Spotfire Service for Python Release Notes

Software Release 1.17.7

Contents

Release Notes

Visualizations that are created in Spotfire Analyst that take advantage of Python scripts are available for users on Spotfire Business Author and Consumer through Spotfire® Service for Python version 1.17.

These release notes cover new features, changes, closed issues, and known issues for this release of Spotfire Service for Python.

In this release, TIBCO Spotfire® Service for Python is renamed Spotfire® Service for Python. Spotfire is now a stand-alone brand within the Cloud Software Group, and this change is reflected in a new logotype and new product name.

Spotfire Service for Python is licensed under the product Spotfire® Statistics Services. Although you must have the appropriate Spotfire® Statistics Services license, you do not need to install the Spotfire Statistics Services product itself to install and run Spotfire Service for Python in your Spotfire® Server deployment.

New Features

The Spotfire Service for Python version 1.17 has the following new features.

Key	Version	Summary
TERRSRV-1458	1.17.0	**Bring your own Python** You can deploy and use your preferred Python distribution with the Spotfire Service for Python. **Note**: To use an alternative Python distribution, install the Python packages and set the environment variable SPOTFIRE_PYTHON_HOME to point to that installation. If the environment variable SPOTFIRE_PYTHON_HOME is not specified, then Spotfire Service for Python uses the version of Python bundled with this product. **Note**: For consistency, the deployed Python version must be the same for all the Spotfire Service for Python instances within the same Spotfire deployment area.

Changes in Functionality

Spotfire Service for Python version 1.17 has the following changes in functionality.

Key	Version	Summary
TERRSRV-1198	1.17.3	**Updated node memory calculations for data function services** Changed how memory calculations are made to better describe the actual status of the memory available, regardless if the data function service is running on Linux, Windows, or in a containerized environment.
TERRSRV-1161	1.17.2	**Container base image updated** The container base image for both the TERR service and Spotfire Service for Python has been updated to AlmaLinux:8.9.

Deprecated and Removed Features

From time to time, features are deprecated or removed from Spotfire Service for Python. This topic provides more information about deprecated and removed features in version 1.17.

Deprecated features

No features have been deprecated in version 1.17.

Removed features

No features have been removed in version 1.17.

Migration and Compatibility

Spotfire Service for Python version 1.17 has been tested with version 14.0 of Spotfire Server.

This version of Spotfire Service for Python is not tested with earlier versions of Spotfire Server.

See System Requirements for more information.

Third Party Software Updates

Spotfire Service for Python version 1.17 has the following new or updated third party software (TPS) components.

Key	Version	Summary
TERRSRV-1521	1.17.7	- Apache Commons IO updated to 2.18.0 - Apache Log4j updated to 2.24.3 - Bouncy Castle Crypto APIs updated to 1.80 - Eclipse Jetty updated to 12.0.16 - FasterXML/Jackson Core updated to 2.18.2 - OSHI Core updated to 6.6.6 - Guava: Google Core Libraries for Java updated to 33.4.0-jre - Java API Client for Docker updated to 3.4.1 - Micrometer updated to 1.14.3 - Spring Boot updated to 3.3.8 - Spring Framework updated to 6.2.2
TERRSRV-1522	1.17.6	- Apache Commons Compress updated to 1.27.1 - Apache Commons IO updated to 2.17.0 - Apache Log4j updated to 2.24.1 - ASM updated to 9.7.1 - Eclipse Jetty updated to 12.0.14 - FasterXML/Jackson Core updated to 2.18.0 - Guava: Google Core Libraries for Java updated to 33.3.1-jre - Micrometer updated to 1.13.6 - OSHI Core updated to 6.6.5 - Spring Boot updated to 3.3.4 - Spring Framework updated to 6.1.14 **Python packages:** - setuptools updated to 75.0.0

Key	Version	Summary
TERRSRV-1519	1.17.5	- Apache Commons Compress updated to 1.27.0 - Eclipse Jetty ee10 updated to 12.0.12 - FasterXML/Jackson Core updated to 2.17.2 - Guava: Google Core Libraries for Java updated to 33.2.1-jre - Jakarta rs-api updated to 4.0.0 - Java API Client for Docker updated to 3.4.0 - OSHI Core updated to 6.6.2 - Simple Logging Facade for Java updated to 2.0.16 - Spring Boot updated to 3.3.2 - Spring Framework updated to 6.1.11
TERRSRV-1520	1.17.4	- Apache Commons IO updated to 2.16.1 - ASM updated to 9.7 - Bouncy Castle Crypto APIs updated to 1.78.1 - Eclipse Jetty ee10 updated to 12.0.8 - Jakarta Annotations API updated to 3.0.0 - Micrometer updated to 1.12.5 - OSHI Core updated to 6.6.0 - Simple Logging Facade for Java updated to 2.0.13 - Spring Boot updated to 3.2.5 - Spring Framework updated to 6.1.6 The bundled Python interpreter is updated to 3.11.9. **Python packages:** - pandas upgraded to 2.2.2 - setuptools upgraded to 69.5.1

Key	Version	Summary
TERRSRV-1523	1.17.3	- Apache Commons Compress updated to 1.26.1 - Apache Log4j updated to 2.23.1 - Eclipse Jetty updated to 12.0.7 - FasterXML/Jackson Core updated to 2.17.0 - Guava: Google Core Libraries for Java updated to 33.1.0-jre - IO Micrometer updated to 1.12.4 - Jakarta Activation API updated to 2.1.3 - Jakarta XML Bind API updated to 4.0.2 - Java API Client for Docker updated to 3.3.6 - OSHI core updated to 6.5.0 - Spring Boot updated to 3.2.4 - Spring Framework updated to 6.1.5 **Python packages:** - NumPy updated to 1.26.4 - pandas updated to 2.2.1 - setuptools updated to 69.2.0 - python-dateutil updated to 2.9.0.post0 - tzdata updated to 2024.1 - wheel updated to 0.43.0
TERRSRV-1517	1.17.2	- Apache Common Compress updated to 1.25.0 - Apache Commons IO updated to 2.15.1 - Apache HttpComponents Client updated to 5.3.1 - Apache Log4j updated to 2.22.1 - Bouncy Castle Crypto APIs updated to 1.77 - FasterXML/Jackson Core updated to 2.16.1 - Guava: Google Core Libraries for Java updated to 33.0.0-jre - Jetty updated to 12.0.6 - Micrometer updated to 1.12.2 - Simple Logging Facade for Java updated to 2.0.12 - Spring Boot updated to 3.2.2 - Spring Framework updated to 6.1.3 **Python packages:** - numpy updated to 1.26.3 - pandas updated to 2.2.0 - pip updated to 24.0 - pytz updated to 2024.1 - setuptools updated to 69.0.3 - tzdata updated to 2023.4 - wheel updated to 0.42.0

Key	Version	Summary
TERRSRV-1516	1.17.1	- ASM updated to 9.6 - Apache Commons Compress updated to 1.24.0 - Apache Commons IO updated to 2.15.0 - Apache Log4J updated to 2.21.1 - Docker Java updated to 3.3.4 - FasterXML/Jackson updated to 2.15.3 - Guava (Google Common Libraries) updated 32.1.3-jre - Jakarta XML Bind API updated to 4.0.1 - Jetty updated to 11.0.18 - Micrometer IO updated to 1.11.5 - Simple Logging Facade for Java updated to 2.0.9 - Spring Boot updated to 3.1.5 - Spring Framework updated to 6.0.13 The following bundled Python packages are updated: - NumPy updated to 1.26.2 - Pandas updated to 2.1.3 - pip updated to 23.3.1 - setuptools updated to 68.2.2 - wheel updated to 0.41.3
TERRSRV-1466	1.17.0	The bundled Python interpreter is updated to version 3.11.3.

Key	Version	Summary
TERRSRV-1464	1.17.0	- Updated components – Apache Commons Compress updated to 1.23.0 – Apache Commons Lang 3.12.0 – Apache HttpComponents Core updated to 5.2 – Apache Log4j updated to 2.20.0 – ASM updated to 9.5 – Bouncy Castle Crypto APIs updated to 1.70 – FasterXML/Jackson Core updated to 2.15.2 – Guava: Google Core Libraries for Java updated to 32.1.2-jre – Jakarta Activation updated to 2.1.0 – Java API Client for Docker updated to 3.3.3 – Jetty updated to 11.0.16 – Micrometer updated to 1.11.3 – Simple Logging Facade for Java updated to 2.0.7 – Spring Boot updated to 3.1.3 – Spring Framework updated to 6.0.11 - Updated Python packages: – NumPy updated to 1.25.2 – Pandas updated to 2.1.0 – pip updated to 23.2.1 – setuptools updated to 68.1.2 – spotfire updated to 2.1.1 – wheel updated to 0.41.2 - Removed third-party components: – Apache Commons Codec – Apache Commons Logging

Closed Issues

Spotfire Service for Python version 1.17 has the following closed issues.

Key	Version	Summary
TERRSRV-1579	1.17.7	The service does not stop completely when you try to roll back a node manager update, which can lead to a failed rollback and an offline node manager.
TERRSRV-1254	1.17.5	When migrating from the TIBCO Software Statistic Services (TSSS) server to instead use the data function services, warnings for packages are shown when executing some data functions. This has now been addressed by adding a `disable.warning.alert` property for the TERR, R, and Python services, to allow disabling of warnings. The default is `false`. To disable warnings, this property must be set to `true`.

Key	Version	Summary
TERRSRV-1373	1.17.3	The *Included packages* table is missing a link to the Troubleshooting topic in the footnote.
TERRSRV-1375	1.17.2	In the documentation, the starting value for `engine.port.min` is `62000`. It should be `62001`.
TERRSRV-1367	1.17.1	The example for building a Spotfire package containing Python packages with a Docker image on Linux has incorrect syntax, causing the bash script to display an error.
TERRSRV-1506	1.17.1	On Windows, following the execution of a Python data function, if the process crash log is enabled, a Java process dump can occasionally be produced.
TERRSRV-1444	1.17.0	The documentation erroneously referred to `install.packages` rather than `pip install <package name>` as the function name for package installation.
TERRSRV-1450	1.17.0	The System Requirements do not explicitly list Docker as a requirement for containerized Linux installations.
TERRSRV-1452	1.17.0	The bundled Python interpreter cannot import the `sqlite3` module included with Python distributions due to the absence of the `_sqlite3.cpython-311-x86_64-linux-gnu.so` extension.
TERRSRV-1475	1.17.0	The troubleshooting example uses an unclear placeholder reference when referring to an empty column of type `String`.
TERRSRV-1510	1.17.0	The external link to the PIP help topic describing the requirements.txt file no longer works.
TERRSRV-1512	1.17.0	The image build scripts and Dockerfiles for building Python package SPK packages on Linux fail due to the public CentOS repositories being end-of-life and no longer accessible.
TERRSRV-1514	1.17.0	The topic "Configuring the Python Interpreter on a Linux Computer" is not in the help for this version.
TERRSRV-1518	1.17.0	The workflow image for using an alternative Python interpreter displays incorrect information about the versions of Python you could use.

Known Issues

Spotfire Service for Python version 1.17 has the following known issues.

Key	Version	Summary
PYSRV-280	1.17.0	**Non-ASCII characters in the TEMP directory path cause errors for SPK package builds** When you build an SPK of Python packages for distribution to Analyst clients on a Windows computer where the `TEMP` directory's path contains any non-ASCII characters, then the SPK build fails with the error `ValueError: FCI error 1`. This error is due to a defect in the Python interpreter. **Workaround:** Before building the SPK, set the value of the `TEMP` environment variable to a path containing only ASCII characters (for example, `SET TEMP=C:\temp`).
PYSRV-80	1.17.0	**Plot created with pyplot persists between data functions** A plot created in a data function using the function `pyplot` from matplotlib can persist between data functions unless the plot is explicitly cleared. **Workaround:** If the buffer retains the plot, you can clear it explicitly by including the command `plt.clf()` in your data function.
TERRSRV-1393	1.17.0	**Change in assembly method in pip package manager results in warnings** A change to the method used to correctly assemble SPK packages might result in additional warnings from the `pip` package manager of the form: `WARNING: Target directory <<`*`temporary location`*`>>\<<`*`package`*`>> already exists. Specify --upgrade to force replacement.` (The text of the warning can vary depending on the contents of the third-party wheel packages, and can vary based on the operating system.) This warning is not an issue and can be ignored.

Key	Version	Summary

TERRSRV-1446	1.17.0	**Breaking change in some Linux OS versions for other supported versions of Python interpreters**
		
		Debian 11, Ubuntu 22.04, RHEL 9, and some SUSE 15 installations (such as OpenSUSE 15) include version 7 of the package libffi, which is different from the version provided in all other supported distributions. Because it is not possible to link to multiple versions of libffi, this version of Spotfire Service for Python links only to libffi.so.6.
		
		Workaround:
		
		Use either the version of Python installed with your operating system, or a version of Python that meets the requirements that you have installed. Set the following properties in the file `custom.properties`. (By default, these settings are commented out.)
		
		`use.system.python: set to true`
		
		• This setting specifies whether to use the system-supplied or your own installation of Python, instead of the one included with this installation. For Linux, this setting is applicable if `use.engine.containers` is set to `false`. (If a containerized engine is enabled, then using the system-installed Python is not applicable.)
		
		`python.home`
		
		• The path to Python home, to the level of the `bin` directory.
		
		— For Linux, this setting searches `<python.home>`/bin/python3. For Linux, python3 must point to correct Python version.
		
		— For Windows, this setting searches `<python.home>`/bin/python.exe. (You can define the environment variable `SPOTFIRE_PYTHON_HOME` instead of this property.)
		
		Prerequisites
		
		• Expected Python version 3.7.x or higher installed with the system or user-installed.
		
		• You must install the spotfire package (from PYPI). This package is required for Spotfire Service for Python to work with Spotfire.
		
		• For Linux, `python3` points to correct version of Python.

TERRSRV-1456	1.17.0	**Running on RHEL 9 with OpenSSL requires downloading the package compat-openssl11** For administrators installing this version of Spotfire Service for Python on a computer running Red Hat Enterprise Linux 9, you must manually install OpenSSL libraries. The package `compat-openssl11` provides both needed libraries, and it is available from the RHEL 9 repository.

Key	Version	Summary
TERRSRV-538	1.17.0	**"Unable to write data" error message** Error message `"Unable to write data to the transport connection: An established connection was aborted by the software in your host machine."` If you see this error, then the data being uploaded to the service is too large. When a Spotfire data function is run, it sends the relevant data from Spotfire to the service for processing. The service has a file size upload limit, the default of which is 100 MB. When a data function is run with data that exceeds this limit, the service returns the error. **Workaround:** An administrator can change this upload limit if needed by creating a custom configuration. For more information, see the topic "File size upload limit" in the service *Installation and Administration* guide. If users see this error message, the administrator can consider creating a custom configuration that increases the limits for both of the following properties: • `spring.servlet.multipart.max-file-size`: The total file size for upload cannot exceed the value for this setting. • `spring.servlet.multipart.max-request-size`: The total request size for a multipart file upload cannot exceed the value for this setting. **Note:** At a certain point, the Java Heap size fails to handle very large files. The threshold for this behavior is dependent on the amount of RAM the service node has. When the Java Heap Size is exceeded, the following error message is displayed. `Error from Remote Service: Internal Server Error (500) - java.lang.OutOfMemoryError: Java heap space`

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