# 206
# DBMS_TRANSFORM

The DBMS_TRANSFORM package provides an interface to the message format transformation features of Oracle Advanced Queuing.

This chapter contains the following topic:

- Summary of DBMS_TRANSFORM Subprograms

> **See Also:**
>
> *Oracle Database Advanced Queuing User's Guide*for more on message format transformations.

## Summary of DBMS_TRANSFORM Subprograms

This table lists the DBMS_TRANSFORM subprograms and briefly describes them.

**Table 206-1 DBMS_TRANSFORM Package Subprograms**

| Subprograms | Description |
|---|---|
| CREATE_TRANSFORMATION Procedure | Creates a transformation that maps an object of the source type to an object of the destination type |
| DROP_TRANSFORMATION Procedure | Drops the given transformation |
| MODIFY_TRANSFORMATION Procedure | Modifies an existing transformation |

## CREATE_TRANSFORMATION Procedure

This procedure creates a transformation that maps an object of the source type to an object of the target type. The transformation expression can be a SQL expression or a PL/SQL function. It must return an object of the target type.

### Syntax

```
DBMS_TRANSFORM.CREATE_TRANSFORMATION (
    schema               VARCHAR2(30),
    name                 VARCHAR2(30),
    from_schema          VARCHAR2(30),
    from_type            VARCHAR2(30),
    to_schema            VARCHAR2(30),
    to_type              VARCHAR2(30),
    transformation       VARCHAR2(4000));
```

### Parameters

**Table 206-2 CREATE_TRANSFORMATION Procedure Parameters**

| Parameter | Description |
|---|---|
| schema | Specifies the schema of the transformation. |
| name | Specifies the name of the transformation. |
| from_schema | Specifies the schema of the source type. |
| from_type | Specifies the source type. |
| to_schema | Specifies the target type schema. |
| to_type | Specifies the target type. |
| transformation | Specifies the transformation expression, returning an object of the target type. The expression must be a function returning an object of the target type or a constructor expression for the target type. You can choose not to specify a transformation expression and instead specify transformations for attributes of the target type using MODIFY_TRANSFORMATION. |

### Usage Notes

- The transformation expression must be a SQL expression or a PL/SQL function returning the type of the specified attribute of the target type.
- To create, modify or drop transformations, a user must be granted execute privileges on DBMS_TRANSFORM. The user must also have execute privileges on the user defined types that are the source and destination types of the transformation. In addition, the user must also have execute privileges on any PLSQL function being used in the transformation function.
- The transformation cannot write database state (perform DML) or commit or rollback the current transaction.
- The transformation must be a SQL function with source type as input type, returning an object of the target type. It could also be a SQL expression of target type, referring to a source type. All references to the source type must be of the form *source.user_data*.
- Both source and target types must be non-scalar database types. A null transformation expression maps to a null target object.

For using the transformation at enqueue and dequeue time, the login user invoking the operation must have execute privileges on the PLSQL functions used by the transformation. For propagation, the owning schema of the queue must have these privileges.

## DROP_TRANSFORMATION Procedure

This procedure drops the given transformation.

### Syntax

```
DBMS_TRANSFORM.DROP_TRANSFORMATION (
```

schema VARCHAR2(30),

```
    name        VARCHAR2(30));
```

### Parameters

**Table 206-3 DROP_TRANSFORMATION Procedure Parameters**

| Parameter | Description |
|---|---|
| schema | Specifies the schema of the transformation. |
| name | Specifies the name of the transformation. |

# MODIFY_TRANSFORMATION Procedure

This procedure modifies the transformation expression for the given transformation.

### Syntax

```
DBMS_TRANSFORM.MODIFY_TRANSFORMATION (
   schema             VARCHAR2(30),
   name               VARCHAR2(30),
   attribute_number   INTEGER,
   transformation     VARCHAR2(4000));
```

### Parameters

**Table 206-4 MODIFY_TRANSFORMATION Procedure Parameters**

| Parameter | Description |
|---|---|
| schema | Specifies the schema of the transformation. |
| name | Specifies the name of the transformation. |
| attribute_number | The attribute of the target type for which the new transformation expression is being specified. When specifying the new transformation as a single expression of the target type, specify a value of 0. |
| transformation | The transformation expression must be a SQL expression or a PL/SQL function returning the type of the specified attribute of the target type. If the attribute_number is 0, then the expression must be a PL/SQL function returning an object of the target type or a constructor expression for the target type. |

### Usage Notes

- If the new transformation is a single expression of the target type, it may be specified with an attribute_number of 0. The new transformation may also be specified for each attribute of the target type.
- You can use this procedure to define the transformation as a separate expression for each attribute of the target type. For large transformations, this representation may be more readable and allow the application of fine grain control over the transformation. If the transformation expression was left unspecified for some of the attributes of the target type, they are evaluated to null when the transformation is applied.