

Jasper Server OS 10.0.0

Release Notes

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JASPER SERVER OS

10.0.0 pulls Jasper Server OS through the Jakarta migration, allowing deployment on new application servers and enabling further security updates. A very useful upgrade is supporting Jasper Reports written for versions 6 and 7 of the JR library, allowing easy migrations from JRS 8.4.x and earlier versions.

PLATFORM SUPPORT CHANGES

APPLICATION SERVERS

Due to the breaking nature of the Jakarta migration, all previous application servers are no longer compatible with JRS 10.0.0. The supported platforms are now:

- Tomcat 10.1.x
- JBoss EAP [8.0.12, 8.1)
- WildFly 36.0.x

Note that, despite the breaking of compatibility with old app servers, there are incremental upgrade scripts for this version. To use them, you must configure `default_master.properties` with your old database but the new application server and run `js-update-samedb` or `js-update-newdb`. However, this approach is generally discouraged. It is better to install a fresh JRS 10 in a new app server, then export your repository from your old version and import it into JRS 10.

JASPER REPORTS LIBRARY 6.X

JRS 10.0.0 can execute reports written for Jasper Reports 6 and 7. However, some features of JRL 6 are no longer supported:

- Custom Visualizations
- Google Maps
- HTML Component
- OLAP (Mondrian)

INSTALLING WITH JAVA 17

Jasper Server OS requires Java 17 as minimum version. Newer versions may work but have not been tested.

Some notes about dealing with Java 17:

- Java 16 tightened module restrictions, leading to some errors with Jasper Server. You must add the following Java options in your app server's configuration:

```
--add-opens=java.base/java.io=ALL-UNNAMED
--add-opens=java.base/java.lang.ref=ALL-UNNAMED
--add-opens=java.base/java.lang=ALL-UNNAMED
--add-opens=java.base/java.nio.channels.spi=ALL-UNNAMED
--add-opens=java.base/java.nio.channels=ALL-UNNAMED
```

```
--add-opens=java.base/java.nio=ALL-UNNAMED
--add-opens=java.base/java.security=ALL-UNNAMED
--add-opens=java.base/java.text=ALL-UNNAMED
--add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED
--add-opens=java.base/java.util.concurrent.locks=ALL-UNNAMED
--add-opens=java.base/java.util.concurrent=ALL-UNNAMED
--add-opens=java.base/java.util.regex=ALL-UNNAMED
--add-opens=java.base/java.util=ALL-UNNAMED
--add-opens=java.base/javax.security.auth.login=ALL-UNNAMED
--add-opens=java.base/javax.security.auth=ALL-UNNAMED
--add-opens=java.base/jdk.internal.access.foreign=ALL-UNNAMED
--add-opens=java.base/sun.net.util=ALL-UNNAMED
--add-opens=java.base/sun.nio.ch=ALL-UNNAMED
--add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED
--add-opens=java.base/sun.util.calendar=ALL-UNNAMED
```

- On Linux (found on Red Hat UBI 8 and Ubuntu 22.04) there may be exceptions involving `net.sf.jasperreports.engine.fill.JRBaseFiller.<init>` and fonts or AWT when attempting to run a report. Installing the package `fontconfig` should solve these.

CHANGES IN FUNCTIONALITY

- Cache Replication on AWS with JMS is no longer supported due to Ehcache 3 not supporting it.
- Windows Command Line (CMD) is no longer supported. Power Shell Scripts are the new default here. `.bat` scripts still exist in the installation, but have to be executed reliably with Power Shell. `.bat` script will be replaced with `.ps1` script in the next versions.

BUG FIXES

- Fixed a bug where report parameters of type `net.sf.jasperreports.types.date.DateRange` would get truncated to midnight, even though the input control in the UI allows setting the time. Now, the exact date and time are passed to the report.
- Fixed a bug where JasperSoft Studio/Jasper Studio OS could not connect to the server if it was installed in WildFly

UPGRADING FROM PREVIOUS VERSIONS

There have been no database changes and compatibility with JasperReports 6.x has been mostly preserved. As such, an incremental upgrade from 8.4.x to 10.0.0 is possible using the usual `js-buildomatic/upgrade-samedb(.bat|.sh)` and `buildomatic/js-upgrade-newdb(.bat|.sh)` scripts. However, you must change `appServerDir` in `buildomatic/default_master.properties` to a compatible app server, since all compatible app servers are incompatible with their previous versions that 8.4.x was compatible with.

To upgrade from 9.0.x, you must additionally edit `buildomatic/bin/db-common.xml` before starting the upgrade. Locate the property `<property name="defaultUpgradeFromVersion" value="8.4" />` and change the value from 8.4 to 9.0.

CONFIGURATION CHANGES

Various `applicationContext*.xml` and `.properties` files in `WEB-INF` have changed:

- with caching migrated from Ehcache 2 to the JCache 1.1.1 API with Ehcache 3 as the underlying provider, many cache-related beans in the application context XMLs have changed. This is likely only of interest to developers.
- with Ehcache updated from 2 to 3, the various `ehcache*.xml` files have been moved from `WEB-INF` to `WEB-INF/classes` and their format has changed substantially. Custom configurations must use the new format of Ehcache 3.
- in `js.diagnostic.properties`, the property `usePlatformJMXServer` is now true by default. This way, JRS' own MBeans will be loaded into the application server's JMX server right away

SECURITY

Security Mechanisms in the development area for release build have been improved and automated. The full server code is now checked continually against official and world-wide vulnerability databases. Issues are evaluated on a daily basis and fixes are published as fast as possible with proactive information to the users.

MONITORING AND MANAGEMENT

- as mentioned in "Configuration Changes", Jasper Server OS now uses the app server's built-in JMX server by default
- The MBean `jasperserver:name=Ehcache` has been renamed to `jasperserver:name=JCache`, and its attributes have changed. It now contains exactly the attributes defined in JSR-107, plus some Ehcache-specific attributes identified by the Ehcache. prefix, e.g. `Ehcache.DiskSize`, `Ehcache.DiskUnit`, etc.

COMPATIBILITY

Jasper Server OS is fully compatible and tested to the commercial version Jasperreports Server 10. An upgrade option to the commercial version is guaranteed at all times without migration effort. Downgrade from a commercial version to Jasper Server OS is possible for core Jasperreports, as long as no commercial graphical libraries or specific functionality is used in reports.