

## Release Notes for Oracle TopLink

This document details issues associated with Oracle TopLink. It includes the following topics:

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## What's New in Oracle TopLink 14.1.1?

The following features/enhancements are new in this release:

- `@Repeatable` annotation is added to simplify your entity mappings. See [Using Repeatable Annotations](#).
- JPA 2.2 supports date-time API `java.time` containing the following classes:
  - `java.time.LocalDate`
  - `java.time.LocalTime`
  - `java.time.LocalDateTime`
  - `java.time.OffsetTime`
  - `java.time.OffsetDateTime`See [Date and Time Entities](#).
- You can now retrieve the result of your query as a stream and move through a result set more efficiently. See [Streaming a Query Result](#).
- TopLink supports CDI injection into the `AttributeConverter` classes which allows you to inject reusable conversion implementation into the `AttributeConverter`. See [Allowing AttributeConverters to be CDI Injectable](#).

- All JPA annotations can now be used in meta-annotations.

## TopLink Grid Deprecated

The TopLink Grid feature in Oracle TopLink 12.2.1 is deprecated.

## TopLink Object-Relational Issues

This section contains information on the following issues:

- [ERROR PARSING VALIDATION.XML - JAVA.UTIL.CONCURRENT.EXECUTIONEXCEPTION](#)
- [Exalogic TuningAgent Profiler is not Set](#)
- [Cannot set EclipseLink log level in WLS System MBean Browser](#)
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### ERROR PARSING VALIDATION.XML - JAVA.UTIL.CONCURRENT.EXECUTIONEXCEPTION

Under some configurations, users may encounter a warning log message in the log file such as the one below. The log message is harmless and indicates TopLink's search for the `validation.xml` file (defined in the *JSR 303 Bean Validation specification*). TopLink is only able to read the `validation.xml` from the filesystem, not from archives of any kind.

```
[WARNING] [] [org.eclipse.persistence.jaxb.BeanValidationHelper] [tid:  
[STANDBY].ExecuteThread: '35' for queue: 'weblogic.kernel.Default  
(self-tuning)'] [ecid: 8ee5cff5-3f55-4f1b-a389-4328958b1ee9-0000003d,0] [APP:  
webcenter] [partition-name: DOMAIN] [tenant-name: GLOBAL] Error parsing  
validation.xml[[  
java.util.concurrent.ExecutionException: java.lang.IllegalArgumentException:  
URI scheme is not "file"
```

### Exalogic TuningAgent Profiler is not Set

When using the TopLink Exalogic automated tuner, the `oracle.toplink.exalogic.tuning.TuningAgent` profiler is not enabled. The TuningAgent profiler has been disabled due to issues with stuck threads.

### Cannot set EclipseLink log level in WLS System MBean Browser

Use Oracle Enterprise Manager to set the EclipseLink log level; do not use the WLS System MBean Browser to complete this action.

## UnitOfWork.release() not Supported with External Transaction Control

A unit of work synchronized with a Java Transaction API (JTA) will throw an exception if it is released. If the current transaction requires its changes to not be persisted, the JTA transaction must be rolled back.

When in a container-demarcated transaction, call `setRollbackOnly()` on the EJB/session context:

```
@Stateless
public class MySessionBean
{
    @Resource
    SessionContext sc;

    public void someMethod()
    {
        ...
        sc.setRollbackOnly();
    }
}
```

When in a bean-demarcated transaction then you call `rollback()` on the `UserTransaction` obtained from the EJB/session context:

```
@Stateless
@TransactionManagement(TransactionManagementType.BEAN)
public class MySessionBean implements SomeInterface
{
    @Resource
    SessionContext sc;

    public void someMethod()
    {
        sc.getUserTransaction().begin();
        ...
        sc.getUserTransaction().rollback();
    }
}
```

## Returning Policy for UPDATE with Optimistic Locking

The returning policy, which allows values modified during `INSERT` and `UPDATE` to be returned and populated in cached objects, does not work in conjunction with numeric version optimistic locking for `UPDATE`. The value returned for all `UPDATE` operations is **1** and does not provide meaningful locking protection.

Do not use a returning policy for `UPDATE` in conjunction with numeric optimistic locking.

The use of returning policy for `INSERT` when using optimistic locking works correctly.

## JDBC Drivers returning Timestamps as Strings

TopLink assumes that date and time information returned from the server will use `Timestamp`. If the JDBC driver returns a `String` for the current date, TopLink will throw an exception. This is the case when using a DB2 JDBC driver.

To work around this issue, consider using a driver that returns `Timestamp` (such as `COM.ibm.db2.jdbc.app.DB2Driver`) or change the policy to use local time instead of server time.

Another option is to use a query re-director on the `ValueReadQuery` used by the platform:

```
ValueReadQuery vrq = new ValueReadQuery(
    "SELECT to_char(sysdate, 'YYYY-MM-DD HH:MM:SS.SSSSS') FROM DUAL"
);
vrq.setRedirector(new TSQueryRedirector());
...
class TSQueryRedirector implements QueryRedirector
{
    public Object invokeQuery(DatabaseQuery query, Record arguments, Session session)
    {
        String value = (String)session.executeQuery(query);
        return ConversionManager.getDefaultManager().convertObject(
            value, java.sql.Timestamp.class
        );
    }
}
```

## Allowing Zero Value Primary Keys

By default, EclipseLink interprets *zero* as *null* for primitive types that cannot be null (such as `int` and `long`) causing zero to be an invalid value for primary keys. You can modify this setting by using the `allow-zero-id` property in the `persistence.xml` file. Valid values are:

- **true** – EclipseLink interprets zero values as *zero*. This permits primary keys to use a value of zero.
- **false** (default) – EclipseLink interprets zero as *null*.

Refer the *EclipseLink User's Guide* at <http://wiki.eclipse.org/EclipseLink/UserGuide> for more information.

### Note:

Adding this configuration property is potentially dangerous, as configuring this particular setting through `persistence.xml` affects ALL applications running on the server

## Managed Servers on Sybase with JCA Oracle Database Service

When using a JCA service with the Oracle Database adapter in a cluster to perform database operations on a Sybase database, the managed nodes in the cluster process the messages and may attempt to perform duplicate operations.

Because supported versions of Sybase do not support Oracle TopLink record locking, Sybase allows the duplicate operation attempts.

## Logging Configuration with EclipseLink Using Container Managed JPA

By default, EclipseLink users in container managed JPA will use the Oracle WebLogic Server logging options to report all log messages generated by EclipseLink. Refer to "Configuring WebLogic Logging Services" in [Oracle® Fusion Middleware Configuring Log Files and Filtering Log Messages for Oracle WebLogic Server](#).

To use the EclipseLink native logging configuration, add the following property to your `persistence.xml` file:

```
<property name="eclipselink.logging.logger" value="DefaultLogger"/>
```

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Oracle® Fusion Middleware Release Notes for Oracle TopLink, 14c (14.1.1.0.0)  
F25529-01

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