

PI JDBC 2012 Release Notes

Version 1.3.0.0251

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Table of Contents

| | |
|--|----------|
| Overview | 1 |
| Fixes and Enhancements | 1 |
| Fixes | 1 |
| Enhancements..... | 2 |
| Known Issues | 2 |
| Setup | 3 |
| Operating Systems | 3 |
| System Prerequisites..... | 3 |
| Server Platforms..... | 4 |
| Distribution Kit Files..... | 5 |
| Installation and Upgrade | 6 |
| Uninstalling PI SQL DAS and PI JDBC | 6 |
| List of Files Installed During Setup..... | 6 |
| Documentation Overview | 8 |
| Technical Support and Resources..... | 9 |

Overview

PI JDBC 2012 is an incremental release to PI JDBC 2010 R3, a Java Database Connectivity driver that provides robust data access to the PI System through SQL queries. PI JDBC offers much of the same functionality as the PI OLEDB Enterprise Provider, and is also backward compatible with the behavior of the classic PI OLEDB Provider.

PI JDBC is a type 1 JDBC driver (bridge) that uses the PI SQL Data Access Server (PI SQL DAS) as a gateway, which provides secure network communication (HTTPS) to the OLE DB providers. PI OLEDB Enterprise, the classic PI OLEDB Provider and the PI SQL DAS all run on Windows, whereas the PI JDBC Driver is supported on both 32-bit and 64-bit Windows and Linux operating systems (see below for OS versions). PI JDBC Driver is based on the JDBC 4.0 API (Java Platform SE 6) specification.

This new release, version 2012, has been tested to run with the Java Runtime Environment (JRE) 1.7 and contains several bug fixes. Also, in combination with new releases of PI OLEDB Enterprise and the classic PI OLEDB Provider (which are used by and installed with the PI SQL Data Access Server), PI JDBC features a number of performance improvements and new functionality (e.g. PI Event Frames).

Fixes and Enhancements

Fixes

This section lists items that were resolved or added in this release of PI JDBC.

| Punch List Item | Description |
|----------------------------------|---|
| PI JDBC Driver | |
| WI61373 | DatabaseMetaData.getColumns() now allows using a wildcard in Schema, Table and Column parameters. |
| WI62179 | Trying to get data from an empty ResultSet or moving beyond the last row of data returned unspecific error (SQLException). This error message now provides details. |
| WI75350 | Error SQLException: [PI SQL DAS] [RDSA OLE DB Provider] IID_ICommand: DB_E_PARAMNOTOPTIONAL may occur when using a String parameter in a query. This bug has been fixed. |
| WI75471 | The method java.sql.Connection.createStatement() may return null instead of a SQLException, if a database access error occurs or this method is called on a closed connection. This bug has been fixed. |
| WI79974 | When using Batch Processing to execute multiple SQL statements and using parameters with data types Timestamp or Object the following error may be returned: [PIOLEDB] Conversion Error This bug has been fixed. |
| PI SQL Data Access Server | |
| WI62996 | Error "[Orb.Channel] The channel is not registered on server" may occur on restart of PI SQL DAS, network problems or parallel execution of queries. This problem has been fixed. |

Enhancements

- ❑ `Statement.setQueryTimeout()` was a dummy implementation and is now setting the command timeout. The alternative use of the `Command Timeout` keyword in the connection string (`url`) remains and overwrites the default for all command objects of a connection. When both are used, the `setQueryTimeout` value takes precedence. (WI75918)
- ❑ The Windows version of PI JDBC no longer requires .NET 4.0. This dependency has been removed. (WI61383)
- ❑ Allow Client to see DAS version information.
In JDBC, this is integrated into the result of `DatabaseMetaData.getProductName()`, including the unique and increasing Build number (currently 251)
Connecting to older DAS produces the same name as before, omitting the Build information. (WI81120)

Note: `getDatabaseProductVersion()` returns the underlying OLE DB provider version

Known Issues

This section lists problems and enhancements that have been deferred until a future release or need to be resolved by the user.

| Punch List Item | Description |
|-----------------|---|
| WI76223 | <p>A query with <code>pioledb classic</code> joining <code>pipoint</code> with <code>piinterp</code> can crash the DAS service when some amount of returned data is exceeded.</p> <p>A fix would require modifications of PI OLEDB and/or PI SDK.</p> <p>Workaround Force the correct order of tables (<code>pipoint</code> first) to avoid a crash of the PI SQL DAS service.</p> |

Setup

Operating Systems

This release supports:

- Windows XP SP3
- Windows Vista
- Windows 7
- Windows 8
- Windows Server 2003
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012

for PI SQL Data Access Server and PI JDBC driver.

Additionally, the PI JDBC driver supports:

- Linux systems that have or can be updated to OpenSSL 0.9.8 and
- Linux systems that come with OpenSSL 1.0.0

System Prerequisites

PI SQL Data Access Server requires:

- Microsoft .NET Framework 4.0
- PI OLEDB Enterprise (2012 or later recommended)
- PI OLEDB Provider (2010 R3 or later recommended)

PI JDBC Driver on Windows requires:

- Java Runtime (Java SE Runtime Environment 6 or higher)

PI JDBC Driver on Linux requires:

- Java Runtime (Java SE Runtime Environment 6 or higher)
- OpenSSL 0.9.8 or OpenSSL 1.0.0
- Further dependencies are based on the OpenSSL version being used:
 - OpenSSL 0.9.8
 - libstdc++ 4.2, including GLIBCXX_3.4.9 (standard GNU C++ shared library)
 - glibc 2.4 (standard GNU C shared library)
 - libgcc 4.1.2 (standard GNU C Compiler runtime library)
 - OpenSSL 1.0.0
 - glibc 2.11

Installation of an OS/soft product on Windows relies on the presence of Microsoft operating system components such as the Microsoft .NET Framework and Microsoft run time libraries.

OS/soft Prerequisite Kits are available in three packages that verify and install the needed operating system prerequisites:

Online (Recommended): For installation on a computer connected to the internet. This kit connects to Microsoft sites in order to download .NET Framework 3.5 for the operating system on which it is run. This is a bootstrapper kit that is much smaller than the Standalone kit.

Standalone (Recommended): For installation on a computer that *cannot* connect to Microsoft sites, or for installations where such connection is not desirable. This is a full redistributable kit that is much larger than the Online kit.

Legacy: This kit should only be used for installation on older operating systems where the OS/soft products do not require .NET Framework 3.5.

All three Prerequisite Kits contain both 32-bit and 64-bit installation redistributables. See the Prerequisites Product Pages on the OS/soft Tech Support Web site to determine which MS Operating System prerequisites you need:

<http://techsupport.osisoft.com/Products/Prerequisite+Kits/Prerequisite+Kits+Overview.htm>

The PI JDBC Driver does not require a .NET Framework or other components of the Prerequisite Kits, but the PI SQL Data Access Server does.

Server Platforms

Supported Server Platforms (PI Server, AF Server) are defined by the underlying OLE DB providers being used. Please see release notes of PI OLEDB Enterprise and the classic PI OLEDB Provider respectively.

Distribution Kit Files

The PI JDBC Client and PI SQL Data Access Server are provided in 2 separate distribution kits. They may or may not be installed on the same machine.

The PI SQL Data Access Server setup distribution (**PI SQL DAS_1.3.0.0251_.exe**) consists of the following files:

| File | Description |
|-----------------------------|--|
| setup.exe | Setup wrapper installation program. This program manages delivery of all components. |
| setup.ini | Setup wrapper configuration. |
| silent.ini | Setup wrapper configuration. |
| SetupUtils.dll | Setup wrapper utility module. |
| dotnet40Setup | Setup module to verify .NET 4.0 prerequisite. |
| pisqldas_1.3.0.0251-x86.msi | Windows Installer file for PI SQL Data Access Server (32-bit). |
| pisqldas_1.3.0.0251-x64.msi | Windows Installer file for 64-bit PI SQL Data Access Server (64-bit). |

The PI JDBC client for Windows setup distribution (**PI JDBC_2012_.exe**) consists of the following files:

| File | Description |
|--------------------------------|--|
| setup.exe | Setup wrapper installation program. This program manages delivery of all components. |
| setup.ini | Setup wrapper configuration. |
| silent.ini | Setup wrapper configuration. |
| SetupUtils.dll | Setup wrapper utility module. |
| PIJDBC.msi | Windows Installer file for PI JDBC (32-bit). |
| PIJDBC64.msi | Windows Installer file for PI JDBC (64-bit). |
| PI JDBC 2012 Release Notes.pdf | Release notes for PI JDBC Driver and PI SQL Data Access Server |

The PI JDBC client for Linux setup distribution (**PI JDBC_2012-x86-x64_.tar.gz**) is a zipped tar archive file containing product files organized in subdirectories.

Installation and Upgrade

PI SQL DAS is installed via setup kit. PI JDBC for Windows is also installed via setup kit. A previous release is updated automatically. Please follow instructions during setup.

PI JDBC client for Linux is installed by extracting the files to a directory as described in the PI JDBC Administrator Guide. A previous release must be removed prior to this.

Note that at least PI SQL DAS 1.1.0.0241 is required for PI JDBC 2012 to function. It is recommended to update PI SQL DAS to version 1.3.0.0251.

Any older PI JDBC driver can still connect to the updated PI SQL DAS.

Uninstalling PI SQL DAS and PI JDBC

Both PI SQL DAS and PI JDBC for Windows can be uninstalled via "Add or Remove Programs" in the Control Panel for Windows XP, and 2003, or via "Programs and Features" in the Control Panel for Windows Vista, 7, 8, 2008, 2008 R2 and 2012.

PI JDBC client for Linux can be uninstalled by deleting the installed files and removing configuration items as described in the manual.

List of Files Installed During Setup

The following tables list the files contained in the product MSI and tar.gz files. If not already present or available in an older version, these files are installed on your system.

pisqldas_1.3.0.0251-x86.msi and pisqldas_1.3.0.0251-x64.msi

| Directory | File | Version | Comment |
|---------------|---------------------------------|------------|---|
| \$PIPC\SQLDAS | pisqldas.exe | 1.3.0.0251 | (32-bit only) |
| \$PIPC\SQLDAS | pisqldas64.exe | 1.3.0.0251 | (64-bit only) |
| \$PIPC\SQLDAS | pisqldas.exe.config | n/a | (32-bit only) |
| \$PIPC\SQLDAS | pisqldas64.exe.config | n/a | (64-bit only) |
| \$PIPC\SQLDAS | pisqldasAutoConfig.exe | 1.1.0.0241 | |
| \$PIPC\SQLDAS | pisqldasAutoConfig.log | n/a | |
| \$PIPC\SQLDAS | OSIsoft.ico | n/a | |
| \$WinSXS | Microsoft_VC100_CRT_x86.msm | 10.0 | Visual C++ 10.0 CRT (x86) WinSXS MSM (32-bit only) |
| \$WinSXS | Microsoft_VC100_CRT_x86_x64.msm | 10.0 | Visual C++ 10.0 CRT (x64) WinSXS MSM |

PIJDBC.msi and PIJDBC64.msi

| Directory | File | Version | Comment |
|---------------------|--------------------------------------|------------|--|
| \$PIPC\JDBC | PIJDBCDriver.jar | 1.3.0.0251 | |
| \$SystemFolder | RDSAWrapper.dll | 1.3.0.0251 | |
| \$System64Folder | RDSAWrapper64.dll | 1.3.0.0251 | (64-bit only) |
| \$PIPC\JDBC\Samples | getSnap getEASnap | n/a | Java test programs for installation verification |
| \$PIPC\JDBC\Doc | PI JDBC 2012 Administrator Guide.pdf | 1.3.0.0251 | |
| \$PIPC\JDBC\Doc | License_OpenSSL.txt | n/a | License Information for OpenSSL 0.9.8 |
| \$PIPC\JDBC | OSIsoft.ico | n/a | |
| \$WinSXS | Microsoft_VC100_CRT_x86.msm | 10.0 | Visual C++ 10.0 CRT (x86) WinSXS MSM (32-bit only) |
| \$WinSXS | Microsoft_VC100_CRT_x86_x64.msm | 10.0 | Visual C++ 10.0 CRT (x64) WinSXS MSM (64-bit only) |

PI JDBC_2012-x86-x64.tar.gz

| Directory | File | Version | Comment |
|---------------------|--------------------------------------|------------|--|
| \$PIPC\JDBC | PIJDBCDriver.jar | 1.3.0.0251 | |
| \$PIPC\JDBC\lib | libRdsaWrapper-1.3.0a.so | 1.3.0.0251 | dependency on OpenSSL0.9.8 |
| \$PIPC\JDBC\lib | libRdsaWrapper64-1.3.0a.so | 1.3.0.0251 | dependency on OpenSSL0.9.8 |
| \$PIPC\JDBC\lib | libRdsaWrapper-1.3.0b.so | 1.3.0.0251 | dependency on OpenSSL1.0.0 |
| \$PIPC\JDBC\lib | libRdsaWrapper64-1.3.0b.so | 1.3.0.0251 | dependency on OpenSSL1.0.0 |
| \$PIPC\JDBC | Dotprofile | n/a | sample for configuration entries |
| \$PIPC\JDBC\Samples | getSnap getEASnap | n/a | Java test programs for installation verification |
| \$PIPC\JDBC\Doc | PI JDBC 2012 Administrator Guide.pdf | 1.3.0.0251 | |
| \$PIPC\JDBC | OSIsoft.ico | n/a | |

Documentation Overview

PI JDBC Administrator Guide: A guide to installing and using PI SQL Data Access Server and PI JDBC Driver. It also contains reference of tested use cases.

For supported functionality and SQL syntax, please refer to the PI OLEDB Enterprise and the classic PI OLEDB Provider user guides.

Samples, tutorials and additional development support are provided through the OSIsoft Virtual Campus (vCampus) program – see <http://vCampus.osisoft.com>.

Technical Support and Resources

For technical assistance, contact OSISOFT Technical Support at +1 510-297-5828 or techsupport@osisoft.com. The [OSISOFT Technical Support](#) website offers additional *contact options* for customers outside of the United States.

When you contact OSISOFT Technical Support, be prepared to provide this information:

- Product name, version, and build numbers
- Computer platform (CPU type, operating system, and version number)
- Time that the difficulty started
- Log files at that time
- Details of any environment changes prior to the start of the issue
- Summary of the issue, including any relevant log files during the time the issue occurred

The [OSISOFT Virtual Campus](#) (*vCampus*) website has subscription-based resources to help you with the programming and integration of OSISOFT products.

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