows network shared location 9

Creating and running container for the Insbridge IBSS 10

Verifying if Container is Running 10

Verifying Logs of the Running Container 10

Enter into Container 10

CONTACTING SUPPORT 11

PREFACE

Welcome to *Oracle Insurance Insbridge Enterprise Rating RateManager Apache TomEE Installation Guide*. This guide describes how to install and configure SoftRater for Apache TomEE Server. SoftRater may be used in conjunction with the Oracle Insurance Insbridge Enterprise Rating RateManager (RateManager) system to process rating requests or it may stand alone.
The Insbridge SoftRater Server (IBSS) is the container for all Insbridge web components including the SoftRater Engine. All independent Insbridge components will be contained in the IBSS.

AUDIENCE

This guide is intended for technical personnel, such as installers, system administrators and others tasked with configuring SoftRater that would be involved in the maintenance and operation of SoftRater or RateManager. The audience for this guide should have a thorough knowledge of Apache TomEE.

PLANNING YOUR INSBRIDGE SYSTEM

Prior to installation, you should have an idea of the type of setup you want to create. What kind of equipment do you have available and how many environments do you need? If you do not have everything completely planned out, you can still proceed. Environments can be removed or added later on. The Oracle Insurance Insbridge Enterprise Rating system (Insbridge) is expandable and can accommodate a few different configurations.
For more on planning your Insbridge system, please see the Insbridge Implementation Guide.

TYPES OF INSTALLATION

There are various types of installations:

RateManager Installation

- **RateManager for Windows** – Installs RateManager and the Insbridge Framework Administrator (IBFA) in a Windows environment and utilizes IBFA for local rating. This Windows only environment uses a SQL Server database.

SoftRater Installation

- **SoftRater for Java Installation** – Deploys Insbridge SoftRater Server (IBSS) to an application server; Apache TomEE using Oracle database.
- **SoftRater for Windows Node** – This installation is for existing environments that want to add a SoftRater for Windows node to an environment. This is for a Windows only environment using a SQL Server database.

Upgrading a Current Installation

- **Upgrade** – Upgrades existing customers from their current version of Insbridge up to version 5.6.1.

This guide is for SoftRater for Java Installation utilizing Apache TomEE.

Definitions

Some commonly used terms when installing or using the Oracle Insurance Insbridge Enterprise Rating system:

- **IBER** – Insbridge Enterprise Rating System. Most often referred to as Insbridge. This is the entire system.
- **IBFA** – Insbridge Framework Administrator. IBFA is an administrative tool used to configure Insbridge applications and setup RateManager database connections. IBFA will be located on a Windows Server machine. IBFA/SR-WIN is an Insbridge Framework Administrator/SoftRater for Windows.
- **IBSS** – Insbridge SoftRater Server. IBSS is the administrative tool for the SoftRater engine. The SoftRater engine is a multi-platform component within Insbridge that executes

the rules, rating and underwriting instructions as defined by the user in RateManager. IBSS is usually located on a Java machine. IBSS/SR-JAVA is an Insbridge SoftRater Server/SoftRater for Java.

- **SoftRater Node** – A SoftRater node is either an IBFA (without RateManager) or IBSS instance on a physical environment.
- **RM** – RateManager. RateManager is a component within Insbridge that enables users to manage the product definition and modification process, including rating and underwriting logic.
- **SR** – SoftRater. The engine that executes the rating, rules and underwriting instructions defined within RateManager. The rating environment for runtime execution and processing of business content. SoftRater can be further defined by the operating system where it has been loaded.
- **SR-WIN** – SoftRater for Windows. This is also another name for IBFA.
- **SR-JAVA** – SoftRater for Java. This is also another name for IBSS.
- **SRP** – SoftRater Packages. A package that holds all the RateManager logic for a specific program and version.
- **VFS** – Virtual File Servers. Virtual file server management allows you to access environments that are located on other machines in different locations where packages can be downloaded.
- **Package Location** – A pointer to a location where SoftRater Packages (SRP's) are stored.
- **Physical Environment** – A physical environment is generally referred to as a physical machine.
- **Authoring Environment** – The physical machine where RateManager is installed.
- **Rating Environment** – The physical machine(s) where SoftRater is installed. This is typically the same as a SoftRater node.
- **Logical Environment** – An environment created for a subscriber in IBFA. It defines package location, engine location and database location in addition to several other supporting data items. This environment is used for rating and/or SRP management. Each database connection will have a logical environment.

Related Documents

For more information, refer to the following Oracle resources:

- The Oracle Insurance Insbridge Enterprise Rating Framework Administrator.
- The Oracle Insurance Insbridge Enterprise Rating SoftRater Server Guide.
- You can access the Insbridge 5.6.1 documentation on the Oracle Help Center at: https://docs.oracle.com/en/industries/insurance/insbridge-enterprise-rating/index.html

Conventions

The following text conventions are used in this document:

Convention	Description
bold	Boldface type indicates graphical user interface elements associated with an action.
Italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`Monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Guide History

New editions incorporate any updates issued since the previous edition.

Edition	Publication Number	Product Version	Publication Date	Comment
1st Edition	N/A	R 5.6.1	July 2020	Updated for TomEE

SYSTEM REQUIREMENTS

For the operating system and hardware requirements, refer to the Hardware Software requirements guide.

Before creating a new SoftRater environment, ensure to have the following setup:

- Run the docker script to create an IBSS instance on Apache TomEE
- Database name or Environment name
- Database login information
- Database server name, either IP or DNS
- Database DDL, updates or backup files for the database you want to utilize. SQL Server backups files are located in the Insbridge-Windows folder. DDLs and updates are located in the SoftRater file on the Install Server
- If utilizing Oracle, you need: DB Catalog name, port number, DB Schema name
- Subscriber ID created in IBFA
- Access to the server where the Insbridge system was installed
- URL of the current IBFA
- Package location where you want the packages stored

These components will be needed at various times during the installation and implementation of SoftRater for Apache TomEE.

The Insbridge-Windows folder contents:
Databases

- Oracle
  - SoftRater
    - Batch
      - IBSS561IA20.1.zip

Oracle Insurance Insbridge Enterprise Rating (x64).exe

The 5.6.1-Insbridge-TomEE folder contents are:

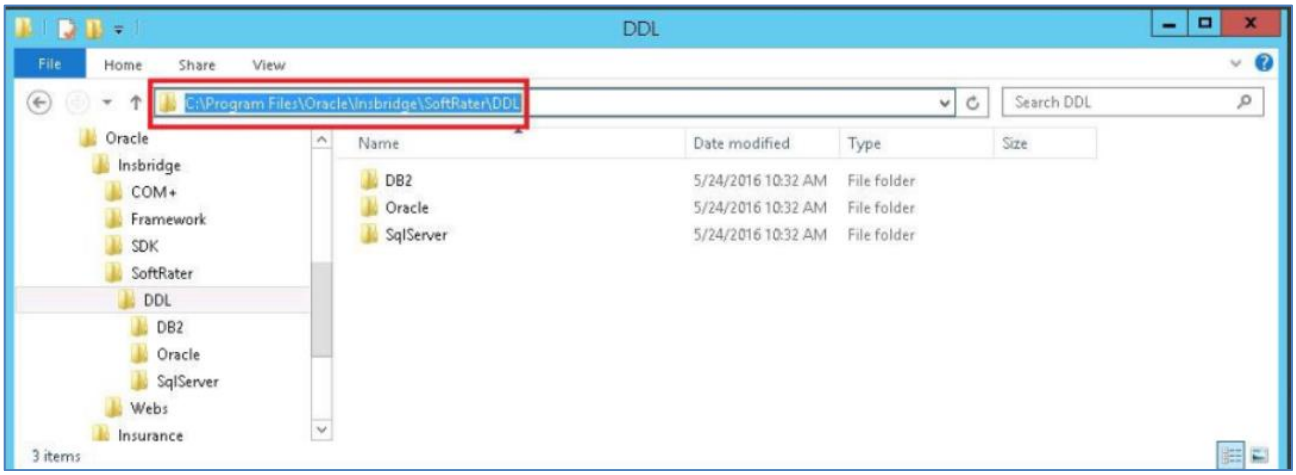
- IBSS.EAR
- Docker script file
- Insbridge.net.softraterconfig.xml No license file is required. (Should be available as part of 5.6.0 install)

The SoftRater can be installed any time after the Insbridge Framework Administrator and RateManager have been installed. The SoftRater must be installed prior to any users creating packages.
Note: All folders and files may not be needed, depending upon the kind of setup you want.

SoftRater Database File Location

NOTE: This section is refers to the 5.6.0 installation.

Scripts have to be run to create the necessary tables for Oracle database. Tables are required for each Project and or Product. If the tables are not created, the packages cannot be loaded.
Oracle DDLS are located in the SoftRater file on the Insbridge installation server ONLY. DDL scripts can be found on the server where Insbridge was installed in the
…\\Oracle\Insbridge\SoftRater folder.
For example: C:\Program Files\Oracle\Insbridge\SoftRater\DDL permanent



For SQL Server, new backup files are included in the Insbridge download in the Windows folder under databases. If the IBSR backup files cannot be used and DDL scripts are needed, SQL Server DDL scripts can be found on the server where Insbridge was installed in the …//Oracle/Insbridge/SoftRater folder.

Upgrade Files

An Upgrade folder is located inside each of the database types with one upgrade script and the instructions for running the update. When upgrading from a release prior to release 5.0, you must create new and re-load the packages.

Only one update script is available per database type. This script covers all updates from the last schema change. This reduces the number of potential upgrade scripts users must run and assures that the scripts are run in the correct order. Any script that has already been run will be skipped. This change allows for easier management of IBSR update scripts.

Internet Explorer

IBSS and IBFA are accessed via web browser. Please verify that you are using Internet Explorer 11.

SETTING UP APACHE TOMEE

IMPORTANT: It is strongly recommended that any database modification should be performed by a qualified database administrator (DBA). The database setup procedures and tasks require the skill set of a database administrator. If you are not a database administrator, we do not recommend you to proceed. Improper setup may result in unwelcome changes to the database. Please consult with a qualified database administrator before proceeding.

Application Server Permissions

The SoftRater Server (IBSS) application server Apache TomEE require read/write permissions on the Insbridge.net.softraterconfig.xml that resides in the shared directory for all nodes. Also required is full control on the SoftRater node instance directory creates the config files and log files for that JVM.
It is recommended that the databases be on separate machines from the applications due to performance and security issues. The Insbridge applications and databases can be tenants in an already existing setup. IBFA uses port 80 by default. Please check with your system administrator for port conflicts with the existing setup. The ports used by SoftRater for Java can be changed from the default to a fixed port if needed.

Database User Roles and Permissions

If a more granular approach is required for management of security of the Insbridge databases, then the following guidelines can be used to set permissions.

NOTE: These are only guidelines. If not properly configured, certain processes within the Insbridge Enterprise Rating System will fail. An experienced database administrator's expertise is highly rec ommended before making any security changes.

Recommended SoftRater Permissions:

The recommended permissions are required for new tables to be created in the SoftRater (IBSR) database dynamically when or if a new line of business SRP (SoftRater Package) is loaded to the SoftRater system. If the recommended permissions are not possible, manual steps will need to be performed that will allow for packages to be loaded.
SoftRater can utilize Oracle database.

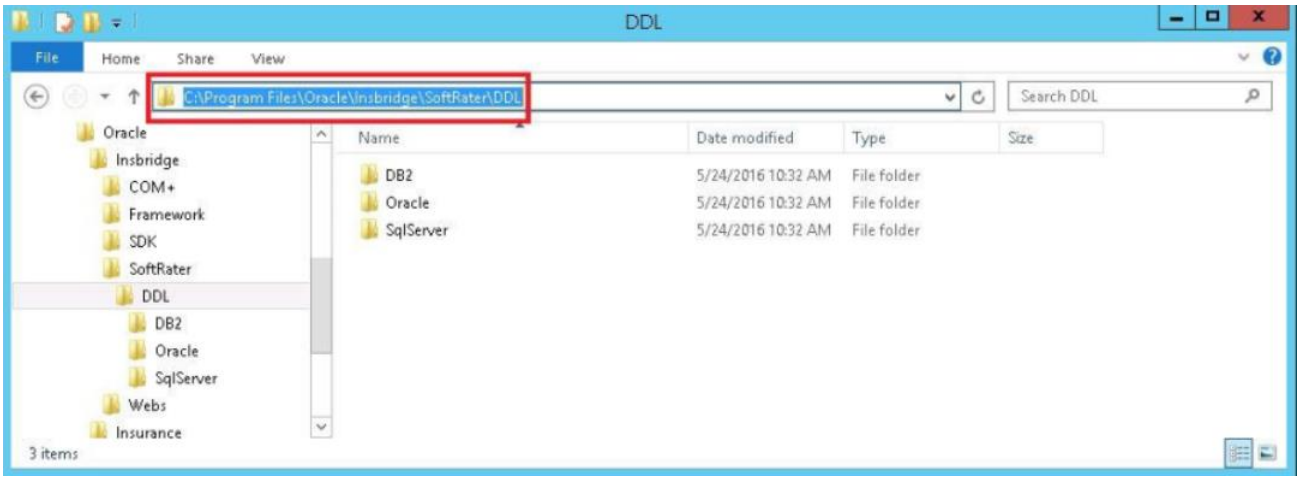
Insbridge SoftRater Oracle Database

It is recommended that the Insbridge user be granted, as defaults, the "CONNECT" and "RESOURCE" Roles.

Database File Location

NOTE: This section is refers to the 5.6.0 installation.

In the event that db_owner permissions are not possible, scripts will have to be run to create the necessary tables. Tables are required for each Project and or Product. If the tables are not created, the packages cannot be loaded.
DDL scripts can be found on the server where Insbridge was installed in the …//Oracle/Insbridge/SoftRater folder.
For example: `C:\Program Files\Oracle\Insbridge\SoftRater\DDL`



For SQL Server, backup files are included in the Insbridge-Windows folder under databases.

Oracle

SoftRater database schema supports ORACLE database platforms.
Versions – 11g, 12c and 19 c

JDBC Driver Class

`"oracle.jdbc.driver.OracleDriver" Using prefix jdbc:oracle:thin:`

User Account Requirements

Create Table Create Index
Query access to "SYS.OBJ$"

SOFTRATER FOR APACHE TOMEE INSTALLATION

This Dockerfile extends the Apache TomEE domain.

Prerequisites:

The services or components that should be available before the docker installation are as follows:

1. Docker should be installed, preferred version: 19.03
2. The required packages and artifacts should be placed in a host directory <IBSS base dir>.
3. For the table management configuration windows network shared location needs to be mounted in a host directory <mount dir>.
4. User should have the dockerhub account and login to pull the base TomEE image through Dockerfile (version 8.0.1-plume).

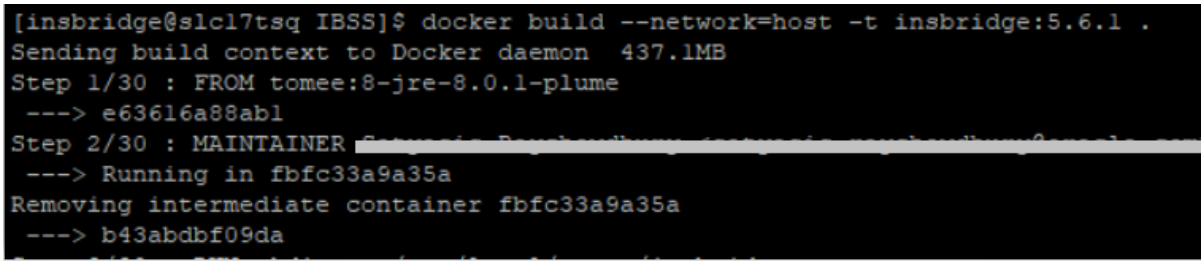
How to build and run:

Create IBSS image from base image Apache TomEE (version 8.0.1-plume):

```
$cd <IBSS base path>
$docker build --network=host -t <imagename:tag>
```

For Example:

```
$docker build --network=host -t insbridge: 5.6.1.
```



Note: To enable https, the follow the below steps.

---

1. Ensure you have a certificate (keystore) for that particular environment, to be placed on IBSS base dir.
2. Add the following into server.xml, so maintain a server.xml with the changes and copy the same while creating image. (included in dockerfile)

```
<Connector connectionTimeout="20000"
protocol="org.apache.coyote.http11.Http11NioProtocol"
port="8443" maxThreads="200"
scheme="https" secure="true" SSLEnabled="true"
keystoreFile="./keystore/identity.jks"
keystorePass="proagent"
clientAuth="false" sslProtocol="TLS"/>
```

3. If a respective lines is not required comment (below 4 lines) those in the docker file before building the docker image.

```
RUN mkdir -p /usr/local/tomee/keystore
COPY keystore/ /usr/local/tomee/keystore/
RUN rm /usr/local/tomee/conf/server.xml
COPY server.xml /usr/local/tomee/conf/
```

4. Include the endpoint parameters inside insbridge.net.softraterconfig.xml, execute this from IBSS base path.
   For Example:

```
 sed -i '/<endpoints>/a \ \ \ \ \ \ \<endpoint
id="<hostname>:<https port>" iiop_port="7001" name="SECURE"
operating_sys="linux" secure="true"/></endpoints>'
./insbridge/insbridge.net.softraterconfig.xml
```

Note: For soft library testing, add the soft library in IBSS base directory and uncomment the following line from Dockerfile

```
COPY *.jar /usr/local/tomee/lib/
```

Verify the image

Verify if the following image is in place:

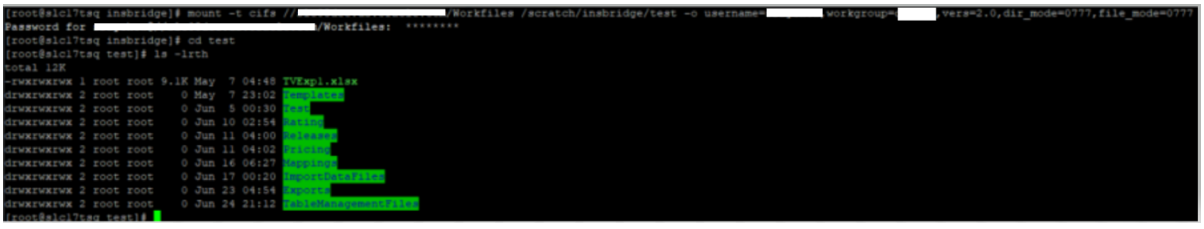
```
$docker images
```

```
[insbridge@slcl7tsq IBSS]$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
insbridge           5.6.1               88975e4145b1        About a minute ago  966MB
tomee               8-jre-8.0.1-plume   e63616a88ab1        3 months ago        344MB
[insbridge@slcl7tsq IBSS]$
```

Mount windows network shared location

Use the following command to mount the windows network shared location to Linux and once executed, check if all the files and folders have been imported or not.

```
$mount -t cifs <windows shared location> <host mount
dir/impexp> -o
username=<username>,password=<password>,vers=2.0,dir_mode=0777
,file_mode=0777
```



Note: For windows server 2016 NFS mount works and follow the below steps to get the shared location mounted.

---

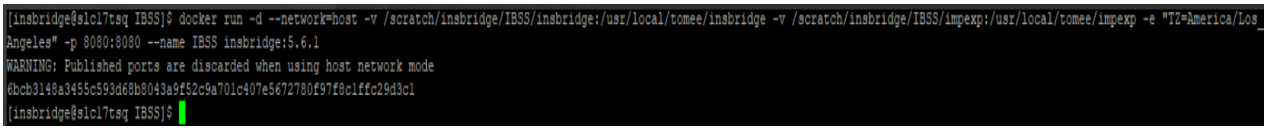
1. Install nfs server in your 2016 server through add roles and features wizard.
2. Share the windows location with NFS sharing and provide the required permission (default is everyone can access).
3. Install nfs-utils package in the Linux machine.
4. Mount the shared location with the below command:

```
mount -t nfs <Source:/path> <Dest path>
```

Creating and running container for the Insbridge IBSS

Use the following code to create and run container for Insbridge IBSS

```
$docker run -d --network=host -v <IBSS base
dir>/insbridge:/usr/local/tomee/insbridge -v <mount
dir>/impexp:/usr/local/tomee/impexp -e
"TZ=America/Los_Angeles" -p 8080:8080 --name <container name>
<image name>
```



ps: inclusion of timezone in docker run command is optional, based on your or the database server timezone you need to change it.

Verifying if Container is Running

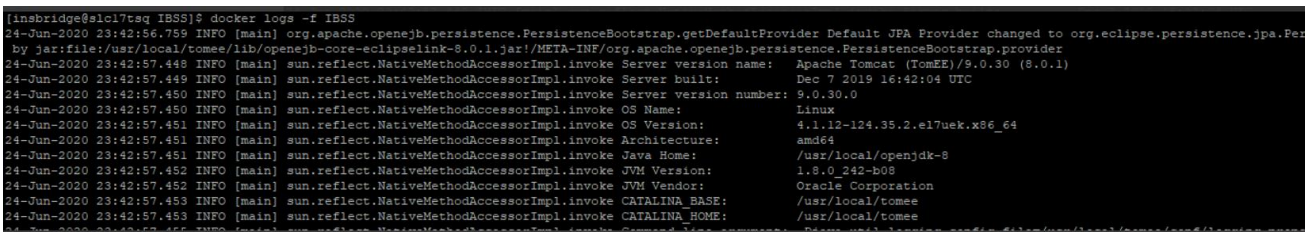
To check if the container is running use the following command:

```
$docker ps
```

Verifying Logs of the Running Container

To check logs of the running containers, use the following command:

```
$docker logs -f <container name>
```



Enter into Container

To enter into the container with bash prompt, use the following command:

```
$docker exec -it <container name> bash
```

To start or stop or restart the container, use the following commands:

```
$docker stop <container name>
$docker start <container name>
$docker restart <container name>
```

CONTACTING SUPPORT

If you need assistance with an Oracle Insurance Insbridge Enterprise Rating System product, please log a Service Request using My Oracle Support at https://support.oracle.com/.

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

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