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# Oracle JDBC Drivers 19c, 21c, 23c



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Sometimes you need information about Oracle JDBC drivers such as the last versions, which one to use for a given database version, the changelogs, etc.

*In this post, I tried to bring you all this information in one place. If anything is missing, don't hesitate to comment so that I can fix it. This is not a read-only post!*

There are currently 3 major versions of these drivers being supported:

- **19.X.X.X** known as Long Term Support (or LTS); latest version: 19.18.0.0; end of *extended* support is April 2027
- **21.X.X.X** known as Innovation Release; latest version: 21.9.0.0; end of support is April 2024
- **23.X.X.X** known as future Long Term Support; early version: 23.2.0.0 brought along the new Oracle database 23c FREE — Developer release

The changelogs of these versions can be found respectively [here](#) for 19 and [here](#) for 21.

These drivers come in 2 flavors:

- **thin:** Level 4 driver 100% written in Java, useful for GraalVM native images, available on [Maven Central](#), e.g.:

Maven dependencies:

```
<dependency>
  <groupId>com.oracle.database.jdbc</groupId>
  <artifactId>ojdbc8</artifactId>
  <version>19.18.0.0</version>
</dependency>
```

```
<dependency>
  <groupId>com.oracle.database.jdbc</groupId>
  <artifactId>ojdbc8</artifactId>
  <version>21.9.0.0</version>
</dependency>
```

```
<dependency>
```

```
<groupId>com.oracle.database.jdbc</groupId>
<artifactId>ojdbc11</artifactId>
<version>23.2.0.0</version>
</dependency>
```

Gradle dependencies:

```
implementation 'com.oracle.database.jdbc:ojdbc8:19.18.0.0'
```

```
implementation 'com.oracle.database.jdbc:ojdbc8:21.9.0.0'
```

```
implementation 'com.oracle.database.jdbc:ojdbc11:23.2.0.0'
```

- **thick:** Level 2 driver which requires the previously mentioned Java dependencies along additional libraries such as the Oracle Instant Client; not really good for Container images (larger size)

A good place to get the latest information is the official Oracle JDBC FAQ portal!

One of the questions you may ask yourself is which driver should I use for a given database version and a given JVM version. From the FAQ above, it looks like relying on the `ojdbc8.jar` is the best choice for now as it remains compatible with JDK 8 and JDK 11 as well as Oracle databases 19c and 21c while it's compliant with JDBC 4.2 specification.

For **JDK 17 and above**, you should use the `ojdbc11.jar`, also it is JDBC 4.3 compliant.

From the FAQ, this means:

*If you are using JDK11 then, `ojdbc8.jar` is still a better choice as it includes all the 4.3 features but as Oracle extensions. Customers can use `ojdbc10.jar` only if they need JDBC 4.3 features available through standard Java SE.*

*Example:*

***ojdbc8.jar:***

```
Connection conn = DriverManager.getConnection(...);  
// would fail because beginRequest is not in Java 8  
conn.beginRequest();  
  
// succeeds because beginRequest is provided as an Oracle extension  
((OracleConnection)conn).beginRequest();
```

***ojdbc10.jar:***

```
Connection conn = DriverManager.getConnection(...);  
// succeeds because beginRequest is in Java 10  
conn.beginRequest();  
  
// succeeds because OracleConnection supports JDBC 4.3 (in Java 10)  
// and beginRequest is part of JDBC 4.3  
((OracleConnection)conn).beginRequest();
```

A quick note regarding 23c, JDBC 19 driver is *currently* the minimum planned version to support this coming Long Term Support (LTS) release.

Since the beginning of April, with the new Oracle Database 23c FREE — Developer release announcement, 23c JDBC drivers are now available on OTN and on Maven Central.

Last but not least, I recommend the following documentation:

- JDBC Developers Guide 19
- JDBC Developers Guide 21