



Direct to Database Testing using Integrated Windows Authentication

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## Direct to Database Testing using Integrated Windows Authentication

Integrated Windows Authentication can be used for Direct-to-Database Testing on Microsoft SQL Server. Please use the following steps for setting up a Maestro server on Windows.

### Install Java 6 on Windows

The first step is to identify a 64-bit Windows machine (e.g., Windows Server 2012) for setting up a Maestro server that will run compositions for database testing on SQL Server.

- 1) Go to the Java SE 6 download page at <http://www.oracle.com/technetwork/java/javasebusiness/downloads/java-archive-downloads-javase6-419409.html>.
- 2) Click “Java SE Runtime Environment 6u45” (or this link: <http://www.oracle.com/technetwork/java/javasebusiness/downloads/java-archive-downloads-javase6-419409.html#jre-6u45-oth-JPR>).
- 3) Click “Accept License Agreement”.
- 4) Click “[jre-6u45-windows-x64.exe](#)” to download the “JRE 6 for Windows 64” and save it to a folder.
- 5) Run [jre-6u45-windows-x64.exe](#) in the folder to install JRE 6 on Windows. Usually it is installed under C:\Program Files\Java.

After Java 6 is installed, set the JAVA\_HOME environment variable.

- 1) Right-click the My Computer icon on your desktop and select Properties.
- 2) Click the Advanced tab. Click the Environment Variables button.
- 3) Under System Variables, click New. Enter the variable name as [JAVA\\_HOME](#).
- 4) Enter the variable value as the installation path for the Java, e.g., [C:\Program Files\Java\jre6](#)
- 5) Click OK.
- 6) Click Apply Changes.

## Install Microsoft JDBC Driver 4.0 for SQL Server on Windows

The Microsoft JDBC Driver 4.0 for SQL Server must be installed on the 64-bit Windows server.

- 1) Go to <http://www.microsoft.com/en-us/download/details.aspx?id=11774>.
- 2) Click the Download button.
- 3) Click the checkbox for "[sqljdbc\\_4.0.2206.100\\_enu.exe](#)" and click Next.
- 4) Click Save to download sqljdbc\_4.0.2206.100\_enu.exe to a folder.
- 5) Run sqljdbc\_4.0.2206.100\_enu.exe in the folder.
- 6) Enter an installation directory when prompted. We recommend that you unpack this zip file in `%ProgramFiles%` with the default directory: "Microsoft JDBC Driver 4.0 for SQL Server".
- 7) Click Unzip to install the JDBC Driver in the folder of "C:\Program Files\Microsoft JDBC Driver 4.0 for SQL Server".

## Set Up the DLL for Integrated Authentication on Windows

In order for the JDBC driver to find the "[sqljdbc\\_auth.dll](#)" file, copy the "sqljdbc\_auth.dll" file into a folder on the Windows system path or add an entry to the PATH environment variable for the directory that contains the "sqljdbc\_auth.dll" file.

For example, copy the DLL in the folder of JDBC Driver, i.e., "C:\Program Files\Microsoft JDBC Driver 4.0 for SQL Server\sqljdbc\_4.0\enu\auth\x64", to the folder of JRE 6 bin, e.g., "C:\Program Files\Java\jre6\bin".

## Install JBoss 4.2.2.GA on Windows

The Maestro server must be installed and run on JBoss 4.2.2.GA server.

- 1) Go to <http://sourceforge.net/projects/jboss/files/JBoss/JBoss-4.2.2.GA/> and click the link for "[jboss-4.2.2.GA.zip](#)" (2007-10-22; 96.9 MB) to download JBoss 4.2.2.GA into a local folder.
- 2) Unzip the saved jboss-4.2.2.GA.zip in the folder.
- 3) Copy the folder of "jboss-4.2.2.GA.zip\jboss-4.2.2.GA" to "C:" so that JBoss is in the folder of "C:\jboss-4.2.2.GA".

Set the JBOSS\_HOME environment variable:

- 1) Right-click the My Computer icon on your desktop and select Properties.
- 2) Click the Advanced tab. Click the Environment Variables button.
- 3) Under System Variables, click New. Enter the variable name as `JBOSS_HOME`.
- 4) Enter the variable value as the installation path for the JBoss, e.g., `C:\jboss-4.2.2.GA`.

- 5) Click OK.
- 6) Click Apply Changes.

After performing the above steps, delete the following folders in order to secure the JBoss Application Server:

- C:\jboss-4.2.2.GA\server\default\deploy\jmx-console.war
- C:\jboss-4.2.2.GA\server\default\deploy\management
- C:\jboss-4.2.2.GA\server\default\deploy\http-invoker.sar

## Deploy Maestro WAR File on JBoss

Download the Maestro WAR file, `maestro.war`, with the version “**SOASTA 48 (build 6806.29)**” or later. Note the file `maestro.war` must be renamed to `concerto.war` before *hot or cold* deploying it on the JBoss server.

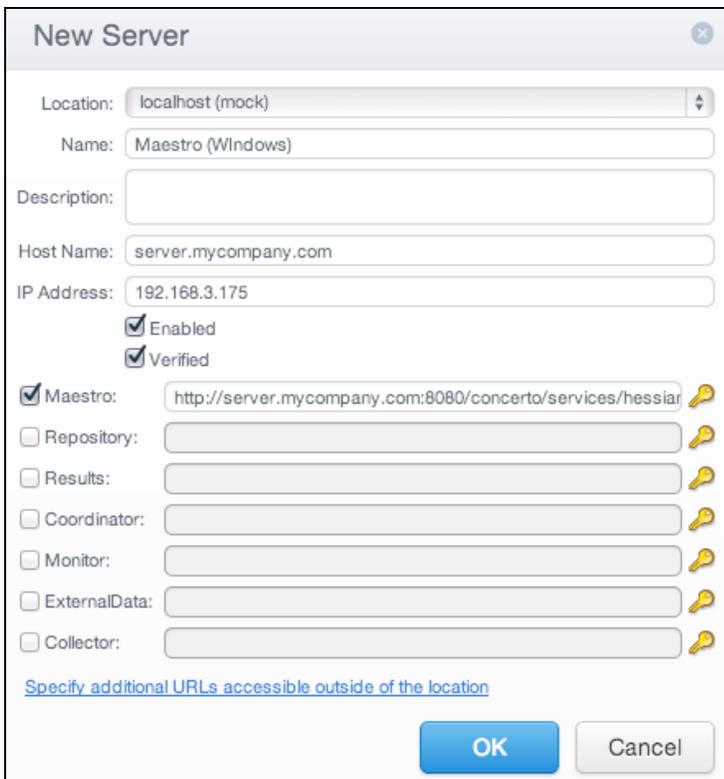
1. Start JBoss in Windows with “-b 0.0.0.0” on command line in order to bind JBoss to all addresses, (e.g., C:\[jboss-4.2.2.GA](#)\bin> run.bat -b 0.0.0.0)
2. Get the Maestro WAR file, `maestro.war` from SOASTA.
3. Rename it to `concerto.war`.
4. Copy `concerto.war` to [C:\jboss-4.2.2.GA\server\default\deploy](#) folder.

## Create a Server on Main CT for Maestro Server on Windows

Refer to [Using Servers](#) on the Knowledge Base for general instructions about servers and setting up services on a given server.

On the Main CloudTest instance, add a server for the Maestro server on Windows using the following steps.

- 1) Click Central, Servers > New.
- 2) In the New Server dialog box, provide the required fields to define this external Maestro:
  - Select from among configured locations
  - Give the Windows Maestro server a name
  - Specify the host name of the Windows machine
  - Specify IP Address of the Windows machine



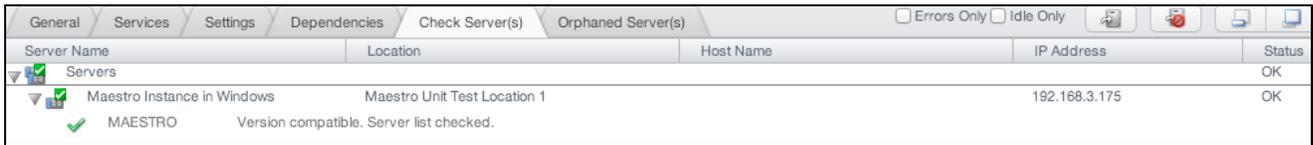
- 3) Click the Maestro checkbox and, if necessary, overwrite its value.
  - Click OK to finish.

The Maestro URL can be revised via the server's Services tab of an existing server (shown below).



- 1) Next, click the “Check Server(s)” tab to confirm that the server is available and working properly.

A healthy server gets the status "OK" (shown below).



**Note:** If the Status column does not show OK, you need to check the IP addresses in the URL’s for the servers of the Main and the Maestro instances.

Also, check whether any firewall rules disallow the connection between the main CloudTest instance and the Maestro instance in Windows. Use the Netcat utility to check the connection from the main CloudTest instance to the Maestro instance in Windows. For example:

```
nc -zvv <IP_Address_of_Maestro_Server_in_Windows>
<Port_Number_of_Maestro_Server_in_Windows>
```

An example of a connection issue caused by firewall rules (which might occur while executing the nc command on the main CloudTest instance in Linux):

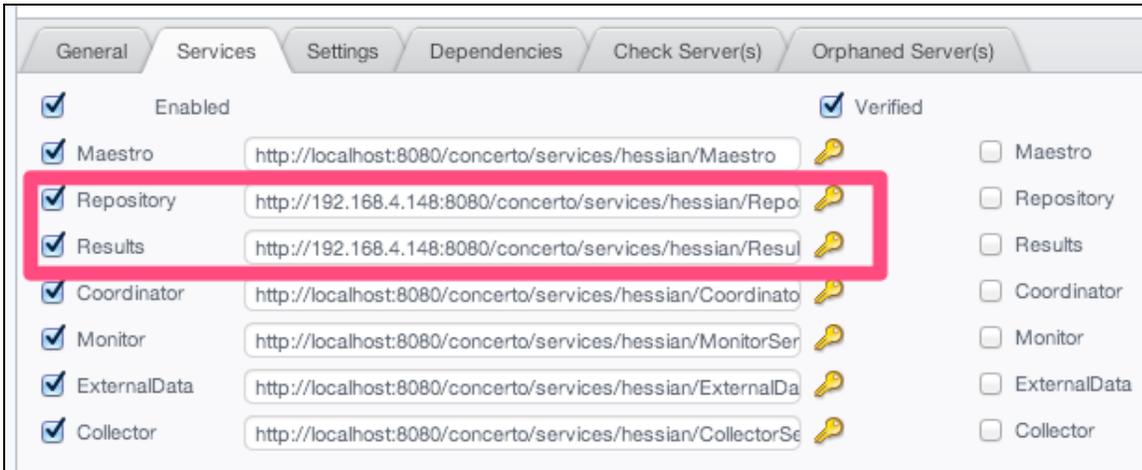
```
$ nc -zvv 192.168.0.8 8080
nc: connect to 192.168.0.8 port 8080 (tcp) failed: Connection refused
```

## Modifying the Main CloudTest Server List Entry

In order for an external Maestro to be properly configured, the CloudTest main instance must be reachable. This requires the use of an explicit DNS-routable host name or IP Address (as opposed to the commonly used "localhost").

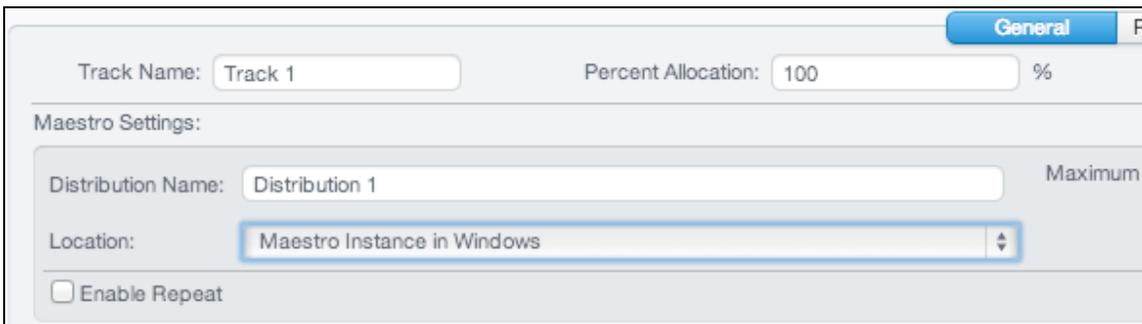
If "localhost" is specified in the Repository and Results Service URLs of the Main CloudTest instance, then it must be replaced by the IP address of the main server.

Otherwise, the remote Maestro server in Windows cannot gain access to the repository and results of CloudTest main server.



## Set Maestro Server for Composition

To run a composition of database testing on SQL Server with Integrated Windows Authentication, the Location field (for the Track of the composition) must be set to the Maestro instance in Windows (shown below).



## Note on Target Editor on Main CloudTest

Since the Main CloudTest instance is running on Linux, it cannot access to the DLL ("sqljdbc\_auth.dll") for Integrated Windows Authentication.

Thus, the "Test Connection" button on the Target Editor (on the Main CloudTest instance) will not work with the integrated Windows authentication.

Below is an example. Note that "**integratedSecurity=true**" is found in the database URL.

The screenshot shows a form for configuring a database connection. The fields are as follows:

- Database URL: jdbc:sqlserver://192.168.3.124\MaestroTest:50312;integratedSecurity=true
- User Name: TEST\cloudtest
- Password: .....
- Use SSL:
- Connection Timeout: Default: 15 seconds.
- Execution Timeout: Default: 60 seconds.
- Auto-commit:

At the bottom, there is a "Test Connection" button and a red error message: "Connection Failed: This driver is not configured for integrated authentication. ClientConnec".

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